WASHINGTON WING PROJECT
12300 W. WASHINGTON BLVD, CULVER CITY, CA

Air Quality Technical Report

Prepared for
The Jacmar Properties, LLC
220 West Valley Boulevard
Alhambra, California 91803

January 2022

ESA

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ACRONYMS AND ABBREVIATIONS

Acronym	Description
Air Basin	South Coast Air Basin
AQMP	Air Quality Management Plan
ATCM	Airborne Toxics Control Measure
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CCR	California Code of Regulations
CEC	California Energy Commission
CEUS	Commercial End-Use Survey
CEQA	California Environmental Quality Act
City	City of Culver City
CO	Carbon monoxide
EMFAC	On-road vehicle emissions factor model
hp	Horsepower
LOS	Level of Service
LST	Localized significance threshold
MATES IV	Multiple Air Toxics Exposure Study, May 2015
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NO	Nitric oxide
NO_2	Nitrogen dioxide
NO_X	Nitrogen oxides
OFFROAD	Off-road vehicle emissions model
OEHHA	Office of Environmental Health Hazard Assessment
Pb	Lead
PDF	Project design feature
PM2.5	Fine particulate matter

Acronym	Description
PM10	Respirable particulate matter
ppm	Parts per million
OFFROAD	Off-road vehicle emissions model
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
SO_2	Sulfur dioxide
TAC	Toxic air contaminant
$\mu g/m^3$	Micrograms per cubic meter
µm	Micrometers
USEPA	United States Environmental Protection Agency
VDECS	Verified Diesel Emission Control Strategies
VOC	Volatile organic compounds

EXECUTIVE SUMMARY

The Jacmar Properties, LLC proposes to redevelop an approximately 12,363 square-foot (approximately 0.283 acre) property located at 12300 Washington Boulevard (Project Site) in Culver City. The Project Site is bounded to the north by W. Washington Boulevard, to the east by Campbell Drive, to the south by existing residential development, and to the west by a bank and associated surface parking. The proposed Project would develop a four-story, 49-foot tall, 11,100 square-foot office building.

This report summarizes the potential for the Project to conflict with an applicable air quality plan, to violate an air quality standard or threshold, to result in a cumulatively net increase of criteria pollutant emissions, to expose sensitive receptors to substantial pollutant concentrations, or to create objectionable odors affecting a substantial number of people. The findings of the analyses are as follows:

- The incremental increase in emissions from construction and operation of the Project would not exceed the regional daily emission thresholds set forth by the South Coast Air Quality Management District (SCAQMD). Thus, the Project would not result in a regional violation of applicable air quality standards or jeopardize the timely attainment of such standards in the South Coast Air Basin (the Air Basin).
- The incremental increase in onsite emissions from construction and operation of the Project would not exceed the localized significance thresholds set forth by the SCAQMD. Thus, the Project would not result in a localized violation of applicable air quality standards or expose offsite receptors to substantial levels of regulated air contaminants resulting in a less than significant impact.
- Emissions from the increase in traffic due to operation of the Project would not have a significant impact upon 1-hour or 8-hour local carbon monoxide (CO) concentrations due to mobile source emissions.
- Project construction and operations would not expose off-site receptors to significant levels of toxic air contaminants and would result in less than significant health risk impacts.
- Project construction and operations would not result in significant levels of odors.
- The Project would be consistent with air quality policies set forth by the SCAQMD.
- The Project would result in a less than significant cumulative air quality impacts during construction and operations of the project.

SECTION 1
Introduction

1.1 Project Description

The Jacmar Properties, LLC proposes to redevelop an approximately 12,363 square-foot (approximately 0.283 acre) property located at 12300 Washington Boulevard (Project Site) in Culver City. The Project Site is bounded to the north by W. Washington Boulevard, to the east by Campbell Drive, to the south by existing residential development, and to the west by a bank and associated surface parking. The proposed Project would develop a four-story, 49-foot tall, 11,100 square-foot office building. The Project would include new landscaping and outdoor deck spaces on Level 2, Level 3 and Level 4. The Project would include surface parking with 32 parking spaces, including 2 handicapped, 1 loading, 7 electric vehicle (EV) capable, 4 EV ready, and 4 EV charging spaces.

The Project Site is shown in **Figure 1**, *Aerial Photograph with Surrounding Land Uses.* Nearby uses surrounding the Project Site include the following:

- North – One- and two-story residential uses are located to the north of the Project Site, on the north side of W. Washington Boulevard.
- East – A one-story restaurant use and associated parking is located on the southeast corner of W. Washington Boulevard and Campbell Drive. A two-story residential use is located east of the restaurant use.
- South – One-story residential uses are located to the south of the Project Site.
- West – A bank and associated surface parking is located to the west of the Project Site.

The Project Site is served by a network of regional transportation facilities. Various public transit stops operated by the Culver City Bus and the City of Santa Monica are located in close proximity to the Project Site. The Culver City Bus Line 1 runs along Washington Boulevard and has stops at S. Centinella Avenue to the west and at Grand View Boulevard to the east of the Project Site. The Santa Monica Big Blue Bus Route 14 runs along S. Centinela Avenue and Bundy Drive with stops at Washington Boulevard. The Culver City Transit Center is located approximately two miles to the southeast of the Project Site and the Metro E Line (Expo) Bundy light rail station is approximately two and three quarter miles north of the Project Site. State Route 90 is approximately one mile to the south of the Project at its closest point; Interstate 405 is approximately one mile east of the Project Site at its closest point; The Pacific Coast Highway (State Route 1) is approximately one and a quarter miles to the west of the Project Site.

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SOURCE: ESA, 2022; Basemap Google Earth, 2022

Washington Wing (12300 Washington Blvd)

Figure 1
Aerial Photograph with Surrounding Land Uses

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1.2 Project Land Use Characteristics

The Project would represent an urban infill development, since it would be undertaken on a currently developed property, and would be located near existing public transit stops, which would result in potential reduced vehicle trips and vehicle miles traveled (VMT) compared to model default assumptions. Conservatively, the Project traffic study[1] did not include transit credit from public transit stops and used default trips rates in the Institute of Transportation Engineers, *Trip Generation, 10th Edition*. These trip rates were used in the operational emissions modeling.

As discussed above, the Project Site is served by a network of regional transportation facilities. The Culver City Bus Line 1 runs along Washington Boulevard and has stops at S. Centinella Avenue to the west and at Grand View Boulevard to the east of the Project Site. The Santa Monica Big Blue Bus Route 14 runs along S. Centinela Avenue and Bundy Drive with stops at Washington Boulevard. The Culver City Transit Center is located approximately two miles to the southeast of the Project Site and the Metro E Line (Expo) Bundy light rail station is approximately two and three quarter miles north of the Project Site.

1.3 Existing Site Emissions

The Project Site is currently developed with a one-story office building, a small shed, and a small garage building, all of which would be demolished and removed to support development of the Project.

Existing emissions are associated with vehicle trips to and from the Project Site, on-site combustion of natural gas for heating, and fugitive emissions of VOCs from consumer product usage and architectural coatings. Existing emissions were estimated using the California Emissions Estimator Model (CalEEMod), Version 2020.4.0 software, an emissions inventory software program recommended by the South Coast Air Quality Management District (SCAQMD). CalEEMod is a Statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant emissions from a variety of land use projects. CalEEMod was developed in collaboration with the air districts of California. Regional data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. CalEEMod is considered to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California.[2]

CalEEMod was used to estimate the existing site emissions from vehicle trips, natural gas combustion, consumer products usage, and architectural coatings. Building natural gas usage rates have been adjusted to account for prior Title 24 Building Energy Efficiency Standards.[3] Mobile source emissions were estimated based on CARB's on-road vehicle EMissions FACtor

1 Raju Associates, Inc., Technical Memorandum, 12300 W. Washington Boulevard Office Project, Trip Generation Analysis and Transportation Assessment Criteria, June 8, 2021.

2 See: http://www.caleemod.com.

3 CARB, CalEEMod User's Guide, Appendix E, Section 5, May 2021, http://www.aqmd.gov/caleemod/user's-guide. Accessed January 2022. The "use historical" function in CalEEMod was selected for the existing uses.

(EMFAC) model, EMFAC2021, trip rates based on the Project traffic study,[4] and trip distances in CalEEMod. A detailed discussion of the methodology used to estimate the existing Project Site emissions is provided in Section 4, below. **Table 1**, *Existing Site Operational Emissions*, identifies the emissions from the site's existing usage and emissions removed due to the Project. The emissions removed from the existing conditions will be counted as credit for the proposed Project. Existing site emission calculations are provided in Exhibit A.

TABLE 1
EXISTING SITE OPERATIONAL EMISSIONS (POUNDS PER DAY)[a]

Source	VOC	NO_X	CO	SO_2	PM10	PM2.5
Existing Site Emissions						
Area	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Energy (Natural Gas)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mobile	0.1	0.1	0.5	<0.1	0.1	<0.1
Total	**0.1**	**0.1**	**0.5**	**<0.1**	**0.1**	**<0.1**

[a] Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Exhibit A.

