

**EXHIBIT B**  
**RUNWAY 7L/25R RUNWAY SAFETY AREA AND ASSOCIATED  
IMPROVEMENTS PROJECT**

**CEQA FINDINGS**

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**California Environmental Quality Act Findings  
Runway 7L/25R RSA and Associated Improvements Project**

**I. Project Description Summary**

The City of Los Angeles, through its aviation department, Los Angeles World Airports (LAWA), is proposing the Runway 7L/25R Safety Area Project and Associated Improvements Project at the Los Angeles International Airport (LAX or Airport). LAWA proposes to construct improvements to the Runway Safety Area (RSA) for Runway 7L/25R, and to reconstruct pavement on the eastern segments of Runway 7L/25R and Taxiway B, and the aircraft parking apron west of Air Freight Building No. 8 (collectively, the proposed Project). The proposed Runway 7L/25R RSA improvements of the proposed Project primarily involve the west end of Runway 7L. The elements of the proposed Project include:

- Extend the Runway 7L/25R pavement, 832 feet to the west. The Runway 7L threshold will remain at its current location for landings, resulting in an 832-foot displaced threshold;
- Implement declared distances to maintain existing take-off run available and take-off distance available;
- Grade and compact the RSA, approximately 500 feet wide by 168 feet long, beyond the new Runway 7L runway end;
- Grade but not pave an additional area approximately 500 feet wide by 957 feet long to RSA standards beyond the Runway 7L safety area to maintain the option of shifting operations to the west on the runway at a future date;
- Construct a blast pad west of the Runway 7L extension;
- Extend parallel Taxiway H 832 feet to the west;
- Construct a new taxiway connector (B17) from Taxiway H to Taxiway C;
- Decommission Taxiway B16 from Taxiway H to Taxiway B;
- Reconstruct a portion of Taxiway B at the intersection with new Taxiway B17;
- Reconstruct a portion of Taxiway U from Taxiway B to Runway 7L/25R;
- Relocate the existing Runway 25R Localizer Antenna and shelter to the west of the graded, unpaved area;
- Relocate other FAA equipment shelters west of Taxiway B17;
- Relocate existing service road west, beyond the proposed 957-foot grading extension and provide access roads to nav aids and equipment shelters;
- Replace existing Approach Lighting System (ALS) towers where the new runway pavement will be constructed with in-pavement lights; and
- Modify the existing Runway and Taxiway lighting and markings in the newly constructed pavements.

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For west-flow operations (the most common direction for departures at LAX Runway 7L/25R), declared distances would provide an Accelerate-Stop Distance Available (ASDA), a Take Off Run Available (TORA), and Take Off Distance Available (TODA) of 12,091 feet, and a Landing Distance Available (LDA) of 11,134 feet. For east-flow operations (the least common direction for departures at LAX Runway 7L/25R), the proposed declared distances would provide an ASDA, TORA, and TODA of 12,091 feet and an LDA of 11,259 feet. This strategy allows LAWA to satisfy RSA requirements without changing the amount of runway currently available for take-off and landing operations.

Pavement reconstruction activities would be undertaken at the locations listed below:

- Full-depth reconstruction of existing pavement from the Runway 25R threshold to Taxiway F (1,225 feet long by 150 feet wide by approximately 3 feet deep);
- Full-depth reconstruction of the keel portion of Runway 7L/25R from Taxiway F westward to Taxiway J (600 feet long by 50 feet wide by approximately 3 feet deep);
- Replace existing pavement surface of the keel portion of Runway 7L/25R keel from Taxiway J west to the Taxiway N (6,447 feet long by 50 feet wide);
- Full-depth reconstruction of Taxiway B, from its terminus near the Runway 25R threshold approximately 2,128 feet west to a point between Taxiway F and Taxiway C3, including connecting Taxiway C1 (2,128 feet long by 176 feet wide by approximately 3 feet deep);
- Replace existing apron pavement in the north of Taxiway C, between Taxiway C1 and Air Freight Building No. 8;
- Replace the existing jet blast fence east of Runway 25R; and,
- Installation of in-pavement approach lights.

## **II. Project Objectives**

### *RSA Improvement Objectives*

The primary objectives of the Runway 7L/25R RSA improvements are to satisfy 14 CFR Part 139 certification requirements; bring the RSA for Runway 7L/25R into compliance with FAA airport design standards; and to satisfy P.L. 109-115, which requires all 14 CFR Part 139 certificated airports to bring their RSAs into compliance with FAA airport design standards no later than December 31, 2015. Based upon agency and public comments received, LAWA performed further analysis that resulted in the proposed Project being refined. In addition to those stated above, LAWA hopes to maintain the option to physically shift operations of Runway 7L/25R to the west at a future date without negatively affecting aircraft operations at LAX, while still providing RSAs compliant with federal requirements. Compliance with FAA airport design standards and maintaining the option to shift the runway would be accomplished by extending Runway 7L to the west, grading additional area to RSA standards west of the Runway 7L RSA, and the use of declared distances.

