Los Angeles International Airport (LAX)
Runway 6R-24L Runway Safety Area (RSA) Improvements Project

Proposed Mitigated Negative Declaration
and Initial Study

Volume 1: Main Document

City of Los Angeles
Los Angeles World Airports

March 2015

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Runway 6R-24L Runway Safety Area (RSA)
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March 2015

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INITIAL STUDY CHECKLIST

LEAD AGENCY Los Angeles World Airport (LAWA)	**COUNCIL DISTRICT** Council District 11	**DATE** March 19, 2015
RESPONSIBLE AGENCIES: City of Los Angeles		
PROJECT TITLE/NO. Los Angeles International Airport (LAX) Runway 6R-24L Runway Safety Area Improvements		**CASE NO.**

BRIEF PROJECT DESCRIPTION:

The intent of the proposed Project is to comply with the *Transportation, Treasury, Housing and Urban Development, the Judiciary, District of Columbia, and Independent Agencies Appropriations Act, 2006* (Public Law [P.L.] 109-115), November 30, 2005. P.L. 109-115 requires completion of Runway Safety Area (RSA) improvements by airport sponsors that hold a certificate under Title 14, Code of Federal Regulations (CFR), Part 139, *Certification and Operations: Land Airports Serving Certain Air Carriers*, such as LAX, to meet Federal Aviation Administration (FAA) airport design standards by December 31, 2015. LAWA prepared an RSA Practicability Study and concluded that the existing RSA for Runway 6R-24L does not meet current FAA airport design standards and improvements to the RSA were needed.

The Project would include: (1) relocate the end of Runway 6R approximately 200 feet to the east and displace the threshold of Runway 6R approximately 550 feet; (2) construct blast pads 400 feet long and 280 feet wide on both runway ends; (3) construct a retaining wall and add fill graded to RSA standards on the Runway 6R end; (4) remove/relocate/shift of existing taxiways at the end of Runway 6R and construction of new Taxiway connectors E16 and E17; (5) relocate various navigational aids, including the glide slope antenna, Precision Approach Path Indicators (PAPI), and ILS Localizer Antenna; (6) replacement of the Runway 6R Medium Intensity Approach Light System with Runway Alignment Indicator Lights (MALSR) lights including removing the two westernmost stations and shifting of light stations to the east coincident with existing light station locations; (7) shift Runway 24L endpoint by constructing approximately 800 feet of new runway pavement to the east; (8) shift Taxiway E endpoint approximately 500 feet to the east with 400-foot separation from the runway; (9) remove existing Taxiway E7 including the existing loop westbound that joins Taxiway V between Runways 24L and 24R; (10) construct new connector Taxiways E7 and E6; (11) demolish and relocate existing Secure Area Access Post (SAAP) #3 and the Air Operations Area (AOA) fence; (12) protect in place existing storm sewer and utilities; (13) relocate taxicab holding/staging area and associated buildings; (14) implement declared distances; (15) extend and realign service roads south of Taxiway E, requiring the closure of LAWA-owned Alverstone Avenue and Davidson Drive and adjacent parking lots, none of which are publicly accessible; (16) construct new and rehabilitate existing runway and taxiway pavement, as needed in the areas of the improvements identified above; and, (17) modify existing lighting and markings in newly constructed pavements. The proposed Project would not result in increased or decreased aviation activity at LAX compared to existing conditions, and would not increase usable runway length or move the runway north or south.

ENVIRONMENTAL SETTING:

The proposed Project is located on the north airfield of LAX. Surrounding land uses include vacant land and the Westchester Golf Course (both on LAX property), and residential and recreational uses within the community of Westchester further to the north; the Westchester Business District and airport-related parking to the northeast and east; the Central Terminal Area (CTA), maintenance and operations facilities, the LAX Fuel Farm, and West Remote gates to the south; and the Los Angeles Airport/El Segundo Dunes, including open space, navigational aids, airport-related safety and utility facilities, and miscellaneous uses to the west. The north airfield complex includes two parallel runways (6L-24R and 6R-24L), several taxiways, grass infields, airfield lighting and signage, and underground utilities.

PROJECT LOCATION:

The RSA components of the proposed Project are located on the north airfield of LAX in the City of Los Angeles with the Central Terminal Area (CTA) and World Way West to the south; Sepulveda Boulevard to the east; Westchester Parkway and Lincoln Boulevard to the north; and Pershing Drive to the west. The taxicab holding/staging area would be relocated to an existing parking lot located on LAX property, generally bounded by West 96th Street, Vicksburg Avenue, and West 98th Street. The proposed Project site is bordered to the north, south, and east by airport facilities. To the west of the proposed Project site is vacant, open land and the Pacific Ocean.

PLANNING DISTRICT	**STATUS:**
Los Angeles International Airport Plan Los Angeles International Airport Specific Plan Los Angeles Airport/El Segundo Dunes Specific Plan	☐ **PRELIMINARY** ☐ **PROPOSED** ☒ **ADOPTED** December 14, 2004

EXISTING ZONING LAX - A Zone: Airport Airside Sub-Area LAX – L Zone: Airport Landside Sub-Area Open Space	☒ **DOES CONFORM TO PLAN** ☐ **DOES NOT CONFORM TO PLAN** ☐ **NO DISTRICT PLAN**
PLANNED LAND USE & ZONE Airport related airside uses Airport related landside uses Open space	
SURROUNDING LAND USES North – Airport Uses; East – Airport Uses, Industrial and Commercial; South – Airport Uses; West – Open Space	

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.

	CITY PLANNER
SIGNATURE	**TITLE**

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	☐	Agriculture and Forestry Resources	☐	Air Quality
☐	Biological Resources	☐	Cultural Resources	☐	Geology/Soils
☐	Greenhouse Gas Emissions	☐	Hazards & Hazardous Materials	☐	Hydrology/Water Quality
☐	Land Use/Planning	☐	Mineral Resources	☐	Noise
☐	Population/Housing	☐	Public Services	☐	Recreation
☐	Transportation/Traffic	☐	Utilities/Service Systems	☐	Mandatory Findings of Significance

INITIAL STUDY CHECKLIST	
PROPONENT NAME Los Angeles World Airports	**PHONE NUMBER** 800.919.3766
PROPONENT ADDRESS 1 World Way, Room 218, Los Angeles, CA 90045	
PROPONENT NAME Los Angeles World Airports	**DATE SUBMITTED** March 19, 2015
PROPOSAL NAME Los Angeles International Airport (LAX) Runway 6R-24L Runway Safety Area Improvements	

ENVIRONMENTAL IMPACTS	(Explanations of all potentially and less than significant impacts are required to be attached on separate sheets)			
	Potentially Significant Impact	**Less Than Significant with 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 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?	☐	☐	☒	☐
II. AGRICULTURE AND FORESTRY RESOURCES. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program in the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with 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?	☐	☐	☐	☒
III. AIR QUALITY. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐

ENVIRONMENTAL IMPACTS		(Explanations of all potentially and less than significant impacts are required to be attached on separate sheets)			
		Potentially Significant Impact	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
c.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d.	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e.	Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐
IV.	**BIOLOGICAL RESOURCES.** Would the project:				
a.	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife 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 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 a tree preservation policy or ordinance?	☐	☒	☐	☐
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?	☐	☒	☐	☐

ENVIRONMENTAL IMPACTS		(Explanations of all potentially and less than significant impacts are required to be attached on separate sheets)			
		Potentially Significant Impact	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
V.	**CULTURAL RESOURCES.** Would the project:				
a.	Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	☒	☐
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 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 Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

ENVIRONMENTAL IMPACTS		(Explanations of all potentially and less than significant impacts are required to be attached on separate sheets)			
		Potentially Significant Impact	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
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?	☐	☐	☒	☐
b.	Create a significant hazard to the public or the environment through the reasonably foreseeable upset and accident conditions involving the likely 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 project area?	☐	☐	☐	☒
g.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h.	Expose people or structures to 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?	☐	☐	☐	☒

ENVIRONMENTAL IMPACTS	(Explanations of all potentially and less than significant impacts are required to be attached on separate sheets)			
	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
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 substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., 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 that 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?	☐	☐	☒	☐
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j. Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒
X. LAND USE AND PLANNING. Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒

ENVIRONMENTAL IMPACTS		(Explanations of all potentially and less than significant impacts are required to be attached on separate sheets)			
		Potentially Significant Impact	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
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?	☐	☒	☐	☐
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 levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b.	Exposure of persons 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?	☐	☐	☒	☐
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?	☐	☐	☐	☒

ENVIRONMENTAL IMPACTS	(Explanations of all potentially and less than significant impacts are required to be attached on separate sheets)			
	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
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, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
a. Fire protection?	☐	☐	☒	☐
b. Police protection?	☐	☐	☐	☒
c. Schools?	☐	☐	☐	☒
d. Parks?	☐	☐	☐	☒
e. Other public facilities?	☐	☐	☐	☒
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?	☐	☐	☐	☒

ENVIRONMENTAL IMPACTS		(Explanations of all potentially and less than significant impacts are required to be attached on separate sheets)			
		Potentially Significant Impact	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
XVI.	**TRANSPORTATION/TRAFFIC.** 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?	☐	☐	☒	☐
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 due 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 AND SERVICE SYSTEMS.** Would the project:				
a.	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b.	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c.	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d.	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐

ENVIRONMENTAL IMPACTS		(Explanations of all potentially and less than significant impacts are required to be attached on separate sheets)			
		Potentially Significant Impact	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
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 a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b.	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects).	☐	☐	☒	☐
c.	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

1. Project Description

1.1 Introduction

The Los Angeles World Airports (LAWA) is planning Runway Safety Area (RSA) improvements of Runway 6R-24L at Los Angeles International Airport (LAX). This Initial Study is evaluating the RSA for Runway 6R-24L and not the entire north runway complex since the Federal Aviation Administration (FAA) makes an RSA determination on each runway, not the runway complex or the airport as a whole. The purpose of the RSA improvement is to comply with *The Transportation, Treasury, Housing and Urban Development, the Judiciary, The District of Columbia, and Independent Agencies Appropriations Act, 2006* (Public Law 109-115)[1], which states that all RSAs at 14 Code of Federal Regulations (CFR) Part 139 airports[2] must meet Federal Aviation Administration (FAA) design standards by December 31, 2015. FAA Order 5200.8, *Runway Safety Area Program*, states that "the RSA is intended to provide a measure of safety in the event of an aircraft's excursion from the runway by significantly reducing the extent of personal injury and aircraft damage during overruns, undershoots and veer-offs."[3] The standards for RSA dimensions are contained in FAA Advisory Circular (AC) 150/5300-13A, *Airport Design*.[4] FAA direction in determining whether a specific RSA improvement is practicable appears in FAA Order 5200.9, *Financial Feasibility and Equivalency of Runway Safety Area Improvements and Engineered Material Arresting Systems*.[5]

As detailed in AC 150/5300-13A, an RSA is defined as "an identified surface surrounding the runway prepared and suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway." The RSA has dimensional requirements as well as clearing, grading, and drainage requirements. An additional safety-related function is to provide greater accessibility for firefighting and emergency rescue vehicles during any incidents.

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1 *The Transportation, Treasury, Housing and Urban Development, the Judiciary, The District of Columbia, and Independent Agencies Appropriations Act, 2006* (Public Law [P.L.] 109-115), November 30, 2005.

2 14 Code of Federal Regulations (CFR) Part 139 airports are U.S. airports that are certified by FAA to allow commercial passenger aircraft operations.

3 U.S. Department of Transportation, Federal Aviation Administration, Order 5200.8, *Runway Safety Area Program*, effective date: October 1, 1999.

4 U.S. Department of Transportation, Federal Aviation Administration, Advisory Circular 150/5300-13A, *Airport Design*, February 26, 2014.

5 U.S. Department of Transportation, Federal Aviation Administration, Order 5200.9, *Financial Feasibility and Equivalency of Runway Safety Area Improvements and Engineered Material Arresting Systems*, March 15, 2004.

Per FAA AC 150/5300-13A, the dimensional requirements for an RSA are based on the aircraft the runway is designed to accommodate. The Airport Reference Code (ARC) is a coding system used to relate airport design criteria to the operational and physical characteristics of the aircraft intended to operate on a particular runway. **Table 1** lists FAA ARC and corresponding restrictions. The first part of a runway's ARC is a letter that represents the Aircraft Approach Category (AAC) and relates to the aircraft approach speed (operational characteristics). The second component of the ARC, depicted by a Roman numeral, is the Airplane Design Group (ADG) and relates to either the aircraft wingspan or tail height (physical characteristics); whichever is most restrictive to an aircraft's safe movement on the airport. The AAC and the ADG together are the basis for establishing RSA dimensions.

Table 1: FAA Airport Reference Code Classifications

AIRCRAFT APPROACH CATEGORY	AIRCRAFT APPROACH SPEED	AIRPLANE DESIGN GROUP	AIRCRAFT TAIL HEIGHT	AIRCRAFT WINGSPAN
A	Up to 91 knots	**I**	Up to 20 feet	Up to 49 feet
B	Greater than or equal to 91 knots but less than 121 knots	**II**	Greater than or equal to 20 feet but less than 30 feet	Greater than or equal to 49 feet but less than 79 feet
C	Greater than or equal to 121 knots but less than 141 knots	**III**	Greater than or equal to 30 feet but less than 45 feet	Greater than or equal to 79 feet but less than 118 feet
D	Greater than or equal to 141 knots but less than 166 knots	**IV**	Greater than or equal to 45 feet but less than 60 feet	Greater than or equal to 118 feet but less than 171 feet
E	Greater than or equal to 166 knots	**V**	Greater than or equal to 60 feet but less than 66 feet	Greater than or equal to 171 feet but less than 214 feet
		VI	Greater than or equal to 66 feet but less than 80 feet	Greater than or equal to 214 feet but less than 262 feet

SOURCE: U.S. Department of Transportation, Federal Aviation Administration, AC 150/5300-13A, *Airport Design*, February 26, 2014.
PREPARED BY: Ricondo & Associates, Inc., December 2014.

Runway 6R-24L has an ARC designation of D-V. ARC D-V aircraft generally consist of wide-body aircraft, such as the Boeing 747, Airbus A340, and Airbus A350. RSA dimensions for D-V aircraft are outlined in **Table 2.**

Table 2: RSA Dimensional Requirements

RUNWAY SAFETY AREA (RSA) DIMENSIONS AND GRADE LIMITATIONS	APPROACH CATEGORY C & D (FT)
RSA Width	500
RSA Length Prior to Landing	600
RSA Length Beyond the Runway	1,000
DISTANCE BEYOND RUNWAY END	**TRANSVERSE GRADING**
Initial 200 feet	1.5% to 5% grade, no positive
Beyond 200 feet 1/	Maximum ± 5%

NOTE: 1/ No penetration of approach surface permitted.

SOURCE: U.S. Department of Transportation, Federal Aviation Administration, AC 150/5300-13A, *Airport Design*, February 26, 2014.
PREPARED BY: Ricondo & Associates, Inc., July 2014.

In addition to dimensional requirements, the FAA has established specific design standards for RSAs[6] which include:

- Areas shall be cleared and graded with no potentially hazardous ruts, humps, depressions, or other surface variations;
- RSA grading must allow adequate drainage to prevent the accumulation of water. The installation of storm sewers is permissible within the RSA, but the elevation of the storm water inlets may not vary more than three inches from the surrounding surface elevation. The RSA limits for longitudinal and transverse grading are also outlined in Table 2.
- Capable, under dry conditions, of supporting snow removal equipment, Aircraft Rescue and Fire Fighting (ARFF) equipment, and the occasional passage of aircraft without causing damage to the aircraft; and
- Free of objects, except for objects that need to be located in the runway safety area because of their function.

The function of the RSA is to create a buffer between the runway pavement and non-movement areas. During these segments, airplanes are subject to a variety of controls and operational factors including a runway's usable operating dimensions. A number of RSA-related accidents contributed to the concern that airports do not provide adequate safety areas to reduce injury to persons and property. As a result, state and federal legislation was enacted in an effort to standardize safety area requirements. The FAA coordinated a study in 1990 which identified airports currently not in compliance with RSA design requirements for all Part 139 airports, including LAX. Recognizing the significant safety enhancement afforded by RSA improvements, the

6 U.S. Department of Transportation, Federal Aviation Administration, Advisory Circular 150/5300-13A, *Airport Design*, February 26, 2014.

FAA issued Order 5200.8, *Runway Safety Area Program*, in an effort to guide the improvement process by identifying potential alternatives to the traditional cleared and graded safety areas.

In accordance with Order 5200.8, the FAA made a determination in 2006 for Runway 6R-24L that "the existing RSA does not meet standards but is practicable to improve."[7] Based on the requirements of Public Law 109-115, the FAA also proposed various RSA improvement alternatives and requested that LAWA evaluate and determine the feasibility of the improvement alternatives. LAWA prepared an RSA Practicability Study for Runways 6L-24R and 6R-24L that included evaluations of RSA alternatives.[8] For this effort, LAWA established an RSA Study Working Group to provide input and evaluate the various RSA alternatives and to ensure that the needs of the various airport users were considered. The RSA Study Working Group was comprised of representatives from various divisions within LAWA, FAA, and airlines operating at LAX. The study concluded that Runways 6R, 24L, and 24R do not meet applicable FAA RSA design standards.[9] In accordance with Public Law 109-115, LAWA is improving the RSA for Runway 6R-24L to meet FAA design standards, to the extent practicable, and to minimize disruptions to airfield operations.

The Project would include: (1) relocate the end of Runway 6R approximately 200 feet to the east and shifting the existing displaced threshold 420 feet to the east, providing a new displaced threshold of about 550 feet; (2) construct a blast pad 400 feet long and 280 feet wide on both runway ends; (3) construct retaining wall and add fill graded to RSA standards on the Runway 6R end; (4) remove/relocate/shift of existing taxiways and construction of new Taxiway connectors E16 and E17 at the end of Runway 6R; (5) relocate various navigational aids, including the glide slope antenna, Precision Approach Path Indicators (PAPI), and ILS Localizer Antenna; (6) replacement of Medium Intensity Approach Light System with Runway Alignment Indicator Lights (MALSR) lights including removing the two westernmost stations and shifting of light stations to the east coincident with existing light station locations; (7) shift Runway 24L endpoint by constructing approximately 800 feet of new runway pavement to the east; (8) shift Taxiway E endpoint approximately 500 feet to the east with 400-foot separation from the runway; (9) remove existing Taxiway E7 including the existing loop westbound that joins Taxiway V between Runways 24L and 24R; (10) construct new connector Taxiways E7 and E6; (11) demolish and relocate existing Secure Area Access Post (SAAP) #3 and the Air Operations Area (AOA) fence; (12) protect in place existing storm sewer and utilities; (13) relocate taxicab holding/staging area and associated buildings; (14) implement declared distances; (15) extend and realign service roads south of Taxiway E, requiring the closure of LAWA-owned Alverstone Avenue and Davidson Drive and adjacent parking lot, none of which are publicly accessible; (16) construct new and rehabilitate existing runway and taxiway pavement, as needed in the areas of the improvements identified above; and, (17)

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7 U.S. Department of Transportation, Federal Aviation Administration, *Runway Safety Area Evaluation and Analysis, Los Angeles International Airport*, June 14, 2006.

8 Ricondo and Associates, *Runways 6L-24R & 6R-24L Safety Area (RSA) Practicability Study for Los Angeles International Airport*, January 2010.

9 Evaluation of the RSAs associated with Runways 6L-24R, 7L-25R and 7R-25L was performed as a separate study. RSA improvements associated with Runway 7L-25R and 6L-24R are undergoing separate environmental evaluation; Runway 7R-25L was brought into compliance with RSA standards as part of the South Airfield Improvement Project.

modify existing lighting and markings in newly constructed pavements. The proposed Project would not result in increased or decreased aviation activity at LAX compared to existing conditions, and would not increase usable runway length or move the runway north or south.

1.2 Environmental Setting

Los Angeles International Airport is located within a highly developed, urbanized area at the western edge of the City of Los Angeles consisting of airport, commercial, transportation (i.e., interstate highways), and residential uses (**Figure 1**). Runway 6R-24L occupies the area within the Air Operations Area (AOA) north of the terminal/midfield area. Runway 6L-24R and Runway 6R-24L form the northern airfield complex at LAX. In addition to the two runways, the North Airfield includes several taxiways, grass infields, airfield lighting and signage, and underground utilities north of the LAX passenger terminals.

Surrounding land uses include vacant land and the Westchester Golf Course (both on LAX property), and residential and recreational uses within the community of Westchester to the north; the Westchester Business District and airport-related parking to the northeast and east; airport uses including the Central Terminal Area (CTA), maintenance and operations facilities, the LAX Fuel Farm, and West Remote gates to the south; and the Los Angeles Airport/El Segundo Dunes, including open space, navigational aids, airport-related safety and utility facilities, and miscellaneous uses to the west. Regional access to LAX is provided by the San Diego Freeway (Interstate 405), which is a north-south freeway east of LAX, and the Century Freeway or Glenn Anderson Freeway (Interstate 105), which is an east-west freeway south of LAX. Major roadways serving LAX include Sepulveda Boulevard, Century Boulevard, Imperial Highway, and Lincoln Boulevard.

1.3 Land Use and Zoning Designation

The Project site is located entirely within the City of Los Angeles LAX Plan area, as well as the LAX Specific Plan and Los Angeles Airport/El Segundo Dunes Specific Plan areas. The proposed Project site is located within areas designated in the LAX Plan as "Airport Airside", "Airport Landside," and "Open Space." In the LAX Specific Plan, these areas are designated as LAX-A Zone: Airport Airside Sub-Area and LAX-L Zone: Airport Landside Sub-Area. Permitted uses for the Airport Airside and LAX-A Zone include, but are not limited to: runways, taxiways, aircraft gates, maintenance areas, airfield operation areas, air cargo areas, passenger handling facilities, fire protection facilities, and other ancillary airport facilities. Permitted uses in the Airport Landside and LAX-L Zone include, but are not limited to: passenger handling services, airport administrative offices, parking areas, cargo facilities, rental car operations, surface and structured parking lots. The proposed Project is consistent with the LAX Plan and LAX Specific Plan and its land use and zoning designations.

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SOURCES: Los Angeles County, 2010, 2011 (city boundary, streets); LAX Airport Layout Plan, Ricondo & Associates, Inc., 2010 (runways, taxiways, terminal area, ariport property boundary).
National Geographic World Map, ESRI Database, 2011.
PREPARED BY: Ricondo & Associates, Inc., March 2015.

FIGURE 1

NORTH

0 4,000 ft.

General Location and Vicinity Map

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A small area of the western portion of the Project site, estimated at approximately 10 acres, is located within the California Coastal Zone and the Los Angeles Airport/El Segundo Dunes. The Los Angeles Airport/El Segundo Dunes are subject to the Los Angeles Airport/El Segundo Dunes Specific Plan. This Specific Plan applies to the portion of the LAX Plan area that is bounded by Napoleon and Waterview Streets on the north, by Imperial Highway on the south, by Pershing Drive on the east, and by Vista del Mar on the west. This Specific Plan was created to restore and preserve the natural ecology of the Los Angeles Airport/El Segundo Dunes and native dune-dependent species, such as the endangered El Segundo Blue Butterfly. The Los Angeles Airport/El Segundo Dunes are fenced off for airport security purposes in order to protect the various navigational aids in the area, and to protect the federally-listed El Segundo blue butterfly. Escorted visitors are permitted within the Los Angeles Airport/El Segundo Dunes under specific circumstances.

1.4 Relationship to Existing Plans and Documents

The 2004 LAX Master Plan is the comprehensive development program for LAX properties, including runway and taxiway system modernization, redevelopment of terminal areas, airport maintenance areas, airport access improvement and passenger safety, security, and convenience enhancements. The proposed Project complies with the LAX Master Plan objectives to improve safety at LAX. The Final EIR for the LAX Master Plan included analysis of the environmental impacts of future development at LAX. The LAX Master Plan Final EIR contains Master Plan commitments and mitigation measures that apply to the LAX property, including the Project site.

LAWA recently completed the LAX Specific Plan Amendment Study (SPAS), which evaluated and reconsidered certain projects identified in the LAX Master Plan. As part of the SPAS, LAWA analyzed several alternatives to address safety and airfield configuration issues associated with the North airfield, which includes Runway 6L-24R and Runway 6R-24L. LAWA has selected a preferred alternative that would include the incorporation of RSAs that fully comply with FAA design standards into the selected alternative. While SPAS has been completed and a programmatic EIR has been approved by the Los Angeles City Council, elements of SPAS are under litigation. Additionally, SPAS is still subject to project-level CEQA and NEPA review and approval prior to implementation. Because the ultimate runway configurations have not been evaluated or approved by the FAA, LAWA has agreed to improve the existing RSAs as required by Public Law 109-115.

1.5 Project Characteristics

1.5.1 EXISTING CONDITIONS

The North Airfield includes two parallel runways (6R-24L and 6L-24R), several taxiways, grass infields, airfield lighting and signage, and underground utilities north of the LAX passenger terminals. Runway 6L-24R is 8,925 feet long and 150 feet wide and is the northernmost runway used primarily for arrivals on the North Airfield; Runway 6R-24L is 10,285 feet long and 150 feet wide used primarily for departures on the North Airfield.

As illustrated in **Figure 2**, the existing RSA for Runway 6R-24L is 500 feet wide for the full length of the runway; it extends 165 feet from the west end of the runway and 885 feet from the east end. The existing RSA

at the west end is 835 feet short of meeting the RSA standard beyond the runway end for Runway 24L departures. Runway 6R also has a displaced threshold of 331 feet. A displaced threshold is a threshold that is located at a point on the runway beyond the beginning of the runway. It is in place due to obstructions off the end of Runway 6R (namely dunes) that penetrate the 14 CFR Part 77 approach surface[10] that begins at the end of Runway 6R. With the existing 331-foot displaced threshold, the 14 CFR Part 77 approach surface clears these obstructions. With this displaced threshold, the RSA 600-foot length requirement prior to the Runway 6R arrival threshold is 104 feet short of meeting the FAA standard. The existing RSA meets the 600-foot RSA length prior to the Runway 24L arrival threshold for landings. LAWA will implement declared distances to provide the 1,000-foot length requirement beyond the runway end for Runway 6R arrivals and departures, which was approved as part of the Runway 6L-24R and Runway 6R-24L Runway Safety Area and Associated Improvements Project EA.[11]

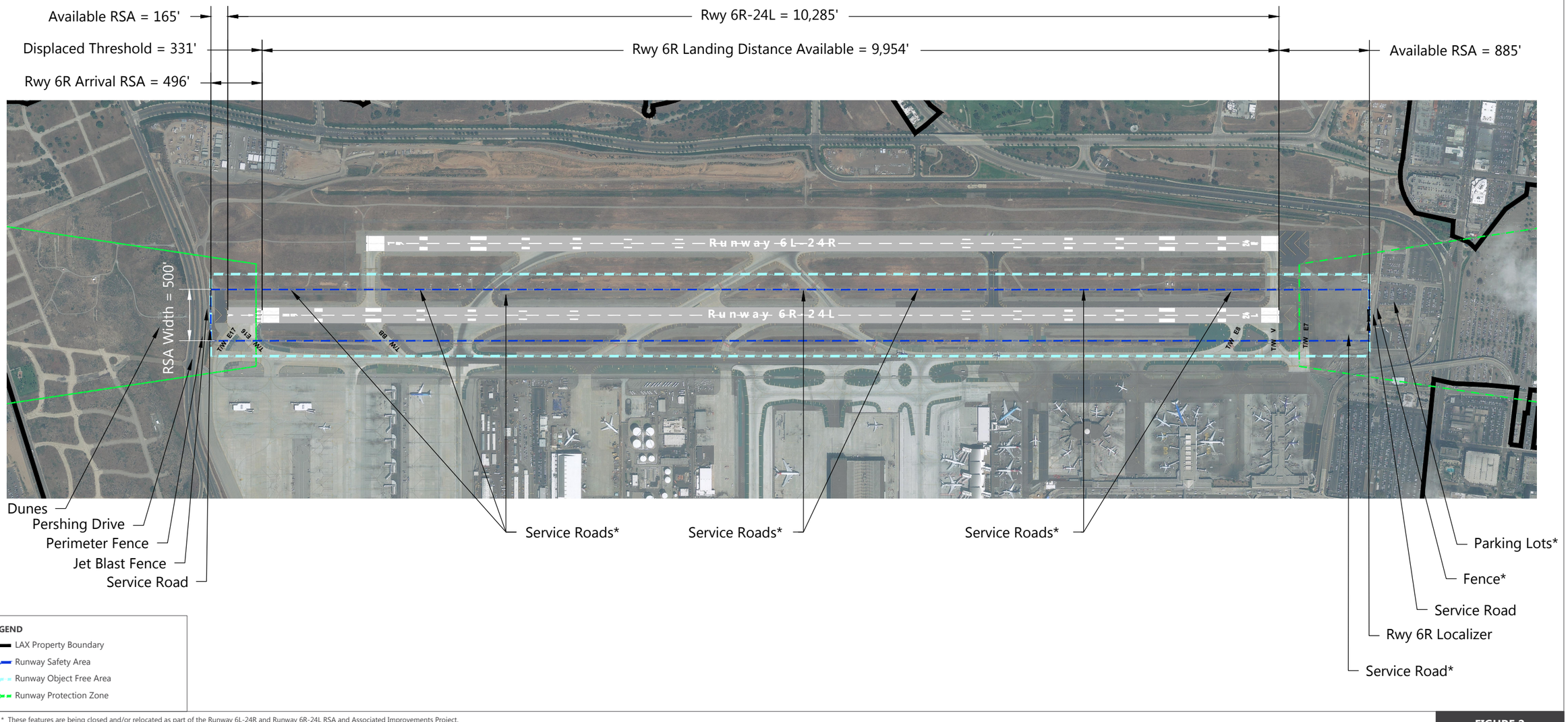
Areas of non-compliance for Runway 6R-24L, shown in **Figure 3**, include:

- At the west end of the runway, objects that are located within the standard RSA dimensions (1,000 by 500 feet) include, but are not limited to, a jet blast fence, a service road, a perimeter fence, a public roadway (Pershing Drive), and the Los Angeles Airport/El Segundo Dunes;
- At the east end of the runway, objects that are located within the standard RSA dimension (1,000 by 500 feet) include, but are not limited to, the Runway 6R ILS localizer, portions of a service road and parking lot, and perimeter fencing; and
- Portions of a service road north of the runway are located within the RSA dimensions.[12]

[10] 14 CFR Part 77 (Federal Aviation Regulation [FAR] Part 77) establishes the standards for determining obstructions to navigable airspace through the establishment of imaginary surfaces that need to be protected for the safe and efficient operation of aircraft.

[11] Los Angeles World Airports and U.S. Department of Transportation, Federal Aviation Administration, *Final Environmental Assessment, Runway 6L-24R and Runway 6R-24L Runway Safety Area and Associated Improvements Project*, June 26, 2014.

[12] Relocation of the service road north of Runway 6R-24L was a component of the Runway 6L-24R and Runway 6R-24L Runway Safety Area and Associated Improvements Project Environmental Assessment, which received FAA approval of a Finding of No Significant Impact/Record of Decision in July 2014.



NOTE: * These features are being closed and/or relocated as part of the Runway 6L-24R and Runway 6R-24L RSA and Associated Improvements Project.
SOURCE: Federal Aviation Administration, *Advisory Circular 150/5300-13A, Airport Design* , September 28, 2012; Landrum & Brown, *Los Angeles International Airport, Airport Layout Plan* , 2005; Los Angeles World Airports, April 2013 (aerial photography); Ricondo & Associates, Inc., August 2014.
PREPARED BY: Ricondo & Associates, Inc., March 2015.

FIGURE 2

Runway 6R-24L
Existing Conditions

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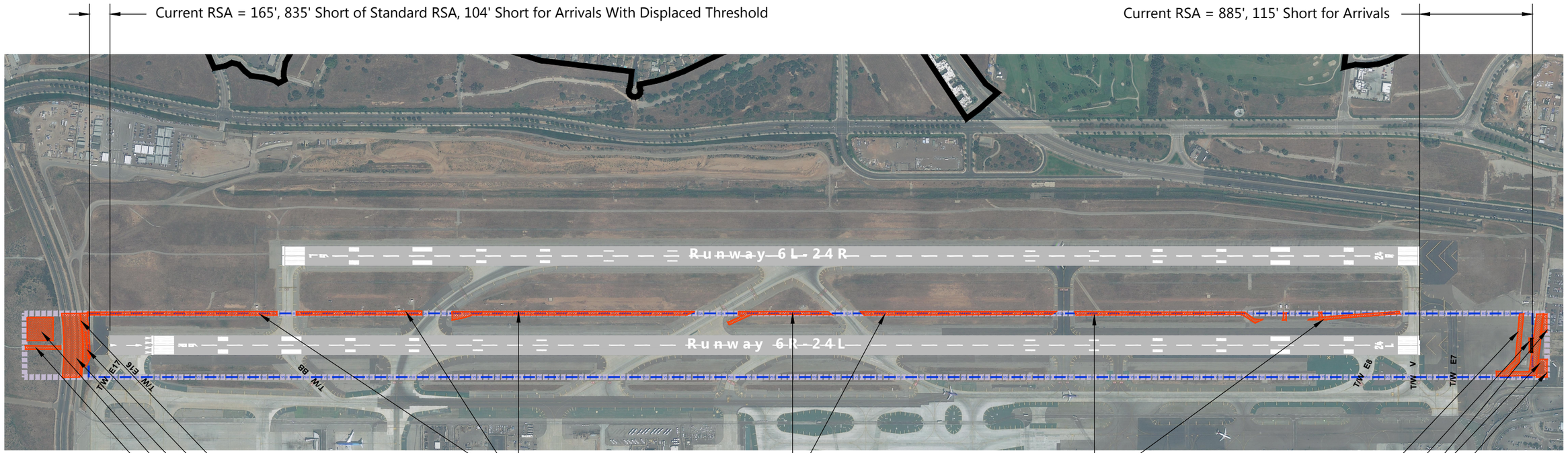

NOTE: * These features are being closed and/or relocated as part of the Runway 6L-24R and Runway 6R-24L RSA and Associated Improvements Project.
SOURCE: Federal Aviation Administration, *Advisory Circular 150/5300-13A, Airport Design* , September 28, 2012; Landrum & Brown, *Los Angeles International Airport, Airport Layout Plan* , 2005; Los Angeles World Airports, April 2013 (aerial photography); Ricondo & Associates, Inc., June 2014.
PREPARED BY: Ricondo & Associates, Inc., March 2015.

FIGURE 3

Runway 6R-24L
Areas of Non-Compliance

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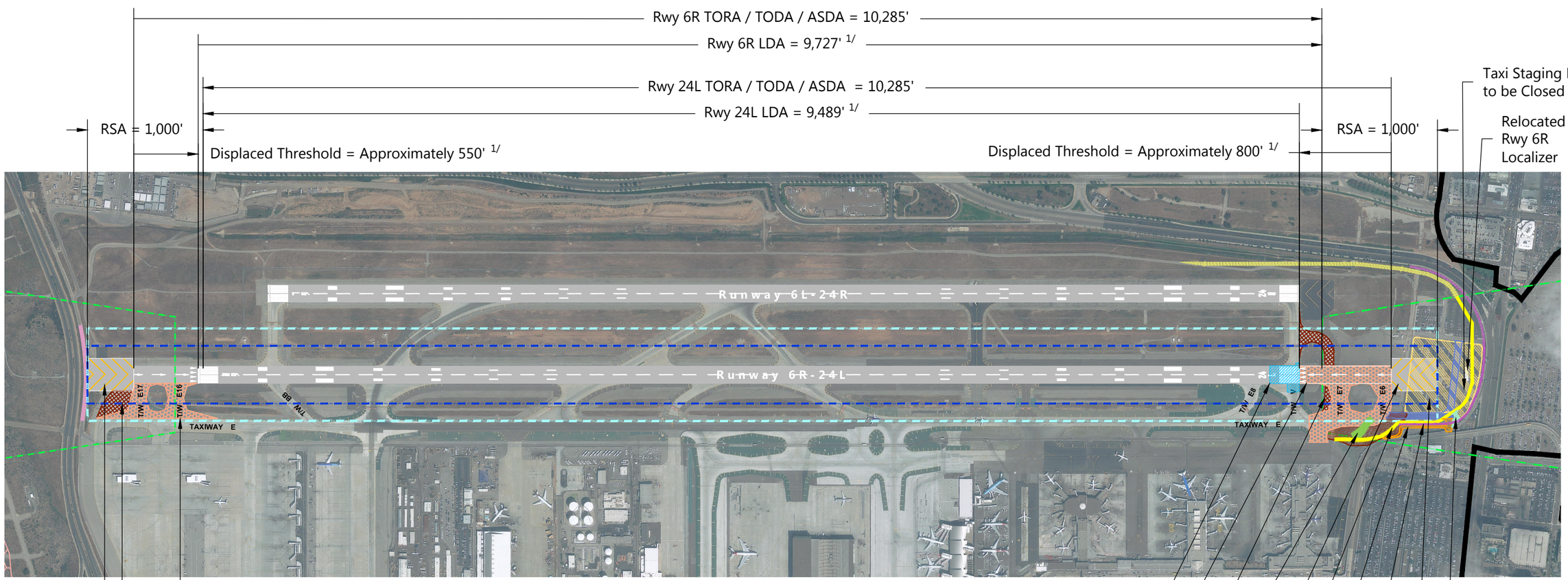
1.5.2 RUNWAY 6R-24L RSA PROPOSED IMPROVEMENTS

The components of the proposed Project related to Runway 6R-24L RSA improvements are depicted on **Figure 4**. The primary components of the Runway 6R-24L improvements include:

- Runway 6R (West End)
  - Construction of the proposed Project would require the physical end of Runway 6R be shifted about 200 feet to the east. The proposed Project also requires shifting of the existing displaced threshold for Runway 6R an additional 420 feet to the east.
    - The existing Runway 6R end has a displaced threshold of 331 feet. The resulting 420-foot eastward shift of the Runway 6R displaced threshold would provide a new displaced threshold of about 550 feet.
    - This shift in the displaced threshold requires a corresponding shift in navigational aids at the 6R runway end. The end of Runway 6R would shift 200 feet east, plus the needed 550-foot threshold means the new threshold would be 750 feet from the current runway end. If you subtract the existing threshold distance of 331 feet from the current runway end, you have a net threshold change of 420 feet.
  - Construct a blast pad 400 feet long and 280 feet wide;
  - Construct retaining wall and add fill graded to RSA standards;
  - Shift existing connector Taxiways E16 and E17 to the east;
  - Construct new and rehabilitate existing runway and taxiway pavement, as needed in the areas of the improvements identified above, and modify airfield signage, lighting, and markings;
  - Relocate navigation aids, including the glide slope antenna, and Precision Approach Path Indicators (PAPI); and
  - Installation of in-pavement Approach Lights in proposed pavement east of Pershing Drive and proposed retaining wall;
  - Remove two approach light system (MALSR) stations and shift the light stations to the east coincident with existing light station locations to accommodate the proposed relocated runway end and approximate 550-foot displaced threshold;
    - The two western-most stations including concrete pads would be removed. Towers, lights, and equipment control boxes and concrete pads would be removed. Concrete pads would be excavated and areas would be restored to pre-project conditions;
    - Relocate the "1,000-foot light bar" (supported by three separate towers) to a location immediately east of Pershing Drive (outside of the coastal zone). The northern and southern concrete pads which currently support the "1,000-foot light bar" would be excavated, removed, and restored to pre-project conditions. The central pad would be retained in order to support a new single-pole light station tower at this location; and
    - Pending funding approval, FAA will replace the entire approach light system (towers, lights and equipment control boxes) for Runway 6R. To the extent possible, FAA will

utilize the existing concrete pads. However, FAA will need to replace the existing concrete support pads at three light stations. One of the existing five-light steady burning stations would change to a single flasher light station. This change requires removal of the existing footing and five poles supporting each light and replacing it with a single pole and foundation along with a foundation for the power and controller boxes for the flasher station. The total amount of concrete at that station is expected to increase by one square foot. The overall amount of concrete footing in the California Coastal Zone will be reduced as a result of the proposed Project.

- Runway 24L (East End)
  - Shift Runway 24L endpoint by constructing approximately 800 feet of new runway pavement to the east. The landing threshold would remain in its current location and pavement marked as a displaced threshold;
    - Shift Taxiway E endpoint approximately 500 feet to the east with 400-foot separation from the Runway;
    - Remove existing Taxiway E7 including the existing loop westbound that joins Taxiway V between Runways 24L and 24R;
    - Construct new connector Taxiways E7 and E6;
    - Construct new and rehabilitate existing runway and taxiway pavement, as needed in the areas of the improvements identified above, and modify airfield signage, lighting, and markings. A detailed visual survey was conducted for the first 1,000 feet of each end of Runway 6R-24L and Taxiway V between Taxiway E and the Runway 24L end. The visual inspection found the pavement at the Runway 24L end is in poor condition because of the high number of departures from this end of the runway. There are significant load-related distresses in the 75-foot wide keel area of the runway and at the Taxiway V intersection. Therefore, several fatigue-cracked panels (the first 250 feet of Runway 24L), would be replaced. Additionally, nine fatigue-cracked panels on Taxiway V immediately adjacent to the south edge of the runway, and two panels on Taxiway V directly adjacent to the northern edge of the runway, will also be replaced (approximately 6,875 square feet).



NOTE: 1/ These measurements may be subject to refinement.
2/ These features are being closed and/or relocated as part of the Runway 6L-24R and Runway 6R-24L RSA and Associated Improvements Project.

SOURCE: Federal Aviation Administration, *Advisory Circular 150/5300-13A, Airport Design* , September 28, 2012; Landrum & Brown, *Los Angeles International Airport, Airport Layout Plan* , 2005; Los Angeles World Airports, April 2013 (aerial photography); Ricondo & Associates, Inc., June 2014.
PREPARED BY: Ricondo & Associates, Inc., March 2015.

FIGURE 4

Proposed Project

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- Relocate the existing ILS Runway 6R Localizer Antenna to the east;
- Demolish and relocate existing Secure Area Access Post (SAAP) #3;
- Protect in place existing storm sewer and utilities;
- Relocate Air Operations Area (AOA) fence;
- Construct 400-foot long jet blast pad;
- Relocate taxicab holding/staging area and associated buildings;

- Implement declared distances;
- Extend and realign existing vehicle service road(s) south of Taxiway E, which will require closure of Alverstone Avenue and Davidson Drive as well as the adjacent parking lots (all of which are on airport property and currently closed to the public). Existing paved areas within the RSA may be removed and graded to RSA standards and paved with erosion control pavement; and
- Realign a portion of Davidson Drive to accommodate authorized vehicle access.

