ATTACHMENT 1

Air Quality Analysis

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AIR QUALITY ANALYSIS

A.1 INTRODUCTION

This appendix summarizes the methods used to estimate emissions of carbon monoxide (CO), volatile organic compounds (VOCs), oxides of nitrogen (NO_x), oxides of sulfur (SO_x), particulate matter less than ten microns in diameter (PM_{10}), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), and greenhouse gases (GHGs)[1] in support of the Initial Study for the modernization of Terminal 4 (the Proposed Project) at Los Angeles International Airport (the Airport). The construction emissions analysis was conducted to develop emissions inventories pursuant to the California Environmental Quality Act (CEQA). In addition, the analysis was conducted to determine whether emissions associated with construction activities would exceed applicable thresholds of significance identified by the South Coast Air Quality Management District (SCAQMD).

Construction of the Proposed Project would begin in the third Quarter (Q3) of calendar year 2021 and be completed by Q4 2026. Therefore, pollutant emissions were estimated for the following construction years: 2021, 2022, 2023, 2024, 2025, and 2026.

A.2 REGULATORY SETTING

Under the federal Clean Air Act (CAA), as amended, the USEPA has developed National Ambient Air Quality Standards (NAAQS) for the following air pollutants, referred to as criteria air pollutants: CO, nitrogen dioxide (NO_2), ozone (O_3), sulfur dioxide (SO_2), lead (Pb), PM_{10}, and $PM_{2.5}$. The CAA defines the need to establish two standards: primary standards, which define maximum concentrations of criteria air pollutants to protect public health, and secondary standards, which define maximum concentrations of criteria air pollutants to protect public welfare.

Individual states are required to identify general geographic areas where the NAAQS for these criteria air pollutants are not met. The USEPA designates such areas as nonattainment areas and qualifies the nonattainment status by severity of nonattainment ranging from marginal to moderate to serious to extreme nonattainment. Areas that were in nonattainment but have since attained the NAAQS are considered to be an attainment/maintenance area for several years before being designated as being in attainment. A state with a nonattainment or maintenance area must prepare a State Implementation Plan (SIP) that describes the programs and requirements that the state will implement to attain or maintain the NAAQS by the deadlines specified in the CAA, as well as subsequent related documents promulgated by the USEPA.

The California Air Resources Board (CARB) monitors air quality conditions throughout the state and enforces state air regulations, issues permits, and formulates and maintains SIPs. Under the California Clean Air Act, patterned after the federal CAA, areas are designated as attainment or nonattainment for California Ambient Air Quality Standards (CAAQS).

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1 Emissions of GHGs are quantified in terms of carbon dioxide (CO_2) equivalent (CO_{2e}). CO_{2e} represents all CO_2 emissions plus methane (CH_4) and nitrous oxide (N_2O) as adjusted by their corresponding Global Warming Potential (GWP) weighted value. The GWP values are based on the 2007 Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (available at https://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_full_report.pdf) and are consistent with the 2014 California Air Resources Board (CARB) Scoping Plan Update (available at https://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm).

At the local level, the South Coast Air Quality Management District (SCAQMD) is responsible for ensuring that federal and state air quality standards are met by monitoring ambient air pollutant levels throughout Los Angeles County and the South Coast Air Basin. The SCAQMD implements strategies to ensure SIP regulations are maintained and issues air quality permits for stationary equipment.