### *Pavement Reconstruction Objectives*

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The primary objective of the Pavement Reconstruction component of the proposed Project is to reconstruct old and deteriorating pavement at the eastern ends of Runway 7L/25R and Taxiway B, and in the aircraft parking apron, between Taxiway C1 and Air Freight Building No.8. The proposed Project would replace areas of pavement that are in poor condition. The existing pavement is considered to be in poor condition with a Pavement Condition Index (PCI) rating from 20 to 70 (out of 100). Pavement reconstruction activities may include, but not be limited to, demolition and removal of existing pavement and base materials, placement of new sub-base and/or base materials, installation of new Portland Cement Concrete (PCC) pavement, and application of runway and taxiway marking on the new pavement section

### **III. Procedural History**

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). P.L. 109-115 which requires completion of 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 FAA airport design standards by December 31, 2015.

An Initial Study (IS) was prepared and made available to the public on October 5, 2012 for the proposed Project. The IS evaluated all the environmental topics required by CEQA as outlined in Appendix G of the *State CEQA Guidelines*. The findings of the IS determined that an Environmental Impact Report (EIR) would be prepared, with any environmental topics that were determined in the IS to have no impacts or less than significant impacts without mitigation not being carried forward for further analysis in the Draft EIR.

LAWA issued a Notice of Preparation (NOP) to provide early consultation in the preparation of the Draft EIR and invited public agencies and the public to comment on the scope of analysis in the Draft EIR. The NOP was filed on October 5, 2012 with the California Office of Planning and Research (OPR) State Clearinghouse, the County of Los Angeles Clerk's Office, and the City of Los Angeles Clerk's Office. This began a 30-day scoping period that was to end on November 5, 2012. Due to public requests, LAWA extended the public review period for the NOP by 15 days, and comments on the Initial Study/NOP were accepted through November 20, 2012. The NOP was published in the *Los Angeles Times*, *The Argonaut*, and *Daily Breeze* on October 5, 2012.

One public scoping meeting was held on October 17, 2012 at the Proud Bird Restaurant located at 11022 Aviation Blvd, Los Angeles, CA 90045, to receive public comment regarding the scope and content of the environmental information to be included in the Draft EIR. In response to the public outreach and participation program undertaken by LAWA, three comments from the general public and four comment letters from public agencies were received, which were considered in the preparation of the Draft EIR.

On September 19, 2013, the City of Los Angeles published a Draft EIR for the proposed Runway 7L/25R Runway Safety Area (RSA) and Associated Improvements Project. In accordance with CEQA, the Draft EIR was circulated for

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public review for 45 days, with the review period closing on November 4, 2013. One public meeting was held during the comment period on October 3, 2013.

Based on comments received from the South Coast Air Quality Management District (SCAQMD) on the Draft Environmental Impact Report (EIR) for the Runway 7L/25R Runway Safety Area (RSA) and Associated Improvements Project, LAWA determined that a revised Draft EIR needed to be prepared and circulated for review prior to issuance of a Final EIR. The revised Draft EIR presented updates to the air quality (Section 4.1) and human health risk assessment (Section 4.4) analyses that were presented in the Draft EIR. On December 12, 2013, the City of Los Angeles published a Revised Draft EIR for the Runway 7L/25R Runway Safety Area (RSA) and Associated Improvements Project.

In accordance with Appendix K (Criteria for Shortened Clearinghouse Review), of the State *California Environmental Quality Act (CEQA) Guidelines*, LAWA requested a shortened Clearinghouse review period of 30 days for the Revised Draft EIR. Because the changes to the Draft EIR were in response to comments received on the Draft EIR, LAWA obtained a shortened review period in compliance with the State *CEQA Guidelines*. The Revised Draft EIR was circulated for public review for 30 days, with the review period closing on January 13, 2014. No comments on the Revised Draft EIR were received.

The Final EIR (FEIR) incorporates and responds to comments received on the Draft EIR and includes revisions to the Revised Draft EIR, as well as other Final EIR material. The EIR was prepared in accordance with CEQA, Public Resources Code §21000 et seq. and in compliance with CEQA Guidelines Title 14 California Code of Regulations §15000 et seq., as well as with the City of Los Angeles CEQA Guidelines. LAWA, the Board of Airport Commissioners (BOAC), and other decision-makers will use the Final EIR and associated documents to inform their decisions on the Runway 7L/25R Runway Safety Area and Associated Improvements Project, as CEQA requires.

#### **IV. Environmental Impacts and Findings**

Pursuant to Public Resources Code §21081 and CEQA Guidelines §15091, no public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant effects on the environment that would occur if the project is approved or carried out unless the public agency makes one or more of the following findings with respect to each significant impact:

- Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment.
- Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency.
- Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report.