SOURCE: ESA 2022

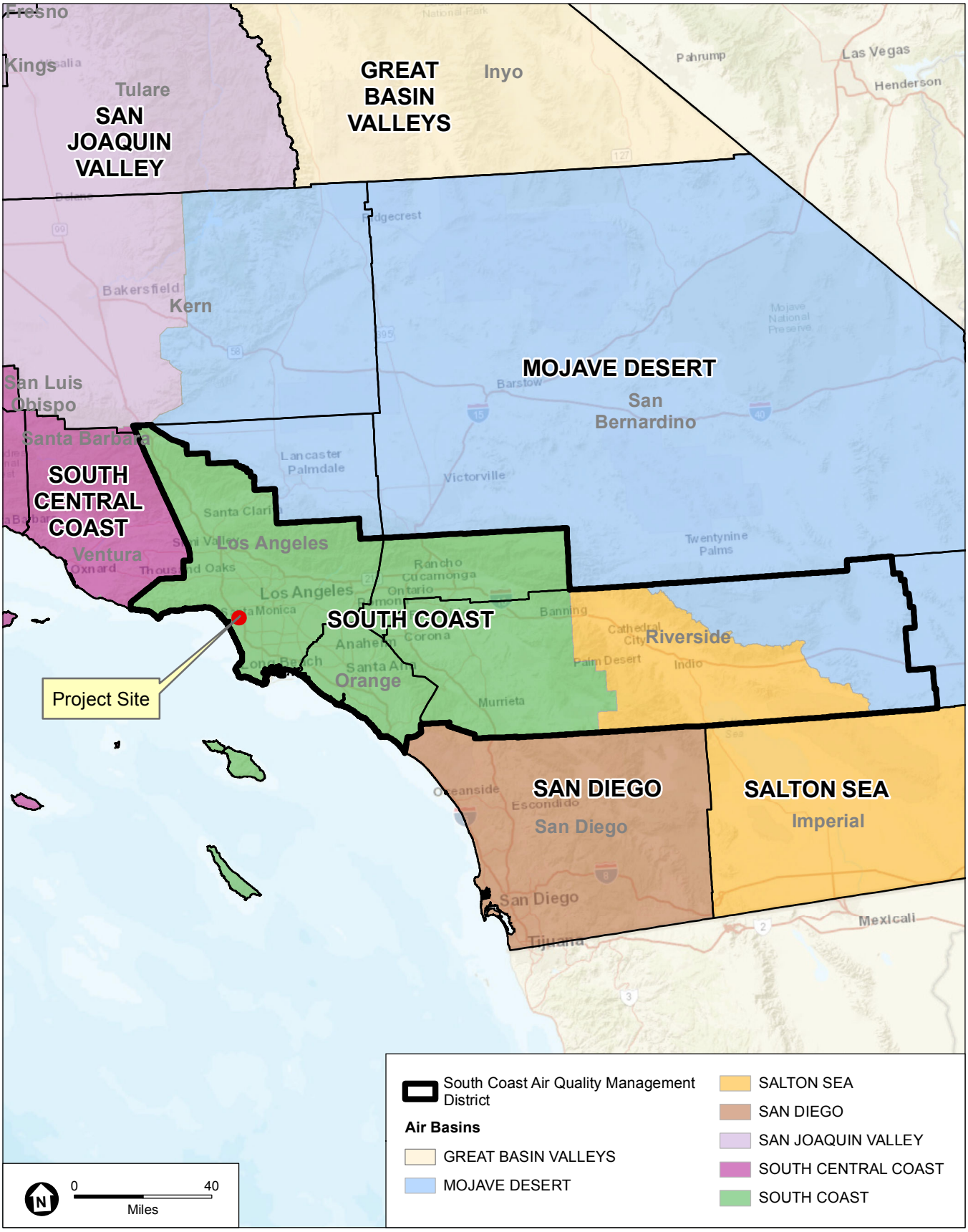
1.4 Existing Air Quality Conditions

1.4.1 Regional Air Quality

Criteria Pollutants

The Project Site is located within the South Coast Air Basin (Air Basin), which is shown in **Figure 2**, *Boundaries of the South Coast Air Quality Management District*. The Air Basin is an approximately 6,745-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Air Basin consists of Orange County, Los Angeles County (excluding the Antelope Valley portion), and the western, non-desert portions of San Bernardino and Riverside counties, in addition to the San Gorgonio Pass area in Riverside County. The terrain and geographical location determine the distinctive climate of the Air Basin, as it is a coastal plain with broad valleys and low hills. The Air Basin lies in the semi-permanent high-pressure zone of the eastern Pacific Ocean. The usually mild climatological pattern is interrupted by periods of hot weather, winter storms, or Santa Ana winds.

[4] Raju Associates, Inc., Technical Memorandum, 12300 W. Washington Boulevard Office Project, Trip Generation Analysis and Transportation Assessment Criteria, June 8, 2021.



SOURCE: California Air Resources Board, March 2004.

Washington Wing (12300 Washington Blvd)

Figure 2
Boundaries of the South Coast Air Quality Management District

ESA

The extent and severity of pollutant concentrations in the Air Basin is a function of the area's natural physical characteristics (weather and topography) and man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and dispersion of pollutants throughout the Air Basin, making it an area of high pollution potential. The Air Basin's meteorological conditions, in combination with regional topography, are conducive to the formation and retention of ozone, which is a secondary pollutant that forms through photochemical reactions in the atmosphere. Thus, the greatest air pollution impacts throughout the Air Basin typically occur from June through September. This condition is generally attributed to the emissions occurring in the Air Basin, light winds, and shallow vertical atmospheric mixing. These factors reduce the potential for pollutant dispersion causing elevated air pollutant levels. Pollutant concentrations in the Air Basin vary with location, season, and time of day. Concentrations of ozone, for example, tend to be lower along the coast, higher in the near inland valleys, and lower in the far inland areas of the Air Basin and adjacent desert.

Certain air pollutants have been recognized to cause notable health problems and consequential damage to the environment either directly or in reaction with other pollutants, due to their presence in elevated concentrations in the atmosphere. Such pollutants have been identified and regulated as part of the overall endeavor to prevent further deterioration and facilitate improvement in air quality. The following pollutants are regulated by the United States Environmental Protection Agency (USEPA) and are subject to emissions control requirements adopted by federal, state and local regulatory agencies. These pollutants are referred to as "criteria air pollutants" as a result of the specific standards, or criteria, which have been adopted for them. A brief description of the health effects of these criteria air pollutants are provided below.

Ozone (O_3): Ozone is a secondary pollutant formed by the chemical reaction of volatile organic compounds (VOCs) and nitrogen oxides (NO_X) in the presence of sunlight under favorable meteorological conditions, such as high temperature and stagnation episodes. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable. According to the USEPA, ozone can cause the muscles in the airways to constrict potentially leading to wheezing and shortness of breath.[5] Ozone can make it more difficult to breathe deeply and vigorously; cause shortness of breath and pain when taking a deep breath; cause coughing and sore or scratchy throat; inflame and damage the airways; aggravate lung diseases such as asthma, emphysema and chronic bronchitis; increase the frequency of asthma attacks; make the lungs more susceptible to infection; continue to damage the lungs even when the symptoms have disappeared; and cause chronic obstructive pulmonary disease.[6] Long-term exposure to ozone is linked to aggravation of asthma, and is likely to be one of many causes of asthma development and long-term exposures to higher concentrations of ozone may also be linked to permanent lung damage, such as abnormal lung development in children.[7] According to the California Air Resources Board (CARB), inhalation

5 United States Environmental Protection Agency (USEPA), Health Effects of Ozone Pollution, https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution, last updated May 5, 2021.

6 USEPA, Health Effects of Ozone Pollution.

7 USEPA, Health Effects of Ozone Pollution.

of ozone causes inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms and exposure to ozone can reduce the volume of air that the lungs breathe in and cause shortness of breath.[8] The USEPA states that people most at risk from breathing air containing ozone include people with asthma, children, older adults, and people who are active outdoors, especially outdoor workers.[9] Children are at greatest risk from exposure to ozone because their lungs are still developing and they are more likely to be active outdoors when ozone levels are high, which increases their exposure.[10] According to CARB, studies show that children are no more or less likely to suffer harmful effects than adults; however, children and teens may be more susceptible to ozone and other pollutants because they spend nearly twice as much time outdoors and engaged in vigorous activities compared to adults.[11] Children breathe more rapidly than adults and inhale more pollution per pound of their body weight than adults and are less likely than adults to notice their own symptoms and avoid harmful exposures.[12] Further research may be able to better distinguish between health effects in children and adults.[13]

Volatile Organic Compounds (VOCs): VOCs are organic chemical compounds of carbon and are not "criteria" pollutants themselves; however, they contribute with NO_X to form ozone, and are regulated to prevent the formation of ozone.[14] According to CARB, some VOCs are highly reactive and play a critical role in the formation of ozone, other VOCs have adverse health effects, and in some cases, VOCs can be both highly reactive and have adverse health effects.[15] VOCs are typically formed from combustion of fuels and/or released through evaporation of organic liquids, internal combustion associated with motor vehicle usage, and consumer products (e.g., architectural coatings, etc.).[16]

Nitrogen Dioxide (NO_2) and Nitrogen Oxides (NO_X): NO_X is a term that refers to a group of compounds containing nitrogen and oxygen. The primary compounds of air quality concern include nitrogen dioxide (NO_2) and nitric oxide (NO). Ambient air quality standards have been promulgated for NO_2, which is a reddish-brown, reactive gas.[17] The principal form of NO_X produced by combustion is NO, but NO reacts quickly in the atmosphere to form NO_2, creating the mixture of NO and NO_2 referred to as NO_X.[18] Major sources of NO_X include emissions from cars, trucks and buses, power plants, and off-road equipment.[19] The terms NO_X and NO_2 are sometimes used interchangeably. However, the term NO_X is typically used when discussing emissions, usually from combustion-related activities, and the term NO_2 is typically used when

8 California Air Resources Board (CARB), Ozone & Health, Health Effects of Ozone, 2019, https://ww2.arb.ca.gov/resources/ozone-and-health.

9 USEPA, Health Effects of Ozone Pollution.

10 USEPA, Health Effects of Ozone Pollution.

11 CARB, Ozone & Health, Health Effects of Ozone.

12 CARB, Ozone & Health, Health Effects of Ozone.

13 CARB, Ozone & Health, Health Effects of Ozone.

14 USEPA, Technical Overview of Volatile Organic Compounds, https://www.epa.gov/indoor-air-quality-iaq/technical-overview-volatile-organic-compounds, last updated February 9, 2021.