For the NAAQS, Los Angeles County (South Coast Air Basin) is in attainment for NO_2, SO_2, CO (maintenance), and PM_{10} (maintenance); extreme nonattainment for O_3; and serious nonattainment for $PM_{2.5}$.[2] For the CAAQS, the South Coast Air Basin is designated as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$, and attainment for CO, NO_2, and SO_2.[3]

A.3 METHODOLOGY

The California Emissions Estimator Model (CalEEMod), version 2016.3.2 was used to estimate the construction emissions associated with the Proposed Project. CalEEMod was originally developed for the California Air Pollution Officers Association in collaboration with the South Coast Air Quality Management District (SCAQMD) as a modeling tool to assist local public agencies with estimating air quality impacts from land use projects. The model estimates construction, area source, and operational emissions from a wide variety of land use development projects, such as residential neighborhoods, shopping centers, office buildings, etc. The model also identifies mitigation measures and associated emission reductions. CalEEMod calculates emissions for CO, reactive organic gases (ROG),[4] NO_x, sulfur dioxide (SO_2),[5] PM_{10}, $PM_{2.5}$, carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) for both on-road and off-road construction sources. The model uses the California Air Resources Board's (CARB) EMFAC2014 model for on-road vehicle emissions and the CARB's OFFROAD2011 model for off-road vehicle emissions.

The EMFAC2014 model calculates emission rates from all motor vehicles, ranging from passenger cars to heavy-duty trucks, operating on highways, freeways, and local roads in California. In CalEEMod, default or user-defined vehicle activity data is used to derive total vehicle miles traveled (VMT), which is multiplied by appropriate EMFAC2014 emission factors to calculate on-road emissions. EMFAC2014 emission factors are region/county specific. For purposes of this analysis, emission factors specific to the Los Angeles-South Coast County area were selected in CalEEMod. All emission factors account for emissions from start, running, and idling exhaust. In addition, ROG (VOC) emission factors include running loss emissions, while the PM_{10} and $PM_{2.5}$ emission factors include tire and brake wear. CalEEMod also calculates on-road fugitive dust associated with paved and unpaved roads. Default values for parameters required by CalEEMod to calculate fugitive dust from on-road vehicles are based on recommendations in USEPA AP-42.

To estimate off-road construction equipment-related exhaust emissions, CalEEMod uses the OFFROAD2011 model to generate emission factors for construction equipment, which are based on an average fleet mix that accounts for the turnover rate and average emissions for specific types of construction equipment. Depending on the construction phase, CalEEMod generates default values for number and types of construction equipment, horsepower, load factor, and daily operating hours. The model allows the user to override these values as

2 US Environmental Protection Agency, Green Book, California Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants, https://www3.epa.gov/airquality/greenbook/anayo_ca.html (accessed September 12, 2019).

3 http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf (accessed September 12, 2019).

4 For purposes of this analysis, it was assumed that estimates of VOC emissions are equal to calculated emissions of ROG.

5 For purposes of this analysis, it was assumed that estimates of SO_X emissions are equal to calculated emissions of SO_2.

appropriate, although default values are used for purposes of this analysis. For each piece of equipment selected, CalEEMod generates an emissions estimate using the following equation:

*Equipment Emissions (pounds/day) = # of pieces of equipment * grams per brake horsepower-hour * equipment horsepower * hours/day * load factor*

In association with off-road construction equipment, CalEEMod calculates fugitive dust (PM_{10} and $PM_{2.5}$) emissions from material movement, including haul road grading, earth bulldozing, and truck loading. Fugitive dust emissions from material movement are calculated using the methodology described in USEPA AP-42.

Information used in developing CalEEMod inputs for this analysis was obtained from the description of the Proposed Project included in the Initial Study documentation, as well as from the Terminal 4/5 Project Definition Book.[6]

For purposes of this analysis, the evaluation of significance involves identifying if the action would cause pollutant concentrations to exceed one or more of the CAAQS, as established by the SCAQMD under the California Clean Air Act, for any of the time periods analyzed, or to increase the frequency or severity of any such violations.