1.5.2.1 Shift Runway 6R End

Construction of the proposed Project would require a shift of the Runway 6R end by approximately 200 feet to the east. The proposed Project also requires shifting of the existing displaced threshold[13] for Runway 6R an additional 420 feet to the east as well. The existing Runway 6R end has a displaced threshold of 331-feet. The resulting 420-foot eastward shift of the 6R Runway displaced threshold would provide a new displaced threshold of about 550 feet. The 6R end would shift 200 feet east, plus the needed 550 foot threshold means the new threshold would be 750 feet from the current runway end. If you subtract the existing threshold distance of 331 feet from the current runway end, you have a net threshold change of 420 feet.

The shift of the runway also requires a shift to Taxiways E17 and E16 to allow aircraft to enter and exit the runway, and shifts to air navigation aids that are fixed by function in relation to the runway threshold. As a result of the runway shift, LAWA proposes to remove existing Taxiway E16 and E17 north of Taxiway E that

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[13] U.S. Department of Transportation, Federal Aviation Administration, Advisory Circular 150/5300-13A, Airport Design, September 2012.: *"Threshold. The threshold is ideally located at the beginning of the runway. The threshold is located to provide proper clearance for landing aircraft over existing obstacles while on approach to landing. When an object beyond the airport owner's power to remove, relocate, or lower obstructs the airspace required for aircraft to land at the beginning of the runway for takeoff, the threshold may be located farther down the runway. Such a threshold is called a "displaced threshold." Thresholds can also be displaced to provide:*

(a) A means for obtaining additional RSA prior to the threshold. See paragraph 307.

(b) A means for obtaining additional Runway Object Free Area (ROFA) prior to the threshold. See paragraph 309.

(c) A means for locating the Runway Protection Zone (RPZ) to mitigate unacceptable incompatible land uses. See paragraph 310.

(d) Mitigation of environmental impacts, including noise impacts.

Displacement of a threshold reduces the length of runway available for landings. The portion of the runway behind a displaced threshold may be available for takeoffs and, depending on the reason for displacement, may be available for takeoffs and landings from the opposite direction. Refer to paragraph 323 for additional information."

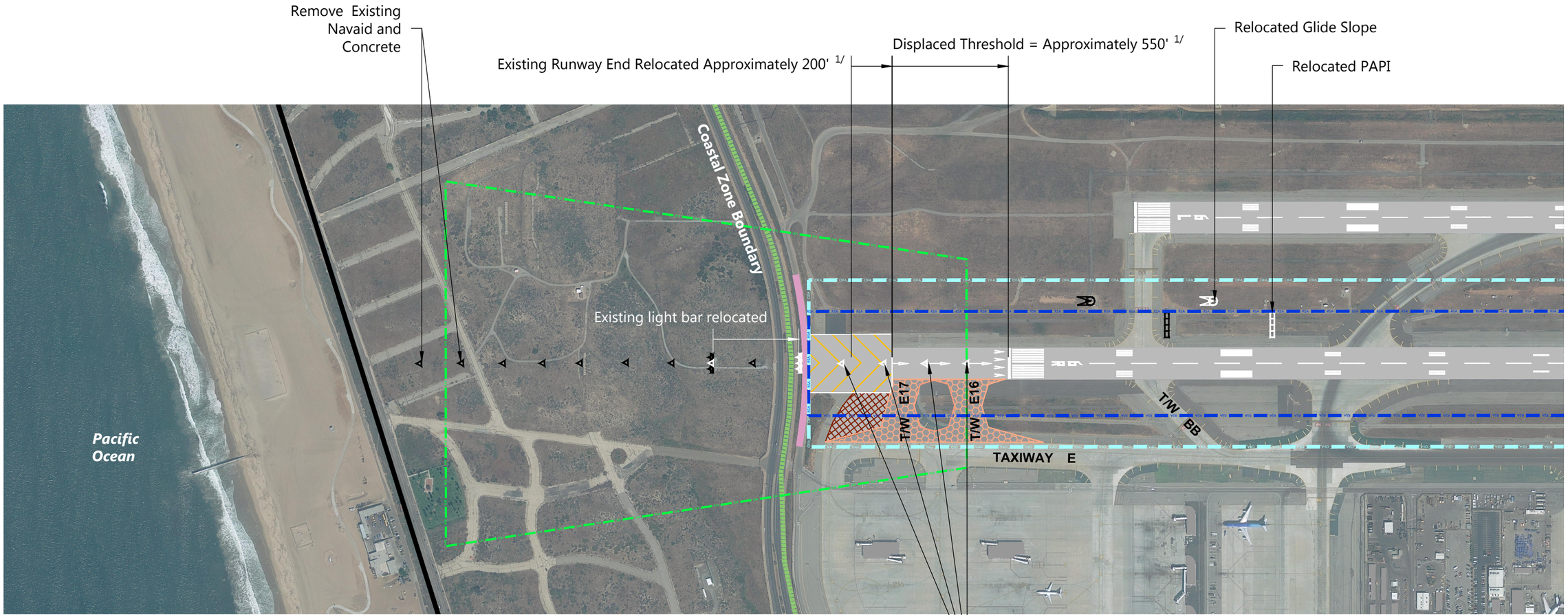
provide access to the existing end of Runway 6R; and construct new Taxiway connectors E16 and E17 to provide access to the shifted end of Runway 6R (see **Figure 5**). The runway and taxiway lightings and markings associated with the end of Runway 6R will need to be modified to reflect the shift in the Runway 6R threshold.

Runway 6R is equipped with an instrument landing system (ILS) for Category (CAT) I approaches and a Medium Intensity Approach Light System with Runway Alignment Indicator Lights (MALSR). This equipment provides electronic vertical and horizontal guidance to aircraft approaching and landing on this runway using radio signals and a high-intensity lighting array to enable a safe landing when the visibility is reduced (fog or rain). The shift in the Runway 6R threshold will require the relocation of portions of the ILS and approach lighting system, namely the glide slope antenna, Precision Approach Path Indicators (PAPI), and MALSR. The glide slope antenna provides vertical guidance information indicating aircraft position above, below, or along the proper descent angle to the runway touchdown point. It is optimally positioned in relation to the runway threshold to provide a 3 degree glide slope with a specified threshold crossing height for landing aircraft.[14] The PAPI system provides visual approach slope information along the desired descent path to the touchdown point. The PAPI system consists of two parts: (1) a single horizontal bar with four sharp transition multilamp units, referred to as lamp housing assemblies (LHA's), equally spaced, and (2) a power and control unit (PCU). The LHA's are located on a line perpendicular to the runway centerline, at a distance from the threshold chosen to provide the proper threshold crossing height and obstacle clearance.[15] Figure 5 shows the existing and proposed MALSR system, PAPI, and glide slope.

The Medium Intensity Approach Light System (MALS) portion of the MALSR consists of a threshold light bar and seven five-light bars located on the extended runway centerline. The light bar stations are typically spaced 200 feet apart, with a tolerance expressed as "+feet/-feet". The first light bar is located 200 feet (+100 feet/-0 feet) from the runway threshold and the remaining bars at each 200-foot interval (+/- 20 feet) out to 1,400 feet from the threshold. Two additional five-light bars are located (one on each side of the centerline bar) 1,000 feet from the runway threshold forming a crossbar 66 feet long. The spacing between individual lights in all bars is approximately 2½ feet. All lights are aimed into the approach to the runway and away from the runway threshold. All lights in the system are white, except for the green threshold lights. The threshold lights are a row of lights on 10-foot centers located coincident with and within the runway edge lights near the threshold, and extend across the runway threshold. **Figure 6** depicts some of the MALSR light stations located off the end of the Runway 6R.

[14] U.S. Department of Transportation, Federal Aviation Administration, Order 6750.16E, *Siting Criteria for Instrument Landing Systems*, April 10, 2014.

[15] U.S. Department of Transportation, Federal Aviation Administration, Order JO 6850.2B, *Visual Guidance Lighting Systems*, August 20, 2010.



LEGEND

- LAX Property Boundary
- Runway Safety Area
- Runway Object Free Area
- Runway Protection Zone
- Runway/Taxiway Pavement to be Demolished
- Runway/Taxiway Pavement to be Built
- Coastal Zone Boundary
- Blast Pad to be Built
- Retaining Wall to be Built
- Existing / Proposed Navigational Aid
- Existing / Relocated Precision Approach Path Indicator
- Existing / Relocated Glide Slope Antenna

NOTE: 1/ These measurements may be subject to refinement.
SOURCE: Landrum & Brown, *Los Angeles International Airport, Airport Layout Plan,* 2005; Los Angeles World Airports, April 2013 (aerial photography).
PREPARED BY: Ricondo & Associates, Inc., March 2015.

NORTH 0 500 ft.

FIGURE 5

Proposed Runway 6R End Shift

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1. View of MALSR Station facing west.

2. View of flashing Station facing east.

3. View of 1,000-foot light bar facing north/northeast.

SOURCE: Photo Credit: Kessler, David, Federal Aviation Administration, August 2014.
PREPARED BY: Ricondo & Associates, Inc., March 2015.

FIGURE 6

MALSR Station Photographs

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The Runway Alignment Indicator Lights (RAIL) portion of the MALSR consists of five sequenced flashers located on the extended runway centerline. The first is located 200 feet (+/- 20 feet) beyond the approach end of the MALSR with successive units located at each 200-foot interval (+/- 20 feet) out to 2,400 feet (+100 feet/-0 feet) from the runway threshold. These single white lights flash in sequence toward the threshold at the rate of twice per second. All lights are aimed into the approach to the runway and away from the runway threshold. The Runway 6R threshold is planned to be displaced approximately 550 feet to the east from the proposed runway end, which will require modification of the MALSR system as well as relocation of the Runway 6R glide slope. Modification of the MALSR will involve shifting light bars approximately 400 feet to the east to accommodate the new threshold location. This essentially reduces the westerly extent of the MALSR west of LAX. This requires the removal of the two westernmost light stations (i.e., the light stations closest to the Pacific Ocean), and the relocation of light stations onto either existing platforms or onto runway or blast pad pavement. Additionally, pending funding approval, FAA would replace the entire ALS system for Runway 6R, as the existing equipment has reached the end of its design life. Concrete pads for the two westernmost stations and outer pads of the shifted 1,000-foot light bar station would be excavated, removed, and restored to pre-project conditions. For the remaining stations, concrete pads would be reused to the extent possible; lights, towers, and equipment control boxes would be replaced. One of the existing five-light steady burning stations would change to a single flasher light station. This change requires removal of the existing footing and five poles supporting each light and replacing it with a single pole and foundation along with a foundation for the power and controller boxes for the flasher station. The total amount of concrete at that station is expected to increase by one square foot. The overall amount of concrete footing in the California Coastal Zone will be reduced as a result of the proposed project. Figure 5 shows the existing and proposed MALSR system.

1.5.2.2 Shift Runway 24L End

To maintain the existing runway length for departures (10,285 feet), LAWA proposes to shift the Runway 24L end by approximately 800 feet to the east, but in order to maintain the existing touchdown point on Runway 24L in the existing location, LAWA will also implement a displaced threshold of approximately 800 feet.[16] The shift of the runway end requires a shift of taxiways allowing aircraft to enter and exit the runway, and to shift air navigation aids that are fixed by function in relation to the runway threshold. The endpoint of Taxiway E will also be shifted approximately 500 feet to the east. LAWA proposes to remove existing Taxiway E7 located east of the existing end of Runway 24L and construct new taxiway connector Taxiways E7 and E6 (**Figure 7**). The taxiway lightings and markings associated with the end of Runway 24L will need to be modified to reflect the shift in the new Runway 24L runway end.

[16] See Footnote 8, Section 1.5.2.1, regarding displaced thresholds.

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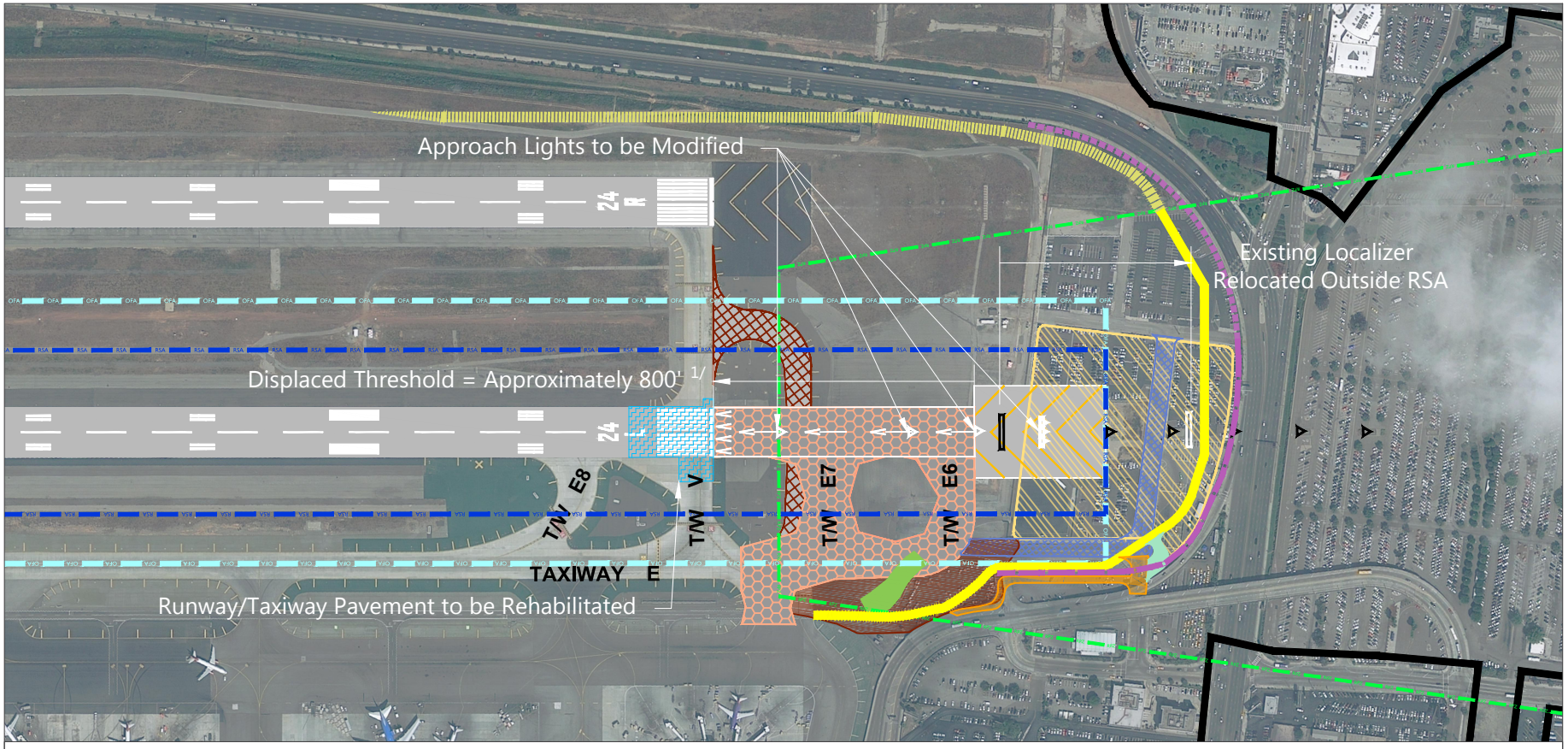

NOTE: 1/ This measurement may be subject to refinement.
2/ These features are being closed and/or relocated as part of the Runway 6L-24R and Runway 6R-24L RSA and Associated Improvements Project.
SOURCE: Landrum & Brown, *Los Angeles International Airport, Airport Layout Plan,* 2005; Los Angeles World Airports, April 2013 (aerial photography).
PREPARED BY: Ricondo & Associates, Inc., March 2015.

NORTH 0 500 ft.

FIGURE 7

Proposed Runway 24L End Shift

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The shift in Taxiway E would impact the existing Secure Area Access Post (SAAP) #3, which would fall within the Taxiway Object Free Area (TOFA). This will require the relocation of SAAP #3 and the corresponding realignment of a segment of Davidson Drive.

A detailed visual survey was conducted for the first 1,000 feet of each end of Runway 6R-24L and Taxiway V between Taxiway E and the Runway 24L end. The visual inspection found the pavement at the Runway 24L end is in poor condition because of the high number of departures from this end of the runway. There are significant load-related distresses in the 75-foot wide keel area of the runway and at the Taxiway V intersection. Therefore, in addition to the new runway pavement construction, several fatigue-cracked panels (the first 250 feet of Runway 24L), would be replaced. Additionally, nine fatigue-cracked panels on Taxiway V immediately adjacent to the south edge of the runway, and two panels on Taxiway V directly adjacent to the northern edge of the runway, would also be replaced (approximately 6,875 square feet).

Part of the existing ILS system for Runway 6R approaches is the ILS localizer, located east of the Runway 24L end. The ILS localizer provides lateral guidance information to aircraft to indicate whether it is to the right, left, or aligned with the approach course line (usually the extended runway centerline). The ILS localizer consists of an antenna array, electronic equipment, and an equipment shelter, and is typically located near the stop end of the runway, outside of the RSA if required graded and cleared areas are available.[17] With the eastern shift in the Runway 24L end and associated RSA, the Runway 6R ILS localizer also needs to be shifted to the east.

The approach light system for Runway 24L will also require modification because of the runway shift. Some of the existing approach light bars will become in-pavement fixtures due to the displaced threshold, while others will remain as elevated fixtures, the heights of which would be determined during final design.

1.5.2.3 Declared Distances

Declared distances are "the distances the airport operator declares available and suitable for satisfying an aircraft's takeoff run, take-off distance, accelerate-stop distance, and landing distance requirements."[18] The FAA defines four types of declared distances: the Take-Off Run Available (TORA), the Take-Off Distance Available (TODA), the Accelerate-Stop Distance Available (ASDA), and the Landing Distance Available (LDA).[19] Aircraft operators use these declared distances, along with weather data, aircraft performance characteristics, and market segments for flight planning, including the determination of payload and range restrictions. Pilots

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17 U.S. Department of Transportation, Federal Aviation Administration, Order 6750.16E, *Siting Criteria for Instrument Landing Systems*, April 10, 2014.

18 U.S. Department of Transportation, Federal Aviation Administration, Advisory Circular 150/5300-13A, *Airport Design*, February 26, 2014.

19 U.S. Department of Transportation, Federal Aviation Administration, Advisory Circular 150/5300-13A, *Airport Design*, February 26, 2014. Take-off Run Available (TORA) is the runway length declared available and suitable for the ground run of an aircraft taking off; Take-off Distance Available (TODA) is the TORA plus any remaining runway or clearway beyond the far end of the TORA; the full length of TODA may need to be reduced because of obstacles in the departure area; Accelerate-Stop Distance Available (ASDA) is the runway plus stopway length declared available and suitable for the acceleration and deceleration of an aircraft aborting a takeoff; and Landing Distance Available (LDA) is the runway length declared available and suitable for landing an aircraft.

and airplane operators' performance engineers need this information for calculating their allowable takeoff and landing weights and speeds.[20] Essentially, declared distances represent the maximum runway distances available to safely takeoff or reject a takeoff (TORA, TODA, and ASDA), or to land (LDA). Shortening the usable runway length would allow for the full RSA dimensions to be available in the event of an aircraft's excursion from the runway during an overrun, undershoot, or veer-off.

The proposed Project includes the implementation of declared distances presented in **Table 3**.

Table 3: Runway 6R-24L Declared Distances

DECLARED DISTANCES	RUNWAY 6R	RUNWAY 24L
Runway Length	10,885′	10,885′
TORA = Take-off Run Available	10,285′	10,285′
TODA = Take-Off Distance Available	10,285′	10,285′
ASDA = Accelerate-Stop Distance Available	10,285′	10,285′
LDA = Landing Distance Available	9,727′	9,489′

SOURCE: LAWA Airport Development Group, Preliminary Design Analysis (URS), November 2014.
PREPARED BY: Ricondo & Associates, Inc., December 2014.

While the proposed Project would increase the existing Runway 6R-24L overall length by 600 feet, from 10,285 feet to 10,885 feet, this increase in length would only provide safety areas necessary to satisfy FAA design standards. The declared distances and shift in Runway 6R threshold, described above, would limit the usable runway length to the existing 10,285 feet. TORA, TODA, ASDA and LDA would each remain at a maximum distance of 10,285 feet and no increase in capacity or operations would occur. Therefore, no increase in usable runway length or capacity would occur from the proposed Project.

1.5.2.4 Service Roads & AOA Fence

Portions of service roads currently located within the 6R-24L RSA would be relocated or realigned in order to meet RSA standards and to ensure that service vehicles operate outside of the RSA. An existing vehicle service road located southeast of Taxiway E would be relocated and realigned east around the shifted RSA. This would require closure of LAWA-owned Alverstone Avenue and Davidson Drive (which are on airport property and closed to the public) and a portion of Davidson Drive to be realigned to accommodate authorized vehicle access. The realigned service road would also require shifting the police overflow parking to the existing taxicab staging lot, and relocation of the taxicab staging lot. Some of the existing pavement located within the shifted RSA may need to be demolished and the area graded to meet RSA grading standards. This area would be repaved with erosion control pavement. The AOA fence would need to be

[20] U.S. Department of Transportation, Federal Aviation Administration, CERTALERT, *Reporting Declared Distances to Aeronautical Information Services*, March 6, 2009.

relocated along the southeastern portion of the north runway complex in order to accommodate the realigned service roads described above. The AOA fence realignment is depicted in Figure 7.

The realignment of service roads and the AOA fence outside the RSA along the eastern side of the north runway complex, along with the relocated Runway 6R Localizer, would make it necessary to close the taxi and shuttle staging area, located east of Runway 6R-24L. This parking area is located inside the LAX property boundary, east of Alverstone Avenue, and is used for taxi and shuttle staging; it is not open to the public. This parking area totals approximately 95,500 square feet in area and contains paved surface parking; the portion of the pavement that would not be converted to a jet blast pad would be demolished and graded to RSA standards (Figure 7). The taxicab holding lot would be relocated to an existing LAWA-owned parking lot located between West 96th Street and West 98th Street, approximately 200 feet east of Vicksburg Avenue (see **Figure 8**). This lot is currently being used as a holding lot for airport shuttle parking; the shuttles currently using this lot would be relocated to the adjoining lot east of the proposed taxicab staging lot. Taxicabs would enter the lot from West 96th Street, flow south through the lot, then exit onto West 98th Street when it is their turn to proceed to the CTA to pick up passengers. The taxicabs would turn right onto West 98th Street, turn north or south onto Vicksburg Avenue, and then proceed to the CTA either via the 96th Street Sky Way overpass to the north or east onto Century Boulevard to the south.

1.5.2.5 Construction Staging Areas

Construction staging areas would be necessary due to the limited space available for storage of materials and equipment within the airfield area. Locations of the potential construction staging areas for this project are illustrated in **Figure 9**. Only a portion of these construction staging areas would be used during construction of the proposed Project. However, a specific construction staging area(s) for this project has not been determined at the present time; therefore, to provide a conservative analysis, all potential staging areas are being considered in the analysis for this Initial Study. The potential construction staging areas consist of sites that have been previously disturbed/improved as construction staging and laydown areas for earlier or current construction projects at LAX; hence, there would be minimal, if any, new ground disturbance or additional improvements required.

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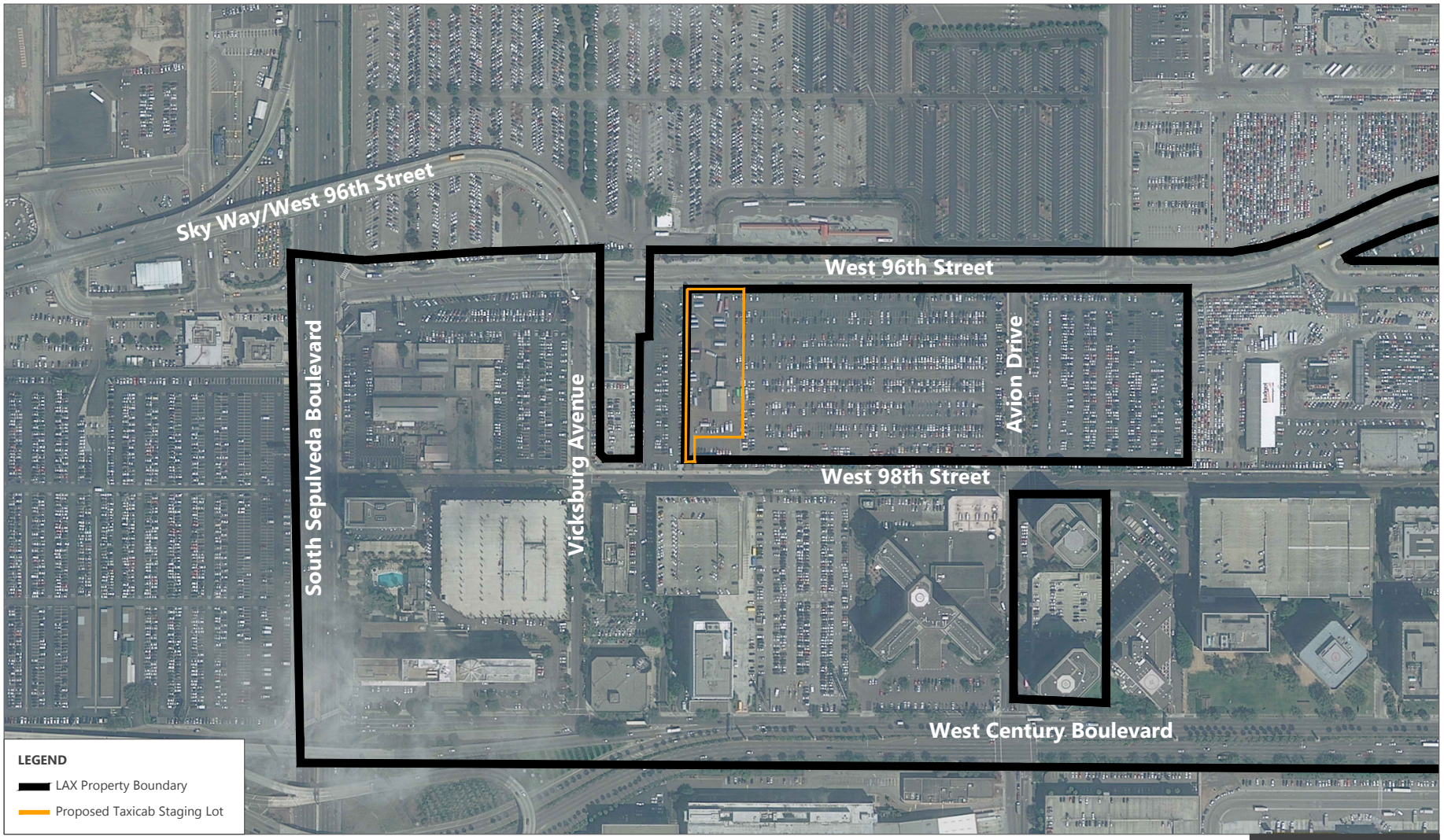

SOURCE: Landrum & Brown, *Los Angeles International Airport, Airport Layout Plan,* 2005; Los Angeles World Airports, April 2013 (aerial photography).
PREPARED BY: Ricondo & Associates, Inc., March 2015.

FIGURE 8

Relocated Taxicab Staging Lot

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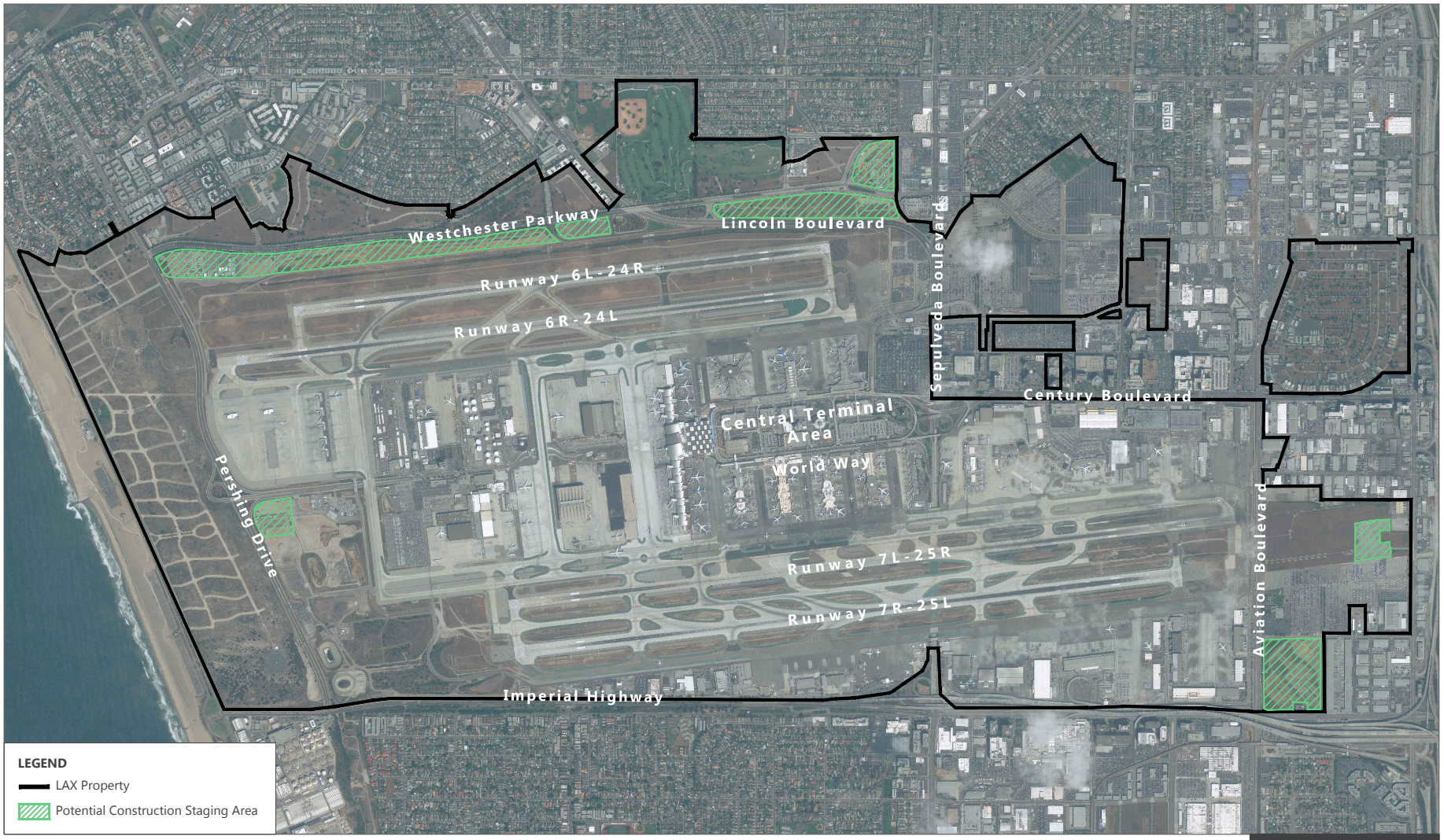

SOURCE: Landrum & Brown, *Los Angeles International Airport, Airport Layout Plan,* 2005; Los Angeles World Airports, April 2013 (aerial photography).
PREPARED BY: Ricondo & Associates, Inc., March 2015.

FIGURE 9

NORTH 0 2,500 ft.

Potential Construction Staging Areas

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1.6 Required Approvals/Consultations

1.6.1 FEDERAL

- U.S. Department of Transportation, FAA approval of a Notice of Construction or Alteration to ensure safe and efficient operations during the construction of the Project. LAWA and its selected contractor would submit FAA Form 7460-1 "Notice of Proposed Construction or Alteration."
- FAA approval of NEPA documentation assessing the proposed Project.
- FAA conformity determination or de minimis finding relative to the Clean Air Act.
- FAA consistency determination with the California Coastal Act relative to federal Coastal Zone Management Act requirements.

1.6.2 STATE AND REGIONAL ACTIONS

- The State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs) administer regulations regarding water quality in the State. The SWRCB issued a statewide NPDES general permit for stormwater discharges associated with construction activities (Construction Permit), in accordance with federal stormwater regulations. The most recent update to the Construction Permit adopted by the SWRCB became effective July 2012. Project proponents planning construction activities that disturb an area greater than one acre are required to file a Notice of Intent (NOI) to discharge under the Construction Permit. Review and approval of the NOI by the SWRCB would allow LAWA to discharge stormwater under the terms and conditions of the general permit.

1.6.3 LOCAL

- Adoption of the Final MND for the Runway 6R-24L Runway Safety Area Improvements.
- LAX Plan Compliance Review in accordance with Section 7 of the LAX Specific Plan.
- Preparation of a Project-specific Storm Water Management Plan or Standard Urban Storm Water Mitigation Plan (SUSMP) for approval by the Bureau of Sanitation, Watershed Protection Division.
- Los Angeles Fire Department approval.
- Grading permits, building permits, and other permits issued by the Department of Building and Safety for the project and any associated Department of Public Works permits for infrastructure improvements.
- Other federal, state, or local approvals, permits, or actions that may be deemed necessary for the project.

1.7 Implementation Timeline

Implementation of the proposed Project would begin upon obtaining the approvals/consultants and permits outlined in Section 1.6. Construction activities associated with the improvements would be anticipated to begin in late 2015 and be completed by the end of 2016.

Runway 6R-24L requires construction activities within the RSA on both ends of the runway, which would be conducted in two distinct phases. The first phase of construction would focus on the RSA improvements to the Runway 24L end; once those improvements are completed, construction of the RSA improvements to the Runway 6R end would be conducted. While an extended closure of the runway is not expected, the proposed Project would require shortened runway lengths, as well as intermittent connecting taxiway closures during construction. Runway 6R-24L is the primary departures runway on the north airfield; during the first phase of construction (improvements on the Runway 24L end), approximately 9,000 feet of usable runway would be available for aircraft departures. A runway length analysis was conducted to determine the number and types of aircraft that would be able to depart on this reduced departure length. Aircraft capable of operating on 9,000 feet would perform intersection departures from Taxiway E8. Aircraft departures requiring a greater takeoff distance would need to be shifted to other runways during this period. The actual number and frequency of flights shifted to other runways is expected to be determined by LAX Operations and FAA Air Traffic Control.

During the second phase of construction, approximately 9,200 feet would be available for aircraft departures. Similar to the first phase of construction, a runway length analysis was performed to determine aircraft capable of departing on 9,200 feet of runway; aircraft departures needing more than this would be shifted to other runways. Additionally, closures of Taxiways E17 and E16 would inhibit departures from Runway 6R; however, intersection departures from Taxiway BB would be possible. It should be noted that departures on this runway end occur less than 1 percent annually, and the taxiway closures are not expected to significantly impact operations. Also during construction of the Runway 6R RSA improvements, nighttime over-ocean operations arriving on Runway 6R would be prohibited; a shift in these arrivals to Runway 6L would need to be coordinated and confirmed with FAA Air Traffic Control.

As physical improvements to the RSA would not be completed until the end of 2016, LAWA is proposing to implement declared distances in order to meet the December 31, 2015 deadline requirement of Public Law 109-115, and to allow the runway to remain open during implementation of the proposed RSA improvements. During construction, it is expected that the runway will be used for departures with the runway length being temporarily reduced for safety clearances from construction areas. A minimum 1,000-foot long RSA will be required between the boundary of the construction area and the operable portion of the runway. In addition, a buffer area is assumed between the work area and the end of the RSA. Construction barriers and a blast fence would be temporarily installed in the buffer area. FAA coordination will be required to minimize disruption to aircraft operations and changes in approach and departure procedures.

2. Explanation of Initial Study Checklist Determinations

The following analysis provides supporting documentation for the determinations presented in the Initial Study Checklist. Each response provided below evaluates how the Runway 6R-24L Safety Area Improvements (the proposed Project) as defined in the Project Description may affect existing environmental conditions at the Project site and in the surrounding area and the mitigation measures/project design considerations necessary to reduce all potential impacts to a less than significant level.

I. Aesthetics

Would the project:

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

a. No Impact*. The Project site is located in the North Airfield Complex at LAX, an area that has been extensively disturbed and is developed with airport uses. The Pacific Ocean is the only scenic vista in the vicinity of the Project site and the primary vista-related sensitive uses are residences located to the north and south of LAX property. As the improvements associated with the proposed Project are on the ground and those elements already exist on the Project site, there will be no impacts to viewsheds.*

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

b. Less Than Significant Impact*. The Project site is not located within a state scenic corridor and would not damage any scenic resources. Vista Del Mar, a City of Los Angeles-designated scenic highway, is located 200 feet west of the Project site; however, the Project site is not located within or visible from Vista Del Mar and views of the Project site from Vista Del Mar are blocked by the Los Angeles Airport/El Segundo Dunes.*

The only portion of the Project site that contains natural scenic resources is the portion located west of Pershing Avenue in the Los Angeles Airport/El Segundo Dunes area. The required improvements west of Pershing Avenue, mainly modifications of the MALSR system, would be designed to minimize disturbance of the Los Angeles Airport/El Segundo Dunes and are anticipated to include the following:

- *Deactivate and remove the two (western-most) light stations and associated light poles for flashing lights. Concrete light pole foundations for these light stations would be excavated, removed and restored to pre-project conditions.*
- *Relocate the "1,000-foot light bar" (supported by three separate towers) to a location immediately east of Pershing Drive (outside the coastal zone). The northern and southern concrete pads which currently support the "1,000-foot light bar" would be excavated, removed and restored to pre-project conditions. The central pad would be retained in order to support a new single-pole light station tower at this location. The removal of these concrete pads would temporarily disturb approximately 2,700 square feet.*
- *Minor excavation next to the concrete pads to be removed will be undertaken to disconnect buried electrical and communication lines to each of the tower stations.*
- *The nine existing light stations in the coastal zone are sited on concrete pads that total 555 square feet. The proposed Project would remove four concrete pads from the Los Angeles Airport/El Segundo Dunes which results in a net reduction of 253 square feet of concrete.*
- *Pending FAA funding approval, the proposed Project would include replacement of the remaining seven light station towers in the coastal zone with new towers as the existing structures have reached the end of their design life.*
    - *The replacement light station towers would be installed on the existing concrete pads at the seven remaining light stations to the extent possible. This would include the installation of upgraded power and communication cables to the replacement light station towers, using directional boring equipment rather than trenching to minimize ground disturbance between stations. Existing gravel and paved service roads which provide access to and connect each of the light stations would be used by construction personnel for construction access and staging.*
    - *FAA will need to replace the existing concrete support pads at three of the light stations. FAA has determined that only one light station will require an expansion of the existing concrete pad by approximately 1 square foot to provide a foundation for a flasher control box. The replacement of the three existing concrete support pads and slight expansion of the one other pad will result in the temporary disturbance of approximately 2,700 square feet of area.*
    - *Two flasher stations would require that underground conduit be installed. Two segments of 2-inch conduit are required with each being approximately 200 feet long. Conduit would be installed approximately 24 inches underground using a trenchless method thereby limiting disturbance of the Los Angeles Airport/El Segundo Dunes. It is anticipated that the installation of this conduit would require digging four small holes for the underground drilling/boring operation. These holes would be no larger than 3 feet by 3 feet and would be hand dug.*
- *Existing conduit for the other relocated light stations would be used where practicable.*
    - *In the event that the existing conduit is found to be unusable, it would be necessary to install approximately 1,400 feet of 2-inch underground conduit.*
    - *Conduit would also be installed approximately 24 inches underground using a trenchless method thereby limiting disturbance of the Los Angeles Airport/El Segundo Dunes. This could involve*

digging eight small holes for the underground drilling/boring operation; however, it may be possible to use existing hand holes for this purpose. If new holes are required, they would be no larger than 3 feet by 3 feet and would be hand dug.

As stated above, existing towers, lights, equipment and control boxes would be replaced; existing foundations would remain and be modified if necessary. ***Figure 10*** *provides details of the light station modifications. The area of potential temporary disturbance of the Los Angeles Airport/El Segundo Dunes is approximately 5,400 square feet. Areas that are temporarily disturbed during MALSR light station replacement will be restored to pre-project conditions. Figure 6 provides photographs of the existing light stations.*

The removal of the two MALSR light stations would be the Project component located closest to Vista Del Mar. This Project component would eliminate two light sources located closest to Vista del Mar and the Pacific Ocean, thus no significant impact to the scenic resources of the area would occur. Temporary impacts would occur during construction activities, but these would be minimal and less than significant. The remainder of the Project site does not contain scenic resources, such as trees, rock outcroppings, historic buildings, or other locally recognized desirable aesthetic features. Therefore, less than significant impacts would occur to scenic resources and no mitigation is required.

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

c. Less Than Significant Impact. *The improvements associated with the proposed Project will not change the visual character of the Project site and are consistent with the existing industrial character of LAX and the surrounding area. While the Project site has several small patches of vegetation, there are no landscaping or other features of aesthetic value on site to be affected.*

Therefore, no impact would occur from implementing this Project that would degrade the existing visual character or quality of the site or its surroundings.