15 CARB, Air Quality and Land Use Handbook: A Community Health Perspective, April 2005, page A-4.

16 CARB, Air Quality and Land Use Handbook: A Community Health Perspective, April 2005, page A-4.

17 CARB, Nitrogen Dioxide & Health, 2021, https://ww2.arb.ca.gov/resources/nitrogen-dioxide-and-health.

18 CARB, Nitrogen Dioxide & Health.

19 USEPA, Nitrogen Dioxide (NO_2) Pollution, https://www.epa.gov/no2-pollution/basic-information-about-no2, last updated June 7, 2021.

discussing ambient air quality standards. Where NO_X emissions are discussed in the context of the thresholds of significance or impact analyses, the discussions are based on the conservative assumption that all NO_X emissions would oxidize in the atmosphere to form NO_2. According to the USEPA, short-term exposures to NO_2 can potentially aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing or difficulty breathing), hospital admissions and visits to emergency rooms while longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections.[20] According to CARB, controlled human exposure studies that show that NO_2 exposure can intensify responses to allergens in allergic asthmatics.[21] In addition, a number of epidemiological studies have demonstrated associations between NO_2 exposure and premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses.[22] Infants and children are particularly at risk from exposure to NO_2 because they have disproportionately higher exposure to NO_2 than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration while in adults, the greatest risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease.[23] CARB states that much of the information on distribution in air, human exposure and dose, and health effects is specifically for NO_2 and there is only limited information for NO and NO_X, as well as large uncertainty in relating health effects to NO or NO_X exposure.[24]

Carbon Monoxide (CO): Carbon monoxide (CO) is primarily emitted from combustion processes and motor vehicles due to the incomplete combustion of fuel, such as natural gas, gasoline, or wood, with the majority of outdoor CO emissions from mobile sources.[25] According to the USEPA, breathing air with a high concentration of CO reduces the amount of oxygen that can be transported in the blood stream to critical organs like the heart and brain and at very high levels, which are possible indoors or in other enclosed environments, CO can cause dizziness, confusion, unconsciousness and death.[26] Very high levels of CO are not likely to occur outdoors; however, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease since these people already have a reduced ability for getting oxygenated blood to their hearts and are especially vulnerable to the effects of CO when exercising or under increased stress.[27] In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina.[28] According to CARB, the most common effects of CO exposure are fatigue, headaches, confusion, and dizziness due to inadequate oxygen delivery to the brain.[29] For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to

20 USEPA, Nitrogen Dioxide (NO_2) Pollution.
21 CARB, Nitrogen Dioxide & Health.
22 CARB, Nitrogen Dioxide & Health.
23 CARB, Nitrogen Dioxide & Health.
24 CARB, Nitrogen Dioxide & Health.
25 CARB, Carbon Monoxide & Health, 2021, https://ww2.arb.ca.gov/resources/carbon-monoxide-and-health.
26 USEPA, Carbon Monoxide (CO) Pollution in Outdoor Air, https://www.epa.gov/co-pollution/basic-information-about-carbon-monoxide-co-outdoor-air-pollution, last updated June 7, 2021.
27 USEPA, Carbon Monoxide (CO) Pollution in Outdoor Air.
28 USEPA, Carbon Monoxide (CO) Pollution in Outdoor Air.
29 CARB, Carbon Monoxide & Health.

respond to the increased oxygen demands of exercise, exertion, or stress; inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance.[30] Unborn babies, infants, elderly people, and people with anemia or with a history of heart or respiratory disease are most likely to experience health effects with exposure to elevated levels of CO.[31]

Sulfur Dioxide (SO_2): According to the USEPA, the largest source of sulfur dioxide (SO_2) emissions in the atmosphere is the burning of fossil fuels by power plants and other industrial facilities while smaller sources of SO_2 emissions include industrial processes such as extracting metal from ore; natural sources such as volcanoes; and locomotives, ships and other vehicles and heavy equipment that burn fuel with a high sulfur content.[32] In 2006, California phased-in the ultra-low-sulfur diesel regulation limiting vehicle diesel fuel to a sulfur content not exceeding 15 parts per million, down from the previous requirement of 500 parts per million, substantially reducing emissions of sulfur from diesel combustion.[33] According to the USEPA, short-term exposures to SO_2 can harm the human respiratory system and make breathing difficult.[34] According to CARB, health effects at levels near the State one-hour standard are those of asthma exacerbation, including bronchoconstriction accompanied by symptoms of respiratory irritation such as wheezing, shortness of breath and chest tightness, especially during exercise or physical activity and exposure at elevated levels of SO_2 (above 1 part per million (ppm)) results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality.[35] Children, the elderly, and those with asthma, cardiovascular disease, or chronic lung disease (such as bronchitis or emphysema) are most likely to experience the adverse effects of SO_2.[36,37]

Particulate Matter (PM10 and PM2.5): Particulate matter air pollution is a mixture of solid particles and liquid droplets found in the air.[38] Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye while other particles are so small they can only be detected using an electron microscope.[39] Particles are defined by their diameter for air quality regulatory purposes: inhalable particles with diameters that are generally 10 micrometers and smaller (PM10); and fine inhalable particles with diameters that are generally 2.5 micrometers and smaller (PM2.5).[40] Thus, PM2.5 comprises a portion or a subset of PM10. Sources of PM10 emissions include dust from construction sites, landfills and agriculture,

30 CARB, Carbon Monoxide & Health.

31 CARB, Carbon Monoxide & Health.

32 USEPA, Sulfur Dioxide (SO_2) Pollution, https://www.epa.gov/so2-pollution/sulfur-dioxide-basics, last updated January 28, 2021.

33 CARB, Final Regulation Order, Amendments to the California Diesel Fuel Regulations, Amend Section 2281, Title 13, California Code of Regulations, https://ww3.arb.ca.gov/regact/ulsd2003/fro2.pdf, approved July 15, 2004.

34 USEPA, Sulfur Dioxide (SO_2) Pollution.

35 CARB, Sulfur Dioxide & Health, 2021, https://ww2.arb.ca.gov/resources/sulfur-dioxide-and-health.

36 CARB, Sulfur Dioxide & Health.

37 USEPA, Sulfur Dioxide (SO_2) Pollution.

38 USEPA, Particulate Matter (PM) Pollution, https://www.epa.gov/pm-pollution/particulate-matter-pm-basics, last updated May 26, 2021.

39 USEPA, Particulate Matter (PM) Pollution.

40 USEPA, Particulate Matter (PM) Pollution.

wildfires and brush/waste burning, industrial sources, and wind-blown dust from open lands.[41] Sources of PM2.5 emissions include combustion of gasoline, oil, diesel fuel, or wood.[42] PM10 and PM2.5 may be either directly emitted from sources (primary particles) or formed in the atmosphere through chemical reactions of gases (secondary particles) such as SO_2, NO_X, and certain organic compounds.[43] According to CARB, both PM10 and PM2.5 can be inhaled, with some depositing throughout the airways; PM_{10} is more likely to deposit on the surfaces of the larger airways of the upper region of the lung while PM2.5 is more likely to travel into and deposit on the surface of the deeper parts of the lung, which can induce tissue damage, and lung inflammation.[44] Short-term (up to 24 hours duration) exposure to PM10 has been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency department visits.[45] The effects of long-term (months or years) exposure to PM10 are less clear, although studies suggest a link between long-term PM10 exposure and respiratory mortality. The International Agency for Research on Cancer published a review in 2015 that concluded that particulate matter in outdoor air pollution causes lung cancer.[46] Short-term exposure to PM2.5 has been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days and long-term exposure to PM2.5 has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children.[47] According to CARB, populations most likely to experience adverse health effects with exposure to PM10 and PM2.5 include older adults with chronic heart or lung disease, children, and asthmatics and children and infants are more susceptible to harm from inhaling pollutants such as PM10 and PM2.5 compared to healthy adults because they inhale more air per pound of body weight than do adults, spend more time outdoors, and have developing immune systems.[48]

Lead (Pb): Major sources of lead emissions include ore and metals processing, piston-engine aircraft operating on leaded aviation fuel, waste incinerators, utilities, and lead-acid battery manufacturers.[49] In the past, leaded gasoline was a major source of lead emissions; however, the removal of lead from gasoline has resulted in a decrease of lead in the air by 98 percent between 1980 and 2014.[50] Lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems and the cardiovascular system, and affects the oxygen carrying capacity of blood.[51] The lead effects most commonly encountered in current populations are neurological effects in children, such as behavioral problems and reduced intelligence,

41 CARB, Inhalable Particulate Matter and Health (PM2.5 and PM10), https://ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health, last reviewed August 10, 2017.
42 CARB, Inhalable Particulate Matter and Health (PM2.5 and PM10).
43 CARB, Inhalable Particulate Matter and Health (PM2.5 and PM10).
44 CARB, Inhalable Particulate Matter and Health (PM2.5 and PM10).
45 CARB, Inhalable Particulate Matter and Health (PM2.5 and PM10).
46 CARB, Inhalable Particulate Matter and Health (PM2.5 and PM10).
47 CARB, Inhalable Particulate Matter and Health (PM2.5 and PM10).
48 CARB, Inhalable Particulate Matter and Health (PM2.5 and PM10).
49 USEPA, Lead Air Pollution, https://www.epa.gov/lead-air-pollution/basic-information-about-lead-air-pollution, last updated August 16, 2021.
50 USEPA, Lead Air Pollution.
51 USEPA, Lead Air Pollution.

anemia, and liver or kidney damage.[52] Excessive lead exposure in adults can cause reproductive problems in men and women, high blood pressure, kidney disease, digestive problems, nerve disorders, memory and concentration problems, and muscle and joint pain.[53]

Other Criteria Pollutants (California Only)

The California Ambient Air Quality Standards (CAAQS) regulate the same criteria pollutants as the NAAQS but in addition, regulate State-identified criteria pollutants, including sulfates, hydrogen sulfide, visibility-reducing particles, and vinyl chloride.[54] With respect to the State-identified criteria pollutants (i.e., sulfates, hydrogen sulfide, visibility reducing particles, and vinyl chloride), the Project would either not emit them (i.e., hydrogen sulfide and vinyl chloride), or they would be accounted for as part of the pollutants estimated in this analysis (i.e., sulfates and visibility reducing particles). For example, visibility reducing particles are associated with particulate matter emissions and sulfates are associated with SO_X emissions. Both particulate matter and SO_X are included in the emissions estimates for the Project. A description of the health effects of the State-identified criteria air pollutants is provided below.