To evaluate whether construction of the Terminal 4 Modernization Project would result in exceedance of the thresholds of significance, the emissions associated with construction activities were evaluated for conformity with the applicable SIPs. If the project would cause an exceedance of thresholds of significance, then the lead agency would need to make a determination that the project would result in a significant environmental impact. Additionally, if a project would otherwise conflict with implementation of the SIP, expose sensitive receptors to substantial pollutant concentrations, or create objectionable odors affecting a substantial number of people, the project would also result in a significant environmental impact. If project emissions would not exceed the thresholds of significance or otherwise violate air quality guidelines, no further analysis or documentation is required. For purposes of CEQA, the evaluation of significance involves the comparison of estimated construction emissions against SCAQMD mass daily emissions thresholds. For construction activities, these thresholds are as follows:

- CO: 550 pounds/day
- VOC: 75 pounds/day
- NOx: 100 pounds/day
- SO_x: 150 pounds/day
- PM_{10}: 150 pounds/day
- $PM_{2.5}$: 55 pounds/day

A.4 ASSUMPTIONS

A.4.1 CONSTRUCTION ACTIVITIES

Construction of the Proposed Project would result in short-term changes in air emissions from sources such as: exhaust emissions from off-road construction equipment, haul trucks, and construction worker vehicles; fugitive VOC emissions from paving; and fugitive dust emissions from grading, materials handling, and vehicles traveling on

[6] American Airlines, *Terminal 4/5 Project Definition Book* (PDB), June 14, 2019.

paved and unpaved roads. Implementation of the Proposed Project is anticipated to occur in three phases, each of which was evaluated separately in CalEEMod.

- **Phase 1:** Phase 1 includes demolition of the existing Satellite Extension, construction of the southernmost portion of the proposed Terminal 4 Concourse replacement structure, as well as reconstruction of the adjacent (south) apron area and associated aircraft parking positions.
- **Phase 2:** Phase 2 includes renovation and expansion of the west side of the existing Satellite and Terminal 4 Connector building, interior renovations to the West Ticketing Building portion of the Terminal 4 Headhouse, and reconstruction of the adjacent (west) apron area and associated aircraft parking positions.
- **Phase 3:** Phase 3 includes renovation of the east sides of the existing Satellite and Terminal Connector buildings, continued interior renovation of the West Ticketing Building portion of the Terminal 4 Headhouse, and reconstruction of the adjacent (east) apron area and associated aircraft parking positions.

CalEEMod is capable of estimating emissions for several types of construction activities, with each activity containing one or more modeling elements, such as fugitive dust, off-road construction equipment exhaust, on-road vehicle exhaust, and off-gassing. Each activity is assumed to generate emissions throughout the entire activity duration. For air quality modeling purposes, each phase of the Proposed Project was assumed to include the following construction activities which were modeled in CalEEMod.

- **Building Demolition:** Removal of existing building structures, including the hauling of demolished material from the construction site.
- **Building Construction:** Construction of terminal/concourse structures. In each phase, the construction of cement foundations totaling 1,000 linear feet by 10 feet wide by 10 feet deep was assumed. For purposes of this analysis, building renovation activities are combined with building rebuild and new construction with regards to the assignment of construction days and equipment type, number, and operating hours. This is a conservative assumption, since building renovation would typically not be expected to require the same level of construction effort or use of heavy equipment compared to new construction from the foundation up.
- **Architectural Coating:** Evaporative emissions were assumed to result from the application of interior and exterior paint applied to new or renovated building areas. In each phase, paint was assumed to be applied to the entire building area (square footage). The emission factors used by CalEEMod are based on a VOC content of 50 grams per liter of paint and an application rate of 180 square feet per gallon.
- **Apron Demolition:** Removal and crushing of existing apron pavement, including the hauling of demolished material from the construction site.
- **Grading:** Subsequent to removal of existing apron pavement, grading of the entire area to be reconstructed was assumed. However, no import or export of additional or excess soil was assumed.
- **Apron Construction:** Apron reconstruction was assumed to involve phased demolition/removal of the entire existing Terminal 4 apron area pavement, followed by installation of new base material and new concrete apron pavement. To the extent that some existing pavement sections may be preserved, this represents a conservative assumption for purposes of this analysis. Apron construction was assumed to include the hauling of base material and concrete to the site.