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

d. Less than Significant Impact. *The FAA maintains requirements for airfield and terminal area lighting aids and navigational systems for all U.S. airports. As discussed in Section 1.5.2.1, Runway 6R is equipped with a Medium Intensity Approach Light System with Runway Alignment Indicator Lights (MALSR). The Runway Alignment Indicator Lights (RAIL) portion of the MALSR consists of five sequenced flashers located on the extended runway centerline. These single white lights flash in sequence toward the threshold at the rate of twice per second. All lights are aimed into the approach to the runway and away from the runway threshold. The Runway 6R threshold is planned to be shifted approximately 420 feet to the east which will require modification of the MALSR system as well as relocation of the Runway 6R glide slope. Modification of the MALSR will involve shifting light bars approximately 400 feet to the east to correspond with the new threshold location. This requires the removal of the two western-most light stations (i.e., the light stations closest to the Pacific Ocean), and the relocation of light stations onto either existing platforms or onto runway or blast pad pavement. However, as these lights currently exist, and would only be relocated to an area further away from public access, potential impacts from new sources of lighting and glare resulting from implementing this Project would be less than significant.*

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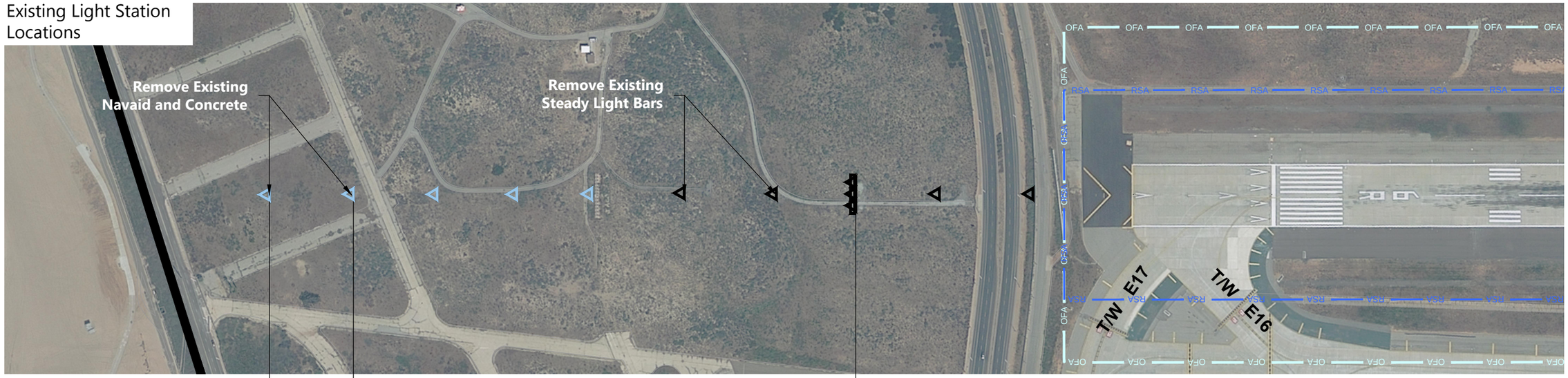
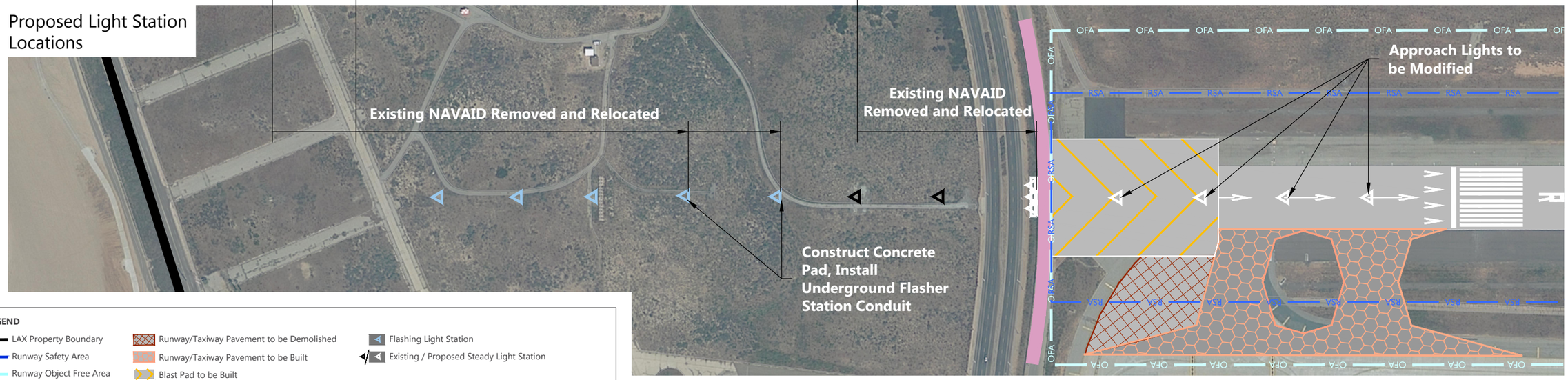
Existing Light Station Locations



Proposed Light Station Locations



LEGEND

- LAX Property Boundary
- RSA Runway Safety Area
- OFA Runway Object Free Area
- RPZ Runway Protection Zone
- Runway/Taxiway Pavement to be Demolished
- Runway/Taxiway Pavement to be Built
- Blast Pad to be Built
- Retaining Wall to be Built
- Flashing Light Station
- Existing / Proposed Steady Light Station

NOTE: 1/ These measurements may be subject to refinement.
SOURCE: Landrum & Brown, *Los Angeles International Airport, Airport Layout Plan,* 2005; Los Angeles World Airports, April 2013 (aerial photography).
PREPARED BY: Ricondo & Associates, Inc., March 2015.

NORTH 0 250 ft.

FIGURE 10

Existing Conditions and Proposed Project
Runway 6R Light Station Detail

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II. Agriculture and Forestry Resources

Would the project:

a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program in the California Resources Agency, to non-agricultural use?

b. Conflict with 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 fully-developed airport, is surrounded by airport-related uses, and has been disturbed and paved. There are no farmlands that are considered prime, unique or of statewide or local importance in the vicinity of the Project site. No agricultural resources or operations currently exist, or have existed in the recent past on the Project site or in the vicinity of the Project site.*[21] *Furthermore, there are no Williamson Act contracts in effect on the Project site or surrounding areas. Additionally, no forest or timberland resources exist at the Project site or in the vicinity of the Project site. Consequently, the proposed Project would not conflict with existing zoning for, or cause rezoning of, forest land or timberland (including timberland zoned as Timberland Production) or result in the loss or conversion of forest land to non-forest use. Therefore, no impacts to agricultural and forestry resources would occur as a result of implementation of this Project.*

[21] City of Los Angeles, Los Angeles World Airports (LAWA), *Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements,* April 2004.

III. Air Quality

Would the project:

a. Conflict with or obstruct implementation of the applicable air quality plan?

a. Less than Significant Impact. *Air quality is regulated by federal, state, and local laws. In addition to rules and standards contained in the federal Clean Air Act (CAA) and the California Clean Air Act (CCAA), air quality in the Los Angeles region is subject to the rules and regulations established by the California Air Resources Board (CARB) and South Coast Air Quality Management District (SCAQMD) with oversight provided by the USEPA, Region IX. The proposed Project is located in the South Coast Air Basin (Basin), which is under jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD is the regional agency responsible for air quality regulations within the Basin, 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 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 2012 AQMP describes the SCAQMD's plan to attain the federal standard for fine particulate matter less than or equal to 2.5 microns (µm) in diameter ($PM_{2.5}$) by 2014 and to continue improving ozone (O_3) levels. Proposed control measures include reducing $PM_{2.5}$ and nitrogen oxides (NO_X) emissions from on- and off-road vehicle engines. In 2007, CARB adopted a regulation to reduce diesel particulate matter and NO_X emissions from in–use (existing) off-road heavy-duty diesel vehicles. The Final 2012 AQMP proposes to carry forward control measures for ozone presented in the Final 2007 AQMP, which includes requiring the use of cleaner (as compared to "baseline") off-road equipment. Any construction equipment used for the proposed Project would operate in compliance with State law and would be consistent with the objectives of the Final 2007 AQMP.

In 1992, the City of Los Angeles adopted an Air Quality Element as part of the General Plan. Objective 1.3 of the Air Quality Element is to reduce particulate matter emissions from unpaved areas, parking lots, and construction sites. All activities for the proposed Project would be compliant with SCAQMD's Rule 403 for fugitive dust control; therefore, the proposed Project would be consistent with the Air Quality Element of the General Plan.

As discussed above, implementation of the proposed Project would not obstruct or conflict with the applicable SCAQMD plan and thus, the impact is less than significant and no mitigation is required.

b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

b. Less than Significant Impact with Mitigation Incorporated. *The CCAA, signed into law in 1988, requires all areas of the state to achieve and maintain the CAAQS by the earliest practicable date. Regions of the state that have not met one of more of the CAAQS are known as nonattainment areas, while regions that meet the CAAQS are known as attainment areas. Criteria pollutants subject to oversight include: carbon monoxide (CO), oxides of nitrogen (NO_X), particulate matter (PM_{10} and $PM_{2.5}$), sulfur dioxide (SO_X), volatile organic compounds (VOC), and lead (Pb). LAX is located in the Basin, which is designated as a CAAQS nonattainment area for O_3*

(which is evaluated using precursors VOC and NO_X), PM_{10}, and $PM_{2.5}$. The Basin is designated as a CAAQS attainment or unclassified area for CO, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and Pb.[22]

SIGNIFICANCE THRESHOLDS

The SCAQMD has developed CEQA construction and operational-related thresholds of significance for air pollutant emissions from projects proposed in the Basin. Construction and operational emission thresholds are summarized in ***Table 4****. In accordance with the SCAQMD CEQA Air Quality Handbook, a significant air quality impact would occur if the estimated incremental increase in construction-related or operations-related emissions attributable to the proposed Project would be greater than the daily emission thresholds presented in Table 4.*

Table 4: SCAQMD CEQA Thresholds of Significance for Air Pollutant Emissions in the South Coast Air Basin

	MASS EMISSION THRESHOLDS LBS/DAY	
POLLUTANT	**CONSTRUCTION**	**OPERATIONS**
Carbon monoxide, CO	550	550
Volatile organic compounds, VOC [1/]	75	55
Nitrogen oxides, NO_X	100	55
Sulfur dioxide, SO_2	150	150
Respirable particulate matter, PM_{10}	150	150
Fine particulate Matter, $PM_{2.5}$	55	55
Lead, Pb [2/]	3	3

NOTES:

1/ The emissions of VOCs and reactive organic gases are essentially the same for the combustion emission sources that are considered in this Initial Study. This Initial Study will typically refer to organic emissions as VOCs.

2/ The only source of lead emissions from LAX is from aviation gasoline (AvGas) associated with piston-engine general aviation aircraft; however, due to the low number of piston-engine general aviation aircraft operations at LAX, AvGas quantities are low and emissions from these sources would not be materially affected by the Project.

SOURCE: South Coast Air Quality Management District, "SCAQMD Air Quality Significance Thresholds," March 2011. Available at: www.aqmd.gov/ceqa/handbook/signthres.pdf, Accessed September 25, 2014.

PREPARED BY: Ricondo & Associates, Inc., September 2014.

The SCAQMD has also developed operational and construction-related thresholds of significance[23] *for air pollutant concentration impacts from projects proposed in the Basin. These thresholds are summarized in* ***Table 5****. The methodology requires that the anticipated increase in ambient air concentrations, determined using a computer-based air quality dispersion model, be compared to localized significance thresholds for PM_{10}, $PM_{2.5}$, NO_2, and CO.*[24] *The significance threshold for PM_{10} represents compliance with Rule 403 (Fugitive Dust)*

22 California Environmental Protection Agency, Air Resources Board, *Area Designation Maps / State and National*, effective June 2013.

23 South Coast Air Quality Management District, CEQA Air Quality Handbook, 1993; as updated by SCAQMD Air Quality Significance Thresholds, March 2011, Available at: http://www.aqmd.gov/CEQA/handbook/signthres.pdf.

24 South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, (2008).

and Rule 1303 (New Source Review Requirements), while the thresholds for NO_2 and CO represent the allowable increase in concentrations above background levels in the vicinity of the Project site that would not cause or contribute to an exceedance of the relevant ambient air quality standards.

Table 5: SCAQMD CEQA Thresholds of Significance for Air Pollutant Concentrations in the South Coast Air Basin

		PROJECT-RELATED CONCENTRATION THRESHOLDS [1/]		
POLLUTANT	**AVERAGING PERIOD**	**CONSTRUCTION**	**OPERATIONS**	**PROJECT ONLY OR TOTAL**
PM_{10}	Annual	1.0 µg/m^3	1.0 µg/m^3	Project Only
PM_{10}	24-hour	10.4 µg/m^3	2.5 µg/m^3	Project Only
$PM_{2.5}$	24-hour	10.4 µg/m^3	2.5 µg/m^3	Project Only
CO	1-hour	20 ppm (23 mg/m^3)	20 ppm (23 mg/m^3)	Total incl. Background
CO	8-hour	9.0 ppm (10 mg/m^3)	9.0 ppm (10 mg/m^3)	Total incl. Background
NO_2	1-hour (State)	0.18 ppm (339 µg/m^3)	0.18 ppm (339 µg/m^3)	Total incl. Background
NO_2	1-hour (Federal) [3/]	0.100 ppm (188 µg/m^3)	0.100 ppm (188 µg/m^3)	Total incl. Background
NO_2	Annual (State) [2/]	0.030 ppm (57 µg/m^3)	0.030 ppm (57 µg/m^3)	Total incl. Background
SO_2	1-hour (State)	0.25 ppm (655 µg/m^3)	0.25 ppm (655 µg/m^3)	Total incl. Background
SO_2	1-hour (Federal) [4/]	0.075 ppm (196 µg/m^3)	0.075 ppm (196 µg/m^3)	Total incl. Background
SO_2	24-hour	0.04 ppm (105 µg/m^3)	0.04 ppm (105 µg/m^3)	Total incl. Background

Notes:

1/ The concentration threshold for CO and NO_2 is the CAAQS, which is at least as stringent as the NAAQS. The concentration threshold for PM_{10} and $PM_{2.5}$ has been developed by SCAQMD for construction or operational impacts associated with proposed projects.

2/ The State standard is more stringent than the federal standard.

3/ To evaluate impacts of the proposed Project to ambient 1-hour NO_2 levels, the analysis includes both the current SCAQMD 1-hour State NO_2 threshold and the more stringent revised 1-hour federal ambient air quality standard of 188 µg/m^3. To attain the federal standard, the 3-year average of 98th percentile of the daily maximum 1-hour average at a receptor must not exceed 0.100 ppm.

4/ To attain the SO_2 federal 1-hour standard, the 3-year average of the 99th percentile of the daily maximum 1-hour averages at a receptor must not exceed 0.075 ppm.

SOURCES: SCAQMD, 1993, 2011; USEPA, 2010a (75 FR 6474, Primary National Ambient Air Quality Standards for Nitrogen Dioxide, Final Rule, February 9, 2010) and 2010b (75 FR 35520, Primary National Ambient Air Quality Standard for Sulfur Dioxide, Final Rule, June 22, 2010).

PREPARED BY: Ricondo & Associates, Inc., August 2014.

METHODOLOGY

Inventory

Construction-related emissions were quantified for CO, VOC, NO_X, SO_2, PM_{10}, and $PM_{2.5}$ for the proposed Project's construction activities (Project components). Sources of construction emissions evaluated in the analysis include off-road and on-road construction equipment, as well as fugitive emissions of particulate matter (PM_{10} and $PM_{2.5}$) and VOCs. Construction schedules were developed for each individual Project component that together constitutes the proposed Project. Construction activity estimates were developed for each Project component, from which monthly emissions were quantified. In addition to a construction equipment inventory,

aircraft emissions were also quantified because of the shift in operations during construction of the proposed Project. Details on the construction inventory methodology are provided in ***Appendix A****.*

Emissions estimates for the proposed Project's construction activities included the application of emission reduction measures required by the LAX Master Plan Mitigation Monitoring and Reporting Program (MMRP), the LAX Master Plan-Mitigation Plan for Air Quality (LAX MP-MPAQ) and SCAQMD rules, as well as additional control measures set forth in the LAX Master Plan Community Benefits Agreement. These measures have been incorporated into the Project as Project Design Features, which are standard for construction at LAX and will be included in the bid documents for the proposed Project.

- ***General Air Quality Control Measures.*** *These measures describe a variety of specific actions to reduce air quality impacts associated with projects at LAX, and apply to all projects. Specific measures applicable to the Project are identified in* ***Table 6****.*
- ***Construction-Related Measures.*** *These measures describe numerous specific actions to reduce fugitive dust emissions and exhaust emissions from on-road and off-road mobile and stationary sources used in construction. These control strategies are expected to reduce construction-related emissions. Specific measures applicable to the Project are identified in* ***Table 7****.*

Table 6: General Air Quality Control Measures

MEASURE NUMBER	MEASURE	TYPE OF MEASURE	QUANTIFIED EMISSIONS REDUCTIONS
1b	Ultra-low sulfur diesel (ULSD) fuel will be used in construction equipment.	On- and Off-Road Mobile	Assumed in modeling
1c	Post a publicly visible sign with the telephone number and person to contact regarding dust complaints; this person shall respond and take corrective action within 24 hours.	Fugitive Dust	NQ
1f	Prohibit idling or queuing of diesel-fueled vehicles and equipment in excess of five minutes. This requirement will be included in specifications for any LAX projects requiring on-site construction.[2]	On- and Off-Road Mobile	NQ
1g	Require that all construction equipment working on-site is properly maintained (including engine tuning) at all times in accordance with manufacturers' specifications and schedules.	Mobile and Stationary	NQ

Notes:

NQ = Not Quantified

1/ These measures are from LAX Master Plan Mitigation Measure MM-AQ-1, unless otherwise noted.

2/ From LAX Master Plan Mitigation Measure MM-AQ-2 and Community Benefits Agreement Measure X.M and LAWA's Design and Construction Handbook, Section 1.31.9.

SOURCES: City of Los Angeles, Los Angeles World Airports (LAWA), and FAA, Final Environmental Impact Statement/Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, April 2004; Los Angeles World Airports and LAX Coalition for Economic, Environmental, and Educational Justice, Cooperation Agreement, Los Angeles International Airport Master Plan Program, December 2004; Los Angeles World Airports, Design and Construction Handbook, November 2012.

PREPARED BY: Ricondo & Associates, Inc., August 2014.

Table 7: Construction-Related Control Measures

MEASURE NUMBER	MEASURE	TYPE OF MEASURE	QUANTIFIED EMISSIONS REDUCTIONS
2a	All diesel-fueled equipment used for construction will be outfitted with the best available emission control devices, where technologically feasible, primarily to reduce emissions of diesel particulate matter (DPM), including fine PM ($PM_{2.5}$), and secondarily, to reduce emissions of NO_X. This requirement shall apply to diesel-fueled off-road equipment (such as construction machinery), diesel-fueled on-road vehicles (such as trucks), and stationary diesel-fueled engines (such as electric generators). (It is unlikely that this measure will apply to equipment with Tier 4 engines.) The emission control devices utilized in construction equipment shall be verified or certified by CARB or USEPA for use in on- road or off-road vehicles or engines. For multi-year construction projects, a reassessment shall be conducted annually to determine what constitutes a best available emissions control device.[2]	Off-Road Mobile	85% PM_{10} and $PM_{2.5}$, adjusted for compatibility
2b	Watering (per SCAQMD Rule 403 and CalEEMod default) – three times daily.	Fugitive Dust	61% PM_{10} and $PM_{2.5}$
2d	To the extent feasible, have construction employees' work/commute during off-peak hours.	On-Road Mobile	NQ
2e	Make available on-site lunch trucks at construction staging areas during construction to minimize off-site worker vehicle trips.	On-Road Mobile	NQ
2g	Specify combination of electricity from power poles and portable diesel- or gasoline-fueled generators using "clean burning diesel" fuel and exhaust emission controls.[3]	Stationary Point Source Controls	NQ
2h	Suspend use of all construction equipment during a second-stage smog alert in the immediate vicinity of LAX.	Mobile and Stationary	NQ
2i	Utilize construction equipment having the minimum practical engine size (i.e., lowest appropriate horsepower rating for intended job).	Mobile and Stationary	NQ
2j	Prohibit tampering with construction equipment to increase horsepower or to defeat emission control devices.	Mobile and Stationary	NQ
2k	The contractor or builder shall designate a person or persons to ensure the implementation of all components of the construction-related measure through direct inspections, record reviews, and investigations of complaints.	Administrative	NQ
2l	LAWA will locate rock-crushing operations and construction material stockpiles for all LAX-related construction in areas away from LAX-adjacent residents, to the extent possible, to reduce impacts from emissions of fugitive dust.[4]	Stationary	Can be quantified in modeling assumptions
2n	On-road trucks used on LAX construction projects with a gross vehicle weight rating of at least 14,001 pounds shall, at a minimum, comply with USEPA 2007 on-road emissions standards for PM_{10} and NO_X.[6]	On-Road Mobile	Assumed in modeling
2o	After December 31, 2014, all off-road diesel-power construction equipment greater than 50 horsepower shall meet USEPA Tier 4 off-road emissions standards. Tier 4 equipment shall be considered based on availability at the time the construction bid is issued. LAWA will encourage construction contractors to apply for SCAQMD "SOON" funds to accelerate clean-up of off-road diesel engine emissions.[7]	Off-Road Mobile	Assumed in modeling

NOTES:

NQ = Not Quantified

1/ These measures are from LAX Master Plan Mitigation Measure MM-AQ-2, unless otherwise noted.

2/ From LAX Master Plan Mitigation Measure MM-AQ-2 and Community Benefits Agreement Measure X.F.

3/ From LAX Master Plan Mitigation Measure MM-AQ-2 and LAWA's Design and Construction Handbook, Section 1.31.9.

4 / From Community Benefits Agreement Measure X.L.

5/ From Community Benefits Agreement Measure X.N.

6/ From LAX Specific Plan Amendment Study Measure MM-AQ (SPAS)-1.

7/ From LAX Specific Plan Amendment Study Measure MM-AQ (SPAS)-1.

SOURCES: City of Los Angeles, Los Angeles World Airports (LAWA), and FAA, Final Environmental Impact Statement/Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, April 2004; Los Angeles World Airports and LAX Coalition for Economic, Environmental, and Educational Justice, Cooperation Agreement, Los Angeles International Airport Master Plan Program, December 2004; Los Angeles World Airports, Specific Plan Amendment Study, Final Environmental Impact Report, January 2013.

PREPARED BY: Ricondo & Associates, Inc., August 2014.

LAWA is committed to mitigating temporary construction-related emissions to the extent practicable and has established some of the most aggressive construction emissions reduction measures in southern California, particularly with regard to requiring construction equipment to be equipped with emissions control devices. The specific means for implementing the mitigation measures described above were first approved and implemented as part of the South Airfield Improvement Project (SAIP) and would also be applied to the proposed Project. The mitigation measures in Table 7 also include those required by the Community Benefits Agreement. These mitigation measures establish a commitment and process for incorporating all technically feasible air quality mitigation measures into each component of the LAX Master Plan, as well as LAX projects that are independent of the LAX Master Plan. In addition, the Los Angeles Green Building Code Tier 1 standards, which are applicable to all projects with a Los Angeles Department of Building and Safety permit-valuation over $200,000, require the proposed Project to implement a number of measures that would reduce criteria pollutant and greenhouse gas emissions. These include measures such as: further reduce vehicle and equipment idling times; comply with Tier 4 emission standards for non-road diesel equipment; retrofit existing diesel equipment with particulate filters and oxidation catalysts; replace aging equipment with new low-emission models; and consider the use of alternative fuels for construction equipment.

The SCAQMD has previously noted that Tier 4-final construction equipment was assumed for the majority of vehicles used on LAWA construction projects; however some vehicles were assumed to only use Tier 4-interim engines. The SCAQMD requested that LAWA investigate if additional Tier 4-final equipment is available. In addition, the SCAQMD noted that haul trucks were assumed to meet 2007 emission standards, but that 2010 truck emission standards would provide additional NOx emission reductions. SCAQMD has requested that LAWA consider only using trucks meeting 2010 emissions standards.

LAWA will include in bid documents for the proposed Project language specifying that contractors should use equipment on the Project that meets the most stringent emission requirements. In the event that the contractor can demonstrate that equipment is not available within 120 miles of LAX that meets the most stringent emission requirements, they will be able to utilize equipment that meets the next lowest requirements (e.g., if Tier 4 final equipment is not available, they would be permitted to use Tier 4 interim equipment). Because it is difficult for LAWA to determine whether equipment is available that meet the most stringent emission requirements, for purposes of this analysis, LAWA has kept the equipment mix specified in the Draft EIR, but will require contractors to use equipment that meets stricter standards if available.

Specifically, LAWA will modify the following construction-related air quality control measures (LAX-AQ-2) for Project-specific mitigation MM-AQ (6R24L)-1:

- *Measure 2n: On-road trucks used on LAX construction projects with a gross vehicle weight rating of at least 14,001 pounds shall, at a minimum, comply with USEPA 2010 on-road emissions standards for PM_{10} and NO_X. Contractor requirements to utilize such on-road haul trucks or the next cleanest vehicle available will be subject to the provisions of LAWA Air Quality Control Measure 2p below.*
- *Measure 2o: After December 31, 2014, all off-road diesel-power construction equipment greater than 50 horsepower shall meet USEPA Tier 4(final) off-road emissions standards. Tier 4(final) equipment shall be considered based on availability at the time the construction bid is issued. Contractor requirements to utilize Tier 4(final) equipment or next cleanest equipment available will be subject to the provisions of LAWA Air Quality Control Measure 2p below. LAWA will encourage construction contractors to apply for SCAQMD "SOON" funds to accelerate clean-up of off-road diesel engine emissions.*
- *Measure 2p: The on-road haul truck and off-road construction equipment requirements set forth in Air Quality Control Measures 2n and 2o above shall apply unless any of the following circumstances exist and the Contractor provides a written finding consistent with project contract requirements that:*
  - *The Contractor does not have the required types of on-road haul trucks or off-road construction equipment within its current available inventory and intends to meet the requirements of the Measures 2n and 2o as to a particular vehicle or piece of equipment by leasing or short-term rental, and the Contractor has attempted in good faith and due diligence to lease the vehicle or equipment that would comply with these measures, but that vehicle or equipment is not available for lease or short-term rental within 120 miles of the project site, and the Contractor has submitted documentation to LAWA showing that the requirements of this exception provision (Measure 2p) apply.*
  - *The Contractor has been awarded funding by SCAQMD or another agency that would provide some or all of the cost to retrofit, repower, or purchase a piece of equipment or vehicle, but the funding has not yet been provided due to circumstances beyond the Contractor's control, and the Contractor has attempted in good faith and due diligence to lease or short-term rent the equipment or vehicle that would comply with Measures 2n and 2o, but that equipment or vehicle is not available for lease or short-term rental within 120 miles of the project site, and the Contractor has submitted documentation to LAWA showing that the requirements of this exception provision (Measure 2p) apply.*
  - *Contractor has ordered a piece of equipment or vehicle to be used on the construction project in compliance with Measures 2n and 2o at least 60 days before that equipment or vehicle is needed at the project site, but that equipment or vehicle has not yet arrived due to circumstances beyond the Contractor's control, and the Contractor has attempted in good faith and due diligence to lease or short-term rent a piece of equipment or vehicle to meet the requirements of Measures 2n and 2o, but that equipment or vehicle is not available for lease or short-term rental within 120 miles of the project, and the Contractor has submitted documentation to LAWA showing that the requirements of this exception provision (Measure 2p) apply.*

- *Construction-related diesel equipment or vehicle will be used on the project site for fewer than 20 calendar days per calendar year. The Contractor shall not consecutively use different equipment or vehicles that perform the same or a substantially similar function in an attempt to use this exception (Measure 2p) to circumvent the intent of Measures 2n and 2o.*
- *Documentation of good faith efforts and due diligence regarding the above exceptions shall include written record(s) of inquiries (i.e., phone log[s]) to at least three (3) leasing/rental companies that provide construction-related on-road trucks of the type specified in Measure 2n above (i.e., medium-duty and larger diesel-powered trucks with a gross vehicle weight rating of at least 14,001 pounds) or diesel-powered off-road construction equipment such as the types to be used by the Contractor or Subcontractor, documenting the availability/unavailability of the required types of trucks/equipment. LAWA will, from time-to-time, conduct independent research and verification of the availability of such vehicles and equipment for lease/rent within a 120 mile radius of LAX, which may be used in reviewing the acceptability of the Contractor's/Subcontractor's good faith efforts and due diligence.*

*In any of the situations described above, the Contractor shall provide the next cleanest piece of equipment or vehicle as provided by the step down schedules in **Table 8** for Off-Road Equipment and **Table 9** for On-Road Equipment.*

Table 8: Off-Road Vehicle Compliance Step-Down Schedule

COMPLIANCE ALTERNATIVE	ENGINE STANDARD	CARB-VERIFIED DECS (VDECS)
1	Tier 4 *interim*	N/A*
2	Tier 3	Level 3
3	Tier 2	Level 3
4	Tier 1	Level 3
5	Tier 2	Level 2
6	Tier 2	Level 1
7	Tier 3	Uncontrolled
8	Tier 2	Uncontrolled
9	Tier 1	Level 2

NOTES:

Equipment less than Tier 1, Level 2 shall not be permitted.

* Tier 4 (interim or final) or 2007 model year equipment not already supplied with a factory-equipped diesel particulate filter shall be outfitted with Level 3 VDECS.

SOURCE: CDM Smith, January 2014.
PREPARED BY: Ricondo & Associated, Inc., February 2015.

Table 9: On-Road Vehicle Compliance Step-Down Schedule

COMPLIANCE ALTERNATIVE	ENGINE MODEL YEAR	CARB-VERIFIED DECS (VDECS)
1	2007	N/A*
2	2004	Level 3
3	1998	Level 3
4	2004	Uncontrolled
5	1998	Uncontrolled

NOTES:

Equipment with a model year earlier than model year 1998 shall not be permitted.

* Tier 4 (interim or final) or 2007 model year equipment not already supplied with a factory-equipped diesel particulate filter shall be outfitted with Level 3 VDECS.

Nothing in the above measures shall require an emissions control device (i.e., VDECS) that does not meet Occupational Safety and Health Administration (OSHA) standards.

SOURCE: CDM Smith, January 2014.
PREPARED BY: Ricondo & Associated, Inc., February 2015.

Dispersion

The localized effects from the on-site portion of daily emissions from the sources described above were evaluated at nearby sensitive receptor locations potentially impacted by the proposed Project according to the SCAQMD's localized significance threshold (LST) methodology, which uses on-site mass emission rate look-up tables with Project-specific daily construction site areas (acres) and receptor distances. However, as emissions sources are located throughout the entire airport, and thus exceed the five acres in total size, Project-specific dispersion modeling was conducted to assess localized construction impacts. Dispersion of the on-airport emissions from aircraft was modeled using EDMS and AERMOD. EDMS is the FAA-required model for airport air quality analysis of aviation sources and was used to develop projected concentrations of on-airport air pollutants associated with the proposed Project. The USEPA and SCAQMD-approved dispersion model, AMS/EPA Regulatory Model (AERMOD), was used to model the air quality impacts of CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ emissions.

ESTIMATED PROJECT EMISSIONS

Regional and localized emissions were calculated for construction and operations of the proposed Project. Three scenarios were analyzed in this Initial Study: 1) the proposed Project construction compared to the 2016 Without Project scenario; 2) 2013 With Project conditions compared to the 2013 existing condition; and 3) the 2016 With Project scenario compared to the 2016 Without Project scenario.

Construction

Construction of the proposed Project would require construction activities within the Runway 6R-24L RSA on both ends of the runway, and a temporary reduction in runway length during each phase of construction. Construction would be conducted in two distinct phases, estimated at 6 months each, covering the entire 2016 calendar year. The first phase of construction would focus on the RSA improvements to the Runway 24L end; once those improvements are completed, construction of the RSA improvements to the Runway 6R end would commence. While closure of the runway is not anticipated during construction, the proposed Project would

require connecting taxiways to be intermittently closed. As Runway 6R-24L is the primary departures runway on the north airfield, some aircraft operations on this runway would need to be shifted to other runways during this period based on a runway length analysis. The increase in taxi times would cause an increase in aircraft emissions during construction. Construction equipment would also contribute to regional air quality. ***Table 10*** *presents the emissions during construction for the difference in aircraft operations and construction equipment compared to the SCAQMD threshold. As shown, emissions for the proposed Project are below significance thresholds for all criteria pollutants.*[25]

Table 10: Proposed Project Construction Emissions (lbs/day)

POLLUTANT	INCREMENTAL AIRCRAFT OPERATIONS	CONSTRUCTION EQUIPMENT 1/	CONSTRUCTION TOTAL	SCAQMD THRESHOLD	ABOVE THRESHOLD?
CO	150.6	93.0	243.6	550	No
VOC	19.4	49.3	68.7	75	No
NO_X	26.0	61.8	87.8	100	No
SO_2	7.9	0.3	8.2	150	No
PM_{10}	1.1	71.4	72.5	150	No
$PM_{2.5}$	1.1	23.9	25.0	55	No

NOTE:

1/ These calculations include appropriate reductions achieved with implementation of mandated dust control, as required by SCAQMD Rule 403 (Fugitive Dust). These calculations also include implementation of measures to reduce emissions from the combustion of fossil fuels. On-road trucks would comply with the USEPA 2007 on-road emissions standards for NO_2 and DPM (primarily $PM_{2.5}$). Compliance with the USEPA 2007 on-road emission standards would result in a reduction of NO_2 and DPM by approximately 40 percent and 22 percent, respectively, compared to fleet-wide average emissions for heavy-duty trucks.[26] Off-road diesel-powered construction equipment greater than 50 horsepower (hp) would meet USEPA Tier 4 off-road emissions standards. Compliance with the USEPA Tier 4 off-road emissions standards would result in substantial reduction in emissions of NO_2 and DPM compared to fleet-wide average emissions for heavy-duty construction equipment.

SOURCE: South Coast Air Quality Management District, "SCAQMD Air Quality Significance Thresholds," March 2011. Available at: www.aqmd.gov/ceqa/handbook/signthres.pdf, September 25, 2014; Ricondo & Associates Inc., February 2015.

PREPARED BY: Ricondo & Associates Inc., February 2015.

The localized effects from the on-site portion of daily emissions were evaluated at nearby sensitive receptor locations potentially impacted by the proposed Project consistent with the methodologies in the SCAQMD's Final Localized Significance Threshold Methodology. Receptor locations are shown in Appendix A. As the proposed Project area exceeds five acres in total size, Project-specific dispersion modeling was used to assess localized

25 Although the SCAQMD includes a threshold for lead, the only source of lead emissions from LAX is from aviation gasoline (AvGas) associated with piston-engine general aviation aircraft; however, due to the low number of piston-engine general aviation aircraft operations at LAX, AvGas quantities are low and emissions from these sources would not be materially affected by the Project.

26 The SCAQMD requested that LAWA consider requiring haul trucks meet the 2010 on-road emission standards for LAWA projects. LAWA has agreed to incorporate that requirement into the Project, if sufficient equipment that meets these standards is available within 120 miles of the Project (see Table 9). However, because LAWA cannot guarantee that sufficient equipment is available that meets the 2010 on-road emission standards, the analysis was based on meeting the 2007 on-road emission standards.

*construction impacts rather than the mass emission rate look-up tables. Peak construction concentrations are shown in **Table 11**. All the analyzed air pollutants were found to be below the NAAQS and CAAQS thresholds for construction.*

Table 11: Construction Peak Concentrations

POLLUTANT	AVERAGING PERIOD	INCREMENTAL CONSTRUCTION 1/ ($\mu g/m^3$)	BACKGROUND ($\mu g/m^3$)	TOTAL ($\mu g/m^3$)	THRESHOLD ($\mu g/m^3$)	SIGNIFICANT?
CO	1-hr	256	3,534	3,790	23,000	No
	1-hr NAAQS	256	3,534	3,790	40,000	No
	8-hr	39	2,861	2,900	10,000	No
NO_2	1-hr	26	184	210	339	No
	1-hr NAAQS	6	113	119	188	No
	Annual	0.5	24	25	57	No
SO_2	1-hr	12	68	80	655	No
	1-hr NAAQS	10	21	31	196	No
	3-hr	9	39	48	1,300	No
	24-hr	2	16	18	105	No
	Annual NAAQS	0.8	3	3	80	No
PM_{10}	24-hr	1.8	-	1.8	10.4	No
	Annual	0.3	-	0.3	1.0	No
$PM_{2.5}$	24-hr	0.7	-	0.7	10.4	No

NOTE:

1/ The incremental construction concentrations include aircraft and construction equipment.

SOURCE: Ricondo & Associates Inc., February 2015.
PREPARED BY: Ricondo & Associates Inc., February 2015.

Operations

*Based on the proposed construction schedule, it is anticipated that the proposed Project would be completed in 2016; therefore, operational impacts were analyzed for year 2016. As previously mentioned, the proposed Project would only slightly alter long-term operations at LAX from the Runway 6R-24L 800-foot runway shift. The proposed Project would not increase operations at LAX; as such, changes in emissions from aircraft operations in 2016 as compared to the 2013 existing conditions, are due to increased travel demand and changes in aircraft fleet mixes that are projected to occur by 2016 irrespective of the proposed Project. Therefore, this analysis compares emissions from the following scenarios: the 2013 With Project compared to the 2013 existing conditions, and the 2016 With Project compared to the 2016 Without Project scenario. As only aircraft emissions would be altered by the proposed Project, emissions from ground support equipment (GSE), auxiliary power units (APU), and stationary sources were not analyzed. Emissions for the 2013 With Project scenario compared to the 2013 existing conditions are shown in **Table 12**. Emissions for the incremental difference in the*

*2016 With and Without Project scenarios are shown in **Table 13**. As shown, regional emissions for all analyzed air pollutants were found to be below the NAAQS and CAAQS thresholds.*

Table 12: 2013 Peak Aircraft Operations Emissions (lbs/day)

POLLUTANT	2013 EXISTING	2013 WITH PROJECT	INCREMENTAL DIFFERENCE	SCAQMD THRESHOLD	ABOVE THRESHOLD?
CO	18,031	18,047	15.55	550	No
VOC	3,036	3,039	2.10	55	No
NO_X	18,701	18,704	2.63	55	No
SO_2	1,817	1,818	0.81	150	No
PM_{10}	254.6	254.7	0.12	150	No
$PM_{2.5}$	254.6	254.7	0.12	55	No

SOURCE: South Coast Air Quality Management District, "SCAQMD Air Quality Significance Thresholds," March 2011. Available at: www.aqmd.gov/ceqa/handbook/signthres.pdf, September 25, 2014; Ricondo & Associates, Inc., February 2015.
PREPARED BY: Ricondo & Associates, Inc., February 2015.

Table 13: 2016 Peak Aircraft Operations Emissions (lbs/day)

POLLUTANT	2016 WITHOUT PROJECT	2016 WITH PROJECT	INCREMENTAL DIFFERENCE	SCAQMD THRESHOLD	ABOVE THRESHOLD?
CO	19,593	19,609	15.85	550	No
VOC	3,151	3,153	2.04	55	No
NO_X	19,498	19,500	2.73	55	No
SO_2	1,950	1,951	0.84	150	No
PM_{10}	272.9	273.0	0.11	150	No
$PM_{2.5}$	272.9	273.0	0.11	55	No

SOURCE: South Coast Air Quality Management District, "SCAQMD Air Quality Significance Thresholds," March 2011. Available at: www.aqmd.gov/ceqa/handbook/signthres.pdf, September 25, 2014; Ricondo & Associates, Inc., December 2014.
PREPARED BY: Ricondo & Associates, Inc., December 2014.

*The localized effects from operational daily emissions were evaluated at nearby sensitive receptor locations potentially impacted by the proposed Project consistent with the methodologies in the SCAQMD's Final Localized Significance Threshold Methodology. Peak incremental operational concentrations are shown in **Table 14** for the 2013 scenarios, and **Table 15** for the 2016 scenarios. All the analyzed air pollutants were found to be below the NAAQS and CAAQS thresholds for operations.*

Table 14: 2013 Operations Peak Concentrations

POLLUTANT	AVERAGING PERIOD	INCREMENTAL OPERATIONS 1/ ($\mu g/m^3$)	BACKGROUND ($\mu g/m^3$)	TOTAL ($\mu g/m^3$)	THRESHOLD ($\mu g/m^3$)	SIGNIFICANT?
CO	1-hr	146	3,534	3,680	23,000	No
	1-hr NAAQS	146	3,534	3,680	40,000	No
	8-hr	54	2,861	2,915	10,000	No
NO_2	1-hr	60	184	245	339	No
	1-hr NAAQS	39	113	152	188	No
	Annual	5	24	30	57	No
SO_2	1-hr	36	68	104	655	No
	1-hr NAAQS	19	21	39	196	No
	3-hr	14	39	53	1,300	No
	24-hr	3	16	19	105	No
	Annual NAAQS	1	3	4	80	No
PM_{10}	24-hr	0.5	-	0.5	2.5	No
	Annual	0.2	-	0.2	1.0	No
$PM_{2.5}$	24-hr	0.5	-	0.2	2.5	No

NOTE: Numbers may not add due to rounding.

1/ The incremental difference between the 2013 With Project and 2013 existing conditions.

SOURCE: Ricondo & Associates Inc., February 2015.
PREPARED BY: Ricondo & Associates Inc., February 2015.

Thus, with incorporation of the mitigation measures identified above, the proposed Project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Table 15: 2016 Operations Peak Concentrations

POLLUTANT	AVERAGING PERIOD	INCREMENTAL OPERATIONS 1/ ($\mu g/m^3$)	BACKGROUND ($\mu g/m^3$)	TOTAL ($\mu g/m^3$)	THRESHOLD ($\mu g/m^3$)	SIGNIFICANT?
CO	1-hr	107	3,534	3,641	23,000	No
	1-hr NAAQS	107	3,534	3,641	40,000	No
	8-hr	29	2,861	2,891	10,000	No
NO_2	1-hr	93	184	277	339	No
	1-hr NAAQS	19	113	132	188	No
	Annual	2	24	26	57	No
SO_2	1-hr	18	68	86	655	No
	1-hr NAAQS	12	21	33	196	No
	3-hr	11	39	50	1,300	No
	24-hr	2	16	17	105	No
	Annual NAAQS	0.5	3	3	80	No
PM_{10}	24-hr	0.1	-	0.1	2.5	No
	Annual	0.1	-	0.1	1.0	No
$PM_{2.5}$	24-hr	0.1	-	0.1	2.5	No

NOTE: Numbers may not add due to rounding.

1/ The incremental difference between the 2016 With Project and 2016 Without Project scenarios.

SOURCE: Ricondo & Associates Inc., February 2015.
PREPARED BY: Ricondo & Associates Inc., February 2015.

c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

c. Less than Significant Impact. *The SCAQMD has provided guidance on an acceptable approach to addressing the cumulative impacts issue for air quality. "As Lead Agency, the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR… Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."*

As reflected in the above discussion for Section 2.III.b, construction and operation of the proposed Project would not exceed the Project-specific significance thresholds for regional or localized emissions, and, therefore, would not result in a cumulatively significant impact.

d. Expose sensitive receptors to substantial pollutant concentrations?

d. Less than Significant Impact. *As described in Section III.b above, criteria pollutant concentrations for construction and operations of the proposed Project would be below all significance thresholds. In addition to criteria pollutants, the proposed Project would increase the potential for impacts to people exposed to toxic air contaminants (TACs). Potential impacts to human health associated with releases of TAC may include increased cancer risks and increased chronic (long-term) and acute (short-term) non-cancer health hazards from inhalation of TACs by people working, living, recreating, or attending school on or near the proposed Project site. These impacts were analyzed consistent with SCAQMD, CalEPA, and USEPA guidance, as documented in* ***Appendix B****.*

TACs of concern evaluated in this human health risk assessment (HHRA) are shown in ***Table 16****. They were selected based on emissions estimates and human toxicity information, results of the LAX Master Plan HHRA, and a review of health risk assessments included in various recent LAX EIRs. The primary TACs that contribute to health risk from diesel exhaust are from diesel particulate matter (DPM) and formaldehyde. However, all the TACs listed in Table 16 were included within this analysis. Both organic and particulate-bound TACs were analyzed in this HHRA: TACs exist in air as either reactive organic gases, represented by volatile organic compounds (VOC), or particulate matter less than 10 microns in diameter (PM_{10}). Speciation profiles[27] for VOC and PM_{10} emissions from individual source types, primarily developed by the CARB, were used to calculate TAC emissions.[28] These emissions form the basis for modeling concentrations of TACs in air on and around LAX.*

SIGNIFICANCE THRESHOLDS

There are no significance thresholds related to an HHRA within Appendix G of the CEQA Guidelines. Significance determinations for health impacts were assessed as incremental increases in cancer risks and non-cancer health hazards associated with the construction of the proposed Project, based on guidance from SCAQMD, CalEPA, and EPA. A significant impact to human health would occur if construction activities of the proposed Project would result in one or more of the following conditions:

- *An incremental TAC cancer risk greater than, or equal to, 10 in one million (10×10^{-6}) people for potentially exposed off-site workers, residents, or school children.*
- *An incremental TAC chronic hazard index greater than, or equal to, one (1) at any receptor location.*
- *An incremental acute hazard index greater than, or equal to, one (1) at any receptor location.*
- *Exceedance of PEL-TWA for on-airport workers.*

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[27] Speciation profiles provide estimates of the chemical composition of emissions and are used in the emission inventory and air quality models. CARB maintains and updates estimates of the chemical composition and size fractions of PM_{10} and the chemical composition and reactive fractions of VOC for a variety of emission source categories. Speciation profiles are used to provide estimates of TAC emissions.