Sulfates (SO_4^{2-}): Sulfates in the environment occur as a result of SO_2 (sulfur dioxide) being converted to SO_4^{2-} compounds in the atmosphere where sulfur is first oxidized to SO_2 during the combustion process of sulfur containing, petroleum-derived fuels (e.g., gasoline and diesel fuel).[55] Exposure to SO_4^{2-}, which are part of PM2.5, results in health effects similar to those from exposure to PM2.5 including reduced lung function, aggravated asthmatic symptoms, and increased risk of emergency department visits, hospitalizations, and death in people who have chronic heart or lung diseases.[56] Population groups with higher risks of experiencing adverse health effects with exposure to SO_4^{2-} include children, asthmatics, and older adults who have chronic heart or lung diseases.[57]

Hydrogen Sulfide (H_2S): H_2S is a colorless gas with a strong odor of rotten eggs. The most common sources of H_2S emissions are oil and natural gas extraction and processing, and natural emissions from geothermal fields. Industrial sources of H_2S include petrochemical plants and kraft paper mills. H_2S is also formed during bacterial decomposition of human and animal wastes, and is present in emissions from sewage treatment facilities and landfills.[58] Exposure to H_2S can induce tearing of the eyes and symptoms related to overstimulation of the sense of smell, including headache, nausea, or vomiting; additional health effects of eye irritation have only been reported with exposures greater than 50 ppm, which is considerably higher than the odor threshold.[59] H_2S is regulated as a nuisance based on its odor detection level; if the standard were

52 CARB, Lead & Health, 2021, https://ww2.arb.ca.gov/resources/lead-and-health.
53 CARB, Lead & Health.
54 CARB, Vinyl Chloride, 2009, https://www.arb.ca.gov/research/aaqs/caaqs/vc/vc.htm. Accessed March 2019.
55 CARB, Sulfate & Health, https://ww2.arb.ca.gov/resources/sulfate-and-health. Accessed March 2019.
56 CARB, Sulfate & Health.
57 CARB, Sulfate & Health.
58 CARB, Hydrogen Sulfide & Health, https://ww2.arb.ca.gov/resources/hydrogen-sulfide-and-health. Accessed March 2019.
59 CARB, Hydrogen Sulfide & Health.

based on adverse health effects, it would be set at a much higher level.[60] According to CARB, there are insufficient data available to determine whether or not some groups are at greater risk than others.[61]

Visibility-Reducing Particles: Visibility-reducing particles come from a variety of natural and manmade sources and can vary greatly in shape, size and chemical composition. Visibility reduction is caused by the absorption and scattering of light by the particles in the atmosphere before it reaches the observer. Certain visibility-reducing particles are directly emitted to the air such as windblown dust and soot, while others are formed in the atmosphere through chemical transformations of gaseous pollutants (e.g., sulfates, nitrates, organic carbon particles) which are the major constituents of particulate matter. As the number of visibility reducing particles increases, more light is absorbed and scattered, resulting in less clarity, color, and visual range.[62] Exposure to some haze-causing pollutants have been linked to adverse health impacts similar to PM10 and PM2.5 as discussed above.[63]

Vinyl Chloride: Vinyl chloride is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products and are generally emitted from industrial processes and other major sources of vinyl chloride have been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.[64] Short-term health of effects of exposure to high levels of vinyl chloride in the air include central nervous system effects, such as dizziness, drowsiness, and headaches while long-term exposure to vinyl chloride through inhalation and oral exposure causes liver damage and has been shown to increase the risk of angiosarcoma, a rare form of liver cancer in humans.[65] Most health data on vinyl chloride relate to carcinogenicity; thus, the people most at risk are those who have long-term exposure to elevated levels, which is more likely to occur in occupational or industrial settings; however, control methodologies applied to industrial facilities generally prevent emissions to the ambient air.[66]

Toxic Air Contaminants (TACs)

In addition to criteria pollutants, the SCAQMD periodically assesses levels of toxic air contaminants (TACs) in the Air Basin. A TAC is defined by California Health and Safety Code Section 39655:

> *"Toxic air contaminant" means an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. A substance that is listed as a hazardous air*

60 CARB, Hydrogen Sulfide & Health.
61 CARB, Hydrogen Sulfide & Health.
62 CARB, Visibility-Reducing Particles and Health, last reviewed October 11, 2016, https://www.arb.ca.gov/research/aaqs/common-pollutants/vrp/vrp.htm. Accessed March 2019.
63 CARB, Visibility-Reducing Particles and Health.
64 CARB, Vinyl Chloride & Health, https://ww2.arb.ca.gov/resources/vinyl-chloride-and-health. Accessed March 2019.
65 CARB, Vinyl Chloride & Health.
66 CARB, Vinyl Chloride & Health.

pollutant pursuant to subsection (b) of Section 112 of the federal act (42 U.S.C. Sec. 7412(b)) is a toxic air contaminant.

Diesel particulate matter, which is emitted in the exhaust from diesel engines, was listed by the State as a toxic air contaminant in 1998. Most major sources of diesel emissions, such as ships, trains, and trucks operate in and around ports, railyards, and heavily traveled roadways. These areas are often located near highly populated areas resulting in greater health consequences for urban areas than rural areas.[67] Diesel particulate matter has historically been used as a surrogate measure of exposure for all diesel exhaust emissions. Diesel particulate matter consists of fine particles (fine particles have a diameter <2.5 μm), including a subgroup of ultrafine particles (ultrafine particles have a diameter <0.1 μm). Collectively, these particles have a large surface area which makes them an excellent medium for absorbing organics. The visible emissions in diesel exhaust include carbon particles or "soot." Diesel exhaust also contains a variety of harmful gases and cancer-causing substances.

Exposure to diesel particulate matter may be a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. Diesel particulate matter levels and resultant potential health effects may be higher in proximity to heavily traveled roadways with substantial truck traffic or near industrial facilities. According to CARB, diesel particulate matter exposure may lead to the following adverse health effects: (1) Aggravated asthma; (2) Chronic bronchitis; (3) Increased respiratory and cardiovascular hospitalizations; (4) Decreased lung function in children; (5) Lung cancer; and (6) Premature deaths for people with heart or lung disease.[68,69]

In August 2021, the SCAQMD released the Final Multiple Air Toxics Exposure Study V (MATES V).[70] The MATES V study includes a fixed site monitoring program with ten stations, an updated emissions inventory of TACs, and a modeling effort to characterize risk across the Air Basin. The purpose of the fixed site monitoring is to characterize long-term regional air toxics levels in residential and commercial areas. In addition to new measurements and updated modeling results, several key updates were implemented in MATES V. First, MATES V estimates cancer risks by taking into account multiple exposure pathways, which includes inhalation and non-inhalation pathways. This approach is consistent with how cancer risks are estimated in South Coast AQMD's programs such as permitting, Air Toxics Hot Spots (AB2588), and CEQA. Previous MATES studies quantified the cancer risks based on the inhalation pathway only. Second, along with cancer risk estimates, MATES V includes information on the chronic noncancer risks from inhalation and non-inhalation pathways for the first time. Cancer risks and chronic noncancer risks from MATES II through IV measurements have been re-examined using

67 CARB, Overview: Diesel Exhaust and Health, https://www.arb.ca.gov/research/diesel/diesel-health.htm. Accessed March 2019.

68 CARB, Diesel and Health Research, http://www.arb.ca.gov/research/diesel/diesel-health.htm. Accessed March 2019.

69 CARB, Diesel Particulate Matter Health Risk Assessment Study for the West Oakland Community: Preliminary Summary of Results, (2008), http://www.arb.ca.gov/ch/communities/ra/westoakland/documents/factsheet0308.pdf. Accessed March 2019.

70 SCAQMD, Final Report Multiple Air Toxics Exposure Study in the South Coast Air Basin MATES V, August 2021. http://www.aqmd.gov/docs/default-source/planning/mates-v/mates-v-final-report.pdf?sfvrsn=4. Accessed January 31, 2022.

current Office of Environmental Health Hazard Assessment (OEHHA) and CalEPA risk assessment methodologies and modern statistical methods to examine the trends over time. This has led to a reduction of the Basin Average Air Toxics Cancer Risk in MATES V, 455 in a million, from MATES IV, 997 in a million.[71] The key takeaways from the MATES V study: air toxics cancer risk has decreased by about 50 percent since MATES IV based on modeling data, MATES V Basin average multi-pathway air toxics cancer risk is 455 in a million, with the highest risk locations being in the Los Angeles International Airport, downtown and the ports areas, diesel particulate matter is the main risk driver for air toxics cancer risk, goods movement and transportation corridors have the highest air toxics cancer risks, and the chronic noncancer risk was estimated for the first time with a chronic hazard index of approximately 5 to 9 across all ten fixed stations.[72]

1.4.2 Local Air Quality

Criteria Pollutants

The SCAQMD maintains a network of air quality monitoring stations located throughout the Air Basin to measure ambient pollutant concentrations. The Project Site is located in SCAQMD Source Receptor Area (SRA) 2; therefore, the monitoring station most representative of the Project Site is the Northwest Coastal LA County Monitoring Station. Criteria pollutants monitored at this station include ozone, NO_2, and CO. The Southwest Coastal LA County Monitoring Station was used to report data for SO_2, lead, and PM10. The Central LA station was used for PM2.5 monitoring data. Air quality monitoring data available from the SCAQMD for these monitoring stations are summarized in **Table 2,** *Ambient Air Quality Data*.