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BOAC has made one or more of these specific written findings regarding each significant impact associated with the proposed Project. Those findings are presented below, along with a presentation of facts in support of the findings. Concurrent with the adoption of these findings, BOAC adopts the Mitigation Monitoring and Reporting Program (CEQA Guidelines §15097(a)).

#### **A. Findings on Less than Significant Impacts**

Based on the findings of the EIR, BOAC has determined that the proposed Project will have less than significant impacts (with implementation of applicable LAX Master Plan commitments and mitigation measures identified in the Final EIR) for the environmental resources summarized in **Table 1** below. For each of the impacts set forth below, the BOAC adopts and incorporates by reference the discussion of each of the impacts in the detailed issue area analyses in Chapter 4 and Chapter 5 of the Draft EIR and Chapter 4 of the Revised Draft EIR as the rationale for the conclusion that there would be no impact or less than significant impacts.

Findings: Based on substantial evidence in the administrative record including the analyses contained in Chapter 4 and Chapter 5 of the Draft EIR and Chapter 4 of the Revised Draft EIR, the BOAC hereby finds and determines that the impacts associated with Aesthetics; Air Quality – Operations; Greenhouse Gas Emissions; Hazards and Hazardous Materials; Human Health Risk – Cancer, Chronic non-Cancer Hazards, and Health Risks to On-Airport Workers; Hydrology and Water Quality; Noise; and Transportation/Traffic are less than significant. Because these impacts are less than significant and the Project’s contribution to cumulative impacts is less than cumulatively considerable, mitigation beyond what is required as part of this EIR, which will be included in a Mitigation Monitoring and Reporting Program for the Project, is not required.

Additionally, the Initial Study included in the October 2012 LAX Runway 7L/25R Runway Safety Area and Associated Improvements Project NOP, included as Appendix A of the Draft EIR determined that the effects on the following resource areas would result in no impacts, or less than significant impacts: agricultural and forestry resources, biological resources, cultural resources, geology and soils, land use and planning, mineral resources, population and housing, public services, recreation, and utility and service systems. The BOAC finds that these impacts either would not occur or are less than significant and adopts the analysis contained in the NOP as the rationale for this finding.

**Table 1**

**Less Than Significant Impacts**

<b>Environmental Impacts</b>	<b>Impact Determinations</b>	<b>Project Design Features / Mitigation Measures</b>	<b>Impacts After Mitigation</b>
<b>AIR QUALITY</b>			
Operations	Less than Significant	Not applicable as operational capacity would not be modified	Less than Significant
Cumulative	Less than Significant	Not applicable as operational capacity would not be modified	Less than Significant
<b>GREENHOUSE GAS EMISSIONS</b>			
Construction	Less than Significant	Implementation of LAX Master Plan Mitigation Measure (MM)-AQ-2 Construction Related Measure	Less than Significant
Operations	Less than Significant	Not applicable as operational capacity would not be modified	Less than Significant
Consistency with GHG Reduction Plans	Less than Significant	Not applicable as operational capacity would not be modified	Less than Significant
Cumulative – Construction	Less than Significant	Implementation of LAX Master Plan Mitigation Measure (MM)-AQ-2 Construction Related Measure	Less than Significant
Cumulative - Operations	Less than Significant	Not applicable as operational capacity would not be modified	Less than Significant
<b>HAZARDS AND HAZARDOUS MATERIALS</b>			
Construction	Less than Significant	<ul style="list-style-type: none"> <li>• Implementation of LAX Master Plan Hazardous Mitigation (HM)-1 Ensure Continued Implementation of Existing Remediation Efforts</li> <li>• Implementation of LAX Master Plan HM-2 Handling of Contaminated Materials Encountered During Construction</li> </ul>	Less than Significant

**Table 1 (Continued)**

**Less Than Significant Impacts**

<b>Environmental Impacts</b>	<b>Impact Determinations</b>	<b>Project Design Features / Mitigation Measures</b>	<b>Impacts After Mitigation</b>
Cumulative construction	Less than Significant	Same as under Construction	Less than Significant
<b>HUMAN HEALTH RISK ASSESSMENT</b>			
Construction – DPM cancer and chronic non-cancer hazards risk	Less than Significant	<ul style="list-style-type: none"> <li>• Implementation of LAX Master Plan MM-AQ-1 General Air Quality Control Measures</li> <li>• Implementation of LAX Master Plan MM-AQ-2 Construction Related Measure</li> </ul>	Less than Significant
Construction – Formaldehyde acute non-cancer hazard risk	Less than Significant	<ul style="list-style-type: none"> <li>• Implementation of LAX Master Plan MM-AQ-1 General Air Quality Control Measures</li> <li>• Implementation of LAX Master Plan MM-AQ-2 Construction Related Measure</li> </ul>	Less than Significant
Construction – Health risks to on-airport workers	Less than Significant	<ul style="list-style-type: none"> <li>• Implementation of LAX Master Plan MM-AQ-1 General Air Quality Control Measures</li> <li>• Implementation of LAX Master Plan MM-AQ-2 Construction Related Measure</li> </ul>	Less than Significant
Cumulative	Less than Significant	Same as under Construction	Less than Significant