[28] California Air Resources Board, Available at: http://www.arb.ca.gov/ei/speciate/dnldoptvv10001.php, Accessed: December 2, 2014.

Table 16: Toxic Air Contaminants (TAC) of Concern for the Proposed Project

TOXIC AIR CONTAMINANT	TYPE
Acetaldehyde	VOC
Acrolein	VOC
Benzene	VOC
1,3-Butadiene	VOC
Ethylbenzene	VOC
Formaldehyde	VOC
n-Hexane	VOC
Methyl alcohol	VOC
Methyl ethyl ketone	VOC
Propylene	VOC
Styrene	VOC
Toluene	VOC
Xylene (total)	VOC
Naphthalene	PAH
Arsenic	PM-Metal
Cadmium	PM-Metal
Chromium VI	PM-Metal
Copper	PM-Metal
Lead	PM-Metal
Manganese	PM-Metal
Mercury	PM-Metal
Nickel	PM-Metal
Selenium	PM-Metal
Vanadium	PM-Metal
Diesel PM	Diesel Exhaust
Chlorine	PM-Inorganics
Silicon	PM-Inorganics
Sulfates	PM-Inorganics

NOTES:

PAH = Polycyclic aromatic hydrocarbons

PM = Particulate matter

VOC = Volatile organic compounds

SOURCE: Ricondo & Associates, Inc., September 2014.
PREPARED BY: Ricondo & Associates, Inc., September 2014.

The above thresholds utilized for this HHRA are based on SCAQMD guidance. The SCAQMD is in the process of developing an "Air Quality Analysis Guidance Handbook" (Handbook) to replace the 1993 SCAQMD CEQA Air Quality Handbook. Although not yet published, SCAQMD has made certain sections of the Handbook available, including their air quality significance thresholds, which provide thresholds for TACs.[29] The threshold for workers is based on standards developed by CalOSHA.[30]

METHODOLOGY

Cancer risk and chronic and acute non-cancer health hazard assessments for this analysis consisted of two steps: (1) estimation of emissions of TACs associated with Project construction, and subsequent air dispersion modeling of those emissions; and (2) estimation of incremental health risks associated with those emissions. The estimated emission rates were used, along with meteorological and geographic information, as inputs to the USEPA AERMOD air dispersion model to predict ambient concentrations of TACs released during construction of the proposed Project. The predicted concentrations were in turn used to calculate human health risks and hazards.

Concentrations were estimated at 326 grid nodes at or near the LAX property line (fence-line), at one grid node at the LAX Theme Building, at one grid node on World Way West and at two grid nodes near the construction areas. Receptor type (i.e., recreational, residential, commercial, or school) for each grid node was dictated by land use at or near the grid node location. Modeled concentrations at the fence-line are higher than concentrations modeled farther out from LAX where people currently reside, work, recreate, and go to school due to pollutant dispersion over distance. Concentrations at these fence-line locations reasonably represent concentrations of TACs for use in evaluating MEI.

The results of the analysis were then interpreted by comparing cancer risks and chronic non-cancer health hazards to regulatory thresholds. For purposes of assessing the significance of any health impacts, these comparisons were made for maximum exposed individuals (MEI) at locations where maximum concentrations of TAC were predicted by the air dispersion modeling. An impact was considered significant if cancer risks and/or chronic non-cancer health hazards for MEI exceeded regulatory thresholds.

EVALUATION OF CANCER RISKS AND HEALTH HAZARDS

Health Effects for On-Airport Workers

Effects on on-airport workers were evaluated by comparing estimated maximum 8-hour average TAC concentration to the CalOSHA 8-hour Time-Weighted Average Permissible Exposure Levels (PEL-TWA). The estimated maximum 8-hour average TAC concentrations for on-airport locations for construction and operations of the proposed Project are several orders of magnitude below the PEL-TWA and, thus would not exceed those considered acceptable by CalOSHA standards, as shown in ***Table 17****. Therefore, impacts related to health risks to on-airport workers would be less than significant for the proposed Project.*

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29 South Coast Air Quality Management District, CEQA Air Quality Handbook, 1993, as updated by "SCAQMD Air Quality Significance Thresholds," March 2011, Available: http://www.aqmd.gov/ceqa/handbook/signthres.pdf.

30 California Occupational Safety and Health Administration, Permissible Exposure Limits for Chemical Contaminants, Table AC 1, Available: http://www.dir.ca.gov/Title8/5155table_ac1.html, accessed August 2014.

Table 17: Comparison of CalOSHA Permissible Exposure Limits to Maximum Estimated 8-Hour On-Site Air Concentrations

TOXIC AIR CONTAMINANT [1/]	PROJECT CONSTRUCTION CONCENTRATIONS (mg/m^3) [2/]	PROJECT OPERATION CONCENTRATIONS (mg/m^3) [2/]	CALOSHA PEL TWA (mg/m^3) [3/]
Acetaldehyde	0.0020479	0.0013326	45
Acrolein	0.0003043	0.0007639	0.25
Benzene	0.0006161	0.0005244	0.32 [4/]
1,3-Butadiene	0.0002316	0.0005262	2.2
Ethylbenzene	0.0000846	0.0000543	435
Formaldehyde	0.0045244	0.0038399	0.37 [4/]
Hexane, n-	0.0000334	0.0000000	180
Methanol	0.0002110	0.0005630	260
Methyl ethyl ketone	0.0005187	0.0005630	590
Naphthalene	0.0000794	0.0001688	50
Propylene	0.0010662	0.0014143	N/A
Styrene	0.0000474	0.0000964	215
Toluene	0.0003860	0.0002003	37
Xylene (total)	0.0002722	0.0001397	435
Diesel PM	0.0021536	0.000000	N/A
Arsenic	0.0000010	0.000000	0.01
Cadmium	0.0000017	0.000000	0.005
Chlorine	0.0001746	0.000000	1.5
Chromium (VI)	0.0000005	0.000000	0.005
Copper	0.0000057	0.000000	1
Lead	0.0000288	0.000000	0.05
Manganese	0.0000471	0.000000	0.2
Mercury	0.0000009	0.000000	0.025
Nickel	0.0000032	0.000000	0.5
Selenium	0.0000001	0.000000	0.2
Silicon	0.0099896	0.000000	6
Sulfates	0.0002788	0.000000	N/A
Vanadium	0.0000136	0.000000	0.05

NOTES: N/A = Not Available

1/ All TACs for which PEL-TWAs are available are listed. PEL-TWAs are not available for diesel exhaust, propylene, and sulfates.

2/ Maximum 1-hour concentrations at on-airport location converted to 8-hour averages by multiplying by a factor of 0.7.

3/ California Occupational Safety and Health Administration. Permissible Exposure Limits for Chemical Contaminants, Table AC-1, 2008, http://www.dir.ca.gov/title8/5155table_ac1.html.

4/ CalOSHA does not have a value; value is from American Conference of Governmental Industrial Hygienists (ACGIH), Documentation of the Threshold Limit Values and Biological Exposure Indices, 8th ed., Cincinnati, Ohio, 1998.

SOURCE: Ricondo & Associates, Inc., February 2015.

PREPARED BY: Ricondo & Associates, Inc., February 2015.

Cancer Risks and Chronic Non-Cancer Health Hazards

Cancer risks of TACs were estimated by multiplying exposure estimates for TACs by the pollutant-specific cancer risk factor. The result is a risk estimate expressed as the odds of developing cancer. Cancer risks were based on an exposure duration of 70 years. Chronic non-cancer health hazard estimates of TACs were calculated by dividing exposure estimates of each TAC by the chronic Reference Exposure Level (REL). RELs are estimates of the highest exposure levels that would not cause adverse health effects even if exposures continue over a lifetime. A ratio that is less than one indicates that the proposed Project exposure was less than the highest exposure level that would cause adverse health effects and, hence, no impact to human health would be expected.

Peak cancer risks and chronic non-cancer health hazards for MEI for construction and operations of the proposed Project are summarized in ***Table 18****. As shown, emissions associated with both construction and operations are well below the significance thresholds.*

Table 18: Incremental Cancer Risks and Chronic Non-Cancer Human Health Hazards for Maximally Exposed Individuals from the Proposed Project

RECEPTOR TYPE	PROJECT CONSTRUCTION	PROJECT OPERATIONS	SIGNIFICANCE THRESHOLD	SIGNIFICANT?
Incremental Cancer Risks [1/] (per million people)				
Child Resident	0.007	0.001	10	No
School Child	0.001	0.0002	10	No
Adult Resident	0.085	0.009	10	No
Adult Worker	0.193	0.031	10	No
Incremental Non-Cancer Chronic Hazards [2/]				
Child Resident	0.0064	0.0125	1	No
School Child	0.0012	0.0024	1	No
Adult Resident	0.0064	0.0125	1	No
Adult Worker	0.1224	0.0720	1	No

NOTES:

1/ Values provided are changes in the number of cancer cases per million people exposed as compared to baseline conditions. All estimates are rounded to one significant figure.

2/ Hazard indices are totals for all TACs that may affect the respiratory system. This incremental hazard index is essentially equal to the total for all TACs.

SOURCE: Ricondo & Associates, Inc., February 2015.
PREPARED BY: Ricondo & Associates, Inc., February 2015.

Acute Non-Cancer Health Hazards

Acute non-cancer risk estimates were calculated by dividing estimated maximum 1-hour TAC concentrations in air by acute RELs. An acute REL is a concentration in air below which adverse effects are unlikely for people, including sensitive subgroups, exposed for a short time on an intermittent basis. In most cases, RELs are estimated on the basis of an 1-hour exposure duration. RELs do not distinguish between adults and children, but are established at levels that are considered protective of sensitive populations. Since margins of safety are

incorporated to address data gaps and uncertainties, exceeding the REL does not automatically indicate an adverse health impact.

Short-term concentrations for TAC associated with Project construction were estimated using the same air dispersion model (AERMOD) used to estimate annual average concentrations, but with the model option for 1-hour maximum concentrations selected. These concentrations represent the highest predicted concentrations of TAC. Acute non-cancer health hazards were then estimated at each grid point by dividing estimated maximum 1-hour TAC concentrations in air by acute RELs. A hazard index equal to or greater than 1, the threshold of significance for acute non-cancer health impacts, indicates some potential for adverse acute non-cancer health impacts. A hazard index less than 1 suggests that adverse acute non-cancer health impacts are not expected.

Acrolein, formaldehyde, and manganese are the only TAC of concern in construction and operational emissions from the proposed Project that might be present at concentrations approaching the thresholds for acute health hazards. Acute health hazards for other TAC are orders of magnitude below their respective acute RELs and thus would not contribute substantially to health hazards. The primary source of acrolein is aircraft emissions; the primary source of formaldehyde is from diesel-powered construction equipment; the primary source of manganese is fugitive dust. Maximum acute health hazards associated with exposure to these three chemicals from the proposed Project construction, and two chemicals from operations, are summarized in ***Table 19****. As shown, construction-related and operations-related incremental maximum acute hazard quotients for acrolein, formaldehyde, and manganese are all below the significance threshold of 1 for all receptors locations. Thus, the proposed Project would have a less than significant impact in regards to exposing sensitive receptors to substantial pollutant concentrations.*

e. Create objectionable odors affecting a substantial number of people?

e. Less than Significant Impact. *Typical odor sources of concern include wastewater treatment plants, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing facilities, fiberglass manufacturing facilities, auto body shops, rendering plants, and coffee roasting facilities. The diesel-fueled construction equipment associated with the Project would generate some odors associated with diesel exhaust. However, the construction equipment would be used entirely within airport property and would not produce substantial offsite pollutant concentrations or odors given their low release heights.*

The proposed Project would comply with reduction strategies such as compliance with USEPA 2010 on-road emission standards for heavy-duty trucks and USEPA Tier 4 off-road emission standards for heavy-duty construction equipment, or next cleanest technology available as discussed in Section III.b. Due to mandatory compliance with SCAQMD Rules and compliance with reduction strategies, no construction activities or materials are proposed which would create objectionable odors affecting a substantial number of people. In addition, the nearest sensitive receptors are located beyond the LAX property line and would be further buffered by the dissipation of odors with distance and prevailing winds.

Therefore, no significant impact would occur from objectionable odors and no mitigation measures would be required.

Table 19: Maximum Incremental Acute Non-Cancer Hazard Indices from Construction and Operations

	CONSTRUCTION			OPERATIONS	
POLLUTANT	**ACROLEIN**	**FORMALDEHYDE**	**MANGANESE**	**ACROLEIN**	**FORMALDEHYDE**
Residential					
Maximum HI	0.16	0.04	0.06	0.05	0.01
Minimum HI	-0.66	-0.15	0.00	-0.31	-0.07
Average HI	0.05	0.02	0.01	-0.02	0.00
School					
Maximum HI	0.14	0.03	0.03	0.00	0.00
Minimum HI	-0.07	-0.01	0.01	-0.01	0.00
Average HI	0.08	0.02	0.02	0.00	0.00
Offsite Worker					
Maximum HI	0.48	0.11	0.13	0.11	0.02
Minimum HI	-0.17	-0.04	0.00	-0.28	-0.07
Average HI	0.07	0.02	0.02	-0.01	0.00
Recreational					
Maximum HI	0.18	0.04	0.02	0.00	0.00
Minimum HI	0.02	0.01	0.01	-0.03	-0.01
Average HI	0.11	0.03	0.01	-0.01	0.00
Overall Off-Airport					
Maximum HI	0.48	0.11	0.13	0.11	0.00
On-Site Occupational					
Maximum HI	0.24	0.12	0.40	0.00	0.00

NOTE: HI = Hazard Index

SOURCE: Ricondo & Associates, Inc., February 2015.
PREPARED BY: Ricondo & Associates, Inc., February 2015.

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 Wildlife or U.S. Fish and Wildlife Service?

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

a-b. Less than Significant Impact with Mitigation Incorporated. *A Biological Assessment was prepared for the Detailed Study Area (DSA) for this Project, which consisted of three site visits conducted May 8, June 17, and December 18, 2013 in addition to database and literature searches. An additional direct field inspection was conducted by qualified biologists in the Los Angeles/El Segundo Dunes in August 2014. Additional details of the site visits, as well as database lists of species and habitats, are provided within the Biological Assessment included as* ***Appendix C*** *of this Initial Study.*

The 520-acre DSA includes approximately 181 acres of potential physical disturbance for the proposed runway safety area improvements and related construction impact areas. The DSA for the proposed Project is illustrated in ***Figure 11****. Because the proposed Project and construction staging areas would occur at specific locations across the LAX property, a noncontiguous DSA was delineated for the proposed Project. In addition to the area surrounding Runway 6R-24L, the DSA also includes seven potential construction staging areas and the proposed taxicab staging lot. Only a portion of the construction staging areas would be used during construction of the proposed Project. However, a specific construction staging area(s) has not been determined at the present time, therefore, to provide a conservative analysis, all seven potential staging areas are being considered in this Initial Study. Impacts within these staging areas are anticipated to be minimal as the construction staging areas would be used for storage of equipment and materials, construction employee parking, and temporary construction offices. The potential construction staging areas consist of sites that have been previously disturbed/improved as construction staging and laydown areas for earlier or current construction projects at LAX; hence, there would be minimal, if any, vegetation disturbance, new ground disturbance or additional improvements required. Vegetation communities within the DSA include up to 33 acres to disturbed vegetation, 115 acres to disturbed/annual brome grassland, 0.4-acre to perennial ryegrass field, and 8.5 acres to silver dune lupine–mock heather scrub. The remainder of the DSA is developed and was categorized into three mapping units: ornamental plantings, active construction area, and developed areas. Impacts to developed areas within the potential staging areas include 62 acres of existing construction area, 2 acres of ornamental plantings, and 300 acres of developed areas.*

Impacts to biotic communities and threatened and endangered species at the Project site were assessed through a Biological Assessment prepared for the DSA. Impacts within the proposed taxicab staging lot are anticipated to be minimal as this area is completely developed and paved and is currently used as an airport shuttle staging lot. Minimal to no ground disturbance would occur within the taxicab staging lot. A summary of the literature review, site visits, and database lists of species and habitats, are presented below.

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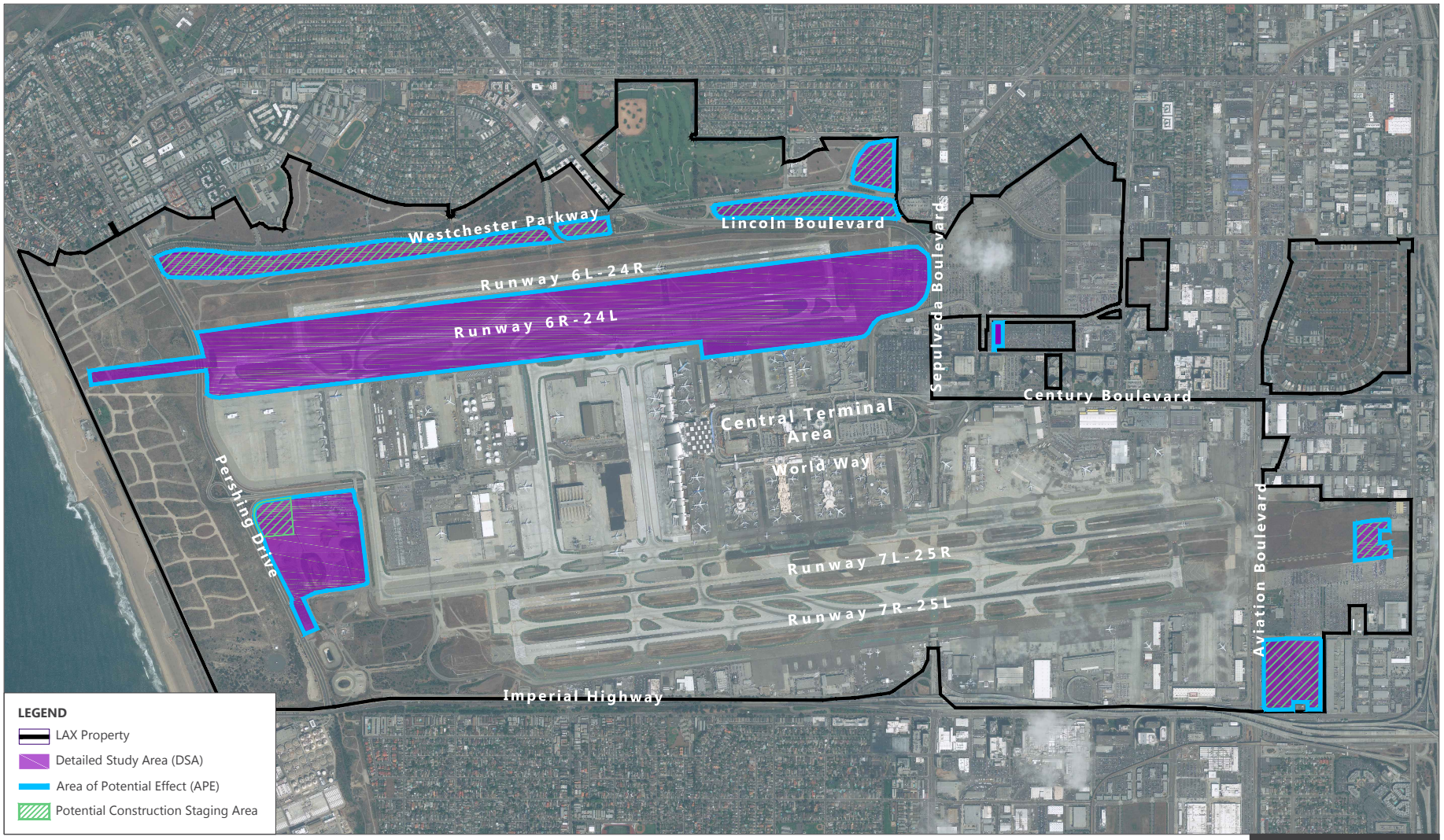

SOURCE: Landrum & Brown, *Los Angeles International Airport, Airport Layout Plan,* 2005; Los Angeles World Airports, April 2013 (aerial photography).
PREPARED BY: Ricondo & Associates, Inc., March 2015.

FIGURE 11

NORTH 0 2,500 ft.

Detailed Study Area and Area of Potential Effect

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The Biological Assessment took into consideration proposed and designated critical habitat for federally listed species along with literature and field studies for state sensitive species. Direct, indirect, and cumulative impacts resulting from construction, operation, and maintenance of the proposed Project were evaluated for all federally listed species and species proposed for listing as threatened and endangered species potentially occurring at LAX. Impacts on other federally, state, or locally designated sensitive species were evaluated to determine if implementation of the proposed Project would catalyze the need for listing of a species. Of the 96 sensitive plant and wildlife species identified as having potential to occur within the DSA based on literature review and database searches, all but two species, Lewis' evening primrose (Camissoniopsis lewisii) and south coast branching phacelia (Phacelia ramosissima var. austrolitoralis) were determined to be absent from the proposed Project site due to lack of suitable habitat. Additionally, coastal California gnatcatchers (Polioptila californica californica) were observed approximately 800 feet south of the DSA.

Construction of the proposed Project would be temporary in nature and would not result in a significant change to the DSA, or introduce new noise or light sources. Construction of the proposed Project would not diminish the chances for long-term survival, or recovery in the wild, of any sensitive species. Neither construction nor operation of the proposed Project would result in impacts to any federally or state-listed threatened or endangered or candidate species, as described in greater detail below.

Construction activities for the proposed improvements, mainly modifications of the MALSR system, would occur in areas west of the runway, within the Los Angeles Airport/El Segundo Dunes, and north of the El Segundo blue butterfly occupied habitat. The required improvements would be designed to minimize disturbance of the Los Angeles Airport/El Segundo Dunes and are anticipated to include the following:

- *Deactivate and remove the two (western-most) light stations and associated light poles for flashing lights. Concrete light pole foundations for these light stations would be excavated, removed and restored to pre-project conditions.*
- *Relocate the "1,000-foot light bar" (supported by three separate towers) to a location immediately east of Pershing Drive (outside the coastal zone). The northern and southern concrete pads which currently support the "1,000-foot light bar" would be excavated, removed and restored to pre-project conditions. The central pad would be retained in order to support a new single-pole light station tower at this location. The removal of these concrete pads would temporarily disturb approximately 2,700 square feet.*
- *Minor excavation next to the concrete pads to be removed will be undertaken to disconnect buried electrical and communication lines to each of the tower stations.*
- *The nine existing light stations in the coastal zone are sited on concrete pads that total 555 square feet. The proposed Project would remove four concrete pads from the Los Angeles Airport/El Segundo Dunes which results in a net reduction of 253 square feet of concrete.*
- *Pending FAA funding approval, the proposed Project would include replacement of the remaining seven light station towers in the coastal zone with new towers as the existing structures have reached the end of their design life.*
    - *The replacement light station towers would be installed on the existing concrete pads at the seven remaining light stations to the extent possible. This would include the installation of upgraded power and communication cables to the replacement light station towers, using directional boring*

equipment rather than trenching to minimize ground disturbance between stations. Existing gravel and paved service roads which provide access to and connect each of the light stations would be used by construction personnel for construction access and staging.

- *FAA will need to replace the existing concrete support pads at three of the light stations. FAA has determined that only one light station will require an expansion of the existing concrete pad by approximately 1 square foot to provide a foundation for a flasher control box. The replacement of the three existing concrete support pads and slight expansion of the one other pad will result in the temporary disturbance of approximately 2,700 square feet of area.*
- *Two flasher stations would require that underground conduit be installed. Two segments of 2-inch conduit are required with each being approximately 200 feet long. Conduit would be installed approximately 24 inches underground using a trenchless method thereby limiting disturbance of the Los Angeles Airport/El Segundo Dunes. It is anticipated that the installation of this conduit would require digging four small holes for the underground drilling/boring operation. These holes would be no larger than 3 feet by 3 feet and would be hand dug.*

- *Existing conduit for the other relocated light stations would be used where practicable.*
  - *In the event that the existing conduit is found to be unusable, it would be necessary to install approximately 1,400 feet of 2-inch underground conduit.*
  - *This conduit would also be installed approximately 24 inches underground using a trenchless method thereby limiting disturbance of the Los Angeles Airport/El Segundo Dunes. This could involve digging eight small holes for the underground drilling/boring operation; however, it may be possible to use existing hand holes for this purpose. If new holes are required, they would be no larger than 3 feet by 3 feet and would be hand dug.*

As stated above, existing towers, lights, equipment and control boxes would be replaced; existing foundations would remain and be modified if necessary. *The area of potential temporary disturbance of the Los Angeles Airport/El Segundo Dunes is approximately 5,400 square feet. Areas that are temporarily disturbed during MALS light station replacement will be restored to pre-project conditions. Installation of navigational aids and associated construction impacts may result in impacts to state designated sensitive habitat adjacent to habitat occupied by the El Segundo blue butterfly. Mitigation for these potential impacts is discussed below.*

PLANT COMMUNITIES

Vegetation communities within the DSA include Silver Dune Lupine–Mock Heather Scrub, Perennial Ryegrass Field, disturbed/Annual Brome Grassland, and disturbed vegetation, and account for approximately 160 acres of the total 520 acres. All plant communities within the DSA have global and state rarity rankings of G4/S4, respectively, or higher with the exception of the Silver Dune Lupine-Mock Heather Scrub, which has a global and state rarity ranking of 3 (S3). According to the California Department of Fish and Wildlife (CDFW), only plant communities with a ranking of S1, S2, or S3 are considered a sensitive plant community with a ranking of S1 being the most sensitive rank. A plant community with a rank higher than S3 is not considered a sensitive plant community.

The remainder of the area is developed and was categorized into three mapping units: ornamental plantings, active construction area, and developed areas. Developed areas include paved areas, buildings, and other man-

made structures. Each of these communities and cover types is discussed below. As documented in the Biological Assessment, these developed areas contain no sensitive, threatened, or endangered plant communities or species and currently have been and will continue to be routinely maintained as part of LAWA's ongoing program to prevent wildlife hazardous to aircraft operations from entering the airfield.

Silver Dune Lupine–Mock Heather Scrub

Approximately 8.5 acres, located at the westernmost end of the DSA and west of Pershing Drive, were classified as Silver Dune Lupine–Mock Heather Scrub. The overall plant community contains several non-native species, most likely due to historical disturbance. This community corresponds to the Lupinus chamissonis–Ericameria ericoides Alliance, which has a global and state rarity ranking of 3.[31,32] *This plant community may also be classified as Southern Dune Scrub, which has the most sensitive plant community ranking, a global and state ranking of 1. The rankings above correlate to the CDFW sensitivity ranking system. Their system incorporates a few different vegetation classification systems and is based on a 1–5 scale, with 1 being the most sensitive. Because Lupinus chamissonis–Ericameria ericoides Alliance and Southern Dune Scrub come from two different vegetation classification systems, they have different rankings even though they cover the same area. The Los Angeles Airport/El Segundo Dunes are virtually the only remaining example of Southern Dune Scrub in mainland Southern California. Installation of navigational aids and associated construction impacts could potentially result in temporary and permanent impacts to Silver Dune Lupine–Mock Heather Scrub under the proposed Project. Of the 8.5 acres of Silver Dune Lupine–Mock Heather Scrub within the DSA, less than 0.01-acre (i.e., approximately one square foot) would be permanently impacted and up to 0.12-acre would be temporarily impacted. Conversion of Silver Dune Lupine-Mock Heather Scrub is unavoidable due to the need to expand one of the concrete foundations required to support relocation of the MALSR lighting system in entire areas characterized by Silver Dune Lupine–Mock Heather Scrub. Therefore, Project-specific mitigation would be implemented, as follows:*

- ***MM-BC (6R24L)-1 – Conservation of Sensitive Habitat.*** *Mitigation for the permanent loss of state-designated sensitive habitat within the Los Angeles Airport/El Segundo Dunes shall be replaced at a ratio of 2:1 within the Los Angeles Airport/El Segundo Dunes as described in the Los Angeles Airport/El Segundo Dunes Habitat Restoration Plan. In addition, mitigation for the temporary loss of state-designated sensitive habitat shall include the restoration of the area to the appropriate coastal dune plant community consistent with the intent and procedures described in the Los Angeles/El Segundo Dunes Habitat Restoration Plan. The replacement and restoration of state-designated sensitive habitat shall be undertaken through restoration procedures as described in the Los Angeles Airport/El Segundo Dunes Habitat Restoration Plan.*

As such, with the incorporation of Project-specific mitigation, impacts to the Silver Dune Lupine-Mock Heather Scrub plant communities would be less than significant.

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[31] California Department of Fish and Wildlife. 2013. Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database. Sacramento, CA. Available at: http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp

[32] California Native Plant Society. 2013. The CNPS Ranking System. Available at: http://www.cnps.org/cnps/rareplants/ranking.php

Perennial Ryegrass Field

Approximately 0.4-acres of the DSA was classified as Perennial Ryegrass Field. This area was confined to a small area within a potential construction staging area in the northwestern portion of LAX and was dominated by perennial rye-grass (Festuca perrenis). This community corresponds to the Festuca perennis Semi-natural Stands, which does not have a global or state rarity ranking.[33] This plant community may also be classified as Non-Native Grassland. This plant community is located within a potential construction staging area for the proposed Project and would not be subject to significant ground disturbance. This plant community does not have a global or state rarity ranking. Conversion of 0.4-acres of Perennial Ryegrass Field to developed land to support runway safety features would not impact state-designated sensitive habitat.

Disturbed/Annual Brome Grassland

Vegetation characteristic of disturbed/Annual Brome Grassland areas can be seen in the large open space area west of and surrounding the runway. Although consistently maintained, vegetation has become established due to the lack of continuous soil impacts. There are approximately 115 acres of disturbed/Annual Brome Grassland plant community in this area. Plant species associated with the disturbed/Annual Brome Grassland plant community were primarily annual non-native species, which included: hottentot fig (Carpobrotus edulis), redstem filaree (Erodium cicutarium), wild oat (Avena fatua), ripgut brome (Bromus diandrus), red brome (Bromus madritensis), and perennial rye-grass (Lolium multiflorum). Vegetation in the disturbed/Annual Brome Grassland areas has been and will continue to be routinely maintained or removed as part of LAWA's ongoing program to prevent wildlife hazardous to aircraft operations from entering the airfield. Implementation of the proposed Project would result in converting 0.71-acre of disturbed/Annual Brome Grassland for relocation of airfield pavement. Conversion of 0.71-acre and maintenance of 26.6 acres of Disturbed/Annual Brome Grassland to support runway safety maintenance and wildlife hazards management activities would not impact state-designated sensitive habitat.

Disturbed Vegetation

Vegetation characteristic of disturbed vegetation areas can be seen in small patches outside runway areas. Soil in disturbed vegetation areas has been frequently and recently placed, moved, or removed in disturbed areas. There are approximately 33 acres of disturbed vegetation plant community in this area. Plant species associated with disturbed vegetation plant community were primarily annual non-native species, which included redstem filaree (Erodium cicutarium), wild oat (Avena fatua), ripgut brome (Bromus diandrus), red brome (Bromus madritensis), and telegraph weed (Heterotheca grandiflora). Vegetation in disturbed vegetation areas has been and will continue to be routinely maintained, removed, or covered as part of the ongoing airport maintenance activities. Continued maintenance of 33 acres of disturbed vegetation to support runway safety features and wildlife hazards management would not impact state-designated sensitive habitat.

Ornamental

Approximately 2 acres of the DSA was classified as ornamental. These areas were confined to areas along paved city streets and included ornamental plants typically found in landscaping including oleander (Nerium oleander)

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[33] California Department of Fish and Wildlife. 2013. Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database. Sacramento, CA. Accessed online, October 2013: http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp.

and Mexican fan palm (Washingtonia robusta). Conversion of 2 acres of ornamental vegetation to development to support runway safety features would not impact state-designated sensitive habitat.

Existing Construction Area

Existing construction areas within the DSA occupy approximately 62 acres and consist of existing staging areas or other areas where construction activities are currently taking place. The grading, excavating, or movement of construction equipment within this community makes it difficult for vegetation to establish. Continued use of 62 acres of existing staging areas or other areas where construction has occurred, that are devoid of vegetation, to support runway safety features would not impact state-designated sensitive habitats.

Developed

Developed areas within the DSA occupy approximately 300 acres and consist of paved areas and man-made structures such as runways, taxiways, roads, buildings, airfield signage, navigational equipment, and runway, taxiway, and airfield lighting. The hardscape associated with this community make it unsuitable to support vegetation. Continued use of 57 acres of existing manmade developments (including roads, runways, taxiways, buildings, and lighting) that are devoid of vegetation, to support runway safety features, would not impact state-designated sensitive habitats.

PLANTS

There are no federal or state-listed or candidate species of plants that are known to be present within or immediately adjacent to the DSA. Most areas that would be developed under the proposed Project consist of bare earth, paved surfaces, structures, or ornamental (low habitat value) landscaping within the LAX boundary. The western portion of the DSA occurs within the Los Angeles Airport/El Segundo Dunes. The Los Angeles Airport/El Segundo Dunes have been historically classified as a mixture of southern foredune (Dune Mat) and southern dune scrub (Silver Dune Lupine–Mock Heather Scrub), which is described above. Dune Mat plant communities are typically dominated by perennial species with a high proportion of suffrutescent (slightly woody at base) plants up to 30 centimeters tall. Species such as sand verbena (Abronia maritima), beach bur (Ambrosia chamissonis), and the nonnative sea rocket (Cakile sp.) usually occur in exposed sites, and pink sand verbena (Abronia umbellata) and morning-glory (Calystegia macrostegia and soldanella) occur in less exposed sites.

Seventy-four plant species from 28 families were identified during the Biological Assessment surveys. Thirty-six of the identified plant species are native to California, with the remaining 38 plant species being non-native. Non-native plants dominated most of the surveyed area in and around the runways and staging areas, with native patches occurring west of Pershing Drive. This may be due to the continual disturbance regime that occurs throughout the DSA and the Los Angeles Airport/El Segundo Dunes being protected as a Significant Ecological Area and Habitat Restoration Area. Human presence is limited to authorized personnel throughout the proposed DSA and frequent in the DSA east of Pershing Drive. Human presence is infrequent in the DSA west of Pershing Drive in the Los Angeles Airport/El Segundo Dunes.

There are 12 federally listed plant species that were identified as having potential to occur within the DSA. Of these 12 species, none were found to occur in the DSA as a result of directed surveys focused on searching for sensitive plant species. Potential impacts to federally listed or candidate species would not occur from implementation of the proposed Project.

Listed Plant Species

A comprehensive understanding of the potential for occurrence of protected species was obtained through consultation with resource specialists and available information from resource management plans, and other technical documents containing information on locations and types of biological resources that have the potential to exist within the DSA.

The Biological Assessment (Appendix C, Table 4.4-1) identifies the listed plant species with potential for occurrence within the DSA. All 12 of the federally-listed sensitive plant species and 1 state-listed sensitive plant species that were identified as potentially occurring in the vicinity of the proposed Project area were determined to be absent as a result of directed surveys. An account of each of these species and distributions of extant populations of sensitive species and critical habitat near the proposed Project are described and mapped in Appendix C.

Other Sensitive Plant Species

Two other sensitive plant species, Lewis' evening primrose (Camissoniopsis lewisii) and south coast branching phacelia (Phacelia ramosissima var. austrolitoralis) were observed within disturbed/Annual Brome Grassland, which accounts for 115 acres of the DSA. There are 8.5 acres of suitable habitat in the form of Silver Dune Lupine–Mock Heather Scrub for the south coast branching phacelia within the DSA. Although not afforded federal status pursuant to the federal Endangered Species Act, or State status under the California Endangered Species Act, these two plant species are designated as List 3 on the California Native Plant Society List of Rare and Endangered Plants. List 3 plants are those for which the California Native Plant Society has determined that additional information is needed.

A few individuals are present in the vicinity of the MALSR light stations, but based on directed field surveys conducted in August 2014, the proposed improvements would not impact these plant species. Notwithstanding, LAWA proposes to conduct a pre-construction survey for Lewis' evening primrose and south coast branching phacelia to determine the presence/absence of these species and their location in relation to Project impact areas. If the species are observed during pre-construction surveys, individuals will be flagged for avoidance where possible. If individuals cannot be avoided and would be impacted by construction activities, mitigation shall occur consistent with LAX Master Plan Final EIS/EIR Mitigation Measure MM-BC-2[34], as follows:

- ***MM-BC-2 – Conservation of Floral Resources: Lewis' Evening Primrose and South Coast Branching Phacelia.*** *LAWA or its designee would prepare and implement a plan to compensate for the loss of individuals of the Lewis' evening primrose and south coast branching phacelia in coordination with the appropriate resource agencies. LAWA or its designee shall collect seed from those plants to be removed, and properly clean and store the collected seed until used. A mitigation site of suitable habitat equal to the area of impact would be delineated within areas of the Los Angeles Airport/El Segundo Dunes or equivalent. Collected seed shall be broadcast (distributed) after the first wetting rain following or concurrent with the associated impact, preferentially in the fall or early winter. LAWA or its designee shall implement a monitoring plan to monitor the establishment of individuals of Lewis' evening primrose and south coast*

[34] City of Los Angeles, Los Angeles World Airports and U.S. Department of Transportation, Federal Aviation Administration, *Los Angeles International Airport Master Plan Final Environmental Impact Statement/Environmental Impact Report*, January 2005.

branching phacelia for a period of not more than 5 years. Performance criteria shall include the establishment of an equal number of plants as that impacted following the distribution of seed within the mitigation site. Performance criteria would also include confirmation of recruitment for 2 years following the first year that flowering is observed and establishment of individuals throughout the mitigation area within 3 years following the first year that flowering is observed.

Implementation of MM-BC-2 would compensate for the temporary displacement of sensitive plant species, such that there would be no net adverse effect on these species, and their potential to survive and recover in the wild. Therefore, with the proposed mitigation, the proposed Project would have a less than significant impact on sensitive plant species.

WILDLIFE

Twenty-four wildlife species were observed during the 2013 biological surveys, as well as the August 2014 directed field survey. There were 2 insect species, 3 reptile species, 18 bird species, and 1 mammal species recorded within the DSA (Appendix C). Overall, the abundance of wildlife was considered low with flying wildlife, such as butterflies and birds, accounting for most wildlife observations. Terrestrial wildlife was limited to a handful of reptile and mammal species observations. No fish or amphibian species were observed during the surveys.

There are 10 federally listed wildlife species that were identified during the database search as having potential to occur within the DSA. All ten of the federally-listed sensitive wildlife species and two state-listed sensitive species that were identified as potentially occurring in the vicinity of the DSA were determined to be absent from the DSA as a result of directed surveys. The Biological Assessment (Appendix C, Table 4.9-1) lists the wildlife species initially identified as having the potential to occur within the DSA. However, occupied habitat for two federally listed species, El Segundo blue butterfly and coastal California gnatcatcher, is present in close proximity to the DSA.

Nesting Birds

Several species of birds were presumed to be nesting in vegetated areas outside the study area based on behavioral cues. The U.S. Fish and Wildlife Service (USFWS) has issued a Federal Fish and Wildlife Permit to LAWA for the Depredation of Migratory Birds at Airports, which allows the take of native bird species and their nests for those species that are not threatened or endangered. Harassment and/or removal of endangered/threatened species and/or bald and golden eagles require additional permits from the Migratory Bird Permit Office and/or Ecological Services Office.

The Coastal California gnatcatcher (Polioptila californica californica) is a federally listed threatened species and CDFW species of special concern. It typically occurs in coastal bluff scrub and coastal scrub. Habitat for the species is not present within the proposed DSA, although suitable habitat is present in the nearby Los Angeles Airport/El Segundo Dunes.[35] *Individuals and sign were not observed within the DSA during 2013 biological surveys. However, at least one pair was observed nesting in the Los Angeles Airport/El Segundo Dunes in 2013 with the nearest individual observation occurring approximately 800 feet south of the DSA. The nearest*

[35] Mitigation for the loss of state-designated sensitive habitat (Silver Dune Lupine–Mock Heather Scrub) within the Los Angeles Airport/El Segundo Dunes would be conducted in accordance with MM-BC (6R24L)-1 above.

California Natural Diversity Database (CNDDB) occurrence of this species is approximately 2.8 miles northeast of the proposed DSA.[36] *The nearest critical habitat is located approximately 10 miles to the south. Occupied habitat for the Coastal California gnatcatcher occurs approximately 800 feet to the south of the westernmost portion of the DSA. This species has the potential to be affected by implementation of the proposed Project. The following applicable mitigation measure was included within the Los Angeles International Airport, Bradley West Project (BWP) Final EIR, and has since been adopted into the LAX Mitigation Monitoring and Reporting Program (MMRP). Due to the possibility of impacts to the Coastal California gnatcatcher and other nesting birds within the proposed Project construction area, this mitigation measure would apply to the proposed Project.*

- **MM-BC (BWP)-8 –** ***Conservation of Faunal Resources: Nesting Birds/Raptors.*** *To comply with the Migratory Bird Treaty Act, for those areas of the project site that are not actively maintained and have a potential for nesting birds/raptors, if construction is scheduled to occur during the nesting season for birds/raptors (generally February 1 to June 30 for raptors and March 15 to August 15 for nesting birds), vegetation that will be impacted by the proposed project shall be removed outside the nesting season if feasible. If this is not feasible, then a qualified biologist shall inspect the shrubs/trees prior to project activities to ensure that no nesting birds/raptors are present. If the biologist finds an active nest within the construction area and determines that the nest may be impacted, the biologist will delineate an appropriate buffer zone; the size of the buffer zone will depend on the species and the type of construction activity, and will be determined in consultation with CDFW. Only construction activities (if any) that have been approved by a Biological Monitor will take place within the buffer zone until the nest is vacated. The biologist shall serve as a construction monitor during those periods when construction activities shall occur near active nest areas to ensure that no inadvertent impacts on these nests shall occur. These construction avoidance measures will be coordinated with LAWA's USDA Wildlife Hazard Biologist and will be consistent with FAA Advisory Circular No. 150/5200-33 "Hazardous Wildlife Attractants on or Near Airports" and LAWA's "LAX Wildlife Hazard Mitigation Plan" to avoid increasing wildlife hazards to aircraft.*

Therefore, construction of the proposed Project is anticipated to have less than significant impact on the Coastal California gnatcatcher and other nesting birds.