TABLE 2
AMBIENT AIR QUALITY DATA

Pollutant/Standard	2018	2019	2020
O_3 (1-hour)			
Maximum Concentration (ppm)	0.098	0.086	0.134
Days > CAAQS (0.09 ppm)	0	0	6
O_3 (8-hour)			
Maximum Concentration (ppm)	0.073	0.075	0.092
4th High 8-hour Concentration (ppm)	0.068	0.064	0.078
Days > CAAQS (0.070 ppm)	2	1	8
Days > NAAQS (0.075 ppm)	0	0	5
NO_2 (1-hour)			
Maximum Concentration (ppm)	0.065	0.049	0.077
98th Percentile Concentration (ppm)	0.046	0.043	0.044
NO_2 (Annual)			
Annual Arithmetic Mean (0.030 ppm)	0.013	0.010	0.011

71 SCAQMD, Final Report Multiple Air Toxics Exposure Study in the South Coast Air Basin MATES V, August 2021. http://www.aqmd.gov/docs/default-source/planning/mates-v/mates-v-final-report.pdf?sfvrsn=4. Accessed January 31, 2022.

72 SCAQMD, Final Report Multiple Air Toxics Exposure Study in the South Coast Air Basin MATES V, August 2021. http://www.aqmd.gov/docs/default-source/planning/mates-v/mates-v-final-report.pdf?sfvrsn=4. Accessed January 31, 2022.

Pollutant/Standard	2018	2019	2020
CO (1-hour)			
Maximum Concentration (ppm)	1.6	1.9	2.0
CO (8-hour)			
Maximum Concentration (ppm)	1.3	1.2	1.2
SO_2 (1-hour)			
Maximum Concentration (ppm)	0.012	0.008	0.006
99th Percentile Concentration (ppm)	0.005	0.004	0.003
SO_2 (24-hour)			
Maximum Concentration (ppm)	--	--	--
PM10 (24-hour)			
Maximum Concentration (µg/m^3)	45	62	73
Samples > CAAQS (50 µg/m^3)	0	2	0
Samples > NAAQS (150 µg/m^3)	0	0	0
PM10 (Annual Average)			
Annual Arithmetic Mean (20 µg/m^3)	20.5	19.2	22.5
PM2.5 (24-hour)			
Maximum Concentration (µg/m^3)	43.8	43.5	47.3
98th Percentile Concentration (µg/m^3)	30.5	28.3	28.0
Samples > NAAQS (35 µg/m^3)	3	1	2
PM2.5 (Annual)			
Annual Arithmetic Mean (12 µg/m^3)	12.58	10.85	12.3
Lead			
Maximum 30-day average (µg/m^3)	0.005	0.004	0.013

[a] ppm = parts per million; µg/m^3 = micrograms per cubic meter

[b] The monitoring station most representative of the Project Site is Station number 91 in Northwest Costal LA County, which is used to establish ambient ozone, NO_2, and CO, levels. Since data for SO_2, lead, PM10 and PM2.5 are not monitored at this station, the Station in Southwest Coastal LA County was used to report data for SO_2, lead, and PM10 and the Central LA Station was used to report data for PM2.5 The most recent data available from SCAQMD for these monitoring stations are from years 2016 to 2019.

[c] CAAQS are based on a not to exceed standard. NAAQS are based on a 3-year average of the annual 4th highest daily maximum 8-hour concentration for ozone; 98th percentile of 1-hour daily maximum concentrations averaged over 3 years for 1-hr NO_2; and not to be exceeded more than once per year on average over 3 years for 24-hr PM.

[d] State annual average (AAM) PM10 standard is > 20 µg/m^3. Federal annual PM10 standard (AAM > 50 µg/m3) was revoked in 2006.

[e] Both Federal and State standards are annual average (AAM) > 12.0 µg/m^3.

SOURCE: SCAQMD, Historical Data by Year, www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year; USEPA, AirData, www.epa.gov/airdata/ad_rep_mon.html. Accessed October 1, 2020.

Toxic Air Contaminants (TACs)

The SCAQMD has prepared a series of maps that show regional trends in estimated outdoor inhalation cancer risk from toxic emissions, as part of an ongoing effort to provide insight into relative risks. The maps represent the estimated number of potential cancers per million people associated with a lifetime of breathing air toxics (24 hours per day outdoors for 70 years). The background potential cancer risk per million people in the Project Site area is estimated at approximately 460 in one million (compared to an overall Air Basin-wide risk of 455 in one million.[73] Generally, the risk from air toxics is lower near the coastline and increases inland, with higher risks concentrated near large diesel sources (e.g., freeways, airports, and ports).

[73] SCAQMD, Multiple Air Toxics Exposure Study, MATES V Data Visualization Tool, https://experience.arcgis.com/experience/79d3b6304912414bb21ebdde80100b23?views=view_38. Accessed January 31, 2022.

1.5 Sensitive Receptors

Certain population groups, such as children, elderly, and acutely and chronically ill persons (especially those with cardio-respiratory diseases), are considered more sensitive to the potential effects of air pollution than others. Sensitive land uses within approximately 500 feet of the Project Site are shown in **Figure 3**, *Sensitive Receptor Locations Nearest to the Project Site*, and include the following:

- North of Project Site: Existing one- and two-story residential uses are located across W. Washington Boulevard.
- South of Project Site: Existing one- and two-story residential uses are located adjacent to the Project Site along Campbell Drive and S. Centinela Avenue.
- East of Project Site: An existing two-story residential use is located to the east of the Alibi Room Restaurant/Bar on the south side of W. Washington Boulevard.
- West of Project Site: Existing one- and two-story residential uses are located west of the commercial uses on S. Centinela Avenue along Kenyon Avenue.

All other air quality sensitive receptors are located at greater distances from the Project Site, and would be less impacted by Project emissions. Impacts are quantified for these maximum impacted sensitive receptors listed here.

20211D202101328.00 - 12300 Washington AQ-Noise-Shade\05 Graphics-GIS-Modeling\Illustrator

SOURCE: ESA, 2022; Basemap Google Earth, 2022

Washington Wing (12300 Washington Blvd)

Figure 3
Sensitive Receptor Locations Nearest to the Project Site

ESA

SECTION 2
Regulatory Framework

A number of statutes, regulations, plans and policies have been adopted which address air quality concerns. The Project Site and vicinity is subject to air quality regulations developed and implemented at the federal, State, and local levels. At the federal level, the USEPA is responsible for implementation of the federal Clean Air Act (CAA). Some portions of the CAA (e.g., certain mobile source requirements and other requirements) are implemented directly by the USEPA. Other portions of the CAA (e.g., stationary source requirements) are implemented through delegation of authority to State and local agencies. A number of plans and policies have been adopted by various agencies that address air quality concerns. Those plans and policies that are relevant to the Project are discussed below.

2.1 Federal

The federal CAA was enacted in 1955 and has been amended numerous times in subsequent years, with the most recent amendments occurring in 1990.[74] The CAA is the comprehensive federal law that regulates air emissions in order to protect public health and welfare.[75] The USEPA is responsible for the implementation and enforcement of the CAA, which establishes federal National Ambient Air Quality Standards (NAAQS), specifies future dates for achieving compliance, and requires USEPA to designate areas as attainment, nonattainment, or maintenance. The CAA also mandates that each state submit and implement a State Implementation Plan (SIP) for each criteria pollutant for which the state has not achieved the applicable NAAQS. The SIP includes pollution control measures that demonstrate how the standards for those pollutants will be met. The sections of the CAA most applicable to the Project include Title I (Nonattainment Provisions) and Title II (Mobile Source Provisions).[76,77]

Title I requirements are implemented for the purpose of attaining NAAQS for criteria air pollutants. The NAAQS were amended in July 1997 to include an 8-hour standard for ozone and to adopt a NAAQS for PM2.5. The NAAQS were also amended in September 2006 to include an established methodology for calculating PM2.5, as well to revoke the annual PM10 threshold. **Table 3**, *Ambient Air Quality Standards*, shows the NAAQS currently in effect for each criteria

74 42 United States Code §7401 et seq. (1970).

75 Summary of the Clean Air Act, https://www.epa.gov/laws-regulations/summary-clean-air-act.

76 USEPA, Clean Air Act Overview, Clean Air Act Table of Contents by Title, Last Updated January 3, 2017, https://www.epa.gov/clean-air-act-overview/clean-air-act-text. Accessed October 2018. As shown therein, Title I addresses nonattainment areas and Title II addresses mobile sources.

77 Mobile sources include on-road vehicles (e.g. cars, buses, motorcycles) and non-road vehicles e.g. aircraft, trains, construction equipment). Stationary sources are comprised of both point and area sources. Point sources are stationary facilities that emit large amount of pollutants (e.g. municipal waste incinerators, power plants). Area sources are smaller stationary sources that alone are not large emitters, but combined can account for large amounts of pollutants (e.g. consumer products, residential heating, dry cleaners).

pollutant. The NAAQS and the CAAQS for the California criteria air pollutants (discussed below) have been set at levels considered safe to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly with a margin of safety; and to protect public welfare, including against decreased visibility and damage to animals, crops, vegetation, and buildings.[78]In addition to criteria pollutants, Title I also includes air toxics provisions which require USEPA to develop and enforce regulations to protect the public from exposure to airborne contaminants that are known to be hazardous to human health. In accordance with Section 112, USEPA establishes National Emission Standards for Hazardous Air Pollutants (NESHAPs). The list of hazardous air pollutants (HAPs), or air toxics, includes specific compounds that are known or suspected to cause cancer or other serious health effects.

Title II requirements pertain to mobile sources, such as cars, trucks, buses, and planes. Reformulated gasoline, automobile pollution control devices, and vapor recovery nozzles on gas pumps are a few of the mechanisms the USEPA uses to regulate mobile air emission sources. The provisions of Title II have resulted in tailpipe emission standards for vehicles, which have been strengthened in recent years to improve air quality. For example, the standards for NO_X emissions have been lowered substantially, and the specification requirements for cleaner burning gasoline are more stringent.