Areas (square footages) of various building and apron components are described and summarized in the Project Description. For purposes of the air quality analysis, these building and apron areas were attributed to each of the three phases, as presented in **Table 1** and **Table 2**, respectively. CalEEMod uses the size (area) of a project or project component to assign default parameters such as construction duration (days), as well as the number, type, and operating hours of construction equipment.

TABLE 1 PROPOSED PROJECT BUILDING AREAS

PROJECT COMPONENT BY PHASE	AREA (SQUARE FEET)
Phase 1	
Demolition of Satellite Extension	100,290
Satellite Extension rebuild	100,290
Phase 2	
West Ticketing and Connector Building renovation	102,135
Satellite Building demolition	25,073
Satellite Building rebuild	25,073
Connector and Satellite Building new construction	135,603
Phase 3	
West Ticketing and Connector Building renovation	102,135
Satellite Building demolition	25,073
Satellite Building rebuild	25,073
Connector and Satellite Building new construction	135,603
Totals	
Building demolition	150,435
Building renovation	204,270
Building rebuild and new construction	421,640

SOURCE: Ricondo & Associates, Inc., September 2019, based on information provided by Pierce Goodwin Alexander & Linville, Inc. and American Airlines, *Terminal 4/5 Project Definition Book* (PDB), June 14, 2019.

TABLE 2 PROPOSED PROJECT APRON AREAS

APRON PAVEMENT DEMOLITION	TOTAL AREA (SQUARE FEET)	CONCRETE (CUBIC YARDS)	ASPHALT (CUBIC YARDS)	TOTAL PAVEMENT (CUBIC YARDS)
Phase 1	196,928	7,088	2,029	9,117
Phase 2	180,682	6,503	1,861	8,365
Phase 3	121,406	4,370	1,251	5,621
Total	**499,017**	**17,961**	**5,141**	**23,102**
NEW APRON PAVEMENT	TOTAL AREA (SQUARE FEET)	CONCRETE (CUBIC YARDS)	BASE MATERIAL (CUBIC YARDS)	SUBBASE MATERIAL (CUBIC YARDS)
Phase 1	173,161	10,536	2,336	3,848
Phase 2	158,876	9,667	2,143	3,531
Phase 3	106,754	6,495	1,440	2,372
Total	**438,790**	**26,698**	**5,918**	**9,751**

SOURCE: Ricondo & Associates, Inc., September 2019, based on information provided by Pierce Goodwin Alexander & Linville, Inc. and American Airlines, *Terminal 4/5 Project Definition Book* (PDB), June 14, 2019.

A.4.2 CONSTRUCTION SCHEDULE

Table 3 presents the assumed construction schedule in terms of number of workdays per year (assuming a five-day workweek) for each phase and construction activity, as modeled in CalEEMod. Phase 1 is anticipated to begin in Q3 2021 and be completed by Q1 2023. Phase 2 is anticipated to begin in Q3 2023 and be completed by Q2 2025. Phase 3 is anticipated to begin in Q3 2025 and be completed by Q4 2026.

A.4.3 CONSTRUCTION EQUIPMENT

For each construction activity, default construction equipment types, amounts and usage hours were assumed, as assigned by CalEEMod. Default equipment usage hours are estimated in CalEEMod based on the overall size of the project. **Table 4** presents a summary of equipment types, specifications, and usage for each construction phase and activity.

Onroad construction vehicle trips include construction worker vehicle trips to and from the job site, off site hauling trips, and material delivery trips. The number of roundtrips per year for each type of onroad activity was calculated within CalEEMod based on project dimensions and required quantities of various construction materials. Default roundtrip distances were assumed. Vehicle miles traveled for each onroad activity was calculated by multiplying the total number of vehicle trips by the trip distance. **Table 5** summarizes the onroad activity for the Proposed Project.