El Segundo Blue Butterfly

The El Segundo Blue Butterfly (Euphilotes battoides allyni) is a federally-listed endangered species. This species typically occurs in coastal sand dunes with coastal buckwheat. Occupied habitat for the species has been documented on approximately 200 acres within the Los Angeles Airport/El Segundo Dunes, south of the DSA. Individuals and sign were not observed during 2013 and 2014 biological surveys or previous surveys within the DSA. The nearest occurrence of this species is approximately 0.6-miles south of the proposed DSA.[37] *Critical habitat was proposed for this species on February 8, 1977 (42 FR 7972), but was never designated.*

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[36] California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp.

[37] U.S. Fish & Wildlife Service, *El Segundo Blue Butterfly* (*Euphilotes battoides allynii*) *5-Year Review: Summary and Evaluation*. Carlsbad, California, 2008.

The El Segundo blue butterfly is known to frequent the Los Angeles Airport/El Segundo Dunes, and occupied habitat for the species occurs to the south of the westernmost portion of the DSA. However, three biological surveys, as well as the August 2014 directed field survey, of the Los Angeles Airport/El Segundo dunes in the immediate vicinity of the MALSR stations and associated service road revealed that coast buckwheat – the host plant for the federally-listed endangered El Segundo blue butterfly – was not present in the vicinity of the MALSR stations. Additionally, coast buckwheat was not observed during field surveys north of the unnamed paved road which was part of the former Surfridge neighborhood that was demolished in the 1970s (see Figure 10). Based on the information gathered during the field surveys and the additional directed survey in August 2014, FAA has determined the proposed Project, including the relocation/replacement of the MALSR stations for Runway 6R, would not affect any federally listed threatened or endangered species or designated critical habitat. However, due to the current and historical occupancy of areas adjacent to the DSA west of Pershing Drive, if any construction occurs within 2,000 feet of the El Segundo Blue Butterfly Habitat Restoration Area, LAWA will implement soil stabilization, watering, or other dust control measures, as feasible and appropriate, with a goal to reduce fugitive dust emissions by 90 to 95 percent during construction activities. As such, there would be no impacts to the El Segundo Blue Butterfly.

Burrowing Owl

One sensitive wildlife species, a single burrowing owl (Athene cunicularia) along with its burrow, was observed at the northern end of the DSA, just south of Westchester Parkway near the intersection of Westchester Parkway and Northside Parkway. The species is listed as having a federal status of Bird of Conservation Concern (BCC) and state status of Species of Special Concern (SSC) and has been observed during previous surveys conducted on LAX. An account of the species and distributions of extant populations of sensitive species are identified in Appendix C.

LAWA will avoid this burrow during construction activities in order to avoid conflicts between the burrowing owl and construction and ensure avoidance of all occupied habitat such that there would be no impact to this species.

Red Fox

A pair of red foxes along with their burrow was observed within one of the potential construction staging areas, which is located at the corner of Aviation Boulevard and Imperial Highway, in the southeastern-most portion of the DSA. Although a non-native species and not afforded federal status pursuant to the federal Endangered Species Act or state status pursuant to the California Endangered Species Act, the red fox is still afforded protection pursuant to the fur-bearing mammals act. If this construction staging area is utilized for construction of the proposed Project, LAWA will consult with the U.S. Department of Agriculture (USDA) Wildlife Services, which actively manages LAX property to reduce its attractiveness to red fox and other species.

Therefore, any impacts to the red fox within the DSA would be less than significant.

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?

c. No Impact. *There are no wetlands or waters of the United States within the DSA or areas identified as being under the jurisdiction of the U.S. Army Corps of Engineers (USACE), RWQCB, or CDFW. As a result of the review of the appropriate U.S. Geological Survey 7.5 minute series topographic quadrangles, the National Wetlands*

Inventory maps covering the DSA, and field reconnaissance of the DSA, it was determined that there are no wetlands or other "waters of the United States" present within the DSA. Therefore no impact to wetlands would be anticipated as a result of implementation of the proposed Project.

d. Interfere substantially with the movement of any 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?

d. Less than Significant Impact with Mitigation Incorporated. *Construction of the proposed Project would be temporary in nature and would not result in a significant change to the DSA, or introduce new noise or light sources. No interference with habitat would occur as a result of construction of the proposed Project that would diminish the chances for long-term survival of a sensitive species. Additionally, the proposed Project is not anticipated to interfere substantially with the movement of any 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. As discussed above, through implementation of Project-specific commitments and mitigation measures, the proposed Project would not result in significant impacts to any federally or state-listed threatened or endangered or candidate species nor impact resident fish or wildlife species with established habitat.*

e. Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance?

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?

e-f. Less Than Significant Impact with Mitigation Incorporated. *The Los Angeles Airport/El Segundo Dunes Specific Plan Area is located at the far western boundary of LAX, in the land bordered by Pershing Drive to the east, Vista Del Mar Boulevard to the west, Imperial Highway to the south, and Waterview Street and Napoleon Street to the north. This area also includes the 200-acre El Segundo Blue Butterfly Habitat Restoration Area. As discussed above in Project Characteristics, construction activities for the proposed Project would include areas west of the runway, north of the El Segundo blue butterfly occupied habitat, but within the Los Angeles Airport/El Segundo Dunes.*

Navigational aids currently located in this area are within the Coastal Zone and would need to be removed and relocated to a different location within the same general area of the Coastal Zone. Construction activities may include removal and modification to existing light station foundations and replacement of existing conduit as detailed in Sections IV.a and b. Installation of navigational aids and associated construction impacts may result in impacts to state designated sensitive habitat. The proposed Project would not conflict with any local policies or ordinances protecting biological resource. No part of the DSA is covered by a habitat conservation plan. Impacts from the proposed Project to any local, regional or state policies and/or habitat/conservation plans would be less than significant with implementation of Project-specific commitments and mitigation measures discussed above.

V. Cultural Resources

Would the project:

a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

a. Less Than Significant Impact. *The LAX Master Plan EIR included archeological and historical resources surveys. A cultural resource record search was conducted in in November 2012, and a supplemental search was conducted in December 2013 for the area of potential effect (APE), as documented in the 2014 Cultural Resources Technical Report (CRTR) (**Appendix D**). Furthermore, cultural resources surveys, including pedestrian surveys, of the APE were conducted on May 8, June 14, July 27, December 18, 2013 and July 16, 2014 by Sapphos Environmental, Inc. staff archaeologists. The APE is defined as the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties and is shown in Figure 11. The 520-acre APE includes approximately 181 acres of potential physical disturbance for the proposed runway safety area improvements and construction staging areas. The APE includes areas of potential physical disturbance for the proposed runway safety area improvements, pavement reconstruction, and related construction impact areas. Because the proposed Project and construction staging areas would occur at specific locations across the LAX property, a noncontiguous APE was delineated for the proposed Project. Only a portion of the potential construction staging areas would be used during construction of the proposed Project. However, a specific construction staging area(s) for this project has not been determined at the present time; therefore, to provide a conservative analysis, all seven potential staging areas are being considered in this Initial Study. Impacts within these staging areas are anticipated to be minimal as the construction staging areas would be used for storage of equipment and materials, construction employee parking, and temporary construction offices. The potential construction staging areas consist of sites that have been previously disturbed/improved as construction staging and laydown areas for earlier or current construction projects at LAX; hence, there would be minimal, if any, new ground disturbance or additional improvements required.*

The primary source of relevant information used in the preparation of the CRTR was a record search and literature review, and a Phase I Walkover Survey conducted under the supervision of an archaeologist meeting the Secretary of the Interior's professional qualification standards.[38]

*Two cultural resources records searches were conducted for the proposed Project. A records search conducted in 2013 identified three archaeological sites, two archaeological isolates, and five built environment resources that had been previously recorded within 0.5-mile of the North Airfield. A records search conducted in 2014 determined that one archaeological site, two archaeological isolates, and four built environment resources had been previously recorded within 0.5-mile of the Project site. **Table 20** provides a brief summary of previously recorded cultural resources within the study areas that were identified as a result of the cultural resources records searches. However, none of these previously documented cultural resources are located within the APE of the proposed Project.*

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[38] National Park Service, September 1983. "Professional Qualifications Standards." *Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines*. Available: http://www.nps.gov/history/local-law/arch_stnds_9.htm

Table 20: Previously Recorded Cultural Resources within the APE (1 of 2)

HISTORIC/ARCHAEOLOGICAL RESOURCE	RESOURCE TYPE	NRHP ELIGIBILITY	DESCRIPTION
CA-LAN-202	Site	Ineligible	Prehistoric, but no descriptive information provided in the site record. Residential development of the area in the 1960s appears to have extensively disturbed the site. Although later revisits to the area identified isolated fragments of *Mytilus* shell, no other cultural materials were identified in the vicinity
CA-LAN-1118	Site	Ineligible	Prehistoric shell midden with lithic debitage. Grading and road construction in this area has destroyed large portions of the site since its original recording.
CA-LAN-2358H/ CA-LAN-*1H	Site	Ineligible	Historic debris scatter containing concrete, asphalt, glass, brick, plaster, linoleum fragments, countertop files, and metal fragments. Historic documents indicate that these deposits likely represent the remains of a Nike Missile testing site, which was constructed in 1954. The facility was demolished in 1993 in preparation of the construction of Westchester Parkway.
P-19-100115	Isolate	Ineligible	One flake of reddish quartzite.
P-19-100116	Isolate	Ineligible	One prehistoric lithic flake.
P-19-150442 (Milliron's Department Store)	Building	Ineligible due to age (in 1998)	International-style building constructed in 1948.
P-19-150445 (Syad Realty Building)	Building	Ineligible	Utilitarian, single-story commercial structure built in 1950.
P-19-189869 (Clearwire CA-LOS2026B/LA03XC087)	Building	Ineligible	Modern-style, commercial building constructed in 1964.
Loyola Theater (LAHCM No. 259)	Building	Not evaluated	Historic theater building constructed in 1948.
Theme Building (LAHCM No. 570)	Structure	Eligible	Midcentury modern, flying saucer– like structure built at LAX in 1961– 1962. The building was designed by architects William Pereira, Charles Luckman, Welton Becket, and Paul Williams, and is composed of sets of parabolic arches from which a flying saucer–shaped restaurant is suspended. The Theme Building was found eligible for the NRHP under Criterion C. The Theme Building was also designated City of Los Angeles Historic-Cultural Monument #570 in 1992.
P-19-186162 (Control Tower)	Building	Not evaluated	This site is currently a "beacon tower" that originally served as the control tower for Los Angeles International Airport. The tower was constructed in 1951 and operated as the control tower until 1961. The cultural resource has not been evaluated for inclusion for the NRHP.
CA-LAN-2386H	Observation bunker	Not evaluated	This is an intact World War II–era observation bunker. The bunker is constructed of concrete with a fronting concrete apron.

Table 20: Previously Recorded Cultural Resources within the APE (2 of 2)

HISTORIC/ARCHAEOLOGICAL RESOURCE	RESOURCE TYPE	NRHP ELIGIBILITY	DESCRIPTION
CA-LAN-2345	Site	Not evaluated	Prehistoric site that contained hundreds of stone tools, bones, shell fragments and thermally affected stones. The site's Locus 4 appears to be roughly circular and constructed of stones, which suggests a possible fire hearth. The site is disturbed and is located adjacent to a large pit from which sedimentary materials were removed to build up a hill on which airport instruments are located. Due to its lack of integrity, the site was determined to be ineligible for the NRHP.
P-19-004353	Isolate	Ineligible	This is a historic isolate. The isolate consisted of a single 7-Up bottle base with embossments, which exhibits a manufacturing date circa 1955.
P-19-004354	Isolate	Ineligible	This is a historic isolate, consisting of a historic trash dump that contained approximately seven intact glass bottles of various sizes and colors and included several glass bottle fragments. The bottles were dated from 1946 to 1950 and were discovered partially submerged.
P-19-174101 Hangar One (NRHP No. 073727)	Building	NRPH Listed: 1992	Built in 1942, Hangar One was the first hangar built as part of the Los Angeles Municipal Airport, which later became the Los Angeles International Airport (LAX). Hangar One is the only structure remaining from the original airport site.
P-19-188005	Multi-Family Residence	Ineligible	Built between 1921 and 1925, with improvements dating to 1956. The original structure was a small wood frame rectangular shape house. The 1956 improvements consisted of a second residence in the center of the property.
P-19-188006	Single Family Residence	Ineligible	Built in 1927, with improvements/alterations made between 1945 and 1965. This cultural resource is a single story, wood frame house, irregularly shaped on a slightly raised foundation.

NOTE: NRHP = National Register of Historic Places

SOURCE: Sapphos Environmental, Inc., *Proposed Runway 6R-24L Runway Safety Area Improvements Project Cultural Resources Technical Report,* July 2014.

PREPARED BY: Ricondo & Associates, Inc., August, 2014.

As a result of cultural resources pedestrian surveys, the 2014 CRTR identified two additional historic-period cultural resources within the APE of the proposed Project site. One built-environment resource, Runway 6R-24L, and one historic archaeological site, LAX Supplemental Site 1H, were documented in the proposed undertaking APE. Descriptions and significance evaluation of the two identified historic-period cultural resources are presented below. National Register of Historic Places (NRHP) procedures and criteria were applied in determining the significance of the resources. A property is eligible for the NRHP if it is significant under one or more of the following criteria:[39]

[39] *Code of Federal Regulations*, Parks, Forests, and Public Property, Title 36, CFR 60.4.

- ***Criterion A:*** *It is associated with events that have made a significant contribution to the broad patterns of our history.*
- ***Criterion B:*** *It is associated with the lives of persons who are significant in our past.*
- ***Criterion C:*** *It embodies the distinctive characteristics of a type, period, or method of construction; represents the work of a master; possesses high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction.*
- ***Criterion D:*** *It has yielded, or may be likely to yield, information important in prehistory or history.*

Runway 6R-24L. *Runway 6R-24L is one of two runways in the north runway complex at LAX and is also within the proposed Project site. Historic documents indicate that the runway was built sometime between 1958 and 1962 as part of airport improvements during this period at LAX.*[40,41]

The records search yielded no information suggesting an association of the runway with either significant historic events or people (Criteria A and B). Although the runway does appear to be associated with aviation history, it does not illustrate any significant association with the development of the commercial airline and airport industry in the early 20th century. Moreover, the runway has been heavily altered since its initial construction and no longer retains its original or historic appearance, visual narrative, or characteristics from a specific period that would make the resource eligible under Criterion C. Finally, research has provided no indication that the runway has the potential to yield any further information important to the history of the United States (Criterion D). Taken together, Runway 6R-24L does not meet any of any of the criteria for listing to the NRHP and is not considered a historic property.

LAX Supplemental Site 1H. *LAX Supplemental Site 1H is located within the APE, approximately one-third of a mile west of Runway 6R-24L. The site contains structural debris from the former Surfridge community, including brick and cement fragments, and lesser amounts of bottle glass, rebar, and nails. The site is bordered by airport access roads that were once residential streets.*

Archival documents indicate that structures formerly present in and around LAX Supplemental Site 1H were constructed between circa 1934 and 1952 as part of the Surfridge community. No information has been found to indicate that the site was associated with a historic event (Criteria A). Although individuals significant to the early motion picture industry are known to have owned properties in Surfridge, no residences associated with such persons remain intact today in the former Surfridge area (Criterion B). In addition, no information was found regarding the exact location of such properties. LAX Supplemental Site 1H does not significantly embody the distinctive characteristics of an engineering structure or architectural style, type, or period, which would make it eligible for inclusion under Criterion C as there are no structures remaining in and around the site. Finally, research has provided no indication that the site has the potential to yield potentially important information (Criterion D). Taken together, the resource does not meet any of the criteria for listing to the NRHP and, thus, cannot be considered a historic property. The integrity of LAX Supplemental Site 1H has been effectively destroyed by airport operations and activities over the past 50 years. The complete removal of

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[40] Los Angeles Times, November 25, 1957. "Airport Project Will Start Soon: Ground-Breaking Ceremonies Slated Dec. 8 for $46,000,000 Expansion Project." Proquest Historical Newspaper Archives.

[41] U.S. Geological Survey. 1964. 7.5-Minute Series, Venice, California, Topographic Quadrangle. Reston, VA.

Surfridge residences has resulted in a loss of integrity of setting and feeling. Taken together, the data suggest that LAX Supplemental Site 1H does not retain a level of integrity that is needed to make it eligible for listing on the NRHP and, thus, is not considered a historic property.

Although implementation of the proposed Project would potentially impact the two cultural resource sites identified above, neither of these resources were determined to be eligible for federal, state, or local designation as a significant cultural resource. Furthermore, all of the ground-disturbing activities associated with this Project will be located in previously disturbed areas that are not anticipated to contain intact subsurface deposits. Therefore, the proposed Project would have a less than significant impact on historic properties or historic resources.

b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

b. Less Than Significant Impact with Mitigation Incorporated. *Results of the records search and archival research suggest that a number of archaeological sites are located within the larger cultural resources study area. In addition, the records search of the California Native American Heritage Commission (NAHC) Sacred Lands File indicates that Native American traditional cultural places are also present in the immediate vicinity of the proposed undertaking. These findings suggest a potential for the unanticipated discovery of buried cultural deposits if construction activities extend into native or undisturbed soil.*

If plans for the proposed undertaking are modified so that ground disturbances occur in areas that do not consist of re-deposited fill or that have not been previously disturbed, LAWA will comply with all procedures outlined in the Archaeological Treatment Plan[42] (ATP) completed pursuant to MM-HA-4 of the LAX Master Plan Mitigation Monitoring and Reporting Program (MMRP). The ATP provides for evaluation and treatment of archaeological resources consistent with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation and other applicable guidance. Requirements outlined in the ATP include specific procedures for archaeological monitoring, identifying and assessing the significance of resources, and for the recovery and curation of resources when warranted. For example, an archaeological excavation program to remove the resources may be implemented, if deemed necessary. In addition, the ATP includes guidance on retaining a Native American monitor if Native American cultural resources are encountered. If human remains are found, LAWA will need to comply with the State Health and Safety Code regarding the appropriate treatment of those remains as outlined in the ATP. Finally, the ATP details the reporting requirements to document the archaeological monitoring effort and provides guidance as to the proper curation and archiving of artifacts in accordance with industry and federal standards. Mitigation Measure MM-HA (6R24L)-1, Conformance with LAX Master Plan Archaeological Treatment Plan (ATP), and Mitigation Measure MM-HA (6R24L)-2, Archaeological Resource Construction Personnel Briefing, described below, would reduce would reduce significant impacts to previously unidentified archaeological resources associated with the proposed Project to a less than significant level.

- ***Mitigation Measure MM-HA (6R24L)-1 – Conformance with LAX Master Plan Archaeological Treatment Plan****: As defined in the LAX Master Plan MMRP Archaeological Treatment Plan (ATP), areas*

[42] Los Angeles World Airports. June 2005. *Archaeological Treatment Plan.* Prepared by: Brian F. Smith and Associates, San Diego, CA.

are not subject to archaeological monitoring if they contain re-deposited fill or have previously been disturbed. LAWA shall retain a qualified archaeologist (an archaeologist who satisfies the Secretary of the Interior's Professional Qualifications Standards [36 CFR 61]) to monitor excavation activities in native or virgin soils in accordance with the detailed monitoring procedures and other procedures outlined in the ATP regarding treatment for archaeological resources that are accidentally encountered during construction. The extent and frequency of inspection shall be defined based on consultation with the archaeologist. Following initial inspection of excavation materials, the archaeologist may adjust inspection protocols as work proceeds. Identification, evaluation, and recovery of cultural resources shall be conducted in accordance with the methods, guidelines, and measures established in the ATP. If Native American cultural resources are encountered, LAWA shall comply with guidance established in the ATP for retaining a Native American monitor. If human remains are found, LAWA shall comply with the State Health and Safety Code regarding the appropriate treatment of those remains as outlined in the ATP. Reporting shall be completed in conformance with the requirements established in the ATP to document the archaeological monitoring effort and guidance as to the proper curation and archiving of artifacts in accordance with industry and federal standards.

- ***Mitigation Measure MM-HA (6R24L)-2 – Archaeological Resource Construction Personnel Briefing****: If excavation activities will occur in native or virgin soils, construction personnel will be briefed by the consulting archaeologist in the identification of archaeological resources and in the correct procedures for notifying the relevant individuals should such a discovery occur.*

Conformance with the LAX Master Plan ATP and implementation of mitigation measures MM-HA (6R24L)-1 and MM-HA (6R24L)-2 would ensure that potential impacts associated with archaeological resources would be less than significant. .

c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

c. Less Than Significant Impact with Mitigation Incorporated*. As indicated in the LAX Master Plan EIR, the LAX property lies in the northwestern portion of the Los Angeles Basin, a broad structural syncline with a basement of older igneous and metamorphic rocks overlain by thick younger marine and terrestrial deposits. The LAX Master Plan EIR identified the presence of five vertebrate fossil occurrences within the vicinity of the APE and one within 2 miles from the center of the LAX property. These fossils were found at depths ranging from 13 to 70 feet.*[43]

As the proposed Project would require excavation to a depth of approximately 3 feet for some elements, and would be located in areas that have been previously disturbed, impacts to paleontological resources are not anticipated to occur. According to the 2014 CRTR, a review of the literature suggests there is a moderate likelihood of discovering paleontological resources at depths greater than 6 feet within the APE. Although this conclusion suggests that unanticipated discoveries of paleontological resources are not likely to occur from ground-disturbing activities associated with the implementation of the proposed Project, the disturbance or destruction of potentially significant undiscovered resources by construction-related activities would be

[43] City of Los Angeles, Los Angeles World Airports (LAWA), *Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements*, April 2004.

considered a significant effect unless mitigated. Therefore, during construction, LAWA will conform to procedures outlined in the Paleontological Management Treatment Plan[44] (PMTP) completed pursuant to MM-PA-1 of the LAX Master Plan MMRP. The LAX Master Plan PMTP provides for evaluation and treatment of paleontological resources consistent with the Society of Vertebrate Paleontology and other applicable guidance and industry standards. Requirements outlined in the PMTP include specific procedures for paleontological construction monitoring, identifying and assessing the significance of resources, reporting, and for the recovery and curation of resources when warranted. Mitigation measures MM-PA (6R24L)-1, Conformance with LAX Master Plan Paleontological Management Treatment Plan, and MM-PA (6R24L)-2, described below, would reduce impacts associated with buried paleontological resources to a level that is less than significant.

- ***Mitigation Measure MM-PA (6R24L)-1 – Conformance with LAX Master Plan Paleontological Management Treatment Plan:*** *As defined in the Final LAX Master Plan MMRP Paleontological Management Treatment Plan (PMTP), areas are not subject to paleontological monitoring if they contain re-deposited fill or have previously been disturbed. If the project site is determined to exhibit a high potential for subsurface resources, paleontological monitoring will be conducted in accordance with the procedures stipulated in the PMTP. If the project site is determined to exhibit a low potential for subsurface deposits, excavation need not be monitored as per the PMTP. In the event that paleontological resources are discovered, the procedures outlined in the PMTP for the identification of resources will be followed.*
- ***Mitigation Measure MM-PA (6R24L)-2 – Construction Personnel Briefing:*** *If excavation activities will occur in native or virgin soils, construction personnel will be briefed by the consulting paleontologist in the identification of fossils or fossiliferous deposits and in the correct procedures for notifying the relevant individuals should such a discovery occur, in accordance with the PMTP.*

With conformance to the LAX Master Plan PMTP and implementation of mitigation measures MM-PA (6R24L)-1 and MM-PA (6R24L)-2, potential impacts to paleontological resources would be less than significant.

d. Disturb any human remains, including those interred outside of formal cemeteries?

d. Less Than Significant Impact with Mitigation Incorporated. *The proposed Project site is in a highly developed area dedicated to aviation-related uses. Within LAX, any traditional burials would likely be associated with the Native American group known as the Gabrielino. Based on previous surveys conducted at LAX and the results of record searches completed in 1995, 1997, and 2000 for the LAX Master Plan EIR, no traditional burial sites have been identified within the LAX boundaries or in the vicinity of LAX. Additionally, the 2014 cultural resource surveys found no known cemeteries or burial sites within the proposed Project site. This report concluded that the proposed Project would not directly disturb human remains. The proposed Project would require excavation to a depth of approximately 3 feet for some elements and would be located in areas that have been previously disturbed. It is unlikely that human remains would be encountered. However, if human remains were encountered, all grading and excavation activities in the vicinity would cease immediately, and the appropriate LAWA authority would be notified, as outlined in the LAX Master Plan MMRP Archaeological Treatment Plan. Mitigation Measure MM-HA (6R24L)-1, Conformance with LAX Master Plan Archaeological*

[44] Los Angeles World Airports. December 2005. *Paleontological Management Treatment Plan*. Prepared by: Brian F. Smith and Associates, San Diego, CA.

Treatment Plan, described above, would reduce this impact to a level that is less than significant. Specifically, the ATP provides guidance as to the treatment of human remains that are accidentally encountered during construction excavations, such as compliance with the procedures outlined in Section 7050.5(b) and (c) of the State Health and Safety Code, Section 5097.94(k) and (i) and Section 5097.98(a) and (b) of the Public Resources Code. Therefore, with incorporation of mitigation measure MM-HA (6R24L)-1, less than significant impacts associated with human remains would occur.

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?

a.i-ii. Less Than Significant Impact. *Fault rupture is the displacement that occurs along the surface of a geologic fault during an earthquake. As indicated in the LAX Master Plan EIR, while the Project site is located within the seismically active Southern California region, it is not located within an Alquist-Priolo Special Study Zone.[45] Geotechnical literature and mapping data indicates that the Charnock Fault may be located near or run through the eastern portions of LAX, approximately 3,000 feet east of Sepulveda Boulevard.[46] The Charnock Fault is not considered active by the State of California, and therefore, is not subject to the zoning restrictions of the Alquist-Priolo Earthquake Fault Zoning Act. Additionally, 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 LAX.[47]*

The Project site is located in the seismically active Southern California region; however, there is no evidence of faulting at the Project site, and the Project site is not located within an Alquist-Priolo Special Study Zone.[48]

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45 *City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.*

46 *City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Earth/Geology Technical Report, January 2001.*

47 *City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.*

48 *City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.*

Nevertheless, all construction would be designed in accordance with federal, state, and local building codes. Federal provisions applicable to the proposed Project include FAA Advisory Circulars 150/5300-13A, 5320-6E, and 5370-10E, regarding seismic construction materials and methods. Construction of the proposed Project would also be designed in accordance with the provisions of the Los Angeles Building Code (LABC), the requirements of which are more stringent than California's Uniform Building Code (UBC), and have been formulated to allow structures to withstand the seismic ground shaking levels expected in the region. Construction would occur in accordance with the LAMC Sections 91.7001 through 91.7016 and with the City of Los Angeles Department of Building and Safety (LADBS) requirements, which include construction requirements for grading, excavation, and foundation work, and the requirement to prepare a geological and/or soils report.

Therefore, potential impacts associated with strong seismic ground shaking or related to rupture of a known earthquake fault would be less than significant. All construction would comply with the UBC and LABC requirements.

iii. Seismic-related ground failure, including liquefaction?

a.iii. 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. As indicated in the LAX Master Plan EIR, the depth to groundwater at LAX is generally greater than 90 feet, which would indicate that the Project site has a very low susceptibility to liquefaction. However, perched groundwater[49] conditions have been noted in the upper 20 to 60 feet at some locations at LAX, and the density of sand deposits in the upper 30 feet is generally considered medium to low. Liquefaction could, therefore, occur in localized areas; however, the overall potential for liquefaction at LAX is considered low.[50]*

Seismically induced ground shaking also can cause slope-related hazards through various processes including slope failure, lateral spreading,[51] flow liquefaction, and ground lurching.[52] Because existing slopes in the LAX vicinity are relatively small in area and of low angle and height (less than 15 feet) the overall potential for such failures is considered to be low.[53]

The California Department of Conservation (CDC) is mandated by the Seismic Hazards Act of 1990[54] to identify and map the state's most prominent earthquake hazards in order to help avoid damage resulting from

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49 *Perched groundwater is groundwater that is generally shallow and is isolated and not connected to an aquifer.*

50 *City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.*

51 *Lateral Spreading is 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. This reduces the shear strength of the soil, causing failure and "spreading" of the slope.*

52 *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.*

53 *City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.*

54 *California Public Resources Code, §2690-2699.6 (Seismic Hazards Mapping Act of 1990).*

earthquakes. The CDC's Seismic Hazard Zone Mapping Program charts areas prone to liquefaction and earthquake-induced landslides throughout California's principal urban and major growth areas. According to the Seismic Hazard Map for the Inglewood and Venice Quadrangles, no potential liquefaction zones are located within the vicinity of LAX. Isolated zones of potential seismic slope instability are identified near the western edge of LAX, within the dune area to the west of the Project site.[55,56]

As mentioned in Section 2.VI.a.i-ii, the proposed Project would comply with federal, state, and local building codes. Provisions from FAA Advisory Circulars 150/5300-13A, 5320-6E, and 5370-10E, as well as the UBC, LABC, LAMC, and LADBS, would be incorporated into construction of the proposed Project. Therefore, no impacts associated with seismic-related ground failure would occur.

iv. Landslides?

a.iv. No Impact. *The Project site and surrounding areas are relatively flat, primarily surrounded by existing airport and urban development. Isolated zones of potential seismic slope instability have been identified near the western edge of LAX, within the Los Angeles Airport/El Segundo Dunes in the western part of the Project site. Proposed Project components in this area involve only the relocation of lighting systems onto existing structures and would result in minimal to no ground disturbance. In addition, human presence in this area is limited to authorized personnel and infrequent.*

Therefore, implementation of the proposed Project would not result in the exposure of people or structures to the risk of landslides during a seismic event.

b. Result in substantial soil erosion or the loss of topsoil?

b. Less Than Significant Impact. *The potential for soil erosion on the Project site is low due to its level topography. Construction of the proposed Project would include grading, excavation, and use of fill. Conformance with LABC Sections 91.7000 through 91.7016, which include construction requirements for grading, excavation, and use of fill, would reduce the potential for wind or waterborne erosion. In addition, the LABC requires an erosion control plan that is reviewed by the Department of Building and Safety prior to construction if grading exceeds 200 cubic yards and occurs during the rainy season (between November 1 and April 15). LAWA would be required to prepare an erosion control plan to reduce soil erosion. Construction activities within the Los Angeles Airport/El Segundo Dunes would be limited to the relocation of lighting systems onto existing structures and would result in minimal to no ground disturbance.*

Therefore, impacts related to soil erosion would be less than significant.

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55 State of California, Seismic Hazard Zones, Inglewood Quadrangle, March 25, 1999.

56 State of California, Seismic Hazard Zones, Venice Quadrangle, March 25, 1999.

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?

c. Less Than Significant Impact. *Settlement of foundation soils beneath 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 LAX creates the potential for settlement. The Lakewood Formation also includes some silt and clay layers prone to settlement. However, foundation design features and construction methods can reduce the potential for excessive settlement at LAX.*[57] *As the proposed Project will be utilized by heavy aircraft, the FAA has specific requirements to ensure that the pavement supports the anticipated weights during operations which will be incorporated into the design of the proposed Project. Project design and construction would be required to adhere to engineering and design recommendations of a geological and/or soils report required by LAMC Section 91.7006.2. Construction activities within the Los Angeles Airport/El Segundo Dunes would be limited to the relocation of lighting systems onto existing or modified foundations and would not create a geologic unit or soil that would become unstable.*

Therefore, impacts related to soil settlement would be less than significant.

d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

d. Less Than Significant 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 LAX could be prone to expansion, and some portions of the Lakewood Formation found beneath the eastern portion of LAX, approximately 1,200 feet east of the Project site, may also be prone to expansion due to their high content of clay and silt.*[58] *As proposed Project construction would occur in accordance with the aforementioned FAA Advisory Circulars, which include construction requirements for grading, excavation, and foundation work, the potential for hazards to occur as a result of expansive soils would be minimized. All construction would occur in accordance with the LAMC Sections 91.7001 through 91.7016 and with the City of Los Angeles Department of Building and Safety requirements, which include construction requirements for grading, excavation, and foundation work, and the requirement to prepare a geological and/or soils report. Construction activities within the Los Angeles Airport/El Segundo Dunes would be limited to the relocation of lighting systems onto existing or modified foundations and would result in minimal to no ground disturbance.*

Therefore, impacts related to expansive soils would be less than significant.

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[57] *City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, April 2004.*

[58] *City of Los Angeles, Los Angeles World Airports (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 waste water disposal systems where sewers are not available for the disposal of waste water?

e. No Impact. *The Project site is located in an urbanized area where wastewater infrastructure is currently in place. The proposed Project would not use septic tanks or alternative wastewater disposal systems. Consequently, the ability of on-site soils to support septic tanks or alternative wastewater systems would not be relevant to the proposed Project. Additionally, the proposed Project is not anticipated to generate wastewater.*

Therefore, no impacts related to septic tanks or alternative wastewater disposal systems would occur.

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?

a. Less than Significant Impact. *The proposed Project would generate greenhouse gas (GHG) emissions from vehicle exhaust associated with construction-related activities, including off-road construction equipment, construction worker commute trips, and hauling/vendor truck trips. Construction activities associated with the proposed Project improvements would be anticipated to begin in late 2015 and be completed by the end of 2016, resulting in a year of construction. Similar to criteria pollutant emissions, greenhouse gas emissions associated with the proposed Project would be reduced through the incorporation of Project Design Features, as outlined in Section 2.III, Tables 6 and 7. Construction-related GHG emissions for the proposed Project are associated with construction equipment and vehicle exhaust, as shown in* ***Table 21****. The proposed Project would also result in a minimal change to long-term operations at LAX, resulting in minimal increases to operational GHG emissions, as discussed further below.*

In order to determine significance from greenhouse gas emissions, LAWA uses guidance from the SCAQMD Governing Board. The SCAQMD Governing Board adopted its staff proposal for an interim CEQA GHG significance threshold for industrial projects where SCAQMD is the lead agency. This threshold is 10,000 metric tons of carbon dioxide equivalent ($MTCO_2e$) per year. The SCAQMD has also identified proposed thresholds for residential and commercial developments of 3,000 $MTCO_2e$ per year; however, the threshold was not adopted by the SCAQMD Board and therefore, for the purposes of this analysis, the 10,000 $MTCO_2e$ per year threshold was used. Additionally, SCAQMD recommends that construction emissions be amortized over the lifetime of a proposed project, which is assumed to be 30 years. As shown in Table 21, the amortized construction CO_2e over the life of the proposed Project is equal to 109 $MTCO_2e$ per year. Construction-related significance is not determined on an individual basis for GHG emissions; rather, it is evaluated based on significance of the combined construction- and operations-related GHG emissions for the proposed Project.

Table 21: Constriction-Related Greenhouse Gas Emissions

Emission Source	2016 CO_2e (Metric Tons)
On-site Equipment	663.82
On-site Trucks	6.48
Off-site Deliveries/Worker Trips	794.10
Pavement Crushing	0.35
Aircraft Taxi Times during Construction	1,797.65
Total	3,262.40
30 year Amortized Total	108.75

SOURCE: Ricondo & Associates, Inc., February 2015.
PREPARED BY: Ricondo & Associates, Inc., February 2015.

The proposed Project would not increase operations at LAX; as such, changes in emissions from aircraft operations in 2016 as compared to the 2013 existing conditions, are due to increased travel demand and changes in aircraft fleet mixes that are projected to occur by 2016 irrespective of the proposed Project. Therefore, in addition to the 2016 With and Without Project comparison, emissions for 2013 existing and 2013 With Project conditions were also compared, even though the Project would not be completed until 2016. Therefore, this analysis compares emissions from the following scenarios: the 2013 With Project compared to the 2013 existing conditions, and the 2016 With Project compared to the 2016 Without Project scenario. As only aircraft emissions would be altered by the proposed Project, emissions from ground support equipment (GSE), auxiliary power units (APU), and stationary sources were not analyzed. GHG emissions for the 2013 With Project scenario compared to the 2013 existing conditions, along with amortized construction emissions, are shown in ***Table 22****. Amortized construction emissions along with the incremental 2016 operational emissions are shown in* ***Table 23****.*

Table 22: 2013 With Proposed Project Greenhouse Gas Emissions Compared to 2013 Existing Conditions

EMISSION SOURCE	2013 EXISTING CO_2E (METRIC TONS)	2013 WITH PROJECT CO_2E (METRIC TONS)	INCREMENTAL DIFFERENCE CO_2E (METRIC TONS)
Aircraft	742,112	742,440	328
Construction (Amortized)	-	109	109
Total Net			**437**
SCAQMD GHG Threshold for Industrial Projects			10,000
Above the Threshold?			**No**

SOURCE: Ricondo & Associates, Inc., February 2015.
PREPARED BY: Ricondo & Associates, Inc., February 2015.

Table 23: 2016 Future With Proposed Project Greenhouse Gas Emissions Compared to 2016 Future Without Proposed Project Conditions

EMISSION SOURCE	2016 WITHOUT PROJECT CO_2E (METRIC TONS)	2016 PROPOSED PROJECT CO_2E (METRIC TONS)	INCREMENTAL DIFFERENCE CO_2E (METRIC TONS)
Aircraft	798,749	799,092	342
Construction (Amortized)	-	109	109
Total Net			**451**
SCAQMD GHG Threshold for Industrial Projects			10,000
Above the Threshold?			**No**

SOURCE: Ricondo & Associates, Inc., February 2015.
PREPARED BY: Ricondo & Associates, Inc., February 2015.

As shown, GHG emissions resulting from the proposed Project construction and operations would not have a significant impact on climate change based on a significance threshold of 10,000 $MTCO_2e$ per year. Therefore, impacts to GHG emissions would be less than significant, and no mitigation is required.

b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

b. Less than Significant Impact. *As discussed in Section 2.VII.a above, GHG emissions that would occur from construction and operations of the proposed Project would be less than the SCAQMD thresholds of significance. As a result, GHG emissions from the proposed Project would be consistent with the Global Warming Solutions Act of 2006, also known as AB 32 (i.e., reduction of State-wide GHG emissions to 1990 levels by 2020). Additionally, the proposed Project would comply with the City of Los Angeles Green Building Code (LAGBC) Tier 1 requirements, and the LAWA Sustainability Plan.*

The proposed Project would be in conformance with all relevant plans, policies, and regulations relative to GHG emissions. Therefore, the proposed Project would not result in a significant impact to GHG emissions or climate change.

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 the reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?

a-b. Less Than Significant Impact. *The proposed Project would not require changes in any routine transport, use, or disposal of hazardous materials associated with operations at LAX. Construction of the proposed Project may involve the use of potentially hazardous materials, including vehicle fuels, oils, and transmission fluids. The quantities of these materials would not be significantly different than any other construction project of similar size. Furthermore, LAX has hazardous material spill protocols that would be implemented during construction and operations. During operations, the likelihood of exposure to hazardous materials from spills and/or releases would be similar to existing conditions. Compliance with the existing federal, state, and local regulations would reduce the potential for accidental release of hazardous materials. LAWA also requires all contractors to develop a program to coordinate all efforts associated with the handling of contaminated materials encountered during construction.*

Therefore, impacts related to the routine transport, use, or disposal of hazardous materials or creation of a significant hazard to the public or environment through the reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment would be less than significant.

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

c. Less than Significant Impact. *Emerson Manor Elementary school in the City of Los Angeles community of Westchester is located approximately 1,700 feet (0.33 miles) from the Project site. Analyses performed by the CARB indicate that providing a separation of 1,000 feet from diesel sources and high traffic areas substantially reduces diesel particulate concentrations and public exposure.[59] However, as part of the air quality analysis, a human health risk assessment was conducted to determine the effects of hazardous emissions on local residents, school children and workers (see Section III.d), which determined that the proposed Project would have no significant impacts on human health. As detailed in Section 2.III, Project Design Features regarding general air quality management and construction air quality management would be included in the bid documents of the proposed Project. These Project Design Features would reduce potential air quality impacts as a result of implementation of the proposed Project.*

[59] California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective*, 2005.

As such, given the distance from the Project site and incorporation of the above stated Project Design Features, compliance with applicable laws and regulations, potentially significant impacts related to hazardous materials in the vicinity of a school would be reduced to a less than significant level.

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?

d. No Impact. *Government Code Section 65962.5 requires that the California Department of Toxic Substances Control (DTSC) compile and maintain a list of all hazardous substance release sites pursuant to Section 25356 of the Health and Safety Code. DTSC's list of sites that meet the criteria of HSC § 25356 has been compiled into a "Cortese" list. A review of this list has determined that the Project site is not located on a DTSC hazardous materials site.*[60]

Therefore, the proposed Project would have no impacts associated to hazardous materials sites that would result in 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?

e. Less Than 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 Los Angeles 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. Additionally, the proposed Project would bring Runway 6R-24L into compliance with FAA runway design and safety standards which would enhance public safety and protection of the public. Construction contractors would also be required to develop and maintain construction safety plans.*

The improvements associated with the Project would meet all applicable safety related design standards and therefore would not result in a significant 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 project area?

f. No Impact. *The proposed Project is located approximately two miles northwest of Hawthorne Airport, the closest private airstrip. Although the proposed Project site is located near this private airstrip, as LAX is a larger*

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[60] *California Department of Toxic Substances Control, available at: www.envirostor.dtsc.ca.gov/public/. Accessed December 3, 2014.*

airport, it is not in the flight path of airplanes using Hawthorne Airport. The proposed Project will not cause any long-term changes in departures and arrivals runway utilization for Hawthorne Airport.

Therefore, people residing or working in the Project area within the vicinity of a private airstrip will not be exposed to safety hazards from the proposed Project.

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

g. 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. Construction of the proposed Project may result in temporary closures to local Airport circulation roads at LAX. However, this possible obstruction would be temporary and occur only at limited access points at any one time. Other areas of LAX would be kept clear and unobstructed at all times during construction in accordance with FAA, State Fire Marshal, and Los Angeles Fire Code regulations. Local access would be adequately maintained during construction through detours and diversions and emergency access would be coordinated through LAWA's Ground Transportation/Construction Coordination Office. All construction contractors will be required to comply with LAWA policies concerning construction access, which is overseen by LAWA's Ground Transportation/Construction Coordination Office.*

Therefore, impacts related to emergency access and response plans would be less than significant.