**Table 1 (Continued)**

**Less Than Significant Impacts**

Environmental Impacts	Impact Determinations	Project Design Features / Mitigation Measures	Impacts After Mitigation
<b>HYDROLOGY AND WATER QUALITY</b>			
Construction	Less than Significant	<ul style="list-style-type: none"> <li>• Relocation of existing drainage and pipeline infrastructure</li> <li>• Construction of new storm drain pipeline segments, inlets, and storm treatment filters</li> <li>• Remove and replace sections of the existing storm drain pipelines, inlets, and manholes</li> <li>• Installation of Stormwater runoff conveyance structures</li> <li>• Installation of stormwater quality features and construction of erosion control pavement</li> <li>• Infrastructure to accommodate the LADBS recommended 50-year event</li> <li>• An orifice plate</li> <li>• Infield areas will be graded at approximately 1.5% - 3.0% percent slope from the edge of runway and taxiway shoulders</li> <li>• New storm water filtration system</li> <li>• Infiltration Systems</li> <li>• Bio-Filtration/Retention Systems</li> <li>• Stormwater Capture and Re-use</li> <li>• Mechanical/Hydrodynamic Units</li> <li>• Combination of Any of the Above</li> <li>• Implementation of LAX Master Plan HWQ-1 Develop Detailed Drainage Plan</li> <li>• Implementation of LAX Master Plan MM-HWQ-1 Update Regional Drainage Facilities</li> </ul>	Less than Significant

**Table 1 (Continued)**

**Less Than Significant Impacts**

<b>Environmental Impacts</b>	<b>Impact Determinations</b>	<b>Project Design Features / Mitigation Measures</b>	<b>Impacts After Mitigation</b>
Operations	Less than Significant	Not applicable as operational capacity would not be modified	Less than Significant
Cumulative Construction	Less than Significant	Same as under Construction	Less than Significant
Cumulative Operations	Less than Significant	Not applicable as operational capacity would not be modified	Less than Significant
<b>NOISE</b>			
Construction	Less than Significant	<ul style="list-style-type: none"> <li>• Haul Routes</li> <li>• Internal Circulation</li> <li>• Construction Staging</li> <li>• Implementation of LAX Master Plan MN-N-7 Construction Noise Control Plan</li> <li>• Implementation of LAX Master Plan MN-N-8 Construction Staging</li> <li>• Implementation of LAX Master Plan MN-N-9 Equipment Replacement</li> <li>• Implementation of LAX Master Plan MN-N-10 Construction Scheduling</li> <li>• Implementation of LAX Master Plan Construction Scheduling ST-16</li> </ul>	Less than Significant
Operations	Less than Significant	Not applicable as operational capacity would not be modified	Less than Significant
Cumulative Construction	Less than Significant	Same as under Construction	Less than Significant
Cumulative Operations	Less than Significant	Not applicable as operational capacity would not be modified	Less than Significant

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## B. Findings of Significant and Unavoidable Impacts

### 1) Air Quality - Construction

Description of Effects: As analyzed in the Runway 7L/25R RSA and Associated Improvements Project Revised Draft EIR, Section 4.1.6, implementation of the proposed Project would result in construction-related daily (short-term) emissions of carbon monoxide (CO), volatile organic compounds (VOC), and oxides of nitrogen (NO<sub>x</sub>) that would exceed South Coast Air Quality Management District (SCAQMD) significance thresholds for unmitigated construction emissions. These calculations include reductions achieved with implementation of mandated dust control measures (as required by SCAQMD Rule 403 - Fugitive Dust), as well as implementation of exhaust controls.

The proposed Project's peak daily emissions of CO, VOC, and NO<sub>x</sub> would exceed the SCAQMD regional construction emissions thresholds. The majority of the construction emissions for the proposed Project would be associated with the shift in runway use during the 110-day runway closure. To a lesser extent, the pavement reconstruction of Taxiways B and F and the improvements to Runway 25R would also contribute to the exceedances. As discussed in Section 4.1.6 of the Revised Draft EIR, Tier 4 pollution control measures were included in the evaluation of construction emissions; however, an exceedance of NO<sub>x</sub> would still occur during construction, mainly attributable to the increased taxi time during the runway closure. Therefore, construction emissions of CO, VOC, and NO<sub>x</sub> would be significant.