TABLE 3 ESTIMATED SCHEDULE BY CONSTRUCTION PHASE

	WORKDAYS[1]						
ACTIVITY BY PHASE	2021	2022	2023	2024	2025	2026	TOTAL
Phase 1							
Building Demolition	66	14					80
Building Construction		220					220
Architectural Coating		10					10
Apron Demolition		16	4				20
Grading			8				8
Apron Construction			30				30
Phase 2							
Building Demolition							20
Building Construction			45	185			230
Architectural Coating				20			20
Apron Demolition				20			20
Grading				8			8
Apron Construction				29	1		30
Phase 3							
Building Demolition					20	0	20
Building Construction					46	184	230
Architectural Coating						20	20
Apron Demolition						20	20
Grading						6	6
Apron Construction						20	20

NOTE:

1 Assumes 5 working days per week. Workdays were based on construction start and end dates that were assumed for emissions modeling purposes only. The general timeframe for project completion, along with specific construction start and end dates are subject to environmental clearance, permitting, contractor procurement, and other factors.

SOURCE: Ricondo & Associates, Inc., September 2019, based on information provided by Pierce Goodwin Alexander & Linville, Inc. and default calculations performed within the California Emissions Estimator Model version 2016.3.2.

TABLE 4 OFF-ROAD CONSTRUCTION EQUIPMENT ACTIVITY

			PHASE 1		PHASE 2		PHASE 3	
EQUIPMENT TYPE	HORSE-POWER	LOAD FACTOR	UNIT AMOUNT	USAGE (HOURS/DAY)	UNIT AMOUNT	USAGE (HOURS/DAY)	UNIT AMOUNT	USAGE (HOURS/DAY)
Building Demolition								
Equipment								
Excavators	158	0.38			3	8	3	8
Rubber Tired Dozers	247	0.40	1	8	2	8	2	8
Concrete/Industrial Saws	81	0.73	1	8	1	8	1	8
Tractors/Loaders/Backhoes	97	0.37	3	8				
Building Construction								
Cranes	231	0.29	1	8	1	7	1	7
Forklifts	89	0.20	2	7	3	8	3	8
Tractors/Loaders/Backhoes	97	0.37	1	6	3	7	3	7
Welders	46	0.45	3	8	1	8	1	8
Generator Sets	84	0.74	1	8	1	8	1	8
Cement and Mortar Mixers	9	0.56	2	6	2	6	2	6
Architectural Coating								
Air Compressor	78	0.48	1	6	1	6	1	6
Apron Demolition								
Excavators	158	0.38			3	8	3	8
Rubber Tired Dozers	247	0.40	1	8	2	8	2	8
Concrete/Industrial Saws	81	0.73	1	8	1	8	1	8
Tractors/Loaders/Backhoes	97	0.37	3	8		8		8
Crushing/Proc. Equipment	85	0.78	1	8	1	8	1	8
Grading								
Rubber Tired Dozers	247	0.40	1	8	1	8	1	8
Tractors/Loaders/Backhoes	97	0.37	2	7	3	8	3	8
Graders	187	0.41	1	8	1	8	1	8
Apron Construction								
Pavers	130	0.42	1	8	1	8	1	8
Cement and Mortar Mixers	9	0.56	1	8	1	8	1	8
Rollers	80	0.38	2	8	2	8	2	8
Tractors/Loaders/Backhoes	97	0.37	1	8	1	8	1	8
Paving Equipment	132	0.36	1	8	1	8	1	8

SOURCE: Ricondo & Associates, Inc., September 2019, based on information provided by Pierce Goodwin Alexander & Linville, Inc. and default calculations performed within the California Emissions Estimator Model version 2016.3.2.