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?

h. No Impact. *The proposed Project is located in a developed, paved, urbanized area. There are no wildlands located within the Project site. In addition, the Project site is not within the City of Los Angeles Wildfire Hazard Area, as delineated in the Safety Element of the General Plan.*[61] *Consequently, the proposed Project would not expose people or structures to significant loss, injury, or death due to wildland fires. Therefore, no impacts related to wildland fires would occur.*

[61] 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.

IX. Hydrology and Water Quality

Would the project:

a. Violate any water quality standards or waste discharge requirements?

a. Less Than Significant Impact. *The proposed Project would relocate existing taxiways, shift runway pavement, construct new blast pads and realign service roads, resulting in an increase of approximately one acre of impervious area. However, as the existing site is mostly paved, the proposed Project would not change the overall topography or place structures that would significantly change the established drainage patterns. Existing impervious/pervious areas and locations within the Project drainage area were reviewed to evaluate potential direct and indirect impacts to surface water resources due to stormwater runoff. Direct effects could include increased turbidity and erosion during construction; indirect effects can occur when changes in the planned development of an area result in increased water needs or reduced water quality.*

The agency with jurisdiction over water quality at LAX is the Los Angeles Regional Water Quality Control Board (LARWQCB). The LARWQCB developed the Water Quality Control Plan Basin Plan for the Los Angeles Region, which guides conservation and enhancement for water resources and establishes beneficial uses for inland surface waters, tidal prisms, harbors, and groundwater basins within the region. In addition, the Clean Water Act prohibits the discharge of pollutants to waters of the U.S. from any point source unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. In accordance with the Clean Water Act, LAX is within the area covered by NPDES Permit No. CAS004001 issued by the LARWQCB. As part of the municipal stormwater program associated with the NPDES Permit, LARWQCB adopted the Standard Urban Stormwater Mitigation Plan (SUSMP) to address stormwater pollution from new development and redevelopment projects. The SUSMP is a model guidance document for use by permittees to select post-construction Best Management Practices (BMPs).[62] *However, in November 2012, changes to the New Development and Significant Redevelopment section of the NPDES Permit puts primary emphasis on Low Impact Development (LID) practices over treatment control BMPs. Furthermore, the City of Los Angeles has implemented its LID Ordinance, requiring onsite stormwater management techniques that comply with its "Low Impact Development Best Management Practices Handbook." Although the proposed Project would be constructed in accordance with the NPDES Permit and the City's SUSMP/LID requirements, construction would be specifically covered under the state's general Construction Permit based on a Notice of Intent (NOI) to be filed by LAWA with SWRCB.*

Construction of the Project could result in the potential for short-term impacts to surface water (i.e., stormwater) quality, due to grading and other temporary surface disturbance. A Project-specific Storm Water Pollution Prevention Plan (SWPPP) would address construction-related surface water quality impacts and delineate water quality control measures to address those impacts. Control measures for the proposed Project, including BMPs and LID practices, could include, but are not limited to, the following: soil stabilization (erosion control) techniques; sediment control methods; contractor training programs; material transfer practices; waste

[62] BMPs are defined in the SUSMP as any program, technology, process, siting criteria, operational methods or measures, or engineered systems, which, when implemented, prevent, control, remove or reduce pollution.

management practices; roadway cleaning/tracking control practices; vehicle and equipment practices; and fueling practices. Additional measures may also include but are not necessarily limited to drain inserts/water quality inlets in combination with the media filters, or other equivalent measures, as determined adequate by the Los Angeles Bureau of Sanitation in the final SUSMP. All BMPs would be required to be designed in accordance with the LAWA Design and Construction Handbook, which requires projects to be in compliance with the City's LID Ordinance and includes technical approaches and BMPs to reduce stormwater pollutants in first-flush flows.

Operations would continue on Runway 6R-24L, which currently generates unique pollutants, such as heavy metals, organic compounds, tire materials, and fuel exhaust. However, the amount of pollutants during operations would not be greater than current conditions since the proposed Project would not increase operational capacity or the number or type of aircraft operations. Furthermore, pollutant discharge into the stormwater drainage system is regulated at LAX and managed by LAWA, and all operations would be required to follow established measures to meet the requirements of the NPDES permit. Appropriate BMPs will be defined through compliance with the City's SUSMP/LID requirements.

Therefore, as the Project would not violate water quality standards or waste discharge requirements, potential impacts are less than significant.

b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., 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)?

b. Less Than Significant Impact. *As indicated in the LAX Master Plan EIR, LAX is located within the West Coast Groundwater Basin. Groundwater beneath LAX is not used for municipal or agricultural purposes. Construction and operations of the proposed Project would not require the use of groundwater and, thus, would not deplete groundwater supplies. In addition, since the Project site is mostly developed, no notable adverse change in the amount of permeable areas would occur.*

Therefore, as the Project would not significantly affect groundwater, potential impacts are less than significant.

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 that 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?

c-f. Less than Significant Impact. *The proposed Project is within the jurisdiction of the LARWQCB. Under Section 303(d) of the CWA, the LARWQCB is responsible for protecting surface waters and groundwater from*

both point and non-point sources of pollution within the project drainage area and for establishing water quality standards and objectives in its Basin Plan that protect the beneficial uses of various waters.

The proposed Project is not proposing any activities which would result in an alteration of a river or stream course. The proposed Project would involve grading, excavation, and paving in order to relocate existing taxiways, shift runway pavement, construct new blast pads and realign service roads. The proposed Project would result in an increase of impervious surfaces of approximately one acre. The construction of the proposed Project would not change the topography or place structures that would change the established drainage patterns. The proposed Project would not significantly affect stormwater drainage systems, provide additional sources of polluted runoff, nor substantially degrade water quality. In addition, the existing drainage system within the North Airfield at LAX is sized to accommodate runoff from all impervious surfaces in the vicinity of the Project site. As such, the Project would not materially alter existing drainage patterns or surface water runoff rates or quantities.

Consistent with existing conditions, the proposed Project, including potential staging areas associated with Project construction, would continue to flow into five stormwater Sub-Basins: Argo, Culver, Dominguez, Pershing-Imperial, and Vista del Mar Sub-Basins. Although the proposed Project would include construction within both the Argo and Pershing-Imperial drain sub-basins, impacts would be mitigated through construction BMPs defined in the Project's construction SWPPP and operational BMPs defined through compliance with the City's LID Ordinance, as discussed in Section IX.a above; therefore, there are no anticipated impacts to drainage on any drainage sub-basins. Accordingly, the proposed Project would not result in substantial erosion or siltation or a substantial increase in the rate or amount of surface runoff in a manner that would result in flooding on- or off-site and would have a less than significant impact relative to the increase in storm water runoff or degradation of water quality.

g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

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

g-h. No Impact. *A review of the most current Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for the LAX area (September 26, 2008) indicates that no 100-year floodplain areas are located within the proposed Project boundaries.*[63] *Further, the proposed Project does not involve the construction of housing. Therefore, the Project will have no impact regarding the placement of structures within a 100-year flood hazard area.*

[63] Federal Emergency Management Agency, *Flood Insurance Rate Map, Panels 1760 and 1780 of 2350, Map Number 06037C1780F*, September 26, 2008.

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?

i-j. No Impact. *The Project site is not delineated as a potential inundation or tsunami affected area on the California Emergency Management Agency (CEMA) Tsunami Inundation Map for Emergency Planning.[64] Further, the proposed Project is not located within the downstream influence of any levee or dam. Seiches and mudflows are not a risk as the Project site is located on, and is surrounded by, relatively level terrain and urban development.*

Thus, 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. Similarly, no impacts resulting from inundation by seiche, tsunami, or mudflow would occur.

X. Land Use and Planning

Would the project:

a. Physically divide an established community?

a. No Impact. *The proposed Project would be developed entirely within the existing Airport property. Land uses surrounding the Project site include airport uses. No land use acquisition or new facilities are proposed in the surrounding communities that would disrupt or divide the physical arrangement of an established community. Therefore, the proposed Project will have no potential to 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?

b. Less than Significant Impact. *Land use designations and development regulations applicable to LAX, including the Project site, are set forth in the LAX Plan, the LAX Specific Plan, and the Los Angeles Airport/El Segundo Dunes Specific Plan. The Project site is located within areas designated in the LAX Plan as "Airport Airside," "Airport Landside," and "Open Space." Within the LAX Specific Plan, the Project site is in an area designated within the Airport Airside subarea, zoned "LAX – A Zone, Airport Airside Sub-Area" and the Airport Landside subarea, zoned "LAX – L Zone, Airport Landside Sub-Area." The proposed Project would be compatible with existing on-site uses. No change in zoning and/or LAX Master Plan or Specific Plan land use designation is anticipated due to the proposed Project. Furthermore, the proposed Project would not increase overall capacity at LAX, and would not conflict with established goals of the LAX Master Plan or Specific Plan.*

[64] California Emergency Management Agency, Tsunami Inundation Map for Emergency Planning, Venice Quadrangle, March 1, 2009.

A small area of the western portion of the Project site, estimated at approximately 10 acres, is located within the California Coastal Zone and the Los Angeles Airport/El Segundo Dunes. Modification of the MALSR will involve shifting light bars approximately 400 feet to the east to correspond with the new runway landing threshold location. This essentially reduces the westerly extent of the MALSR west of LAX. This requires the removal of the two western-most light stations (i.e., the light stations closest to the Pacific Ocean), and the relocation of light stations onto either existing platforms or onto runway or blast pad pavement. The improvements to the lights stations may also include the replacement of lights on existing or modified foundations, and installation of new conduit. Figure 10 shows the existing and proposed MALSR system. Construction impacts are considered short-term and would include implementation of LAX Master Plan mitigation measures and commitments to minimize impacts to the aesthetic coastal environment.

Operations of the proposed Project would not have significant impacts on the Coastal Zone. As discussed in Section 2.IX, Hydrology and Water Quality, the implementation of BMPs, LID practices, and pollution prevention plans would protect the surface water quality of receiving waters during construction of the proposed Project. As such, the construction and operation of the proposed Project would not have a significant effect on Coastal Act policies.

The Los Angeles Airport/El Segundo Dunes are subject to the Los Angeles Airport/El Segundo Dunes Specific Plan. This Specific Plan applies to the portion of the LAX Plan area that is bounded by Napoleon and Waterview Streets on the north, by Imperial Highway on the south, by Pershing Drive on the east, and by Vista del Mar on the west. This Specific Plan was created to restore and preserve the natural ecology of the El Segundo Dunes and native dune-dependent species, such as the endangered El Segundo Blue Butterfly. The Los Angeles Airport/El Segundo Dunes Specific Plan allows for the maintenance and development of Airport navigational and safety facilities. Development of the proposed Project would involve minimal ground disturbance and as discussed in Section 2.IV would not impact any sensitive or listed plants or wildlife with mitigation incorporated. Therefore the proposed Project would not conflict with the Los Angeles Airport/El Segundo Dunes Specific Plan.

The proposed Project would not conflict with the applicable coastal zone management and planning policies contained in Chapter 3 of the Coastal Act[65] for the following reasons:

1. *The improvements that would occur under the proposed Project would not preclude or restrict public access to the coast. The portion of the Coastal Zone located in the Project site is currently closed to the public or limited to persons with legitimate Airport business; therefore, no public coastal zone access is located within the Project site.*

2. *As stated above, the portion of the Coastal Zone located in the Project site is currently closed to the public or limited to persons with legitimate Airport business; therefore, no public coastal zone access or recreational use is located within the Project site. Recreation would not be consistent with current and proposed uses of the subject property, and would not impact coastal recreation.*

3. *No construction in or near marine areas would occur under the proposed Project; therefore, the proposed improvements would not adversely affect the marine environment.*

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[65] California Coastal Commission, *California Coastal Act of 1976*, accessed online: http://www.coastal.ca.gov/coastact.pdf, September 2014.

4. *As discussed in Section 2.IX, Hydrology and Water Quality, the implementation of BMPs, LID practices, and pollution prevention plans would protect the surface water quality of receiving waters during operations of the proposed Project. Therefore, the proposed Project would not degrade the biological productivity or the quality of coastal waters.*

5. *As described in Section 2.IV, Biological Resources, development of the proposed Project would not adversely impact any federally-listed or candidate fish, wildlife, or plant species. Operations of the proposed Project would be limited to previously disturbed areas of the airfield and would not result in impacts to any plant resources. Although two federally-listed wildlife species are known to frequent an area south of the APE (within the Los Angeles Airport/El Segundo Dunes), through implementation of mitigation measures (as discussed in Section 2.IV.a-b), construction, operations, and maintenance of the proposed Project would not affect either species.*

6. *LAX is adjacent to the Los Angeles Airport/El Segundo Dunes, which is considered an Environmentally Sensitive Habitat Area (ESHA) based on its importance as a habitat for the federally-listed endangered El Segundo blue butterfly. As discussed in Section 2.IV, Biological Resources, mitigation measures are in place to prevent adverse effects to this ESHA. Construction, operations, and maintenance of the proposed Project would not affect this ESHA.*

7. *As described in Section 2.I, Aesthetics, the improvements under the proposed Project would not significantly affect views to and along scenic coastal areas; development would be visually compatible with the character of surrounding areas.*

Temporary impacts of removal, deactivation and replacement of the light stations and light station equipment would not diminish the value of the coastal resources in the Los Angeles Airport/El Segundo Dunes. The proposed Project is consistent with the coastal resource protection policies of the California Coastal Management Program, as outlined above. In a letter dated February 19, 2015, the California Coastal Commission has issued a Negative Determination for the proposed Project, signifying that no adverse effects to coastal resources will occur (see ***Appendix E****). Therefore, the proposed Project is expected to have less than significant impacts on coastal resources.*

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

c. Less than Significant Impact with Mitigation Incorporated. *A small area of the western portion of the Project site, estimated at approximately 10 acres, is located within the California Coastal Zone and the Los Angeles Airport/El Segundo Dunes. The Los Angeles Airport/El Segundo Dunes is considered an Environmentally Sensitive Habitat Area (ESHA) based on its importance as a habitat for the federally-listed endangered El Segundo blue butterfly. The western portion of the DSA, as described in Section 2.IV, would occur within the ESHA. The proposed Project would involve minor modifications to existing navigational aids located within the Los Angeles Airport/El Segundo Dunes. As discussed in Section 2.IV, Biological Resources, Project-specific mitigation measures would be implemented to prevent adverse effects to this ESHA. Operations and maintenance of the proposed Project would not affect this ESHA.*

Development of the proposed Project would not adversely impact any federally-listed or candidate fish, wildlife, or plant species or conflict with a habitat conservation plan. Operations of the proposed Project would be limited to previously disturbed areas of the airfield and would not result in impacts to any plant resources or habitat conservation plans. Although two federally-listed wildlife species are known to frequent an area south of

the APE construction, operations, and maintenance of the proposed Project would not affect either species or any habitat conservation plans for these species.

Therefore, with implementation of the mitigation measures identified in Section 2.IV, the proposed Project would have less than significant impacts on any applicable habitat conservation 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?

a-b. No Impact. *The State Mining and Geology Board classifies mineral resource zones throughout the State. As indicated in the LAX Master Plan EIR, the Project site is contained within an MRZ-3 zone, which represents areas with mineral deposits whose significance cannot be evaluated from available data.*[66] *The Project site is within the boundaries of LAX 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 uses. Therefore, no impacts to the availability of mineral resources would occur as a result of the Project.*

XII. Noise

Would the project result in:

a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

a. Less than Significant Impact. *Construction and operations of the proposed Project would result in both temporary and long-term noise changes at and around LAX. Many government agencies have established noise standards and guidelines to determine impacts associated with noise and ground-borne vibration. A noise increase above these noise standards would result in a significant impact. A detailed methodology on noise impacts is presented in* ***Appendix F****.*

[66] *City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.17, April 2004.*

SIGNIFICANCE THRESHOLDS

The following CEQA thresholds of significance are included in the City of Los Angeles CEQA Thresholds Guide for the assessment of community noise exposure and are applicable to the proposed Project construction and operational noise impacts analysis.

A significant noise impact from construction would occur if the direct and indirect changes in the environment that may be caused by the project would potentially result in one or more of the following future conditions:

- *Construction activities lasting more than one day would exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use;*
- *Construction activities lasting more than 10 days in a three-month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use; or,*
- *Construction activities would exceed the ambient exterior noise level by 5 dBA at a noise-sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.*

A significant noise impact from airport operations would occur if:

- *Noise levels at a noise sensitive use attributable to airport operations exceed 65 dB Community Noise Equivalent Level (CNEL) and the project increases ambient noise levels by 1.5 dB CNEL or greater.*

PROJECT NOISE LEVELS

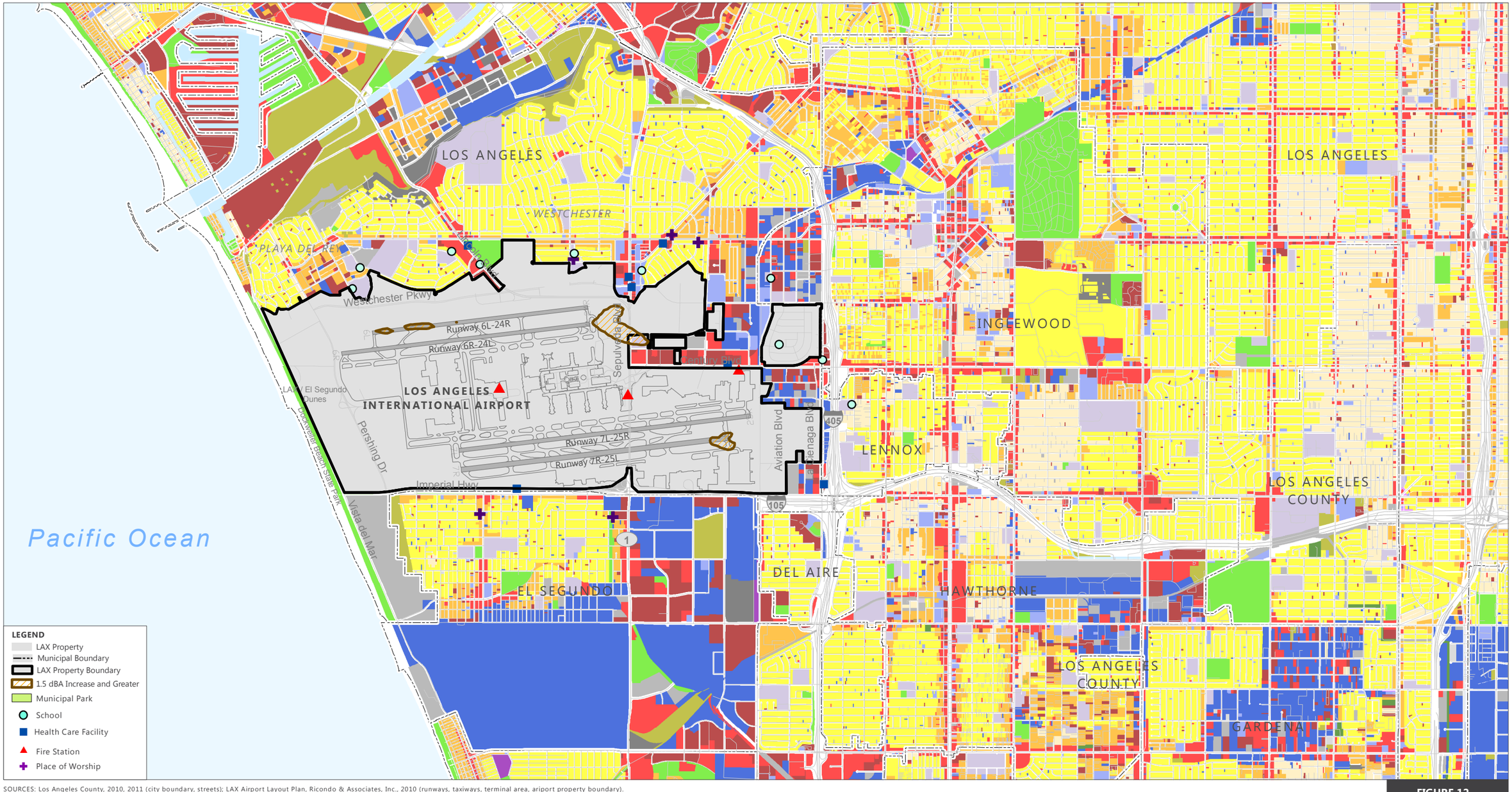
Construction

Construction of the proposed Project would require construction activities within the Runway 6R-24L RSA on both ends of the runway, and a temporary reduction in runway length during each phase of construction. Construction would be conducted in two distinct phases, estimated at 6 months each, covering the entire 2016 calendar year. The first phase of construction would focus on the RSA improvements to the Runway 24L end; once those improvements are completed, construction of the RSA improvements to the Runway 6R end would commence. While closure of the runway is not anticipated during construction, the proposed Project would require connecting taxiways to be intermittently closed. As Runway 6R-24L is the primary departures runway on the north airfield, some aircraft operations on this runway would need to be shifted to other runways during this period based on a runway length analysis, as discussed in Appendix A. Potential noise impacts during the construction period were evaluated based on the potential increase in aircraft noise on neighboring communities due to modified operations when RSA improvements are being constructed on Runway 6R-24L. For determination of aircraft noise effects during the construction year, CNEL contours were developed using the latest version of the FAA's Integrated Noise Model (INM) available at the time this Initial Study was prepared (INM, Version 7.0d, released on May 30, 2013). During the construction period, a shift in runway use would cause a temporary shift in noise contours compared to existing conditions, as shown in ***Figure 12****. The primary areas that would experience a significant noise increase are located directly northeast and southeast of Runway 24L, and on the east end of Runway 7L-25R. These areas that would experience an increase of 1.5 dB CNEL or higher are primarily located within the LAX property boundary, just east of Terminal 1 and occupied by automobile parking, a hotel and office buildings that are not noise sensitive in nature. This increase would not impact any noise sensitive facilities or residential dwellings. In accordance with the City of Los Angeles CEQA Thresholds Guide, a significant impact would occur if noise sensitive areas would experience an increase of CNEL*

1.5 dB or more as compared with the 2016 Without Project scenario. Therefore, aircraft noise impacts during the construction period would be less than significant.

In addition to the shift in aircraft operations during construction, construction activities typically generate noise from the operation of equipment required for demolition and construction of various facilities. As with all LAWA projects, standard project design features aimed at reducing noise impacts would be incorporated into the project, including, but not limited to: the use of noise control devices on construction equipment; replacing noisy equipment; and locating construction staging as far away from noise-sensitive uses as feasible.

Noise impacts from on-site construction and construction trucks staging were evaluated by determining the noise levels generated by different types of construction activity, calculating the construction-related noise levels at nearby sensitive receptor locations, and comparing these construction-related noise levels to existing ambient noise levels (i.e., noise levels without construction noise). ***Figure 13*** *depicts the construction laydown and construction staging areas, and closest noise-sensitive receptor areas. Estimated noise levels from typical construction equipment are shown in* ***Table 24****.* ***Table 25*** *compares the combined construction and background noise to the significance thresholds. As shown construction equipment nose impacts to surrounding areas would be less than significant.*



SOURCES: Los Angeles County, 2010, 2011 (city boundary, streets); LAX Airport Layout Plan, Ricondo & Associates, Inc., 2010 (runways, taxiways, terminal area, ariport property boundary).
South California Association of Governments (land use), 2008.
PREPARED BY: Ricondo & Associates, Inc., March 2015.

FIGURE 12

CNEL 1.5 dBA or Greater Increase During Construction Period

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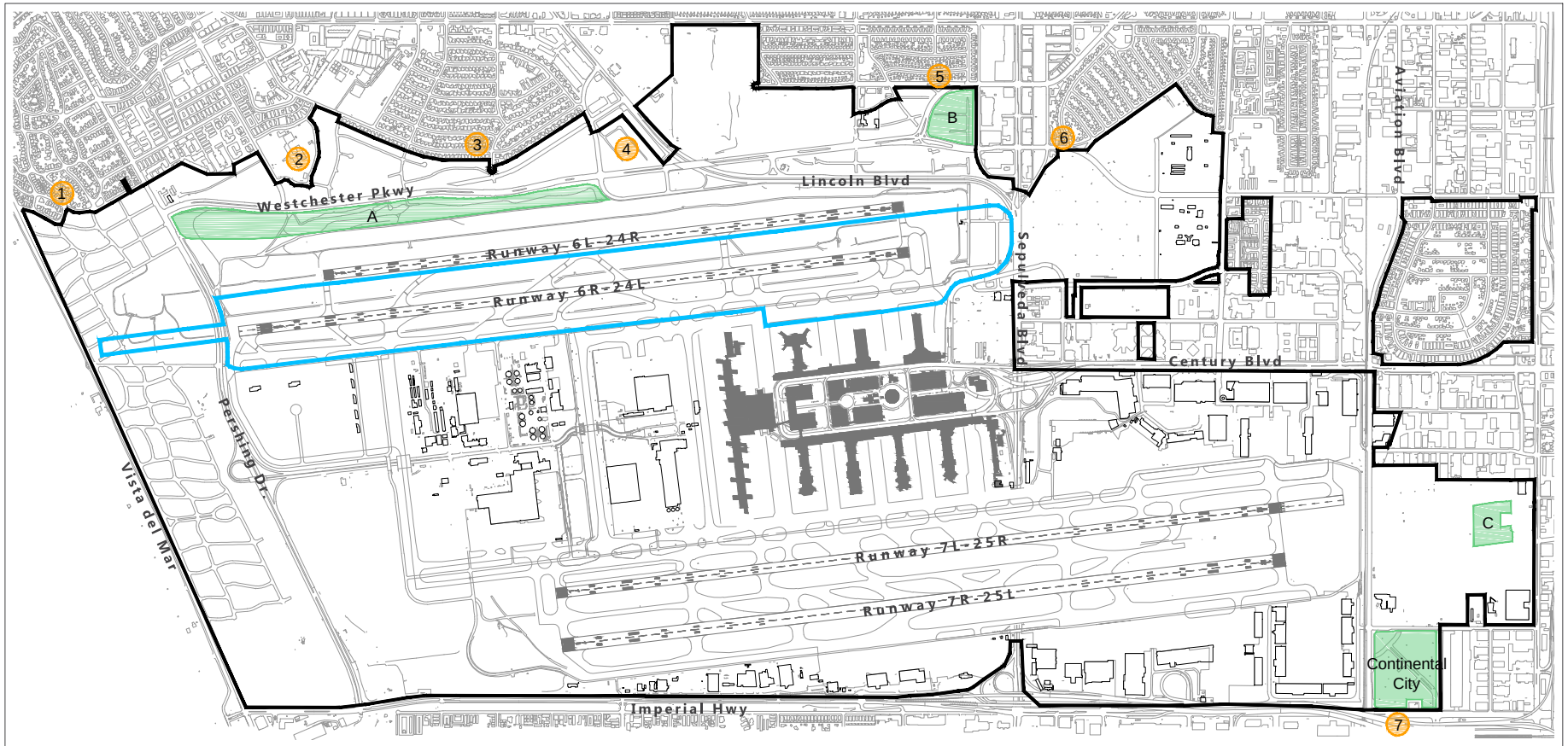

LEGEND

- LAX Property Boundary
- 1 Sensitive Noise Receptor Area
- A Potential Construction Staging Area
- Construction Area

SENSITIVE NOISE RECEPTOR AREA

1. Residential Uses in Playa Del Rey
2. Saint Bernard High School
3. Residential Uses Along Southern Edge of Westchester
4. Park West Apartments Northwest on Lincoln Blvd. South of La Tijera Blvd.
5. Residential Uses Along West 88th Street Between Liberator Ave. and Sepulveda Westway
6. Park Westchester Condominiums
7. Residential Uses within Del Aire

SOURCE: Landrum & Brown, *Los Angeles International Airport, Airport Layout Plan,* 2005; Ricondo & Associates, Inc., September 2014.
PREPARED BY: Ricondo & Associates, Inc., March 2015.

FIGURE 13

NORTH 0 2,500 ft.

Sensitive Noise Receptor Areas and Potential Construction Staging Areas

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Table 24: Estimated Construction Equipment Noise Levels

EQUIPMENT TYPE	MAX. NOISE LEVEL @ 50 FEET (DBA)
Backhoe	78
Concrete Saw	90
Dozer	82
Flat Bed Truck	74
Front End Loader	79
Grader	85
Paver	77
Pickup Truck	75
Roller	80
Scraper	84

SOURCE: Ricondo & Associates, Inc., September 2014.
PREPARED BY: Ricondo & Associates, Inc., September 2014.

Table 25: Construction Staging Noise Levels

ID #	BACKGROUND CONDITIONS L_{EQ} (DB)	DISTANCE FROM CONSTRUCTION (FEET)	CONSTRUCTION EQUIPMENT L_{EQ} (DB)	TOTAL[1/] L_{EQ} (DB)	SIGNIFICANCE THRESHOLD	ABOVE THRESHOLD?
1	65.3	650	53.8	65.6	70.3	No
2	65.5	1,460	46.8	65.6	70.5	No
3	64.5	500	56.1	65.1	69.5	No
4	63.5	2,300	54.8	64.1	68.5	No
5	63.0	145	65.0	67.1	68.0	No
6	70.2	2,000	56.0	70.4	75.2	No
7	67.3	800	52.0	67.4	72.3	No

NOTE:

1/ Background and construction noise.

SOURCE: Ricondo & Associates, Inc., September 2014.
PREPARED BY: Ricondo & Associates, Inc., September 2014.

Operations

The proposed Project would slightly change the long-term operational conditions at LAX by shifting the Runway 24L runway end approximately 800 feet to the east. However, the existing Runway 24L threshold would remain in its current location through the implementation of declared distances; therefore, the aircraft arrival point on Runway 24L would not change. The proposed Project would not change the number or type of aircraft operations at LAX, nor would it enhance airport capacity or permanently alter existing or planned airport operations. The number of aircraft operations, time of day of operations, fleet mix, and aircraft operational weights at LAX would not change under the proposed Project; these would remain the same as the 2016 Without Project conditions. However, under the proposed Project, flight tracks on Runway 6R-24L would be slightly shifted to correspond to the proposed departure and arrival points; flight tracks for all other runways would not change. For determination of aircraft noise effects, CNEL contours were developed using the INM to reflect forecast conditions for the 2016 Without Project and With Project conditions.

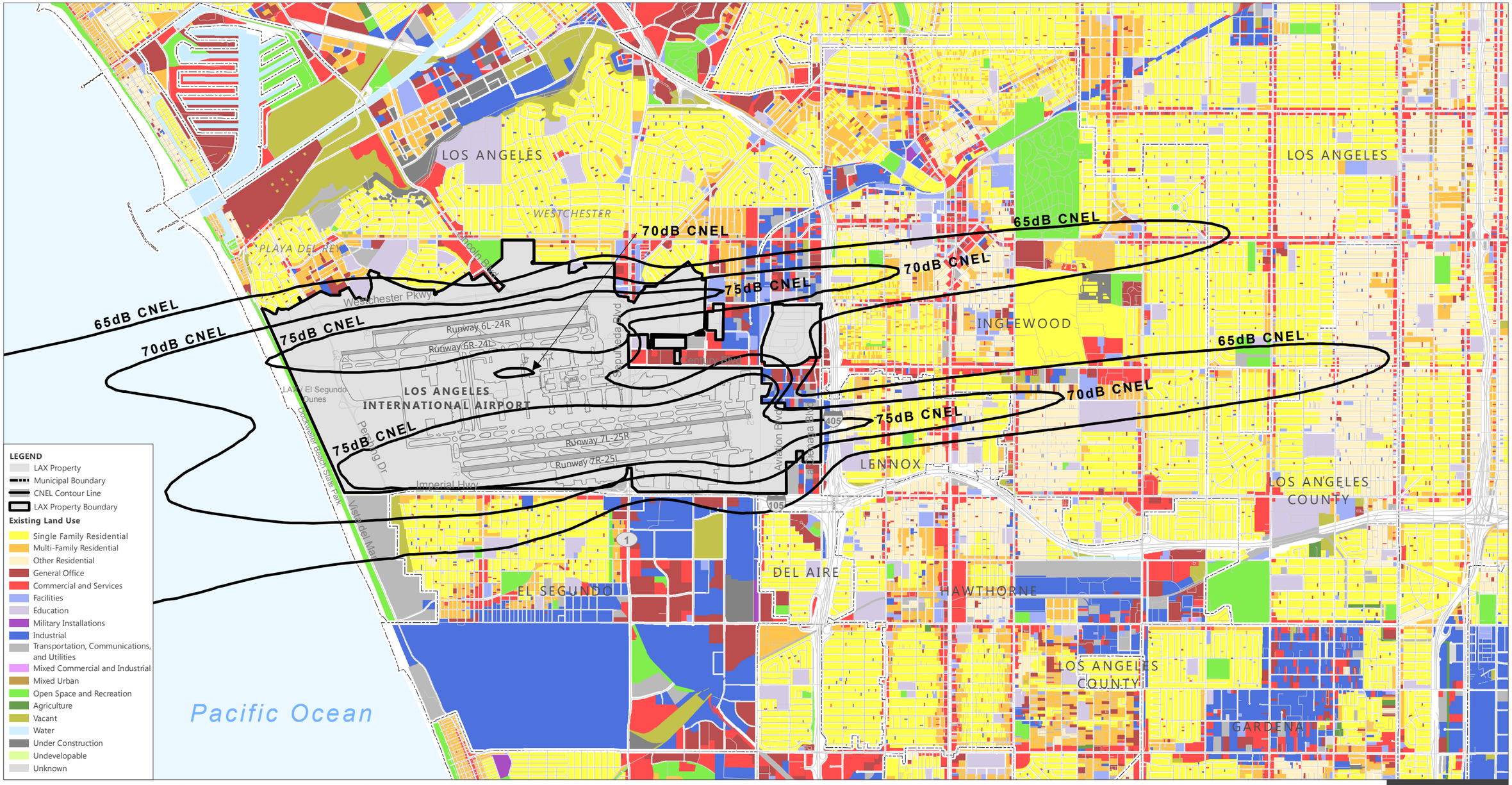
Under the proposed Project, "heavy" aircraft departures on Runway 6R-24L would depart from the proposed runway end, approximately 800 feet east of the current departure location.[67] *Future (2016) CNEL contours for the proposed Project are presented in* ***Figure 14****.* ***Figure 15*** *identifies the areas that would experience a 1.5 dB CNEL or greater increase in noise (at or above 65 dB CNEL) in 2016. The primary areas that would experience an increase of 1.5 dB CNEL or higher in 2016 are located to the northeast and southeast of Runway 24L. These areas that would experience an increase of 1.5 dB CNEL or higher are primarily located within the LAX property boundary, just east of Terminal 1 and occupied by automobile parking, a hotel and office buildings that are not noise sensitive in nature. This increase would not impact any residential dwellings or sensitive noise facilities; therefore, impacts would be less than significant.*

b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

b. Less Than Significant Impact. *The proposed Project would improve the Runway 6R-24L RSA at LAX and would be unlikely to result in an increase in groundborne noise or vibration. Groundborne noise is generally the result of underground construction activity, such as tunneling. The proposed Project does not include these types of activities and it is unlikely that groundborne noise would result. The type of equipment that would be used during project construction would be unlikely to create excessive groundborne vibration. Construction activities associated with the proposed Project would include grading, scraping, compacting soil, and other activities associated with a project of this type.*

These activities would occur in areas already exposed to high levels of noise and any increase in airborne noise and vibration impacts would be temporary during the construction period. Therefore, exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels from the proposed Project would be less than significant.

[67] The weight category "heavy" is defined as any aircraft weighing more than 255,000 pounds, including the Boeing 747 and Airbus 340.



SOURCES: Los Angeles County, 2010, 2011 (city boundary, streets); LAX Airport Layout Plan, Ricondo & Associates, Inc., 2010 (runways, taxiways, terminal area, ariport property boundary).
South California Association of Governments (land use), 2008.
PREPARED BY: Ricondo & Associates, Inc., March 2015.

FIGURE 14

Future (2016) Proposed Project
CNEL Contours and Land Use

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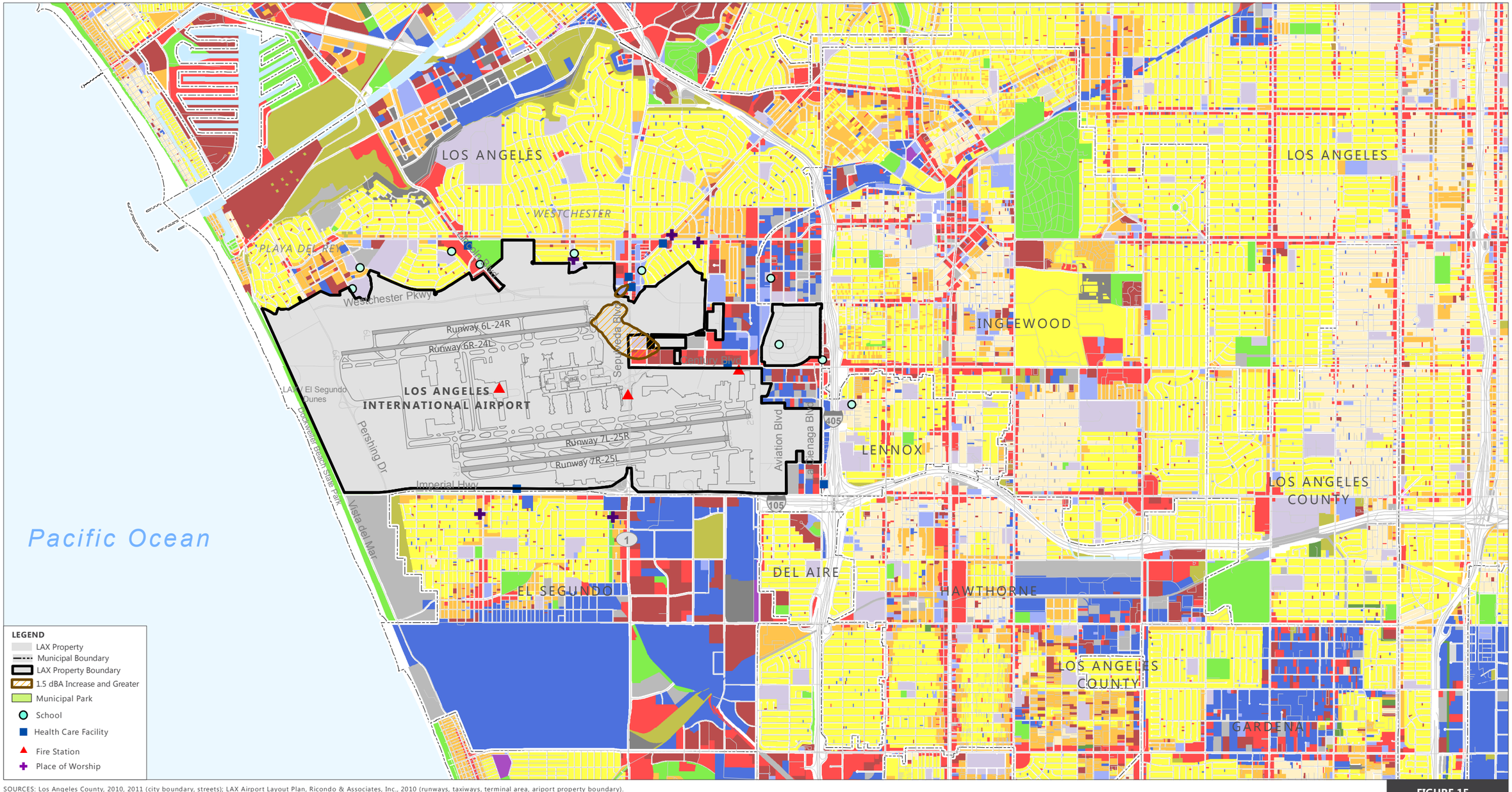

SOURCES: Los Angeles County, 2010, 2011 (city boundary, streets); LAX Airport Layout Plan, Ricondo & Associates, Inc., 2010 (runways, taxiways, terminal area, ariport property boundary).
South California Association of Governments (land use), 2008.
PREPARED BY: Ricondo & Associates, Inc., March 2015.

NORTH 0 4,000 ft.

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FIGURE 15

Future (2016) Proposed Project
CNEL 1.5 dBA or Greater Increase

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c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

d. A substantial temporary periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

c-d. Less Than Significant Impact. *As discussed above in Section 2.XII.a., the construction and operations of the proposed Project would result in both temporary and long-term noise changes at and around LAX. However, these effects would not be considered significant based on established CEQA thresholds. Therefore, the proposed Project would have a less than significant impact on ambient noise levels.*

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?

e. Less Than Significant Impact. *The proposed Project is located on a public airport and would not result in substantial or significant temporary or periodic increases in noise levels to people residing or working in an area within 2 miles of LAX. The proposed Project would enhance the RSAs at LAX and would cause no increase in Airport operations, or the number of passengers or aircraft operations at LAX, or other activity that would lead to significant temporary or periodic increases in noise levels. Any temporary noise resulting from construction of the proposed Project would be less than significant at the nearest noise-sensitive receiver.*

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?

f. No Impact. *The proposed Project is located approximately two miles northwest of Hawthorne Airport, the closest private airstrip. Although the proposed Project site is located near this private airstrip, as it is a larger airport, it is not in the flight path of airplanes using Hawthorne Airport. The proposed Project will not cause any long-term changes in departures and arrivals runway utilization at Hawthorne Airport. Therefore, people residing or working in the Project area within the vicinity of a private airstrip will not be exposed 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?

a-c. No Impact. *The proposed Project does not include residential or business development and would not induce population growth that would require additional housing. The infrastructure improvements that are proposed would not be utilized by the general public and are not considered to be employment-generating. Furthermore, the proposed Project will not displace existing housing or residential populations, nor would it result in any increase in flights or operations at LAX.*

Therefore, no impacts related to population or housing growth and displacement would occur.

XIV. Public Services

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

a. Fire protection?

a. Less Than Significant Impact. *The City of Los Angeles Fire Department (LAFD) provides fire protection services throughout LAX, including the proposed Project site. Four fire stations are located at LAX (Fire Station Nos. 80, 51, 5, and 95). Fire Station No. 80, located at 7250 World Way West, is approximately 2,300 feet south of the Project site; Fire Station No. 51, located at 10435 South Sepulveda Boulevard, is approximately 2,800 feet southeast of the Project site; Fire Station No. 5, located at 8900 Emerson Avenue, is approximately 1,000 feet north of the Project site; and Fire Station No. 95, located at 10010 International Road, is about 1 mile southeast of the Project site. 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.*

Implementation of the proposed Project would not increase the capacity of LAX operations, traffic volumes (except temporarily during construction), or the number of passengers. Consequently, the proposed Project would not require additional support from Airport or local fire departments that would require new or expanded fire facilities.