TABLE 3
AMBIENT AIR QUALITY STANDARDS

Pollutant	Average Time	California Standards[a]		National Standards[b]		
		Concentration[c]	Method[d]	Primary[c,e]	Secondary [c,f]	Method[g]
O_3[h]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
NO_2[i]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemi-luminescence	100 ppb (188 µg/m^3)	None	Gas Phase Chemi-luminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		53 ppb (100 µg/m^3)	Same as Primary Standard	
CO	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10mg/m^3)		9 ppm (10 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
SO_2[j]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)9
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	

78 USEPA, NAAQS Table, https://www.epa.gov/criteria-air-pollutants/naaqs-table. Accessed March 2019.

Pollutant	Average Time	California Standards[a]		National Standards[b]		
		Concentration[c]	Method[d]	Primary[c,e]	Secondary [c,f]	Method[g]
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)j	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) j	—	
PM10[k]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
PM2. [k]	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3 k	15 µg/m^3	
Lead[l,m]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)m	Same as Primary Standard	
	Rolling 3-Month Average [m]	--		0.15 µg/m^3		
Visibility Reducing Particles [n]	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of 10 miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates (SO_4)	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride [l]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

a California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

b National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 micrograms/per cubic meter (µg/m^3) is equal to or less than one. For $PM_{2.5}$, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

c Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

d Any equivalent procedure which can be shown to the satisfaction of the California Air Resources Board to give equivalent results at or near the level of the air quality standard may be used.

e National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

f National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

g Reference method as described by the USEPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the USEPA.

Pollutant	Average Time	California Standards[a]		National Standards[b]		
		Concentration[c]	Method[d]	Primary[c,e]	Secondary [c,f]	Method[g]

h On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
i To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
j On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated non-attainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
k On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3.
l The California Air Resources Board has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
m The national standard for lead was revised on October 15, 2008 to a rolling three-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated non-attainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
n In 1989, the California Air Resources Board converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: California Air Resources Board, Ambient Air Quality Standards (5/4/16). Available: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed March 2019.

Table 4, *South Coast Air Basin Attainment Status (Los Angeles County)*, shows the attainment status of the Air Basin for each criteria pollutant. As shown in Table 4, the Air Basin is designated under federal or state ambient air quality standards as nonattainment for ozone (O_3), respirable particulate matter (PM10), and fine particulate matter (PM2.5). The Los Angeles County portion of the Air Basin is designated as nonattainment for the federal lead standard; however, this was due to localized emissions from 2 lead-acid battery recycling facilities in the city of Vernon and the city of Industry that are no longer operating.[79]

As shown in Table 4, the Air Basin is designated under federal or state ambient air quality standards as nonattainment for ozone, PM10, and fine particulate matter PM2.5. The Los Angeles County portion of the Air Basin is designated as nonattainment for the federal lead standard; however, this is due to localized emissions from two lead-acid battery recycling facilities in the City of Vernon and the City of Industry that are no longer operating. [80]

TABLE 4
SOUTH COAST AIR BASIN ATTAINMENT STATUS (LOS ANGELES COUNTY)

Pollutant	National Standards (NAAQS)	California Standards (CAAQS)
O_3 (1-hour standard)	N/A [a]	Non-attainment – Extreme
O_3 (8-hour standard)	Non-attainment – Extreme	Non-attainment
CO	Attainment	Attainment
NO_2	Attainment	Attainment

79 South Coast Air Quality Management District, Board Meeting, Agenda No. 30, Adopt the 2012 Lead State Implementation Plan for Los Angeles County, May 4, 2012.
80 SCAQMD, Board Meeting, Agenda No. 30, Adopt the 2012 Lead State Implementation Plan for Los Angeles County, May 4, 2012.

Pollutant	National Standards (NAAQS)	California Standards (CAAQS)
SO_2	Attainment	Attainment
PM10	Attainment	Non-attainment
PM2.5	Non-attainment – Serious	Non-attainment
Lead (Pb)	Non-attainment (Partial) [b]	Attainment
Visibility Reducing Particles	N/A	Unclassified
Sulfates	N/A	Attainment
Hydrogen Sulfide	N/A	Unclassified
Vinyl Chloride [c]	N/A	N/A

N/A = not applicable

[a] The NAAQS for 1-hour ozone was revoked on June 15, 2005, for all areas except Early Action Compact areas.

[b] Partial Non-attainment designation – Los Angeles County portion of the Air Basin only for near-source monitors.

[c] In 1990, the California Air Resources Board identified vinyl chloride as a toxic air contaminant and determined that it does not have an identifiable threshold. Therefore, the California Air Resources Board does not monitor or make status designations for this pollutant.

SOURCE: USEPA, The Green Book Non-Attainment Areas for Criteria Pollutants, https://www.epa.gov/green-book; CARB, Area Designations Maps/State and National, http://www.arb.ca.gov/desig/adm/adm.htm. Accessed March 2019.

As detailed in the AQMP, the major sources of air pollution in the Air Basin are divided into four major source classifications: point, and area stationary sources, and on-road and off-road mobile sources. Point and area sources are the two major subcategories of stationary sources.[81] Point sources are permitted facilities that contain one or more emission sources at an identified location (e.g., power plants, refineries, emergency generator exhaust stacks). Area sources consist of many small emission sources (e.g., residential water heaters, architectural coatings, consumer products, restaurant charbroilers and permitted sources such as large boilers) which are distributed across the region. Mobile sources consist of two main subcategories: On-road sources (such as cars and trucks) and off-road sources (such as heavy construction equipment).

2.2 State

2.2.1 California Clean Air Act

The California Clean Air Act, signed into law in 1988, requires all areas of the state to achieve and maintain the CAAQS by the earliest practical date. The CAAQS are established to protect the health of the most sensitive groups and apply to the same criteria pollutants as the federal Clean Air Act and also includes State-identified criteria pollutants, which are sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride.[82] CARB has primary responsibility for ensuring the implementation of the California Clean Air Act,[83] responding to the federal Clean Air Act planning requirements applicable to the state, and regulating emissions from motor vehicles and consumer products within the state.

81 SCAQMD, 2016 AQMP, page 3-32.

82 CARB, California Ambient Air Quality Standards (CAAQS), last reviewed August 10, 2017.

83 Chapter 1568 of the Statutes of 1988.

Health and Safety Code Section 39607(e) requires CARB to establish and periodically review area designation criteria. Table 4 provides a summary of the attainment status of the Los Angeles County portion of the Air Basin with respect to the state standards. The Air Basin is designated as attainment for the California standards for sulfates and unclassified for hydrogen sulfide and visibility-reducing particles. The Air Basin is currently in non-attainment for O_3, PM10, and PM2.5 under the CAAQS. Since vinyl chloride is a carcinogenic toxic air contaminant, CARB does not classify attainment status for this pollutant.

2.2.2 California Air Resources Board

CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets the CAAQS, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB has primary responsibility for the development of California's SIP, for which it works closely with the federal government and the local air districts. The SIP is required for the state to take over implementation of the federal CAA from USEPA.

2.2.3 California Code of Regulations

The California Code of Regulations (CCR) is the official compilation and publication of regulations adopted, amended or repealed by the state agencies pursuant to the Administrative Procedure Act. The CCR includes regulations that pertain to air quality emissions. Specifically, Section 2485 in Title 13 of the CCR states that the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) during construction shall be limited to five minutes at any location. In addition, Section 93115 in Title 17 of the CCR states that operations of any stationary, diesel-fueled, compression-ignition engines shall meet specified fuel and fuel additive requirements and emissions standards.

2.2.4 On-Road and Off-Road Vehicle Rules

In 2004, the California Air Resources Board (CARB) adopted an Airborne Toxic Control Measure (ATCM) to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to DPM and other TACs (Title 13 California Code of Regulations [CCR], Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than five minutes at any given time.

In 2008, CARB also approved the Truck and Bus regulation to reduce PM and NO_X emissions from existing diesel vehicles operating in California (13 CCR, Section 2025). The requirements were amended to apply to nearly all diesel-fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. For the largest trucks and buses in the fleet, those

with a GVWR greater than 26,000 pounds, all must be equipped with diesel particulate filters (DPFs) from 2014 and onward, and must have 2010 model year engines by January 1, 2023. For trucks and buses with a GVWR of 14,001 to 26,000 pounds, those with engine model years 14 to 20 years or older must be replaced with 2010 model year engines in accordance with the schedule specified in the regulation.

In addition to limiting exhaust from idling trucks, CARB also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation adopted by the CARB on July 26, 2007, aims to reduce emissions by the installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission controlled models (13 CCR, Section 2449). Implementation is staggered based on fleet size (which is the total of all off-road horsepower under common ownership or control), with the largest fleets to begin compliance in 2014, medium fleets in 2017, and small fleets in 2019. Each fleet must demonstrate compliance through one of two methods. The first option is to calculate and maintain fleet average emissions targets, which encourages the retirement or repowering of older equipment and rewards the introduction of newer cleaner units into the fleet. The second option is to meet the Best Available Control Technology (BACT) requirements by turning over or installing Verified Diesel Emission Control Strategies (VDECS) on a certain percentage of its total fleet horsepower. The compliance schedule requires that BACT turn overs or retrofits (VDECS installation) be fully implemented by 2023 in all equipment for large and medium fleets and by 2028 for small fleets.

2.2.5 Advanced Clean Trucks Regulation

In 2020, CARB approved the Advanced Clean Trucks (ACT) regulation (13 CCR, Sections 1963–1963.5 and 2012–2012.3) to accelerate a large-scale transition to zero- and near-zero-emissions medium- and heavy-duty vehicles. The regulation requires manufacturers of medium- and heavy-duty vehicles to sell an increasing percentage of zero-emissions models from 2024 to 2035 with up to 55 percent of Classes 2b–3 trucks, 75 percent of Classes 4–8 trucks, and 40 percent of truck tractor sales. The regulation also includes reporting requirements to provide information that would be used to identify future strategies. The ACT is part of the statewide goal to considerably reduce NOx and PM emissions in accordance with the NAAQS, reduce greenhouse gas (GHG) emissions by 40 percent, and reduce petroleum use by 50 percent by 2030. By transitioning to zero-emissions trucks, the State would move away from petroleum dependency and emit less air pollutants from heavy-duty mobile sources.

2.2.6 Heavy-Duty Low NOx

CARB has proposed the heavy-duty omnibus regulation, which is currently in public review and has not yet been adopted. This regulation would establish heavy-duty engine emissions standards that would reduce NO_X emissions by 90 percent from current standards.