TABLE 5 ON-ROAD CONSTRUCTION VEHICLE ACTIVITY

ACTIVITY BY PHASE	CONSTRUCTION WORKER TRIPS		VENDOR VEHICLE TRIPS		HAULING TRIPS	
	ROUNDTRIPS	TRIP LENGTH (MILES)	ROUNDTRIPS	TRIP LENGTH (MILES)	ROUNDTRIPS	TRIP LENGTH (MILES)
Phase 1						
Building Demolition	1,040	14.7			461	20
Building Construction	7,040	14.7	3,520	6.9	463	20
Architectural Coating	60	14.7				
Apron Demolition	300	14.7			1,823	20
Grading	80	14.7			0	20
Apron Construction	450	14.7			2,090	20
Phase 2						
Building Demolition	300	14.7			115	20
Building Construction	19,320	14.7	9,890	6.9	463	20
Architectural Coating	340	14.7				
Apron Demolition	360	14.7			1,673	20
Grading	104	14.7			0	20
Apron Construction	450	14.7			1,918	20
Phase 3						
Building Demolition	300	14.7			115	20
Building Construction	19,320	14.7	9,890	6.9	463	20
Architectural Coating	340	14.7				
Apron Demolition	360	14.7			1,124	20
Grading	78	14.7				
Apron Construction	300	14.7			1,288	20

SOURCE: Ricondo & Associates, Inc., September 2019, based on information provided by Pierce Goodwin Alexander & Linville, Inc. and default calculations performed within the California Emissions Estimator Model version 2016.3.2.

Assumptions regarding on-road construction vehicles for this project are as follows:

- **Worker trips:** CalEEMod default values were used for worker trips. CalEEMod generally applies a factor of 1.25 workers per piece of construction equipment in each activity to estimate worker roundtrips. The emissions estimates assume a construction worker commute fleet mix of 50 percent light duty autos and 50 percent light duty trucks. The default value in CalEEMod for worker trip length (14.7 miles) was also used.
- **Vendor trips:** Vendor trips include deliveries of miscellaneous construction materials and other deliveries associated with building construction activities. Default values for the number of trips are based on the size of the building. Default values in CalEEMod for vendor vehicle type (heavy-duty truck) and trip length (6.9 miles) were also used.
- **Hauling trips:** For all hauling trips, default assumptions for haul trip vehicle type (heavy-heavy-duty trucks) and travel distance (20 miles) were assumed.

Demolished building material was assumed to be hauled off-site. By default, CalEEMod assumes that 1 square-foot of building area is equal to 10 cubic feet of building volume, 1 cubic-foot of building volume is equal to 0.25 cubic feet of waste volume, and that 1 cubic-yard of building waste equates to 0.5-ton weight. Therefore, the model applies a factor of 0.046 ton of waste material per building square-foot. CalEEMod then calculated the required roundtrips for hauling the material by assuming a haul truck capacity of approximately 20 tons per trip and multiplying by two for a roundtrip. Default hauling trip length (20 miles) was assumed.

Hauling trips related to building construction include the hauling of cement on-site for construction of building foundations. CalEEMod calculates the required roundtrips for hauling the material by assuming 16 cubic yards hauling capacity of a truck (multiplied by two for a roundtrip).

Demolished apron pavement was assumed to be crushed and hauled off-site. The total pavement to be removed by phase is presented in Table 2. The demolished pavement was assumed to weigh two tons per cubic-yard. CalEEMod then calculated the required roundtrips for hauling the material by assuming a haul truck capacity of approximately 20 tons per trip and multiplying by two for a roundtrip.

Construction of new apron areas assumes the need for concrete, base material, and subbase material to be hauled on-site. Quantities of these materials assumed in this analysis are presented in Table 2. The material estimates for concrete and base layers consider the depth of materials needed to accommodate various sizes of aircraft on the Terminal 4 apron, plus a contingency of 20 percent.[7] CalEEMod calculates the required roundtrips for hauling the material by assuming 16 cubic yards hauling capacity of a truck (multiplied by two for a roundtrip).