The proposed Project would comply with all applicable LAWA, City, state, and federal fire codes and ordinances. LAWA will coordinate with LAFD to ensure that access points for off-airport LAFD personnel and apparatus are maintained and strategically located to support timely access. Therefore, impacts to fire protection services would be less than significant.

b. Police protection?

b. No Impact. *The Los Angeles World Airports Police Division (LAWAPD), the City of Los Angeles Police Department LAX Detail (LAPD LAX Detail), and the Los Angeles Police Department (LAPD) provide police protection services to LAX, including the Project site. The LAWAPD is located just east of the CTA and the LAPD LAX Detail station is also located on the east side of LAX. Demand for on-airport police protection services is*

typically determined by increases in aircraft activity and employees. Implementation of the proposed Project would not increase the capacity of LAX operations, traffic volumes (except temporarily during construction), or the number of passengers. Consequently, the proposed Project would not require additional support from Airport or local police departments that would require new or expanded police facilities.

Therefore, the Project would have no impacts related to police protection.

c. Schools?

d. Parks?

e. Other public facilities?

c-e. No Impact. *As discussed in Section 2.XIII, the proposed Project does not include a residential element nor will it increase employment or operations at LAX during operations. Consequently, there is no population growth that would increase demands for schools, parks, or other public facilities.*

Therefore, no impacts related to schools, parks, and other public facilities would occur.

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 a housing component that would increase the resident population around the LAX area nor will it increase operations or the number of employees. Consequently, no increased demand for recreational facilities beyond the existing demand and no physical deterioration of recreational areas would occur. As discussed in Section 2.XIV, the proposed Project would not increase the use of existing parks or recreational facilities and does not include the construction or expansion of recreational facilities.*

Therefore, no impacts related to Recreation would occur.

XVI. Transportation/Traffic

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?

a. Less than Significant Impact. *Construction of the proposed Project would generate traffic associated with workers traveling to and from the construction employee parking area and staging areas, and the associated shuttle trips between any utilized auxiliary parking areas and the construction site, truck haul/delivery trips, and miscellaneous construction-related travel. These vehicle trips could result in increased traffic volumes on the local roadway system during the construction period and affect both personal vehicles and public transit travel times. A construction traffic analysis was also prepared for the proposed Project, included in* ***Appendix G****. However, as construction of the proposed Project would be temporary in nature and Project Design Features described below would reduce any potential impacts to transportation plans, systems or traffic management. Also, as discussed in Section 1.5.2.4, the existing taxicab staging lot would be relocated to an existing LAWA-owned parking lot located between West 96th Street and West 98th Street, approximately 200 feet east of Vicksburg Avenue, as shown in Figure 8. However, as current uses of this site are generally similar (this lot is currently being used as a holding lot for airport shuttle parking), the proposed Project would not conflict with an applicable transportation plan, system or traffic management. The proposed relocation of the Taxi Staging Lot would not change existing roads (with the exception of striping improvements to Vicksburg Avenue as discussed below), would not include new public streets, and would not remove existing public streets. Furthermore, the proposed relocation of the Taxi Staging Lot would not change existing bicycle or pedestrian facilities, and would not create new demand for bicycle, pedestrian, or transit facilities and services. Therefore, the proposed Project would have a less than significant impact on transportation plans, systems or traffic management, pedestrian or bicycle facilities or 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?

b. Less than Significant Impact. *The Guide for the Preparation of Traffic Impact Studies (California Department of Transportation [Caltrans] 2002) identifies circumstances under which Caltrans believes that a Traffic Impact Study would be required, information that Caltrans believes should be included in the study, analysis scenarios, and guidance on acceptable analysis methodologies. However, a Caltrans Traffic Impact Study was not required for the proposed Project given that the proposed Project would not contribute vehicle trips to use the study area roadways and freeways during the commuter peak hour periods. The LADOT Traffic Study Policies and Procedures manual requires that a Traffic Study be prepared if the following criteria are met:*

- *A project is likely to add 500 or more daily trips*
- *A project is likely to add 43 or more a.m. or p.m. peak hour trips*

Although the Project does not generate any new trips from the regional context, the relocation of the Taxi Staging Lot would add trips to roadways adjacent to the proposed new lot while removing trips from the roadways that are serving the existing staging lot. Local traffic patterns also change with the relocation of the staging lot. The proposed Project would add more than 43 a.m. or p.m. peak hour trips to roadways in the immediate vicinity of the new lot and therefore, a traffic study was prepared.

In addition, the LADOT Traffic Study Policies and Procedures manual provides Congestion Management Program (CMP) Guidelines to assist local agencies in evaluating impacts of land use projects on the CMP system through the preparation of a regional transportation impact analysis (TIA). A CMP TIA is necessary for all projects that include, at a minimum, the following:

- *50 or more trips added to intersections during either the weekday a.m. or p.m. peak hours*
- *150 or more trips added to the freeway during either the weekday a.m. or p.m. peak hours*

Although the proposed Project is not anticipated to generate traffic during the a.m. or p.m. peak commute periods, the proposed Project would add trips to roadways adjacent to the proposed new lot. Therefore, a Traffic Impact Study was prepared for post-construction conditions for the proposed Project, included in ***Appendix H****.*

SIGNIFICANCE THRESHOLDS

The traffic study area and intersections (shown in ***Figures 16*** *and* ***17*** *for the construction traffic analysis, and* ***Figure 18*** *for the operational traffic analysis) either fall entirely within the City of Los Angeles or share a boundary with the City of El Segundo and the City of Inglewood. The intersections which fall entirely within the City of Los Angeles were evaluated for potential traffic impacts using the LADOT significant traffic impact criteria. Intersections lying on the boundary of multiple jurisdictions were evaluated using the more conservative threshold of significance criteria; in all of these cases the LADOT criteria was shown to have the most conservative thresholds.*

- ***City of El Segundo:*** *an impact is considered significant if the LOS is E or F, its final volume/capacity (v/c) ratio is 0.901 or greater, and the project-related increase in v/c is 0.020 or greater.*
- ***City of Inglewood:*** *an impact is considered significant if the LOS is F, its final volume/capacity (v/c) ratio is 1.001 or greater, and the project-related increase in v/c is 0.020 or greater.*
- ***City of Los Angeles:*** *in accordance with LADOT criteria defined in its Traffic Study Policy and Procedures, an impact is considered to be significant if one of the following thresholds is exceeded:*
    - *The LOS is C, its final v/c ratio is 0.701 to 0.80, and the project-related increase in v/c is 0.040 or greater, or*
    - *The LOS is D, its final v/c ratio is 0.801 to 0.90, and the project-related increase in v/c is 0.020 or greater, or*
    - *The LOS is E or F, its final v/c ratio is 0.901 or greater, and the project-related increase in v/c is 0.010 or greater.*

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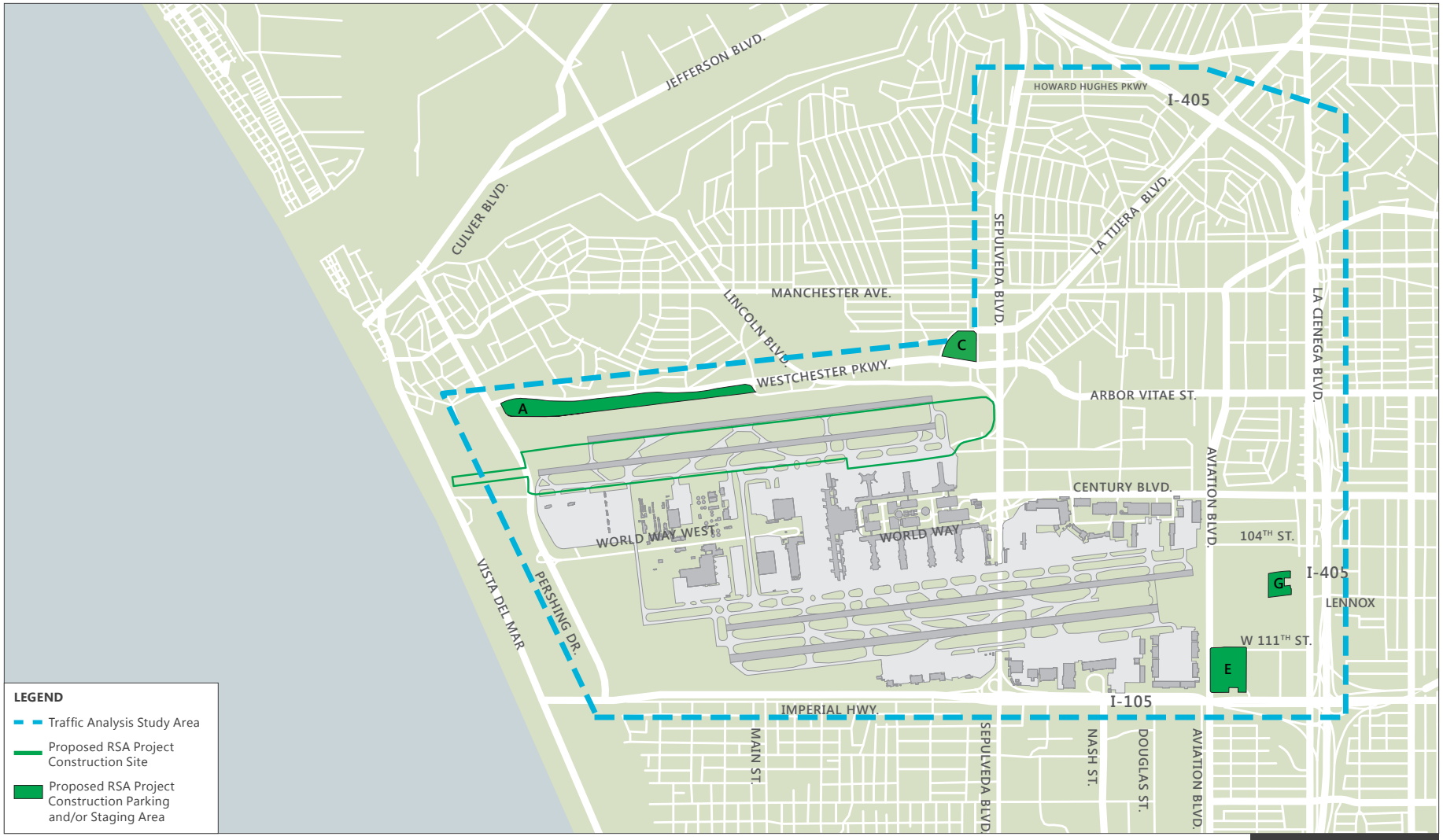

SOURCE: Los Angeles World Airports, Ricondo & Associates, Inc., September 2014.
PREPARED BY: Ricondo & Associates, Inc., September 2014.

FIGURE 16

NORTH

0 Not to Scale

Construction Traffic Analysis Study Area

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SOURCE: Los Angeles World Airports, Ricondo & Associates, Inc., September 2014.
PREPARED BY: Ricondo & Associates, Inc., September 2014.

FIGURE 17

NORTH

0 Not to Scale

Construction Traffic Study Area Intersections

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SOURCE: Ricondo & Associates, Inc., December, 2014.
PREPARED BY: Ricondo & Associates, Inc., March 2015.

Figure 18

Taxicab Staging Lot Relocation Study Area Intersections

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The "final v/c ratio" as defined by LADOT consists of the future v/c ratio at an intersection that includes volumes from the project, baseline, ambient background growth, and other related projects, but without proposed intersection traffic mitigation as potentially required by the project.

The "project-related increase" is defined as the change in the unmitigated LOS condition between the (a) future v/c "with" the project, baseline, ambient background growth (for the cumulative analysis), and other related project growth, and (b) the future v/c "without" the project, but with baseline, ambient background growth, and other related project growth.

EXISTING CONDITIONS

Intersection level of service (LOS) was analyzed using the CMA methodology to assess the estimated operating conditions during baseline conditions for the a.m. and p.m. peak hours for all of the intersections shown in Figures 17 and 18. LOS is a qualitative measure that describes traffic operating conditions (e.g., delay, queue lengths, congestion). Intersection level of service ranges from A (i.e., excellent conditions with little or no vehicle delay) to F (i.e., excessive vehicle delays and queue lengths). LOS definitions, CMA methodology, and other analysis information can be found in Appendix G.

Construction

*The estimated intersection LOS for baseline conditions for construction peak hours is provided in **Table 26**; intersection numbers correspond to those presented in Figure 17. As shown in Table 26, most of the intersections operated at LOS C or better during the baseline construction a.m. and p.m. peak periods analyzed for the proposed Project. The one exception occurred at the intersection of Imperial Highway and Sepulveda Boulevard (Intersection #12), which was estimated to operate at LOS F during the construction p.m. peak hour.*

Operations

*The estimated intersection LOS for baseline conditions considered in the taxicab staging lot relocation analysis is provided in **Table 27**; intersection numbers correspond to those presented in Figure 18. As shown in Table 27, all of the intersections operated at LOS A during the baseline a.m. and p.m. commuter peak periods analyzed for the proposed Project.*

Table 26: Construction Traffic Baseline Level of Service (Table 1 of 2)

	INTERSECTION	PEAK HOUR[1/]	V/C[2/]	LOS[3/]
1.	Aviation Blvd. & Century Blvd.	Construction a.m.	0.467	A
		Construction p.m.	0.594	A
2.	Imperial Hwy. & Aviation Blvd.	Construction a.m.	0.500	A
		Construction p.m.	0.512	A
3.	Aviation Blvd. & 111th St.	Construction a.m.	0.295	A
		Construction p.m.	0.404	A
4.	La Cienega Blvd. & Century Blvd.	Construction a.m.	0.626	B
		Construction p.m.	0.762	C
5.	Sepulveda Blvd. and Century Blvd.	Construction a.m.	0.424	A
		Construction p.m.	0.590	A
6.	Century Blvd. & I-405 N/B Ramp	Construction a.m.	0.634	B
		Construction p.m.	0.459	A
7.	Imperial Hwy. & Douglas St.	Construction a.m.	0.199	A
		Construction p.m.	0.375	A
8.	Sepulveda Blvd. & H. Hughes Pkwy.	Construction a.m.	0.219	A
		Construction p.m.	0.419	A
9.	Imperial Hwy. & La Cienega Blvd.	Construction a.m.	0.191	A
		Construction p.m.	0.453	A
10.	Imperial Hwy. & Main St.	Construction a.m.	0.499	A
		Construction p.m.	0.439	A
11.	Imperial Hwy. & Pershing Dr.	Construction a.m.	0.184	A
		Construction p.m.	0.316	A
12.	Imperial Hwy. & Sepulveda Blvd.	Construction a.m.	0.496	A
		Construction p.m.	1.004	F
13.	Imperial Hwy. & Nash St.	Construction a.m.	0.362	A
		Construction p.m.	0.239	A
14.	Imperial Hwy. & I-105 Ramp	Construction a.m.	0.513	A
		Construction p.m.	0.471	A
15.	Imperial Hwy. & I-405 NB Ramp	Construction a.m.	0.211	A
		Construction p.m.	0.480	A
16.	La Cienega Blvd. & Lennox Blvd.	Construction a.m.	0.164	A
		Construction p.m.	0.306	A
17.	La Cienega Blvd. & 111th St.	Construction a.m.	0.128	A
		Construction p.m.	0.311	A

Table 26: Construction Traffic Baseline Level of Service (Table 2 of 2)

	INTERSECTION	PEAK HOUR[1/]	V/C[2/]	LOS[3/]
18.	La Cienega Blvd. & I-405 Southbound Ramps North of Century	Construction a.m.	0.387	A
		Construction p.m.	0.410	A
19.	La Cienega Blvd. & I-405 Southbound Ramps South of Century	Construction a.m.	0.135	A
		Construction p.m.	0.284	A
20.	La Cienega Blvd. & I-405 Southbound Ramps North of Imperial	Construction a.m.	0.136	A
		Construction p.m.	0.218	A
21.	Sepulveda Blvd. & La Tijera Blvd.	Construction a.m.	0.337	A
		Construction p.m.	0.613	B
22.	Sepulveda Blvd. & Lincoln Blvd.	Construction a.m.	0.457	A
		Construction p.m.	0.750	C
23.	Sepulveda Blvd. & Manchester Ave.	Construction a.m.	0.395	A
		Construction p.m.	0.711	C
24.	Westchester Pkwy. & Pershing Dr.	Construction a.m.	0.151	A
		Construction p.m.	0.213	A
25.	Sepulveda Blvd. & Westchester Pkwy.	Construction a.m.	0.309	A
		Construction p.m.	0.649	B
26.	Sepulveda Blvd. & 76th/77th St.	Construction a.m.	0.337	A
		Construction p.m.	0.440	A
27.	Sepulveda Blvd. & 79th/80th St.	Construction a.m.	0.253	A
		Construction p.m.	0.513	A
28.	Sepulveda Blvd. & 83rd St.	Construction a.m.	0.211	A
		Construction p.m.	0.458	A
29.	La Cienega Blvd. & 104th St.	Construction a.m.	0.111	A
		Construction p.m.	0.276	A

NOTES:

1/ The hours of analysis include the construction a.m. peak (6:00 a.m. - 7:00 a.m.) and the construction p.m. peak (3:30 p.m. - 4:30 p.m.).

2/ Volume to capacity ratio.

3/ LOS range: A (excellent) to F (failure).

SOURCE: Ricondo & Associates, Inc., using TRAFFIX, September 2014.
PREPARED BY: Ricondo & Associates, Inc., September 2014.

Table 27: Taxicab Staging Lot Relocation Baseline Level of Service

INTERSECTION NUMBER	INTERSECTION	ATSAC [1/ 5/]	ATCS [2/ 5/]	A.M. V/C [3/]	A.M. LOS [4/]	P.M. V/C [3/]	P.M. LOS [4/]
1	Vicksburg Avenue and W. 96th Street	X	X	0.046	A	0.122	A
2	Avion Drive and W. 98th Street	Stop Control (Delay)		8.4	A	8.7	A
3	Vicksburg Avenue and Century Boulevard	X	X	0.250	A	0.172	A
4	Sepulveda Boulevard and Century Boulevard	X	X	0.628	B	0.586	A
5	Sky Way and World Way North	X	X	0.353	A	0.597	A

NOTES:

1/ Automated Traffic Surveillance and Control (ATSAC)

2/ Adaptive Traffic Control System (ATCS)

3/ Volume to Capacity Ratio (V/C) or Delay

4/ Level of Service (LOS)

5/ For intersections with ATSAC, V/C ratios is reduced by 0.07; for intersections included in the ATSAC and ATCS, V/C ratios were further reduced by 0.03.

SOURCE: Ricondo & Associates, Inc. February 2015.
PREPARED BY: Ricondo & Associates, Inc. March 2015.

TRAFFIC IMPACTS

Construction

Construction of the proposed Project would generate traffic associated with workers traveling to and from the construction employee parking areas, truck haul/delivery trips, and miscellaneous construction-related travel. The peak construction period for the proposed Project is anticipated to occur during February 2016. Construction employee and truck trips were estimated on an hourly basis over the typical busy day (with the exception of the peak a.m. and p.m. commute periods) during the peak construction period. Based on the resource loaded schedule developed for the proposed Project, it is estimated that 61 construction employees would access the Project construction site on a daily basis during the peak period of construction. The construction schedule is based on a single-shift work schedule with construction employees entering the site between 6:00 a.m. to 7:00 a.m. and exiting the site between 3:00 p.m. and 4:00 p.m.

Impacts were assessed between the peak Project traffic plus baseline traffic measured against the baseline. The comparison is based on Project-specific traffic generation during the peak construction period (February 2016) added to baseline traffic volumes (during peak times adjusted to overlap with commuter hours for a conservative analysis). The resulting levels of service were compared to the levels of service associated with the baseline condition. A significant impact would be realized if/when the thresholds of significance are met or exceeded. Impact comparisons between the proposed Project's peak traffic added to the baseline compared to the baseline is depicted in ***Table 28****. As shown in Table 28, it is anticipated that no significant impacts would occur during February 2016 under the proposed Project.*

Table 28: Construction Traffic LOS Impact Comparison: Baseline Compared to Project Plus Baseline (Table 1 of 3)

	INTERSECTION	PEAK HOUR[1/]	BASELINE V/C[2/]	BASELINE LOS[3/]	PROJECT PLUS BASELINE V/C[2/]	PROJECT PLUS BASELINE LOS[3/]	CHANGE IN V/C	SIGNIFICANT IMPACT?[4/]
1.	Aviation Boulevard and Century Boulevard	Construction a.m.	0.467	A	0.467	A	0.000	--
		Construction p.m.	0.594	A	0.595	A	0.001	--
2.	Imperial Highway and Aviation Boulevard	Construction a.m.	0.500	A	0.505	A	0.005	--
		Construction p.m.	0.512	A	0.514	A	0.002	--
3.	Aviation Boulevard and 111th Street	Construction a.m.	0.295	A	0.305	A	0.010	--
		Construction p.m.	0.404	A	0.404	A	0.000	--
4.	La Cienega Boulevard and Century Boulevard	Construction a.m.	0.626	B	0.626	B	0.000	--
		Construction p.m.	0.762	C	0.762	C	0.000	--
5.	Sepulveda Blvd. and Century Blvd.	Construction a.m.	0.424	A	0.425	A	0.001	--
		Construction p.m.	0.590	A	0.591	A	0.001	--
6.	Century Boulevard and I-405 Northbound Ramp	Construction a.m.	0.634	B	0.636	B	0.002	--
		Construction p.m.	0.459	A	0.459	A	0.000	--
7.	Imperial Highway and Douglas Street	Construction a.m.	0.199	A	0.199	A	0.000	--
		Construction p.m.	0.375	A	0.377	A	0.002	--
8.	Sepulveda Boulevard and Howard Hughes Pkwy.	Construction a.m.	0.219	A	0.221	A	0.002	--
		Construction p.m.	0.419	A	0.419	A	0.000	--
9.	Imperial Highway and La Cienega Boulevard	Construction a.m.	0.191	A	0.194	A	0.003	--
		Construction p.m.	0.453	A	0.455	A	0.002	--
10.	Imperial Highway and Main Street	Construction a.m.	0.499	A	0.518	A	0.019	--
		Construction p.m.	0.439	A	0.453	A	0.014	--
11.	Imperial Highway and Pershing Drive	Construction a.m.	0.184	A	0.190	A	0.006	--
		Construction p.m.	0.316	A	0.331	A	0.015	--

Table 28: Construction Traffic LOS Impact Comparison: Baseline Compared to Project Plus Baseline (Table 2 of 3)

	INTERSECTION	PEAK HOUR[1/]	BASELINE V/C[2/]	BASELINE LOS[3/]	PROJECT PLUS BASELINE V/C[2/]	PROJECT PLUS BASELINE LOS[3/]	CHANGE IN V/C	SIGNIFICANT IMPACT?[4/]
12.	Imperial Highway and Sepulveda Boulevard	Construction a.m.	0.496	A	0.497	A	0.001	--
		Construction p.m.	1.004	F	1.004	F	0.000	--
13.	Imperial Highway and Nash Street	Construction a.m.	0.362	A	0.363	A	0.001	--
		Construction p.m.	0.239	A	0.241	A	0.002	--
14.	Imperial Highway and I-105 Ramp	Construction a.m.	0.513	A	0.518	A	0.005	--
		Construction p.m.	0.471	A	0.473	A	0.002	--
15.	Imperial Highway and I-405 Northbound Ramp	Construction a.m.	0.211	A	0.212	A	0.001	--
		Construction p.m.	0.480	A	0.480	A	0.000	--
16.	La Cienega Boulevard and Lennox Boulevard	Construction a.m.	0.164	A	0.165	A	0.001	--
		Construction p.m.	0.306	A	0.308	A	0.002	--
17.	La Cienega Boulevard and 111th Street	Construction a.m.	0.128	A	0.130	A	0.002	--
		Construction p.m.	0.311	A	0.316	A	0.005	--
18.	La Cienega Blvd. & I-405 Southbound Ramps North of Century	Construction a.m.	0.387	A	0.387	A	0.000	--
		Construction p.m.	0.410	A	0.410	A	0.000	--
19.	La Cienega Blvd. & I-405 Southbound Ramps South of Century	Construction a.m.	0.135	A	0.135	A	0.000	--
		Construction p.m.	0.284	A	0.284	A	0.000	--
20.	La Cienega Blvd. & I-405 Southbound Ramps North of Imperial	Construction a.m.	0.136	A	0.138	A	0.002	--
		Construction p.m.	0.218	A	0.221	A	0.003	--
21.	Sepulveda Boulevard and La Tijera Boulevard	Construction a.m.	0.337	A	0.339	A	0.002	--
		Construction p.m.	0.613	B	0.613	B	0.000	--
22.	Sepulveda Boulevard and Lincoln Boulevard	Construction a.m.	0.457	A	0.458	A	0.001	--
		Construction p.m.	0.750	C	0.752	C	0.002	--

Table 28: Construction Traffic LOS Impact Comparison: Baseline Compared to Project Plus Baseline (Table 3 of 3)

	INTERSECTION	PEAK HOUR[1/]	BASELINE V/C[2/]	BASELINE LOS[3/]	PROJECT PLUS BASELINE V/C[2/]	PROJECT PLUS BASELINE LOS[3/]	CHANGE IN V/C	SIGNIFICANT IMPACT?[4/]
23.	Sepulveda Boulevard and Manchester Avenue	Construction a.m.	0.395	A	0.395	A	0.000	--
		Construction p.m.	0.711	C	0.714	C	0.003	--
24.	Westchester Parkway and Pershing Drive	Construction a.m.	0.151	A	0.184	A	0.033	--
		Construction p.m.	0.213	A	0.238	A	0.025	--
25.	Sepulveda Boulevard and Westchester Parkway	Construction a.m.	0.309	A	0.314	A	0.005	--
		Construction p.m.	0.649	B	0.654	B	0.005	--
26.	Sepulveda Boulevard and 76th/77th Street	Construction a.m.	0.337	A	0.337	A	0.000	--
		Construction p.m.	0.440	A	0.440	A	0.000	--
27.	Sepulveda Boulevard and 79th/80th Street	Construction a.m.	0.253	A	0.254	A	0.001	--
		Construction p.m.	0.513	A	0.513	A	0.000	--
28.	Sepulveda Boulevard and 83rd Street	Construction a.m.	0.211	A	0.211	A	0.000	--
		Construction p.m.	0.458	A	0.458	A	0.000	--
29.	La Cienega Boulevard and 104th Street	Construction a.m.	0.111	A	0.120	A	0.009	--
		Construction p.m.	0.276	A	0.276	A	0.000	--

NOTES:

1/ The hours of analysis include the construction a.m. peak (6:00 a.m. - 7:00 a.m.), and the construction p.m. peak (3:30 p.m. - 4:30 p.m.).

2/ Volume to capacity ratio. Includes an LADOT ATSAC benefit applied at each intersection with the exception of intersections #6 and #15, which are not a part of the LADOT system.

3/ Level of Service range: A (excellent) to F (failure).

4/ -- Indicates "No Impact"

SOURCE: Ricondo & Associates, Inc., using TRAFFIX, March 2015.
PREPARED BY: Ricondo & Associates, Inc., March 2015.

As part of the proposed Project, LAWA would implement the following transportation-related Project Design Features to help minimize any disruption of the local roadway network. The following measures would be applied to the proposed Project and thus are included as part of the proposed Project for purposes of environmental review:

- ***Construction Deliveries.*** *Construction deliveries requiring lane closures shall receive prior approval from the Construction Coordination Office. Notification of deliveries shall be made with sufficient time to allow for any modifications to approved traffic detour plans.*
- ***Designated Truck Delivery Hours.*** *Truck deliveries shall be encouraged to use night-time hours and shall avoid the peak periods of 7:00 a.m. to 9:00 a.m. and 4:30 p.m. to 6:30 p.m.*
- ***Construction Employee Shift Hours.*** *Shift hours that do not coincide with the heaviest commuter traffic periods (7:00 a.m. to 9:00 a.m., 4:30 p.m. to 6:30 p.m.) would be established. Work periods will be extended to include weekends and multiple work shifts, to the extent possible and necessary.*
- ***Designated Haul Routes.*** *Every effort will be made to ensure that haul routes are located away from sensitive noise receptors.*
- ***Maintenance of Haul Routes.*** *Haul routes on off-airport roadways will be maintained periodically and will comply with City of Los Angeles or other appropriate jurisdictional requirements for maintenance. Minor striping, lane configurations, and signal phasing modifications would be provided as needed.*
- ***Construction Traffic Management Plan.*** *A complete construction traffic plan will be developed to designate detour and/or haul routes, variable message and other sign locations, communication methods with airport passengers, construction deliveries, construction employee shift hours, construction employee parking locations and other relevant factors.*
- ***Designated Truck Routes.*** *For dirt and aggregate and all other materials and equipment, truck deliveries will be on designated routes only (freeways and non-residential streets). Every effort will be made for routes to avoid residential frontages. The designated routes on City of Los Angeles streets are subject to approval by LADOT's Bureau of Traffic Management and may include, but will not necessarily be limited to: Pershing Drive (Westchester Parkway to Imperial Highway); Florence Avenue (Aviation Boulevard to I-405); Manchester Boulevard (Aviation Boulevard to I-405); Aviation Boulevard (Manchester Avenue to Imperial Highway); Westchester Parkway/Arbor Vitae Street (Pershing Drive to I-405); Century Boulevard (Sepulveda Boulevard to I-405); Imperial Highway (Pershing Drive to I-405); La Cienega Boulevard (north of Imperial Highway); Airport Boulevard (Arbor Vitae Street to Century Boulevard); Sepulveda Boulevard (Westchester Parkway to Imperial Highway); I-405; and I-105.*

Therefore, through the incorporation of the aforementioned standard project design features and the temporary nature of the construction activities, it is anticipated that construction-related traffic impacts would be less than significant for the proposed Project. Therefore, no additional mitigation measures specific to the proposed Project are required.

Operations

Operations of the proposed Project would primarily consist of airfield improvements in order to provide the required standard RSA in accordance with FAA guidelines. The proposed project would not increase capacity of LAX and therefore would not increase passenger activity. The airfield improvements would not result in any impact to surface transportation or traffic. However, as part of the proposed Project, the taxicab staging lot would need to be relocated. The proposed relocation of the taxicab staging lot from its current location to its proposed location, as shown on Figure 18, would not result in any additional trips on the regional roadway network in the immediate vicinity of LAX. However, the proposed Project would result in taxi trips changing travel paths and as a result the roadways in the immediate vicinity of the new taxicab staging lot would gain these relocated trips. The proposed staging lot is currently used as a staging lot by a company that operates consolidated bus service shuttles, a company that repairs and maintains those shuttles, and Easy Park shuttles. Trip credits as a result of these companies vacating the Project location were not taken to provide for a more conservative analysis.

Based on data obtained from data recorded by the LAX Automatic Vehicle Identification System (AVI), trip generation for taxicabs utilizing the staging lot was distributed based on the following assumptions. Under baseline conditions, it is estimated that 149 taxicabs would enter the staging lot on a daily basis during the a.m. peak period; up to 286 taxicabs would enter the staging lot on a daily basis during the p.m. peak period. The number of taxicabs utilizing the staging lot would not change as a result of the proposed Project. However, the number of taxicabs would increase from the baseline conditions to the 2016 analysis year, as a result of projected aviation growth to occur with or without the proposed Project.

Impacts are assessed between the Project-specific traffic plus baseline traffic measured against the baseline. The comparison is based on Project-specific traffic redistribution during the a.m. and p.m. periods added to baseline traffic volumes (during peak times). The resulting levels of service were compared to the levels of service associated with the baseline condition. A significant impact would be realized if/when the thresholds of significance are met or exceeded. Impact comparisons between the proposed Project's traffic added to the baseline compared to the baseline is depicted in ***Table 29****. As shown in Table 29, there would be no significant impacts under the baseline conditions with the proposed Project trips. At the intersection of Sky Way and World Way North, the change in V/C ratio is negative, or in other words, the intersection LOS improved marginally as compared to the Baseline Without Project conditions.*

Table 29: Operational Impact Comparison: Peak Traffic with Baseline Traffic Measured Against Baseline

INTERSECTION	TIME	BASELINE V/C 1/	BASELINE LOS 2/	PROJECT PLUS BASELINE V/C 1/	PROJECT PLUS BASELINE LOS 2/	CHANGE	SIGNIFICANT IMPACT?
1 Vicksburg Avenue and W. 96th Street	a.m.	0.046	A	0.054	A	0.008	No
	p.m.	0.122	A	0.125	A	0.003	No
2 Avion Drive and W. 98th Street	a.m.	8.5	A	8.6	A	0.1	No
	p.m.	8.8	A	9.1	A	0.3	No
3 Vicksburg Avenue and Century Boulevard	a.m.	0.250	A	0.274	A	0.024	No
	p.m.	0.172	A	0.216	A	0.044	No
4 Sepulveda Boulevard and Century Boulevard	a.m.	0.628	B	0.639	B	0.011	No
	p.m.	0.586	A	0.608	B	0.022	No
5 Sky Way and World Way North	a.m.	0.353	A	0.340	A	-0.013	No
	p.m.	0.597	A	0.575	A	-0.022	No

NOTES:

1/ Volume to Capacity Ratio (V/C)

2/ Level of Service (LOS)

SOURCE: Ricondo & Associates, Inc. February 2015.
PREPARED BY: Ricondo & Associates, Inc. March 2015.

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?

c. Less than Significant Impact. *The proposed Project would involve constructing improvements to the existing Runway 6R-24L RSA at LAX to enhance safety. It would not result in a change in air traffic patterns, induce air traffic activity, or cause an increase the number of passengers or aircraft operations at the LAX during construction or operations. Although the use of the runway would temporarily change as a result of temporary runway shifts and operational shifts during construction, air traffic patterns would not significantly change.*

Therefore, the proposed Project would have less than significant impacts on air traffic patterns and would not result in substantial safety risks. In fact, the proposed Project is being implemented to increase the safety of aircraft operations at LAX.

d. Substantially increase hazards due 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?

d-f. No Impact. *The proposed Project would not require operational modifications to the existing on-airport circulation system, the existing transportation system adjacent to LAX, or the regional access system. The proposed Project is an airport safety improvement project, and implementation of the proposed Project would enhance public safety and potentially decrease hazards. Additionally, the proposed Project would not increase traffic on the surrounding street network during operations or modify the long-term circulation and emergency access systems to LAX. Furthermore, the proposed Project would not conflict with approved or adopted policies regarding other modes of transit.*

Therefore, the Project would not increase hazards to a design feature, result in inadequate emergency access, or conflict with adopted plans.

XVII. Utilities and Service Systems

Would the project:

a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

d. Have sufficient water supplies available to serve the project from existing entitlements and resource, 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?

a-e. Less Than Significant Impact. *The proposed Project does not include the addition of new uses or components that would result in an increase in operations, population, or employment that would increase wastewater generation or increase demand for water. During construction, the increase in wastewater generation would be minimal, as would the demand for water. Project components include protecting-in-place existing utilities where applicable during construction. Consequently, the proposed Project would not result in the need for a new water supply or water or wastewater treatment facilities.*

The proposed Project would involve grading, excavation, and paving of undeveloped areas in order to relocate taxiways and construct jet blast pad(s). The proposed Project would disturb approximately one acre of

undeveloped area. This would result in minimal changes to storm water runoff. Additionally, construction activities would require coverage under the State Water Resources Control Board's (SWRCB) National Pollution Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, 2009-0009-DWQ as amended by 2010-0014-DWQ (General Permit). To obtain coverage under the permit, LAWA would submit Permit Registration Documents that include a Notice of Intent (NOI) to comply with the General Permit; a risk assessment to address project sediment risk and receiving water risk; post-construction calculations; a site map; and a project-specific SWPPP for construction activities, submitted with the appropriate fees. Construction of the proposed Project would also comply with the City's SUSMP/LID ordinance, which requires storm water from the initial storm flow or first flush to be treated by one or more of the approved BMPs. The BMPs and LID practices manage, control, remove, reduce, and/or treat urban runoff and storm water pollution before it reaches receiving waters. The City of Los Angeles requirements, along LAX's SWPPP, provide the tools and guidance on addressing potential effects on water resources. The proposed Project would comply with water quality standards set forth by the State of California in Los Angeles' (Region 4) Water Quality Control Plan and adhere to guidelines set forth by LAWA's SWPPP. These guidance documents were prepared in accordance with the General Surface Water Treatment Rule Industrial Permit and the SWRCB General Permit for storm water discharges associated with industrial activities (Order Number 97-03-DWQ). Construction activities would also need to comply with earthwork, mulching, drainage, and other FAA airport design standards, to minimize erosion and sedimentation. Upon implementation of these permits and regulations, minimal significant impacts related to construction-related water quality would occur.

The proposed Project would be implemented for safety purposes and would not increase Airport capacity or employee population. Construction activities would require water usage: reclaimed water would be used for dust suppression whenever feasible, which would reduce the quantity of potable water required.

Therefore, impacts related to water, wastewater and storm water would be less than significant.

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. *There are eight major landfills and several smaller landfills currently accepting municipal solid waste in Los Angeles County. As indicated in the SPAS EIR, the total remaining permitted inert waste capacity in Los Angeles County was estimated to be approximately 60.2 million tons in 2010. Based on the average countywide disposal rate in 2010, this capacity would not be exhausted for approximately 41 years.*[68] *Construction and demolition activities for the proposed Project would generate a substantial amount of solid waste; however, the proposed Project would adhere to LAWA's recycling program and mitigation measures, which are intended to comply with Assembly Bill 939. Removed pavement from the Project site would be used as filler below any new paving, and any materials would be reused to the extent possible. There is expected to be no negative impact from the Project on the disposal capacity of inert solid waste (e.g., concrete and asphalt from construction and demolition activities). The Project will comply with*

[68] *City of Los Angeles, Los Angeles World Airports (LAWA), Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.19, April 2004.*

federal, state, and local statutes and regulations related to solid waste that were included in the LAX Master Plan EIR, as well as any statutes or regulations adopted after the compilation of the LAX Master Plan EIR. In December 2010, the Los Angeles City Council adopted Ordinance No. 181519 (signed by the Mayor in January 2011) to assist in meeting the diversion goals of AB 939. Ordinance No. 181519 amended sections of the City's municipal code to require that construction and demolition waste generated within the City of Los Angeles be taken to a City-certified construction demolition waste processing facility.[69] The proposed Project would not result in any increase in the number of flights, operations, passengers, or employees at LAX. Additionally, in order to reduce solid waste during construction, bid documents will require that contractors recycle a specified minimum percentage of waste materials generated during demolition and construction. The percentage of waste materials required to be recycled will be specified in the construction bid documents. Waste materials to be recycled may include, but are not limited to, asphalt, concrete, drywall, steel, aluminum, ceramic tile, and architectural details. Therefore, impacts related to solid waste would be less than significant.

XVIII. Mandatory Findings of Significance

a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

a. Less than Significant Impact. *The proposed Project would result in less than significant construction impacts, and would not result in any associated increase or decrease in airport operations or the number of passengers or aircraft operations at LAX. The proposed Project includes Project Design Features that would minimize impacts of the Project, and LAWA would ensure that construction contractors adhere to all relevant federal, state, and local laws and regulations. Additionally, LAWA has in place measures, policies, and plans implemented under the LAX Master Plan that are standard practice for all LAWA construction projects. These measures, policies, and plans, as discussed in the preceding sections, would not degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. Therefore, Project impacts would be less than significant.*

[69] *City of Los Angeles, Los Angeles World Airports (LAWA), Draft Environmental Impact Report, Los Angeles International Airport (LAX) Specific Plan Amendment Study, Section 4.13.2, July 2012.*

b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects).

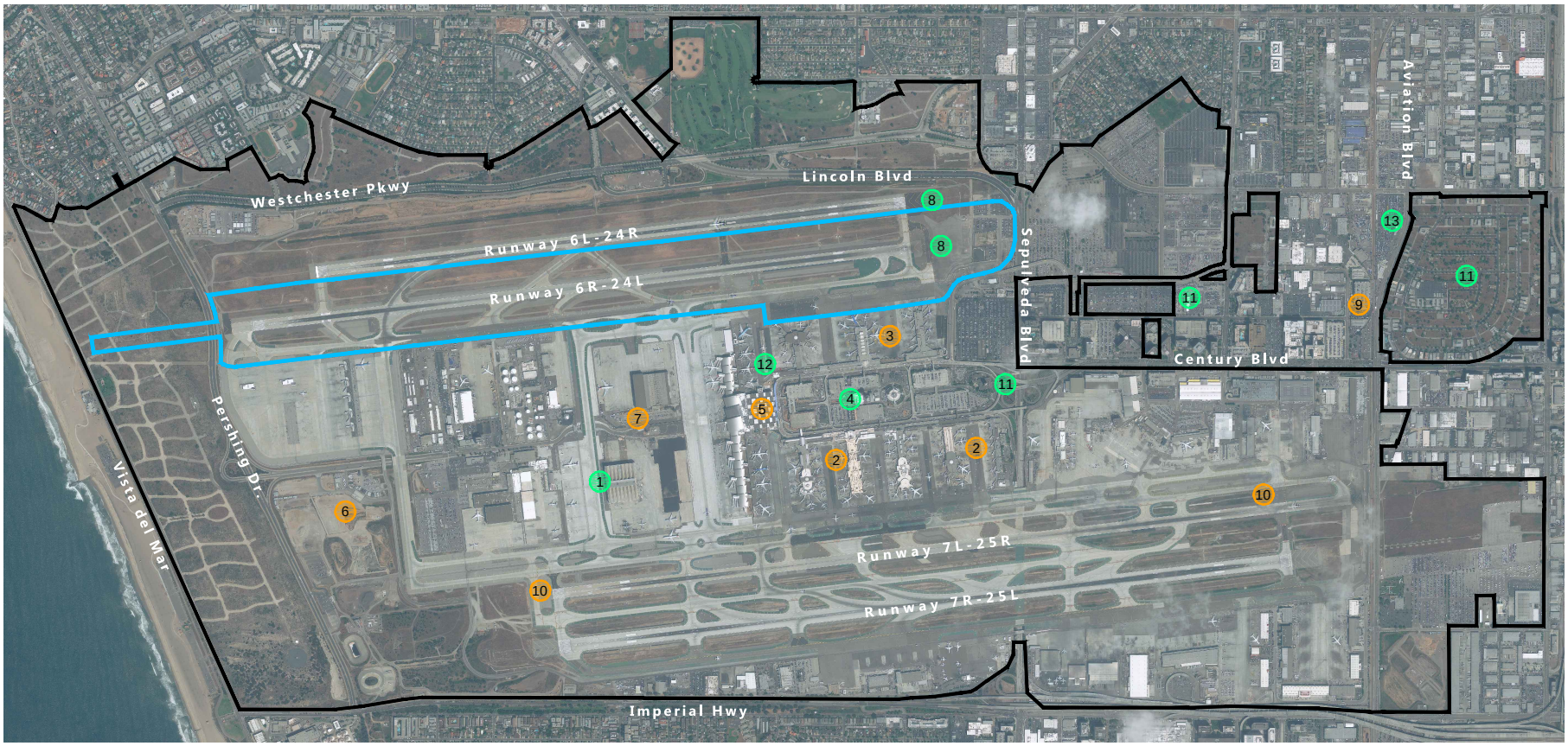
b. Less than Significant Impact. *LAX has several projects that are proposed, under construction, recently completed, or planned for implementation in the near future, as listed in* ***Table 30****. Projects considered in this evaluation meet three criteria:*

- *The project has the potential for impacts to all or some of the resource categories evaluated in this Initial Study;*
- *The project is an LAX development project that is not related to the proposed Project and is of similar or greater size and magnitude to the proposed Project; and,*
- *The temporal scope includes projects that have occurred or will occur in a time frame similar to that of the proposed Project, such that there is the potential for additive impacts on any resource category.*

Of the projects listed in Table 30, eight actions are expected to occur within the timeframe of the proposed Project (i.e., 2016) as listed below. General types of on-airport projects include, but are not limited to, terminal development and roadway development. The remaining actions listed in Table 30 would not occur during the timeframe of the proposed Project and therefore would not be cumulatively considerable in combination with the proposed Project. ***Figure 19*** *shows where these projects are located relative to the proposed Project.*

- *South Terminal Improvements*
- *North Terminal Improvements*
- *Bradley West Project*
- *West Aircraft Maintenance Area Project*
- *Miscellaneous Projects and Improvements*
- *Midfield Satellite Concourse North Project*
- *Metro Crenshaw/LAX Transit Corridor and Station*
- *LAX Master Plan Alternative D*

Although continued implementation of the LAX Master Plan Alternative D is anticipated to occur from June 2015 to June 2025, impacts associated with the LAX Master Plan were analyzed and discussed in the LAX Master Plan Final EIS/EIR. The only Master Plan projects that would occur simultaneously with the proposed Project are identified above, namely the West Aircraft Maintenance Area Project and the Midfield Satellite Concourse North Project.