Construction of the proposed Project would also result in an exceedance of the 1-hour California Ambient Air Quality Standards (CAAQS) for nitrogen dioxide (NO<sub>2</sub>). The eight exceedances of the 1-hour NO<sub>2</sub> concentrations included both Project-related emissions and background ambient levels and were found to be between one and eighteen percent above the CAAQS thresholds. The cause of the exceedance of the 1-hour NO<sub>2</sub> CAAQS threshold is due to the shift in runway use for aircraft operations that would occur during the proposed 3.5-month closure of Runway 7L/25R. Therefore, construction concentrations for NO<sub>2</sub> would be significant.

#### *Cumulative*

The proposed Project would have a cumulatively considerable contribution for construction emissions and would result in a cumulatively significant construction impact as discussed in Section 4.1.7 of the Revised Draft EIR. Construction emissions for other projects were estimated based on the ratio of the project costs as compared to the proposed Project, the ratio of construction trip intensity, and the ratio of the emissions using the proposed Project as a reference baseline. The cumulative construction project emissions would exceed the SCAQMD daily thresholds of significance.

Findings: Based on substantial evidence in the administrative record, including Section 4.1 of the Revised Draft EIR, the BOAC hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or

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substantially lessen the significant construction air quality impacts identified in the Final EIR, including as related to the Project's contribution to cumulative air quality impacts.

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. Specifically, at least 15 construction-related LAX Master Plan mitigation measures have been identified and establish a commitment and process for incorporating all technically feasible air quality mitigation measures into each component of the Runway 7L/25R Runway Safety Area and Associated Improvements Project. Also, the addition of Measure 2n, 2o, and 2p to Mitigation Measure LAX-AQ-2, as identified in Section 4.1.8 of the Revised Draft EIR and Section 3 of the Final EIR, will further reduce construction-related air quality and cumulative air quality impacts associated with the Project.

Project design features described in Section 4.1.5 of the Revised Draft EIR also include those required by the Community Benefits Agreement. These 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.

There are no feasible measures that could be adopted at this time to reduce air emissions further. Therefore, no additional project-specific mitigation measures are recommended in connection with the Runway 7L/25R RSA and Associated Improvements Project.

## **2) Human Health Risk Assessment – Acute Non-Cancer Hazard Risk**

Description of Effects: As discussed in the Runway 7L/25R RSA and Associated Improvements Project Revised Draft EIR, Section 4.4.6, during construction of the proposed Project, an incremental acute non-cancer hazard risk index greater than one for acrolein would result at some of the receptor locations analyzed. Acrolein and formaldehyde are responsible for the majority of all predicted acute non-cancer health hazards associated with construction of the proposed Project; acrolein is primarily associated with aircraft emissions while the primary source of formaldehyde is from diesel-powered construction equipment. (For a detailed discussion of uncertainties regarding the presence of acrolein in aircraft emissions, see Section 7.3 of Technical Report S-9a of the LAX Master Plan Final EIR). Acute exposure to acrolein may result in mild irritation of eyes and

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mucous membranes. Acute non-cancer health hazards for toxic air contaminants (TAC) other than acrolein and formaldehyde are orders of magnitude below 1.

As with cancer risks and chronic non-cancer health hazards, acute non-cancer hazard risks were analyzed at 335 grid points within the study area to determine potential impacts during construction. As discussed in Section 4.4.6 of the Revised Draft EIR, Project-related maximum acute hazard quotients for acrolein during construction are estimated to be 3.3 for residents living at the peak hazard location, 1.9 for school children, 0.6 for recreational users, and 2.0 for off-site adult workers. However, 301 of 326 off-site grid nodes have incremental acute hazard quotients for acrolein of less than 1. Of the 35 grid nodes with incremental acute hazard quotients for acrolein greater than 1, only five of the grid nodes are greater than 2. These grid nodes are located south of Runway 7L/25R in the south airfield. Additional receptors located at 50 meter increments to the south of the airport show a 54 percent reduction of acrolein concentrations (acute hazard quotient of 1.5) at a distance of 150 meters, but does not fall below the threshold of significance until approximately 900 meters south of the fence line. Project-related maximum acute hazard quotients for formaldehyde during construction are estimated to be below the threshold of significance of 1.

The acute REL for acrolein has an uncertainty factor of 60.<sup>1</sup> This factor indicates a moderate uncertainty in the Reference Exposure Level (REL) based on specific sources of variability not addressed in the toxicological studies, such as individual variation and interspecies differences. Although the maximum acute hazard quotients for acrolein during construction of the proposed Project is greater than 1, it should be noted that the acute REL is set at or below a level at which no adverse health impacts are expected for the majority of the population. Hence, it represents the tail-end of a distribution and not a specific "bright line" beyond which adverse effects are certain; instead any adverse acute non-cancer health effects (mucous membrane irritation) would be part of a complex probabilistic process. Although the maximum acute hazard quotient estimated as 3.3 is above the threshold of significance of 1, the value is still close to the threshold for acute effects, given the uncertainty in the toxicity factor, and may represent minimal actual acute non-cancer health hazards. Thus, an acute hazard quotient of 3.3 does not mean that adverse effects would definitely occur in the receptor population; rather, it indicates that such effects cannot be ruled out on the basis of current knowledge.