Fugitive emissions sources were also included in the analysis. Default values for parameters required by CalEEMod to calculate fugitive dust (PM_{10} and $PM_{2.5}$) from on-road vehicles are based on recommendations in USEPA AP-42. For off-road construction equipment, CalEEMod calculates fugitive dust emissions from material movement, including grading, earth bulldozing, and truck loading. Fugitive dust emissions from material movement are calculated using the methodology described in USEPA AP-42. As previously noted, the analysis also includes estimates of fugitive (evaporative) VOC emissions resulting from interior and exterior painting activities.

[7] Email from Diana Payne (PGAL) to Jessica Baker (Rivers & Christian), "Terminal 4 Concourse: Environmental Schedule & Additional Data Needs." July 25, 2019.

A.5 SUMMARY OF CONSTRUCTION EMISSIONS

Table 6 presents estimated emissions in pounds per year for comparison against applicable SCAQMD thresholds of significance. Although construction activities overlap in certain years, all construction activities for each phase are assumed to occur consecutively, so the maximum pounds per day levels presented in each year represent the total maximum daily emissions for that year. Daily NO_x emissions result from the operation of construction equipment and hauling trucks throughout the project. Daily VOC emissions primarily reflect off-gassing from painting activities that are assumed to occur over a span of 10 days in Phase 1, 20 days in Phase 2, and 20 days in Phase 3. As shown, maximum daily emissions for all pollutants are below applicable mass daily thresholds of significance.

TABLE 6 PROPOSED PROJECT CONSTRUCTION EMISSIONS SUMMARY

	EMISSIONS (POUNDS/DAY)						
YEAR BY PHASE	CO	VOC	NO_X	SO_X	PM_{10}	$PM_{2.5}$	CO_{2E}
Phase 1							
2021	15	2	21	0	3	1	2,976
2022	25	35	43	0	23	5	10,806
2023	23	2	32	0	27	5	10,482
Phase 2							
2023	21	2	22	0	3	1	4,834
2024	29	46	37	0	22	5	11,309
2025	16	1	18	0	26	7	6,953
Phase 3							
2025	20	2	20	0	2	1	4,762
2026	28	46	31	0	11	4	9,053
Maximum Daily Emissions							
2021	15	2	21	0	3	1	2,976
2022	25	35	43	0	23	5	10,806
2023	23	2	32	0	27	5	10,482
2024	29	46	37	0	22	5	11,309
2025	20	2	20	0	26	7	6,953
2026	28	46	31	0	11	4	9,053
Overall Maximum	**29**	**46**	**43**	**0**	**27**	**7**	**11,309**
Mass Daily Threshold of Significance	*550*	*75*	*100*	*150*	*150*	*55*	--
Significant?	**No**	**No**	**No**	**No**	**No**	**No**	

NOTES:
CO = carbon monoxide
VOC = volatile organic compound
NO_X = oxides of nitrogen
SO_X = oxides of sulfur
PM_{10} = particulate matter less than ten microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
CO_{2e} = carbon dioxide equivalent (in metric tons per year)
Totals may not sum due to rounding.
SOURCE: Ricondo & Associates, Inc., October 2019, based on information provided by Pierce Goodwin Alexander & Linville, Inc. and default calculations performed within the California Emissions Estimator Model version 2016.3.2.

A.6 CALEEMOD DATA

CalEEMod provides a report presenting summary and detail emissions tables, as well as various model inputs/assumptions. This report for each modeling run is provided in the following pages. The modeling runs that were performed in CalEEMod include the following:

- LAX T4 Modernization_Ph1_annual: This run includes annual emissions from all construction activities associated with Phase 1.
- LAX T4 Modernization_Ph1_daily: This run includes daily emissions from all construction activities associated with Phase 1.
- LAX T4 Modernization_Ph2_annual: This run includes annual emissions from all construction activities associated with Phase 2.
- LAX T4 Modernization_Ph2_daily: This run includes daily emissions from all construction activities associated with Phase 2.
- LAX T4 Modernization_Ph3_annual: This run includes annual emissions from all construction activities associated with Phase 3.
- LAX T4 Modernization_Ph3_daily: This run includes daily emissions from all construction activities associated with Phase 3.