SOURCE: Landrum & Brown, *Los Angeles International Airport, Airport Layout Plan,* 2005; Ricondo & Associates, Inc., September 2014.
PREPARED BY: Ricondo & Associates, Inc., March 2015.

FIGURE 19

NORTH 0 2,500 ft.

LAX Development Projects

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Table 30: LAX Development Project Not Related to the Proposed Project Elements (1 of 3)

EXHIBIT ID	PROJECT	DATES	DESCRIPTION
		Past Actions	
1	Crossfield Taxiway Project	Spring 2009 – Summer 2010	The Crossfield Taxiway Project (CFTP) included development of a new taxiway, Taxiway R, extending north-south between the north airfield complex and the south airfield complex, and the extension of existing Taxiway D. Also included as part of the CFTP were the construction of a new fire station/Aircraft Rescue and Firefighting Facility (ARFF), relocation of an existing aircraft Remain Overnight (RON) area, and development of a new vehicle parking lot.
		Present Actions	
2	South Terminal Improvements	Nov-11 – Feb-18	Major interior improvements and building system upgrades within the South Terminal complex, particularly Terminal 5 (Delta Airlines) and Terminals 6-8 (United).
3	North Terminal Improvements	Aug-13 – Oct-18	Major interior improvements and building system upgrades within the North Terminal complex, particularly Terminal 1 (Southwest).
4	Central Utility Plant Replacement Project (CUP - RP)	Sep-11 – Dec-15	Construction of Replacement CUP and related underground piping network within CTA.
5	LAX Bradley West Project	Nov-11 – Dec-17	Replacement of existing concourses and aprons at the TBIT with new concourses and gates at Bradley West. Work includes demolition of existing TBIT concourses and installation of east gates/aprons along Bradley West concourses. Also includes Taxiway T project and construction of secure/sterile passenger and baggage connection between the TBIT core and Terminal 4 (T-4). Although construction of a similar connection between TBIT core and T-3 is also part of the overall Bradley West Project, it is broken out separately below, as its construction would not begin until well after the other Bradley West improvements are completed.
6	West Aircraft Maintenance Area Project	Oct-14 – Dec-18	The West Aircraft Maintenance Area project would allow for more efficient and effective maintenance of existing aircraft at LAX, including Aircraft Design Group (ADG) VI aircraft (Airbus A380s and Boeing 747-8s). The project would include aircraft parking and maintenance facilities, employee parking areas, and related storage, equipment and facilities. The project would be able to accommodate up to 8 ADG VI aircraft simultaneously or 18 ADG III aircraft (aircraft similar in size to and including Boeing 737's).

Table 30: LAX Development Project Not Related to the Proposed Project Elements (2 of 3)

EXHIBIT ID	PROJECT	DATES	DESCRIPTION
--- [1/]	Miscellaneous Projects and Improvements	Jan-14 – Jul-20	This includes a wide variety of smaller miscellaneous projects and improvements mostly related to repair/replacement of, and upgrades to, existing facilities at LAX, including, but not limited to, runway repair/rehabilitation, elevators/escalators replacement, CTA second level roadway repairs, terminal taxilanes and aprons rehabilitation, passenger boarding bridge replacements, terminal electrical, plumbing, and facilities upgrades, miscellaneous demolition, and more.
	Future Actions		
7	LAX Midfield Satellite Concourse (MSC) North Project	Apr-15 – Jun-19	The MSC North Project consists of a satellite concourse west of TBIT that would include up to 11 aircraft gates that could accommodate ADG V and ADG VI aircraft. The MSC North Project includes associated apron areas, a new crossfield taxiway, taxilane, and provisions for an underground automated people mover (APM) tunnel.
--- [1/]	LAX Master Plan Alt. D	Jun-15 – Jun-25	Assumes continued implementation of the approved LAX Master Plan, which includes ground transportation improvements, airfield improvements, and terminal improvements.
8	Runway Safety Area Improvements-North Airfield	May-15 – Dec-15	Improvements to Runways 6L-24R and 6R-24L to meet FAA RSA requirements, and rehabilitate runway pavement.
9	Metro Crenshaw / LAX Transit Corridor and Station	Dec-15 – Apr-19	The Los Angeles County Metropolitan Transportation Authority (Metro) recently approved the proposed Crenshaw/LAX Transit Corridor Project, which includes an 8.5-mile light-rail transit line that would connect the existing Metro Green Line and the Metro Expo Line at Crenshaw and Exposition Boulevards. A station is proposed in proximity to LAX, near the intersection of Century Boulevard and Aviation Boulevard.
10	Runway 7L-25R Safety Area Improvements-South Airfield	Feb-16 – May-17 [2/]	Improvements at west end of Runway 7L/25R including runway and connecting taxiway extensions to meet FAA Runway Safety Area (RSA) requirements. Rehabilitation of deteriorating concrete at east end of runway and Taxiway B.
11	LAX Landside Access Modernization Program	2017 – 2024	The LAX Landside Access Modernization Program includes: an Automated People Mover and associated passenger walkway systems, modifications to passenger terminals, and parking garages; two intermodal transportation facilities; a consolidated rental car facility; roadway improvements; and associated utility improvements.
12	Terminal 3 (T-3) Connector	Jul-19 – Jan-22	See LAX Bradley West Project Remaining Work above.

Table 30: LAX Development Project Not Related to the Proposed Project Elements (3 of 3)

EXHIBIT ID	PROJECT	DATES	DESCRIPTION
13	Airport Metro Connector Transit Station	Aug-19 – Jan-22	Metro has planned a multi-modal transit facility near Aviation Boulevard and 96th Street to connect the Metro Green and Crenshaw/LAX Lines to the proposed LAWA Automated People Mover.
--- 1/	Southern California Metroplex Aircraft Route and Airspace Management Structure Optimization (SoCal Project)	Proposed implementation in 2016	The SoCal Project would improve the efficiency of airspace in the Southern California Metroplex by optimizing aircraft arrival and departure procedures at Bob Hope (Burbank) Airport (BUR), Camarillo Airport (CMA), Mc Clellan-Palomar Airport (Carlsbad) (CRQ), Fullerton Municipal Airport (FUL), Los Angeles International Airport (LAX), Long Beach Airport (Daughtery Field) (LGB), Camp Pendelton MCAS (Munn Field) Airport (NFG), Point Mugu Naval Air Station (NTD), North Island Naval Air Station (NZY), Ontario International Airport (ONT), Oxnard Airport (OXR), Palm Springs International Airport (PSP), San Diego International Airport (SAN), Santa Barbara Municipal Airport (SBA), Brown Field Municipal Airport (SDM), Santa Monica Municipal Airport (SMO), John Wayne-Orange County Airport (SNA), Jacqueline Cochran Regional Airport (TRM), Bermuda Dunes (UDD), Miramar Marine Corps Air Station (NKX) and Van Nuys Airport (VNY). The Project may involve changes in aircraft flight paths and altitudes in certain areas, but would not result in any ground disturbance or increase the number of aircraft operations within the Southern California airspace. FAA intends to publish a draft EA for the proposed SoCal Metroplex project in 2015.

NOTES: The list of past, present, and reasonably foreseeable projects contained in this Initial Study was reviewed in light of other cumulative impacts analysis being conducted by LAWA. Relatively minor projects that would not involve construction activities similar to the scale and magnitude of the proposed Project were eliminated from the cumulative impacts analysis.

1/ The locations of these projects are not depicted on Figure 19 as they either occur at multiple airport locations, have not yet been sited, or the location is not general public information.

SOURCE: Los Angeles World Airports, February 2015; Los Angeles World Airports, Airports Development Executive Management Program Status Report, May 2013; Los Angeles World Airports, LAX Sign District Project Draft Environmental Impact Report, October 2012; Ricondo & Associates, Inc., July 2014.

PREPARED BY: Ricondo & Associates, Inc., March 2015.

There are two major LAX projects which are omitted from the list in Table 28: the LAX Northside Plan Update and LAX SPAS. The rationale for not including these projects is that land use development on the area of the LAX Northside Plan or any SPAS projects are not expected to begin until after 2022, which is beyond the temporal boundary established for the proposed Project. LAWA has no specific plans for the LAX Northside Plan Update ready for implementation at this time. Both the LAX Northside Plan Update and the SPAS projects will require additional federal and local approvals, including environmental analysis under CEQA and NEPA. LAWA initiated CEQA review of proposed landside projects identified as part of SPAS, with the release of a Notice of Preparation and Initial Study on February 5, 2015. However, CEQA review of these projects will not be completed until sometime in 2016 and these projects will also need to undergo NEPA review before they can be implemented.

The following describes environmental topics which would have no cumulative impact because the proposed Project would have no impact:

- ***Agriculture and Forestry Resources**. The Project site is located within a fully-developed airport, is surrounded by airport-related uses, and has been disturbed and paved. There are no farmlands that are considered prime, unique or of statewide or local importance in the vicinity of the Project site. No agricultural resources or operations currently exist, or have existed in the recent past on the Project site or the vicinity of the Project site. Furthermore, there are no Williamson Act contracts in effect on the Project site or surrounding areas. Additionally, no forest or timberland resources exist at the Project site or in the vicinity of the Project site. Consequently, the proposed Project would not conflict with existing zoning for, or cause rezoning of, forest land or timberland (including timberland zoned as Timberland Production) or result in the loss or conversion of forest land to non-forest use. Therefore, no impacts or cumulative impacts to agricultural and forestry resources would occur as a result of implementation of this Project.*
- ***Mineral Resources**. LAX is contained within an MRZ-3 zone, which represents areas with mineral deposits whose significance cannot be evaluated from available data. The Project site is within the boundaries of LAX 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 uses.*

  It is anticipated that currently permitted aggregate reserves within Los Angeles County will be depleted in 2016, unless new resources are permitted for mining or alternative resources are utilized. Aggregate reserves are also available at numerous other aggregate production areas within the Los Angeles region, but outside of Los Angeles County. These permitted regional reserves are projected to be sufficient to meet aggregate demands through 2046. Recycled construction materials, including concrete, sand, and asphalt, have become a key source of aggregate base material in Los Angeles County. In Los Angeles County, a number of construction materials are recycled. The use of recycled materials will extend the life of aggregate resources and reserves in Los Angeles County and within the region. Therefore the proposed Project in conjunction with other projects at LAX is not anticipated to be cumulatively considerable.
- ***Population and Housing**. Aside from the Metro Crenshaw/LAX Transit Corridor and Station project, the Airport Metro Connector Transit Station, and parts of the Landside Access Modernization Program, the listed projects at LAX and the proposed Project would be located on LAX property. These projects would not include residential or business development and would not induce population growth that would require additional housing. The proposed Project would not displace existing housing or residential populations, nor would it result in any increase in flights or operations at LAX. The two Metro projects are located within transit corridors and would not have significant impacts on population and housing. Therefore, no cumulative impacts related to population or housing growth and displacement would occur.*
- ***Recreation.** The proposed Project does not include a housing component that would increase the resident population around the LAX area nor will it increase operations or the number of employees. Cumulatively with other projects, no increased demand for recreational facilities beyond the existing demand and no physical deterioration of recreational areas would occur. As discussed in Section 2.XV, the proposed Project would not increase the use of existing parks or recreational facilities and does not include the construction or expansion of recreational facilities. Therefore the potential for the proposed Project along with other projects would not be cumulatively considerable.*

The following describes environmental resources which have the potential to be affected by the projects cumulatively:

AIR QUALITY

As discussed previously in Section 2.III, the SCAQMD has provided guidance on an acceptable approach to addressing the cumulative impacts issue for air quality. "As Lead Agency, the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR… Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."

As neither construction nor operations of the proposed Project would exceed the Project-specific significance thresholds for regional or localized emissions, the proposed Project would not result in a cumulatively significant impact.

BIOLOGICAL RESOURCES

The South Terminal Improvements, North Terminal Improvements, Miscellaneous Projects and Improvements would be limited to the central terminal area of LAX. This area is completely developed and has no suitable habitat for listed species. Biological Resource impacts of these projects would not be cumulatively considerable with the implementation of the proposed Project. Additionally, the Metro Crenshaw/LAX Transit Corridor and Station project and Airport Metro Connector Transit Station would not occur within LAX property but would be located within a highly developed area dedicated for transportation use. Implementation of the proposed Project would not increase the significance of Biological Resource impacts that would occur from either of the Metro projects.

The West Aircraft Maintenance Area Project, Midfield Satellite Concourse North Project, and Landside Access Modernization Program would have no significant impacts to Biological Resources from implementation of these projects. Biological Resource impacts from the proposed Project are less than significant and therefore not cumulatively considerable.

Implementation of the Bradley West Project would have significant impacts to a state listed species, the southern tarplant which have been mitigated through applicable measures. Implementation of the proposed Project would not increase this, or any other, impact to a significant level and therefore would not be cumulatively considerable.

CULTURAL RESOURCES

The South Terminal Improvements, North Terminal Improvements, Miscellaneous Projects and Improvements would be limited to the central terminal area of LAX. This area has been disturbed and these projects would not impact any undisturbed soil. Cultural Resource impacts of this project would not be cumulatively considerable with the implementation of the proposed Project. Additionally, the Metro Crenshaw/LAX Transit Corridor and Station project and Airport Metro Connector Transit Station project would not occur within LAX property but would be located within highly disturbed areas dedicated for transportation use. Implementation of the proposed Project would not increase the significance of Cultural Resource impacts that would occur from either of the Metro projects.

No significant impacts to Cultural Resources are anticipated from implementation of the West Aircraft Maintenance Area Project. Cultural Resource impacts from the proposed Project are less than significant and therefore not cumulatively considerable.

The Bradley West Project, Midfield Satellite Concourse North Project, and Landside Access Modernization Program could impact potentially significant, undiscovered archaeological resources, paleontological resources and/or potentially disturb human remains. These impacts, while potentially significant, are addressed by Mitigation Measures to less than significant levels. Implementation of the proposed Project would not increase Cultural Resource impacts to significant levels and therefore would not be cumulatively considerable.

GREENHOUSE GAS EMISSIONS

As discussed previously in Section 2.VII, the State CEQA Guidelines do not include or recommend any particular threshold of significance; instead, they leave that decision to the discretion of the lead agency (§15064.4). The California Natural Resources Agency (CNRA) noted in its Public Notice for the added sections on GHG, that the impacts of GHG emissions should be considered in the context of a cumulative impact, rather than a project impact. The Public Notice states:

> *"While the Proposed Amendments do not foreclose the possibility that a single project may result in greenhouse gas emissions with a direct impact on the environment, the evidence before [CNRA] indicates that in most cases, the impact will be cumulative. Therefore, the Proposed Amendments emphasize that the analysis of greenhouse gas emissions should center on whether a project's incremental contribution of greenhouse gas emissions is cumulatively considerable."*

It is the accumulation of GHGs in the atmosphere that may result in global climate change. Climate change impacts are cumulative in nature, and thus no typical single project would result in emissions of such a magnitude that it, in and of itself, would be significant on a project basis. A typical single project's GHG emissions will be small relative to total global or even statewide GHG emissions. Thus, the analysis of significance of potential impacts from GHG emissions related to a single project is already representative of the long-term impacts on a cumulative basis. Therefore, projects that exceed the project-specific significance thresholds are considered to be cumulatively considerable. Conversely, projects that do not exceed the project-specific thresholds for GHG emissions are not considered to be cumulatively considerable.

As discussed in Section 2.VII, the proposed Project's amortized construction GHG emissions combined with operational GHG emissions would not exceed the significance threshold of 10,000 $MTCO_2e$ per year. Therefore, in accordance with the discussion above, the proposed Project would not cause cumulatively considerable impacts with respect to GHG emissions.

HAZARDS AND HAZARDOUS MATERIALS

Each project which coincides with the proposed Project would not require changes in any routine transport, use, or disposal of hazardous materials associated with operations at LAX. Construction of these projects may involve the use of potentially hazardous materials. However these impacts would be mitigated through applicable federal, state, and local laws in addition to LAX Master Plan Commitments and Mitigation Measures. Implementation of the proposed Project would not increase Hazards and Hazardous Material impacts to a significant level and therefore would not be cumulatively considerable.

The human health risk assessment impacts are less than significant, as discussed in Section 2.III.d. Although no defined thresholds for cumulative health risk impacts are available, it is the policy of the SCAQMD to use the same significance thresholds for cumulative impacts as for the project-specific impacts. If cumulative health risks are evaluated following this SCAQMD policy, the project's contribution to the cumulative cancer risk would not be cumulatively considerable since the incremental cancer risk impacts of the proposed Project are all below the individual cancer risk significance thresholds of 10 in one million.

In contrast to cancer risk, the SCAQMD policy does have different significance thresholds for project-specific and cumulative impacts for hazard indices for TAC emissions. A project-specific significance threshold is one (1.0) while the cumulative threshold is 3.0. Based on this SCAQMD policy, the relatively small chronic non-cancer hazard indices associated with emissions under the proposed Project would not be cumulatively considerable. Additionally, acute non-cancer hazard indices would be less than the cumulative threshold of 3.0, and therefore, would not be cumulatively considerable.

LAND USE AND PLANNING

The South Terminal improvements, North Terminal Improvements, and Miscellaneous Projects and Improvements would be limited to the central terminal area of LAX. These projects would not change land uses or land use plans. Land Use and Planning impacts of this project would not be cumulatively considerable with the implementation of the proposed Project.

The Metro Crenshaw/LAX Transit Corridor and Station project and Airport Metro Connector Transit Station project would be located within transit corridors and would not significantly change land use or impact land use plans. Implementation of the proposed Project would not result in any increase in impacts to Land Use and Planning and therefore would not be cumulatively considerable.

Implementation of the West Aircraft Maintenance Area Project and Midfield Satellite Concourse North Project would have no significant impacts to Land Use and Planning. Implementation of the proposed Project would not increase these impacts to significant levels and therefore would not be cumulatively considerable.

No significant impacts to Land Use and Planning are anticipated from implementation of the Bradley West Project with the implementation of Master Plan Commitments. Implementation of the proposed Project would not increase these impacts to significant levels and therefore would not be cumulatively considerable.

Implementation of the Landside Access Modernization Program may have impacts to land use and planning; however, the CEQA process for this project has not yet been completed. Nonetheless, implementation of the proposed Project would not result in any increase in impacts to Land Use and Planning and therefore would not be cumulatively considerable.

NOISE

The South Terminal Improvements, North Terminal Improvements, and Miscellaneous Projects and Improvements would be limited to the central terminal area of LAX and would consist of terminal renovations. Noise from implementation of these improvements would not exceed existing ambient levels. Noise impacts of these projects would not be cumulatively considerable with the implementation of the proposed Project.

Implementation of the West Aircraft Maintenance Area Project and Midfield Satellite Concourse North Project would not have significant noise impacts. Implementation of the proposed Project would not increase noise to significant levels and therefore would not be cumulatively considerable.

The Bradley West Project has the potential to have significant construction noise impacts. With implementation of LAX Master Plan Commitments and Mitigation Measures, no significant impacts on noise-sensitive uses from Bradley West Project construction equipment operation or traffic are expected to occur. Implementation of the proposed Project would not increase noise to significant levels and therefore would not be cumulatively considerable.

Implementation of the Landside Access Modernization Program may have significant impacts to construction and traffic noise; however, the CEQA process for this project has not yet been completed. Additionally, implementation of the proposed Project would not occur simultaneously with the Landside Access Modernization Program and would not result in a significant increase in impacts to Noise.

PUBLIC SERVICES

The South Terminal Improvements, North Terminal Improvements, and Miscellaneous Projects and Improvements would be limited to the central terminal area of LAX. These projects would not change demand for any Public Services or alter any critical facilities. Public Services impacts of these projects would not be cumulatively considerable with the implementation of the proposed Project.

No significant impacts to Public Services are anticipated from implementation of the WAMA Project. Public Services impacts from the proposed Project are less than significant and therefore not cumulatively considerable.

The Bradley West Project, MSC North Project, and Metro Crenshaw/LAX Transit Corridor and Station Project each have the potential for significant impacts with respect to Public Services. However these impacts would be mitigated through applicable LAX Master Plan Commitments and applicable federal, state and local laws. Implementation of the proposed Project would not increase these impacts to a significant level and therefore would not be cumulatively considerable.

Implementation of the Landside Access Modernization Program may have significant impacts to public services, including law enforcement, fire protection, and schools; however, the CEQA process for this project has not yet been completed. Additionally, implementation of the proposed Project would not occur simultaneously with the Landside Access Modernization Program and would not result in a significant increase in impacts to Public Services and therefore would not be cumulatively considerable.

TRANSPORTATION/TRAFFIC

Construction

A cumulative traffic analysis was prepared for construction of the proposed Project along with the projects listed in Table 30. This comparison was conducted in two steps, which is consistent with CEQA Guidelines Section 15130. An initial comparison was conducted by comparing the level of service associated with peak cumulative traffic volumes with the baseline levels of service. This initial comparison was conducted to determine if there would be a significant cumulative impact. If a significant cumulative impact was determined, then an additional comparison was conducted to determine if the proposed Project would produce a cumulatively considerable contribution to the significant cumulative impact. This second comparison was conducted by comparing

cumulative conditions both with and without the proposed Project. Cumulatively considerable contributions are realized when the thresholds of significance defined above are met or exceeded.

*The impact comparison for this condition is depicted in **Table 31**. As shown in the table, it is anticipated that there would be several cumulative impacts; however, the proposed Project would not result in a cumulatively considerable contribution of the impact that would be considered a significant impact under the LADOT thresholds. The estimated employee hours for proposed Project and other concurrent construction projects are shown in **Figure 20**.*

Operations

A cumulative traffic analysis was prepared for the operations of the proposed Project along with the projected future traffic growth. The future traffic conditions were determined by growing the non-project background traffic at an assumed annualized growth rate and growing the taxi volumes based on the forecast growth in airport passengers for these horizon years. This comparison was conducted in two steps, which is consistent with CEQA Guidelines Section 15130. An initial comparison was conducted by comparing the level of service associated with peak cumulative traffic volumes with the baseline levels of service. This initial comparison was conducted to determine if there would be a significant cumulative impact. If a significant cumulative impact was determined, then an additional comparison was conducted to determine if the proposed Project would produce a cumulatively considerable contribution to the significant cumulative impact. This second comparison was conducted by comparing cumulative conditions both with and without the proposed Project. Cumulatively considerable contributions are realized when the thresholds of significance are met or exceeded.

*The impact comparison for this condition under horizon year 2016 traffic conditions is depicted in **Table 32**. As shown, it is anticipated that the study area intersections do not cause a cumulative impact and therefore do not have a cumulatively significant contribution to the traffic at the study area intersections.*

UTILITIES AND SERVICE SYSTEMS

The South Terminal Improvements, North Terminal Improvements, and Miscellaneous Projects and Improvements would not include the addition of new uses or components that would result in an increase in operations, population, or employment that would increase wastewater generation, increase demand for water or significantly increase solid waste. During construction, the increase in solid waste and wastewater generation would be minimal, as would be the demand for water. Utilities and Service System impacts of this project would not be cumulatively considerable with the implementation of the proposed Project.

No significant impacts to Utilities and Service Systems are anticipated from implementation of the Midfield Satellite Concourse North Project or West Aircraft Maintenance Area Project. Utilities and Service Systems impacts from the proposed Project are less than significant and therefore not cumulatively considerable.

No significant impacts to Utilities and Service Systems are anticipated from implementation of the Bradley West Project and the Metro Crenshaw/LAX Transit Corridor Station Project with the implementation of Master Plan Commitments and applicable federal, state and local laws. Implementation of the proposed Project would not increase Utilities and Service System impacts to significant levels and therefore would not be cumulatively considerable.

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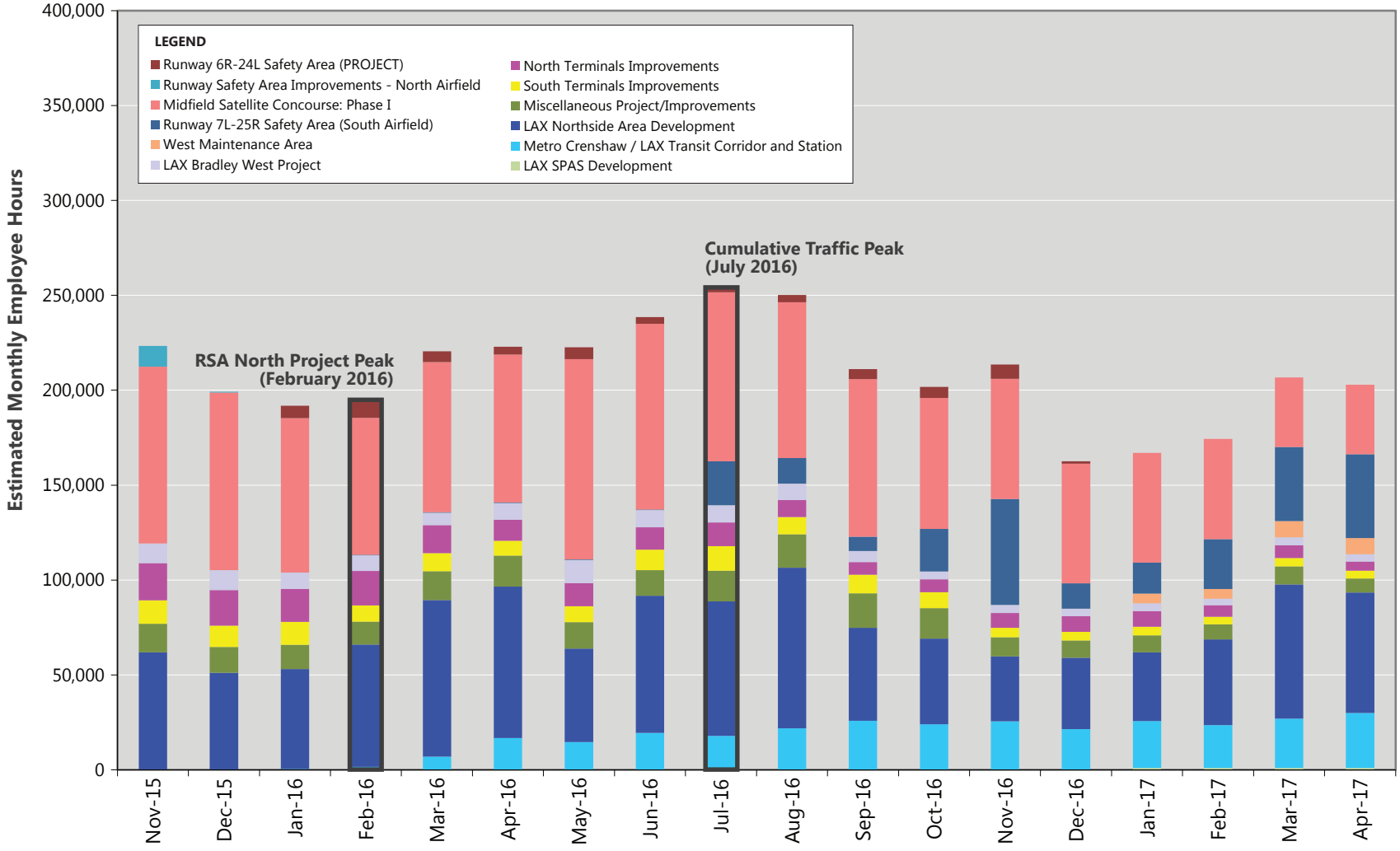

SOURCE: CDM Smith (construction cost and schedule), Gibson Transportation Consulting, Inc. (LAX Northside Area Development), Ricondo & Associates, Inc., (estimated employee hours for all other projects) March 2015.
.PREPARED BY: Ricondo & Associates, Inc., March 2015.

FIGURE 20

Estimated Employee Hours for Proposed Project and Other Concurrent Construction Projects

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Table 31: Construction Traffic LOS Impact Comparison: Cumulative Traffic (July 2016)

			BASELINE [A]		WITHOUT PROJECT [B]		WITH PROJECT [C]		CUMULATIVE IMPACT DETERMINATION [C]-[A]		CUMULATIVE CONSIDERABLE DETERMINATION/SIGNIFICANT IMPACT [C]-[B]	
	INTERSECTION	PEAK HOUR[1/]	V/C[2/]	LOS[3/]	V/C[2/]	LOS[3/]	V/C[2/]	LOS[3/]	CHANGE IN V/C	CUMULATIVE IMPACT?	CHANGE IN V/C	CUMULATIVELY CONSIDERABLE CONTRIBUTION?
1.	Aviation Boulevard and Century Boulevard	Construction a.m.	0.467	A	0.534	A	0.534	A	0.067	--	0.000	--
		Construction p.m.	0.594	A	0.673	B	0.673	B	0.079	--	0.000	--
2.	Imperial Highway and Aviation Boulevard	Construction a.m.	0.500	A	0.590	A	0.590	A	0.090	--	0.000	--
		Construction p.m.	0.512	A	0.589	A	0.590	A	0.078	--	0.001	--
3.	Aviation Boulevard and 111th Street	Construction a.m.	0.295	A	0.353	A	0.354	A	0.059	--	0.001	--
		Construction p.m.	0.404	A	0.466	A	0.466	A	0.062	--	0.000	--
4.	La Cienega Boulevard and Century Boulevard	Construction a.m.	0.626	B	0.693	B	0.693	B	0.067	--	0.000	--
		Construction p.m.	0.762	C	0.885	D	0.885	D	0.123	Yes	0.000	--
5.	Sepulveda Blvd. and Century Blvd.	Construction a.m.	0.424	A	0.498	A	0.499	A	0.075	--	0.001	--
		Construction p.m.	0.590	A	0.638	B	0.639	B	0.049	--	0.001	--
6.	Century Boulevard and I-405 Northbound Ramp	Construction a.m.	0.634	B	0.699	B	0.699	B	0.065	--	0.000	--
		Construction p.m.	0.459	A	0.499	A	0.499	A	0.040	--	0.000	--
7.	Imperial Highway and Douglas Street	Construction a.m.	0.199	A	0.217	A	0.217	A	0.018	--	0.000	--
		Construction p.m.	0.375	A	0.415	A	0.416	A	0.041	--	0.001	--
8.	Sepulveda Boulevard and Howard Hughes Parkway	Construction a.m.	0.219	A	0.279	A	0.280	A	0.061	--	0.001	--
		Construction p.m.	0.419	A	0.461	A	0.461	A	0.042	--	0.000	--
9.	Imperial Highway and La Cienega Boulevard	Construction a.m.	0.191	A	0.214	A	0.218	A	0.027	--	0.004	--
		Construction p.m.	0.453	A	0.497	A	0.498	A	0.045	--	0.001	--
10.	Imperial Highway and Main Street	Construction a.m.	0.499	A	0.719	C	0.732	C	0.233	Yes	0.013	--
		Construction p.m.	0.439	A	0.625	B	0.633	B	0.194	--	0.008	--

			BASELINE [A]		WITHOUT PROJECT [B]		WITH PROJECT [C]		CUMULATIVE IMPACT DETERMINATION [C]-[A]		CUMULATIVE CONSIDERABLE DETERMINATION/SIGNIFICANT IMPACT [C]-[B]	
	INTERSECTION	PEAK HOUR[1/]	V/C[2/]	LOS[3/]	V/C[2/]	LOS[3/]	V/C[2/]	LOS[3/]	CHANGE IN V/C	CUMULATIVE IMPACT?	CHANGE IN V/C	CUMULATIVELY CONSIDERABLE CONTRIBUTION?
11.	Imperial Highway and Pershing Drive	Construction a.m.	0.184	A	0.459	A	0.468	A	0.284	--	0.009	--
		Construction p.m.	0.316	A	0.598	A	0.607	B	0.291	--	0.009	--
12.	Imperial Highway and Sepulveda Boulevard	Construction a.m.	0.496	A	0.534	A	0.534	A	0.038	--	0.000	--
		Construction p.m.	1.004	F	1.078	F	1.078	F	0.074	Yes	0.000	--
13.	Imperial Highway and Nash Street	Construction a.m.	0.362	A	0.390	A	0.391	A	0.029	--	0.001	--
		Construction p.m.	0.239	A	0.273	A	0.274	A	0.035	--	0.001	--
14.	Imperial Highway and I-105 Ramp	Construction a.m.	0.513	A	0.588	A	0.591	A	0.078	--	0.003	--
		Construction p.m.	0.471	A	0.527	A	0.529	A	0.058	--	0.002	--
15.	Imperial Highway and I-405 Northbound Ramp	Construction a.m.	0.211	A	0.236	A	0.236	A	0.025	--	0.000	--
		Construction p.m.	0.480	A	0.521	A	0.522	A	0.042	--	0.001	--
16.	La Cienega Boulevard and Lennox Boulevard	Construction a.m.	0.164	A	0.183	A	0.184	A	0.020	--	0.001	--
		Construction p.m.	0.306	A	0.330	A	0.331	A	0.025	--	0.001	--
17.	La Cienega Boulevard and 111th Street	Construction a.m.	0.128	A	0.148	A	0.150	A	0.022	--	0.002	--
		Construction p.m.	0.311	A	0.349	A	0.351	A	0.040	--	0.002	--
18.	La Cienega Blvd. & I-405 Southbound Ramps North of Century	Construction a.m.	0.387	A	0.417	A	0.417	A	0.030	--	0.000	--
		Construction p.m.	0.410	A	0.442	A	0.442	A	0.032	--	0.000	--
19.	La Cienega Blvd. & I-405 Southbound Ramps South of Century	Construction a.m.	0.135	A	0.159	A	0.159	A	0.024	--	0.000	--
		Construction p.m.	0.284	A	0.335	A	0.335	A	0.051	--	0.000	--
20.	La Cienega Blvd. & I-405 Southbound Ramps North of Imperial	Construction a.m.	0.136	A	0.156	A	0.158	A	0.022	--	0.002	--
		Construction p.m.	0.218	A	0.258	A	0.260	A	0.042	--	0.002	--
21.	Sepulveda Boulevard and La Tijera Boulevard	Construction a.m.	0.337	A	0.362	A	0.365	A	0.028	--	0.003	--
		Construction p.m.	0.613	B	0.720	C	0.722	C	0.109	Yes	0.002	--

			BASELINE [A]		WITHOUT PROJECT [B]		WITH PROJECT [C]		CUMULATIVE IMPACT DETERMINATION [C]-[A]		CUMULATIVE CONSIDERABLE DETERMINATION/SIGNIFICANT IMPACT [C]-[B]	
	INTERSECTION	PEAK HOUR[1/]	V/C[2/]	LOS[3/]	V/C[2/]	LOS[3/]	V/C[2/]	LOS[3/]	CHANGE IN V/C	CUMULATIVE IMPACT?	CHANGE IN V/C	CUMULATIVELY CONSIDERABLE CONTRIBUTION?
22.	Sepulveda Boulevard and Lincoln Boulevard	Construction a.m.	0.457	A	0.500	A	0.501	A	0.044	--	0.001	--
		Construction p.m.	0.750	C	0.832	D	0.833	D	0.083	Yes	0.001	--
23.	Sepulveda Boulevard and Manchester Avenue	Construction a.m.	0.395	A	0.434	A	0.435	A	0.040	--	0.001	--
		Construction p.m.	0.711	C	0.821	D	0.822	D	0.111	Yes	0.001	--
24.	Westchester Parkway and Pershing Drive	Construction a.m.	0.151	A	0.388	A	0.409	A	0.258	--	0.021	--
		Construction p.m.	0.213	A	0.419	A	0.438	A	0.225	--	0.019	--
25.	Sepulveda Boulevard and Westchester Parkway	Construction a.m.	0.309	A	0.443	A	0.447	A	0.138	--	0.004	--
		Construction p.m.	0.649	B	0.793	C	0.799	C	0.150	Yes	0.006	--
26.	Sepulveda Boulevard and 76th/77th Street	Construction a.m.	0.337	A	0.364	A	0.365	A	0.028	--	0.001	--
		Construction p.m.	0.440	A	0.510	A	0.511	A	0.071	--	0.001	--
27.	Sepulveda Boulevard and 79th/80th Street	Construction a.m.	0.253	A	0.275	A	0.275	A	0.022	--	0.000	--
		Construction p.m.	0.513	A	0.552	A	0.552	A	0.039	--	0.000	--
28.	Sepulveda Boulevard and 83rd Street	Construction a.m.	0.211	A	0.229	A	0.229	A	0.018	--	0.000	--
		Construction p.m.	0.458	A	0.493	A	0.493	A	0.035	--	0.000	--
29.	La Cienega Boulevard and 104th Street	Construction a.m.	0.111	A	0.123	A	0.125	A	0.014	--	0.002	--
		Construction p.m.	0.276	A	0.304	A	0.304	A	0.028	--	0.000	--

NOTES:

1/ The hours of analysis include the construction a.m. peak (6:00 a.m. - 7:00 a.m.) and the construction p.m. peak (3:30 p.m. - 4:30 p.m.).

2/ Volume to capacity ratio. Includes an LADOT ATSAC benefit applied at each intersection with the exception of intersections #6 and #15, which are not a part of the LADOT system

3/ Level of Service range: A (excellent) to F (failure).

4/ -- Indicates "No Impact"

SOURCE: Ricondo & Associates, Inc., using TRAFFIX, March 2015.
Prepared by: Ricondo & Associates, Inc., March 2015.

Table 32: Operational Traffic LOS Impact Comparison: Cumulative Traffic

	INTERSECTION	PEAK HOUR[1/]	BASELINE [A] V/C[2/] OR DELAY	BASELINE [A] LOS[3/]	WITHOUT PROJECT [B] V/C[2/] OR DELAY	WITHOUT PROJECT [B] LOS[3/]	WITH PROJECT [C] V/C[2/] OR DELAY	WITH PROJECT [C] LOS[3/]	CUMULATIVE IMPACT DETERMINATION [C]-[A] CHANGE IN V/C	CUMULATIVE IMPACT DETERMINATION [C]-[A] CUMULATIVE IMPACT?	CUMULATIVE CONSIDERABLE DETERMINATION/SIGNIFICANT IMPACT [C]-[B] CHANGE IN V/C	CUMULATIVE CONSIDERABLE DETERMINATION/SIGNIFICANT IMPACT [C]-[B] CUMULATIVELY CONSIDERABLE CONTRIBUTION?
1.	Vicksburg Avenue and W. 96th Street	a.m.	0.04	A	0.046	A	0.054	A	0.014	No	0.008	No
		p.m.	0.113	A	0.122	A	0.125	A	0.012	No	0.003	No
2.	Avion Drive and W. 98th Street	a.m.	8.4	A	8.5	A	8.6	A	0.2	No	0.1	No
		p.m.	8.7	A	8.8	A	9.1	B	0.4	No	0.3	No
3.	Vicksburg Avenue and Century Blvd	a.m.	0.237	A	0.25	A	0.274	A	0.037	No	0.024	No
		p.m.	0.161	A	0.172	A	0.216	A	0.055	No	0.044	No
4.	Sepulveda Blvd and Century Blvd	a.m.	0.599	A	0.628	B	0.639	B	0.04	No	0.011	No
		p.m.	0.56	A	0.586	A	0.608	B	0.048	No	0.022	No
5.	Sky Way and World Way North [3/]	a.m.	0.322	A	0.353	A	0.34	A	0.018	No	-0.013	No
		p.m.	0.551	A	0.597	A	0.575	A	0.024	No	-0.022	No

NOTES:

1/ Volume to Capacity Ratio (V/C)

2/ Level of Service (LOS)

3/ V/C ratio at Sky Way and World Way North improved because of the change in project related traffic access pattern as explained in Appendix H.

SOURCE: Ricondo & Associates, Inc. December 2014.

PREPARED BY: Ricondo & Associates, Inc. December 2014.

Implementation of the Landside Access Modernization Program may have significant impacts to utilities and service systems; however, the CEQA process for this project has not yet been completed. Additionally, implementation of the proposed Project would not occur simultaneously with the Landside Access Modernization Program and would not result in a significant increase in impacts to Utilities and Service Systems and therefore would not be cumulatively considerable.

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

c. Less than Significant Impact with Mitigation Incorporated. *This Initial Study identifies potential significant impacts associated with biological resources and land use and planning. Mitigation measures have been identified for all potentially significant impacts to reduce them to less-than-significant levels. Project impacts related to aesthetics; air quality; cultural resources; geology and soils; greenhouse gas emissions; hazards and hazardous materials; hydrology and water quality; noise; public services; transportation/traffic; and utilities and service systems would be less than significant. The proposed project would have no impact on agriculture and forestry resources, mineral resources, population and housing, or recreation. Cumulative impacts would be less than significant. Therefore, the proposed Project would not result in environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly.*

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