2.2.7 Toxic Air Contaminants

The California Air Toxics Program was established in 1983, when the California Legislature adopted Assembly Bill (AB) 1807 to establish a two-step process of risk identification and risk management to address potential health effects from exposure to toxic substances in the air. In the risk identification step, CARB and OEHHA determine if a substance should be formally identified, or "listed", as a TAC in California. inception of the program, a number of such substances have been listed (www.arb.ca.gov/toxics.id/taclist.htm). In 1993, the California Legislature amended the program to identify the 189 federal hazardous air pollutants (HAPs) as TACs. The SCAQMD has not adopted guidance applicable to land use projects that requires a quantitative health risk assessments be performed for construction exposures to TAC emissions.[84] The SCAQMD states that: "SCAQMD currently does not have guidance on construction Health Risk Assessments."[85]

In the risk management step, CARB reviews emission sources of an identified TAC to determine whether regulatory action is needed to reduce risk. Based on the results of that review, CARB has promulgated a number of ATCMs, both for mobile and stationary sources. As discussed above, in 2004, CARB adopted an ATCM to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to DPM and other TACs. The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than five minutes at any given time.

In addition to limiting exhaust from idling trucks, as discussed above, CARB promulgated emission standards for off-road diesel construction equipment such as bulldozers, loaders, backhoes, and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation, adopted by CARB on July 26, 2007, aims to reduce emissions by the installation of diesel particulate filters and encouraging the replacement of older, dirtier engines with newer emission controlled models. Implementation is staggered based on fleet size, with the largest operators beginning compliance in 2014.

The AB 1807 program is supplemented by the AB 2588 Air Toxics "Hot Spots" program, which was established by the California Legislature in 1987. Under this program, facilities are required to report their air toxics emissions, assess health risks, and notify nearby residents and workers of significant risks if present. In 1992, the AB 2588 program was amended by Senate Bill (SB) 1731 to require facilities that pose a significant health risk to the community to reduce their risk through implementation of a risk management plan.

84 SCAQMD, Final Environmental Assessment for: Proposed Amended Rule 307.1 – Alternative Fees for Air Toxics Emissions Inventory; Proposed Amended Rule 1401 – New Source Review of Toxic Air Contaminants; Proposed Amended Rule 1402 – Control of Toxic Air Contaminants from Existing Sources; SCAQMD Public Notification Procedures for Facilities Under the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) and Rule 1402.

85 SCAQMD Guidelines for Participating in the Rule 1402 Voluntary Risk, page 2-23, September 2016, http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/final-ea_par-307-1_1401_1402.pdf?sfvrsn=4. Accessed March 2019.

2.3 Regional

2.3.1 South Coast Air Quality Management District (SCAQMD)

The SCAQMD is primarily responsible for planning, implementing, and enforcing air quality standards for the South Coast Air Basin (Air Basin) which includes all of Orange County, Los Angeles County (excluding the Antelope Valley portion), the western, non-desert portion of San Bernardino County, and the western Coachella Valley and San Gorgonio Pass portions of Riverside County. The Air Basin is an approximately 6,745-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Air Basin is a subregion within the western portion of the SCAQMD jurisdiction. While air quality in the Air Basin has improved, the Air Basin requires continued diligence to meet the air quality standards. While air quality in the Air Basin has improved, the Air Basin requires continued diligence to meet the air quality standards.

Air Quality Management Plan

The SCAQMD has adopted AQMPs to meet the CAAQS and NAAQS. Most recently, SCAQMD has initiated the development of the 2022 AQMP to address the attainment of the 2015 8-hour ozone standard (70 part per billion [ppb]) for the Air Basin and Coachella Valley. The Air Basin is classified as an "extreme" non-attainment area and the Coachella Valley is classified as a "severe-15" non-attainment area for the 2015 Ozone NAAQS. In 2021, SCAQMD and CARB established Mobile Source Working Groups to support the development of mobile source strategies. SCAQMD also established Residential and Commercial Buildings Working Groups to support the development of control measures. The 2022 AQMP is in progress, and the currently adopted version is the 2016 AQMP.

The SCAQMD Governing Board adopted the 2016 AQMP on March 3, 2017.[86] CARB approved the 2016 AQMP on March 23, 2017.[87] Key elements of the 2016 AQMP include implementing fair-share emissions reductions strategies at the federal, State, and local levels; establishing partnerships, funding, and incentives to accelerate deployment of zero and near-zero-emissions technologies; and taking credit from co-benefits from greenhouse gas, energy, transportation and other planning efforts.[88] The strategies included in the 2016 AQMP build on the strategies from the previous 2012 AQMP and are intended to demonstrate attainment of the NAAQS, which are set at levels considered safe to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly with a margin of safety; and to protect public welfare, including against decreased visibility and damage to animals, crops, vegetation, and buildings,[89] for the federal non-attainment pollutants ozone and PM2.5 while accounting for regional growth, increasing development, and maintaining a healthy economy.[90] In general,

86 SCAQMD, 2016 AQMP, March 2017.

87 CARB, News Release - CARB establishes next generation of emission controls needed to improve state's air quality, https://ww2.arb.ca.gov/news/carb-establishes-next-generation-emission-controls-needed-improve-states-air-quality. Accessed January 31, 2022.

88 SCAQMD, 2016 AQMP, March 2017.

89 USEPA, NAAQS Table, https://www.epa.gov/criteria-air-pollutants/naaqs-table. Accessed January 2022.

90 SCAQMD, NAAQS/CAAQS and Attainment Status for South Coast Air Basin, 2016.

SCAQMD's criteria for evaluating control strategies for stationary and mobile sources is based on the following: (1) cost-effectiveness; (2) emissions reduction potential; (3) enforceability; (4) legal authority; (5) public acceptability; (6) rate of emission reduction; and (7) technological feasibility.

Control strategies in the AQMP with potential applicability to reducing short-term emissions from construction activities associated with the Project include strategies denoted in the 2016 AQMP as MOB-08 and MOB-10, which are intended to reduce emissions from on-road and off-road heavy-duty vehicles and equipment.[91] Descriptions of measures MOB-08 and MOB-10 are provided below:

- **MOB-08 – Accelerated Retirement of Older On-Road Heavy-Duty Vehicles:** This measure seeks to replace up to 2,000 heavy-duty vehicles per year with newer or new vehicles that at a minimum, meet the 2010 on-road heavy-duty NO_X exhaust emissions standard of 0.2 grams per brake horsepower-hour (g/bhp-hr).
- **MOB-10 – Extension of the SOON Provision for Construction/Industrial Equipment:** This measure continues the Surplus Off-Road Option for NO_X (SOON) provision of the statewide In-Use Off-Road Fleet Vehicle Regulation through the 2031 timeframe.

SCAQMD Air Quality Guidance Documents

The SCAQMD published the *CEQA Air Quality Handbook* to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts.[92] The *CEQA Air Quality Handbook* provides standards, methodologies, and procedures for conducting air quality analyses in EIRs and was used extensively in the preparation of this analysis. However, the SCAQMD is currently in the process of replacing the *CEQA Air Quality Handbook* with the *Air Quality Analysis Guidance Handbook*. While this process is underway, the SCAQMD recommends using other approved models to calculate emissions from land use projects, such as the California Emissions Estimator Model (CalEEMod) software, which is a model developed for CAPCOA in collaboration with the California Air Districts, which is a Statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions from a variety of land use projects.

The SCAQMD has also adopted land use planning guidelines in its *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, which considers impacts to sensitive receptors from facilities that emit TAC emissions.[93] SCAQMD's general land use siting distance recommendations are the same as those provided by CARB (e.g., a 500-foot siting distance for sensitive land uses proposed in proximity to freeways and high-traffic roads, a 1,000-foot siting distance for sensitive land uses proposed in proximity to a major service and maintenance rail yard, and the same siting criteria for distribution centers and dry cleaning

91 SCAQMD, 2016 AQMP, March 2017.

92 SCAQMD, CEQA Air Quality Handbook 1993, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993). Accessed January 2022.

93 SCAQMD, Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning, 2005, http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf?sfvrsn=4. Accessed January 2022.

facilities). The SCAQMD's document introduces land use-related policies that rely on design and distance parameters to minimize emissions and lower potential health risk. SCAQMDs guidelines are voluntary initiatives recommended for consideration by local planning agencies.

The SCAQMD has published a guidance document called the *Final Localized Significance Threshold Methodology* for CEQA Evaluations that is intended to provide guidance when evaluating the localized effects from mass emissions during construction.[94] The SCAQMD adopted additional guidance regarding PM2.5 emissions in a document called *Final Methodology to Calculate Particulate Matter (PM)2.5 and PM2.5 Significance Thresholds*.[95] This latter document has been incorporated by the SCAQMD into its CEQA significance thresholds and *Final Localized Significance Threshold Methodology*.

SCAQMD has adopted two rules to limit cancer and non-cancer health risks from facilities located within its jurisdiction. Rule 1401 (New Source Review of Toxic Air Contaminants) regulates new or modified facilities, and Rule 1402 (Control of Toxic Air Contaminants from Existing Sources) regulates facilities that are already operating. Rule 1402 incorporates the requirements of the AB 2588 program, including implementation of risk reduction plans for significant risk facilities.

SCAQMD Rules and Regulations

The SCAQMD has adopted many rules and regulations to regulate sources of air pollution in the Air Basin and to help achieve air quality standards. The Project may be subject to the following SCAQMD rules and regulations:

Regulation IV – Prohibitions: This regulation sets forth the restrictions for visible emissions, odor nuisance, fugitive dust, various air emissions, fuel contaminants, start-up/shutdown exemptions and breakdown events. The following is a list of rules which apply to the Project:

> **Rule 401 – Visible Emissions:** This rule states that a person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart or of such opacity as to obscure an observer's view.
>
> **Rule 402 – Nuisance:** This rule states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
>
> **Rule 403 – Fugitive Dust:** This rule requires projects to prevent, reduce or mitigate fugitive dust emissions from a site. Rule 403 restricts visible fugitive dust to the project

94 SCAQMD, Final Localized Significance Threshold Methodology, 2008, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds. Accessed January 2022.