Because the acute hazard quotients for acrolein for receptors representing residents, school child, and off-site adult workers are above the threshold of significance of 1, acute non-cancer health hazard impacts during construction of the proposed Project would be significant.

#### *Cumulative*

Predicted concentrations of TAC released during the construction of the proposed Project estimate that acute non-cancer health hazards would be above

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<sup>1</sup> California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Technical Support Document for the Derivation of Noncancer Reference Exposure Levels*, December 2008.

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the significance threshold of one for acrolein. The assessment of cumulative acute non-cancer health hazards follows the methods used to evaluate cumulative acute non-cancer health hazards presented in the LAX Master Plan Final EIR<sup>2</sup> (Section 4.24.1.7 and Technical Report S-9a, Section 6.3), incorporating updated National-Scale Air Toxics Assessment tables from 2005. USEPA-modeled emission estimates by census tract were used to estimate annual average ambient air concentrations. These census tract emission estimates are subject to high uncertainty, and USEPA warns against using them to predict local concentrations. Thus, for the analysis of cumulative acute non-cancer health hazards, estimates for each census tract within Los Angeles County were identified, and the range of concentrations was used as an estimate of the possible range of annual average concentrations in the general vicinity of the airport. This range of concentrations was used to estimate a range of acute non-cancer hazard indices using the same methods described in the LAX Master Plan Final EIR<sup>3</sup> (Section 4.24.1.7 and Technical Report S-9a, Section 6.1). The methodology entails converting the USEPA annual average estimates to maximum 1-hour average concentrations by dividing the annual average estimates by 0.08.<sup>4</sup> Then the 1-hour average concentrations were divided by the acute REL to calculate acute hazard indices. The range of hazard indices was then used as a basis for comparison with estimated maximum acute non-cancer health hazards for the proposed Project. The relative magnitude of acute non-cancer health hazards calculated on the basis of the USEPA estimates and maximum hazards estimated for the proposed Project were taken as a general measure of relative cumulative impacts. Emphasis must be placed on the relative nature of these estimates. Uncertainties in the analysis preclude estimation of absolute impacts.

When USEPA annual average estimates are converted to possible maximum 1-hour average concentrations, acrolein acute hazard indices are estimated to range from 0.03 to 1.5, with an average of 0.4; formaldehyde acute hazard indices are estimated to range from 0.1 to 2.2, with an average of 1 for locations within the HHRA study area. Predicted overall maximum incremental acute non-cancer health hazards for the proposed Project associated with acrolein ranged from 1.9 to 3.3; those associated with formaldehyde ranged from 0.4 to 0.8. Results suggest that the proposed Project would add to total 1-hour maximum acrolein concentrations at some locations in the HHRA study area and, therefore, to cumulative acute non-cancer health hazards associated with exposure to acrolein.

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.

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<sup>2</sup> City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004.

<sup>3</sup> City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004.

<sup>4</sup> California Air Resources Board. 2003. *HARP User Guide: Appendix H Recommendations for Estimating Concentrations of Longer Averaging Periods from the Maximum One-Hour Concentration for Screening Purposes*. December. Available: [www.arb.ca.gov/toxics/harp/harpug.htm](http://www.arb.ca.gov/toxics/harp/harpug.htm)

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Based on this SCAQMD policy, chronic non-cancer hazard indices associated with airport emissions of acrolein under the proposed Project would be cumulatively considerable.

Findings: Based on substantial evidence in the administrative record, including Section 4.4 of the Revised Draft EIR, the BOAC hereby finds that changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant construction-related human health risk impacts identified in the Final EIR.

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 air quality control measures set forth by LAWA for development projects at LAX take into account LAX Master Plan commitments and mitigation measures, Community Benefits Agreement and Stipulated Settlement measures, and measures identified in EIRs for other projects at LAX. 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 emissions.

One potential mitigation measure that LAWA could implement would be to shift the runway closure to summer months when school is not in session to reduce the effects of the temporary increased acrolein emissions on school children. However, because July and August are historically the peak months for aircraft operations at LAX, closure of the runway during the summer months would cause the greatest impact to airfield operations and aircraft delays, which would result in the highest amount of emissions associated with the rerouting of aircraft during construction. To minimize impacts to airfield operations and aircraft delays (and by extension aircraft emissions), LAWA is committed to scheduling the runway closure at a time of year with historically lower numbers of aircraft operations to the extent possible.

LAX Master Plan mitigation measures will reduce TAC emissions associated with the proposed Project. However, even with implementation of these measures, acute non-cancer health hazards due to exposure to acrolein at some fence-line receptors would exceed the threshold of significance during the rerouting of aircraft while Runway 7L/25R is closed for construction of the proposed Project. The emission of acrolein is from operation of aircraft engines, which cannot be regulated or controlled by LAWA; hence, additional mitigation measures to address this impact are infeasible. As such, acute non-cancer health hazard impacts during construction of the proposed Project are considered to be significant and unavoidable, and may also result in a cumulatively considerable contribution to cumulative impacts related to acute non-cancer health hazards.

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## C. Findings on Project Alternatives

### 1) Potential Alternatives Screened-Out from Further Considerations

#### *Alternative Site*

Alternative sites were not analyzed because the proposed Project is designed specifically to bring the Runway 7L/25R RSA in compliance with FAA RSA design standards and to replace the pavement at the specified locations.

Findings: The BOAC hereby finds that specific economic, legal, social, technological, or other considerations make the adoption of this alternative infeasible and rejects this alternative because it would not meet the objectives of the project and would not bring the Runway 7L/25R RSA into compliance with FAA airport design standards as required by Public Law 109-115.

#### *Standard RSAs Alternative*

The Standard RSAs Alternative would develop a traditional, graded RSA that meets FAA airport design standards. This alternative would remove and/or relocate all objects within the standard RSA footprint (500-foot wide and 1,000 feet beyond each runway end), including existing navigational aids and sections of a road and railroad. The development of a standard RSA would maintain the existing landing and take-off distances available to arriving and departing aircraft.

The Standard RSAs Alternative would require a portion of an existing airfield service road to have controlled access at the east end of the runway, as it would cross the extended Runway 25R. Aviation Boulevard and the Burlington Northern Santa Fe (BNSF) Harbor Subdivision railroad right-of-way (ROW), located to the east of Runway 25R, would need to be grade-separated due to the extension of Runway 25R.<sup>5</sup>

Findings: Because of the complexities of grade-separating Aviation Boulevard and the BNSF Harbor Subdivision ROW (both requiring off-airport right-of-way acquisition and construction), and the time and excessive costs associated with displacement, relocation, and construction, it is highly unlikely that this alternative could be constructed by the required completion date of December 31, 2015. The BOAC hereby finds that specific economic, legal, social, technological, or other considerations make the adoption of this alternative infeasible and rejects this alternative because it would not meet the objectives of the project.

#### *Reduced Runway Alternative*

The Reduced Runway Alternative would physically reduce Runway 7L/25R from its present length of 12,091 feet to 10,970 feet. Under this alternative, the Runway 7L threshold would be relocated east approximately 289 feet and the 25R threshold would be relocated westward approximately 832 feet.

The Reduced Runway Alternative would have a substantial impact on usable runway length. Because the existing runway pavement beyond the relocated

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<sup>5</sup> The Harbor Subdivision railroad ROW is a freight corridor owned and operated by the Burlington North-Santa Fe Company. The ROW is located adjacent to the Airport property line along Aviation Boulevard from Imperial Highway to Century Boulevard, which it crosses on a bridge.



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thresholds would not be available for any aircraft operations, this alternative would impose operational restrictions on certain large aircraft in order for them to operate on a reduced runway. The available takeoff length of Runway 7L/25R under the Reduced Runway Alternative, for both 7L and 25R departures, would be reduced by 1,121 feet. The amount of Runway 7L/25R available for landing under the Reduced Runway Alternative would be reduced by approximately 1,121 feet on the Runway 7L end (east flow) and 289 feet on the Runway 25R end (west flow).

According to the LAX Master Plan, the most demanding runway length requirements at LAX are generated by the Boeing 747-200/300 and the 747-400, which require 11,500 and 11,100 feet of runway for departures, respectively, at 100 percent of maximum takeoff weight. Other aircraft, such as the MD-11, Boeing 737-300, and Boeing 737-400 require runway lengths between 10,000 feet and 11,000 feet for departures when at maximum takeoff weight. LAX generates a substantial amount of long-haul and international air carrier departures, including passenger and all-cargo flights.

Findings: A reduction in runway length would impose operational restrictions on these aircraft, which would include, but not be limited to, reduced fuel loads, reduced number of passengers, and/or reduced cargo to meet weight restrictions and performance requirements of a reduced runway. The BOAC hereby finds that specific economic, legal, social, technological, or other considerations make the adoption of this alternative infeasible and rejects this alternative because it would not meet the objectives of the project.

#### *Declared Distances Alternative*

The Declared Distances Alternative would implement declared distances on Runway 7L/25R to obtain the FAA RSA dimensions. However, because there are physical limitations in implementing the full 1,000 feet of RSA length on the east end of Runway 7L/25R (Aviation Boulevard and the BNSF Harbor Subdivision railroad ROW), what would result is a shortening of the useable runway on which operations could occur. Specifically, the ASDA and LDA would be reduced by 832 feet for aircraft departing from Runway 25R end.

Findings: A reduction in useable runway length would impose operational restrictions on aircraft operating at LAX, which would include, but not be limited to, reduced fuel loads, reduced number of passengers, and/or reduced cargo to meet weight restrictions and performance requirements of a reduced runway. The BOAC hereby finds that specific economic, legal, social, technological, or other considerations make the adoption of this alternative infeasible and rejects this alternative because it would not meet the objectives of the project.

## **2) Alternatives Carried Forward for Full Evaluation**

### *No Project Alternative*

The No Project Alternative is required by Section 15126.6 (e)(2) of the CEQA Guidelines and assumes that the proposed Project would not be implemented. The No Project Alternative allows decision-makers to compare the impacts of

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approving the proposed Project with the impacts of not approving the proposed Project. However, “no project” does not mean that development on the Project site would be prohibited. Instead, the No Project Alternative includes “what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.”<sup>6</sup>

Under the No Project Alternative, the RSA improvements as described in Section 2.4.1.1 of the Draft EIR, would not occur and LAWA would be in non-compliance with Public Law 109-115, which requires all 14 CFR Part 139 certificated airports to comply with FAA RSA design guidelines by December 31, 2015. Regarding pavement reconstruction, it is reasonably foreseeable that under the No Project Alternative, typical, as-needed maintenance repair of poor quality pavement would still be required on Runway 7L/25R, Taxiway B, and the apron west of Air Freight Building No.8 to maintain safe airport operations.

Findings: The BOAC hereby finds that specific economic, legal, social, technological, or other considerations make the adoption of this alternative infeasible and rejects this alternative because it would not meet the objectives of the project.

*Reduced Grading Alternative (RSA Alternative Refinement #2)*

Under a Reduced Grading Alternative (RSA Alternative Refinement #2), the area that would be graded to the west of the Runway 7L extension would be limited to 168 feet. The rationale for this alternative is that the amount of construction activity on the west end of Runway 7L/25R would be of reduced intensity due to the reduced amount of grading that would be required as 1.92 acres of grading would be required under the Reduced Grading Alternative (RSA Alternative Refinement #2) versus 12.91 acres under the proposed Project.

Under the Reduced Grading Alternative (RSA Alternative Refinement #2), the following proposed Project RSA improvements would be implemented:

- Extend the Runway 7L/25R pavement, 832 feet to the west. The Runway 7L threshold would remain at its current location for landings, resulting in an 832-foot displaced threshold;
- Implement declared distances to maintain existing take-off run available and take-off distance available;
- Grade and compact the RSA, approximately 500 feet wide by 168 feet long, beyond the new Runway 7L runway end;
- Construct a blast pad west of the Runway 7L extension;
- Extend parallel Taxiway H 832 feet to the west;
- Construct a new taxiway connector (B17) from Taxiway H to Taxiway C;
- Decommission Taxiway B16 from Taxiway H to Taxiway B;

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<sup>6</sup> CEQA Guidelines, §15126.6 [e][2]

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- Reconstruct a portion of Taxiway B at the intersection with new Taxiway B17;
  - Reconstruct a portion of Taxiway U from Taxiway B to Runway 7L/25R;
  - Relocate the existing Runway 25R Localizer Antenna and shelter to the west of the graded, unpaved area;
  - Replace existing Approach Lighting System (ALS) towers where the new runway pavement will be constructed with in-pavement lights; and
  - Modify the existing Runway and Taxiway lighting and markings in the newly constructed pavements.

Under the Reduced Grading Alternative (RSA Alternative Refinement #2), the following proposed Project RSA improvements would not be implemented:

- Grade but not pave an additional area approximately 500 feet wide by 957 feet long to RSA standards beyond the Runway 7L safety area to maintain the option of shifting operations to the west on the runway at a future date;
- Relocate other FAA equipment shelters west of Taxiway B17; and
- Relocate existing service road west, beyond the proposed 957- foot grading extension and provide access roads to NAVAIDS and equipment shelters.

All of the pavement reconstruction elements under the proposed Project would also occur under the Reduced Grading Alternative (RSA Alternative Refinement #2).

Findings: The Reduced Grading Alternative (RSA Alternative Refinement #2) would meet all but one of the proposed Project objectives. The Reduced Grading Alternative (RSA Alternative Refinement #2) would not allow the option of shifting the runway at a later time, which was requested by the public during the scoping period. The BOAC hereby finds that specific economic, legal, social, technological, or other considerations make the adoption of this alternative infeasible and rejects this alternative because it would not meet the objectives of the project.

#### **D. Location and Custodian of Records**

The documents and other materials that constitute the administrative record for LAWA's action related to the proposed Project are located at the City of Los Angeles, Los Angeles World Airports, 1 World Way, 2<sup>nd</sup> floor, Los Angeles, CA 90045. The LAWA Capital Programming and Planning Division is the custodian of the administrative record of the project.