95 SCAQMD, Final Methodology to Calculate Particulate Matter (PM)2.5 and PM2.5 Significance Thresholds, 2006, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/pm-2-5-significance-thresholds-and-calculation-methodology. Accessed January 2022.

property line, restricts the net PM10 emissions to less than 50 micrograms per cubic meter ($\mu g/m^3$) and restricts the tracking out of bulk materials onto public roads. Additionally, projects must utilize one or more of the best available control measures (identified in the tables within the rule). Control measures may include adding freeboard to haul vehicles, covering loose material on haul vehicles, watering or using non-toxic chemical stabilizers to prevent the generation of visible dust plumes, limiting vehicle speeds to 15 miles per hour on unpaved surfaces, and/or ceasing all activities. Finally, a contingency plan may be required if so determined by USEPA.

Regulation XI – Source Specific Standards: Regulation XI sets emissions standards for specific sources. The following is a list of rules which may apply to the Project:

Rule 1113 – Architectural Coatings: This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

Rule 1146.1 – Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters: This rule requires manufacturers, distributors, retailers, refurbishers, installers, and operators of new and existing units to reduce NO_X emissions from natural gas-fired boilers, steam generators, and process heaters as defined in this rule.

Rule 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters: This rule requires manufacturers, distributors, retailers, refurbishers, installers, and operators of new and existing units to reduce NO_X emissions from natural gas-fired water heaters, boilers, and process heaters as defined in this rule.

Rule 1186 – PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations: This rule applies to owners and operators of paved and unpaved roads and livestock operations. The rule is intended to reduce PM10 emissions by requiring the cleanup of material deposited onto paved roads, use of certified street sweeping equipment, and treatment of high-use unpaved roads (see also Rule 403).

Regulation XIV – Toxics and Other Non-Criteria Pollutants: Regulation XIV sets requirements for new permit units, relocations, or modifications to existing permit units which emit toxic air contaminants or other non-criteria pollutants. The following is a list of rules which may apply to the Project:

Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities: This rule requires owners and operators of any demolition or renovation activity and the associated disturbance of asbestos-containing materials, any asbestos storage facility, or any active waste disposal site to implement work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials.

Rule 1470 – Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines: This rule applies to stationary compression ignition (CI) engines greater than 50 brake horsepower, such as emergency generators, and sets limits on emissions and operating hours. In general, new stationary emergency

standby diesel-fueled engines greater than 50 brake horsepower are not permitted to operate more than 50 hours per year for maintenance and testing.

2.3.2 Southern California Association of Governments

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial Counties, and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG is the federally designated Metropolitan Planning Organization (MPO) for the majority of the Southern California region and is the largest MPO in the nation.

Pursuant to Health & Safety Code Section 40460, SCAG is responsible for preparing and approving the portions of the AQMP relating to regional demographic projections and integrated regional land use, housing, employment and transportation programs, measures and strategies.[96] With regard to air quality planning, SCAG adopted the *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (2016-2040 RTP/SCS) in April 2016, which contains such regional development and growth forecasts. These regional development and growth forecasts form the basis for the land use and transportation control portions of the 2016 AQMP, and its growth forecasts were utilized in the preparation of the air quality forecasts and consistency analysis included in the 2016 AQMP.[97] Both the RTP/SCS and the AQMP are based on projections that originate with local jurisdictions. On September 3, 2020, the SCAG Regional Council adopted the 2020-2045 *Regional Transportation Plan/Sustainable Communities Strategy* (2020-2045 RTP/SCS), which is an update to the previous 2016-2040 RTP/SCS.[98]

SCAG is required to adopt an SCS along with its RTP pursuant to Senate Bill (SB) 375 (Chapter 728, Statutes of 2008), which required the development of regional targets for reducing passenger vehicle GHG emissions. Under SB 375, CARB is required, in consultation with the state's MPOs, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035. In February 2011, CARB adopted the final GHG emissions reduction targets for SCAG, within whose jurisdiction the City of Culver City is located. SCAG's target is a per capita reduction of 8 percent for 2020 and 13 percent for 2035 compared to the 2005 baseline.[99] SCAG's 2016-2040 RTP/SCS meets or exceeds these targets, lowering GHG emissions (below 2005 levels) by eight percent by 2020; 18 percent by 2035; and 21 percent by 2040.[100] The 2020-2045 RTP/SCS includes the CARB updated SB 375 targets from March 2018 to require 8 percent reduction by 2020 and a 19 percent reduction by 2035 in per capita passenger vehicle GHG emissions.[101] Although the RTP/SCS is not focused specifically on air quality emissions, the targets growth projections established in the 2016-2040 RTP/SCS, as incorporated in the 2016 AQMP

96 SCAQMD, 2016 AQMP, page 4-42.

97 SCAQMD, 2016 AQMP, page 4-42.

98 Southern California Association of Governments (SCAG), 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (2020-2045 RTP/SCS), May 2020.

99 Southern California Association of Governments (SCAG), 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS), 2016, page 8, http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS.pdf. Accessed January 2022.

100 SCAG, 2016-2040 RTP/SCS, page 153.

101 CARB, SB 375 Regional Greenhouse Gas Emissions Reduction Targets.

affect air quality through optimized land use planning and the consequential reduction of emissions from passenger and light-duty vehicles.

SCAG's SCS is "built on a foundation of contributions from communities, cities, counties and other local agencies" and "based on local general plans as well as input from local governments."[102] SCAG's 2016-2040 RTP/SCS and 2020-2045 RTP/SCS provide specific strategies for implementation. These strategies include supporting projects that encourage a diverse job opportunities for a variety of skills and education, recreation and cultures and a full-range of shopping, entertainment and services all within a relatively short distance; encouraging employment development around current and planned transit stations and neighborhood commercial centers; encouraging the implementation of a "Complete Streets" policy that meets the needs of all users of the streets, roads and highways including bicyclists, children, persons with disabilities, motorists, electric vehicles, movers of commercial goods, pedestrians, users of public transportation, and seniors; and supporting alternative fueled vehicles.[103] Like the 2016-2040 RTP/SCS, the 2020-2045 RTP/SCS overall land use pattern reinforces the trend of focusing new development and employment in the region's high quality transit areas (HQTAs), which SCAG defines as an area within a one-half mile of a well-serviced transit stop.[104] HQTAs are a cornerstone of land use planning best practice in the SCAG region because they concentrate roadway repair investments, leverage transit and active transportation investments, reduce regional life cycle infrastructure costs, improve accessibility, create local jobs, and have the potential to improve public health and availability of community amenities.

2.4 Local

Local jurisdictions, such as the City of Culver City, have the authority and responsibility to reduce air pollution through its police power and decision-making authority. The City reviews project plans for consistency with environmental regulations and other conditions applicable to proposed development. The City is also responsible for the implementation of transportation control measures as outlined in the AQMP. Examples of such measures include bus turnouts, energy-efficient streetlights, and synchronized traffic signals. In accordance with CEQA, the City has the authority to obtain input from other local agencies and may consult with any person with special expertise relating to the Project environmental impacts to assess air quality impacts of new development projects. If significant impacts are found, the City has the authority to require mitigation of potentially significant air quality impacts by conditioning discretionary permits and monitors and enforces implementation of such mitigation measures.

The City's General Plan was originally adopted in 1995 and is periodically amended as the City grows in population and physical development. The current General Plan does not have an Air Quality Element. However, the Circulation Element of the General Plan contains objectives and policies focused on public transit (Objective #2), bikeways (Objective #3), pedestrian access (Objective #4), participating in regional system improvements (Implementation Measure #1), and roadway improvement (Implementation Measure #2). Consistency with these goals and policies

102 SCAG, 2016-2040 RTP/SCS, page 75.
103 SCAG, 2025-2045 RTP/SCS, May 2020, pages 48-86.
104 SCAG, 2020-2045 RTP/SCS, May 2020, page 51.

have the potential to reduce single occupancy vehicle trips and VMT, thus reducing air pollutants from mobile sources. The growth projections within the General Plan inform the development of SCAQMD's AQMP. The City is in the process of updating its General Plan with adoption planned for Fall 2022.

In 2009, the City adopted the Green Building program which contains a number of features that would indirectly reduce air pollution emissions through features such as enhanced building insulation, low-flow fixtures, efficient lighting and HVAC systems.

SECTION 3
Thresholds of Significance

The significance thresholds below are derived from the Environmental Checklist question in Appendix G of the *State CEQA Guidelines*. Accordingly, a significant air quality impact would occur if the Project would:

a) Conflict with or obstruct implementation of the applicable air quality plan;

b) 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;

c) Expose sensitive receptors to substantial pollutant concentrations; or

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Pursuant to the State CEQA Guidelines (Section 15064.7), a lead agency may consider using, when available, the significance criteria established by the applicable air quality management district or air pollution control district when making determinations of significance. The Project would be under the SCAQMD's jurisdiction. SCAQMD has established air quality significance thresholds in its CEQA Air Quality Handbook. These thresholds are based on the recognition that the Air Basin is a distinct geographic area with a critical air pollution problem for which ambient air quality standards have been promulgated to protect public health.[105] The potential air quality impacts of the Project are, therefore, evaluated according to the most recent thresholds adopted by the SCAQMD in connection with its CEQA Air Quality Handbook, Air Quality Analysis Guidance Handbook, and subsequent SCAQMD guidance as discussed previously.[106] As stated above, the SCAQMD has stated that these thresholds are based on the recognition that the Air Basin is a distinct geographic area with a critical air pollution problem for which ambient air quality standards have been promulgated to protect public health.[107]

105 South Coast Air Quality Management District, CEQA Air Quality Handbook (1993) 6-2.

106 While the SCAQMD CEQA Air Quality Handbook contains significance thresholds for lead, Project construction and operation would not include sources of lead emissions and would not exceed the established thresholds for lead. Unleaded fuel and unleaded paints have virtually eliminated lead emissions from commercial and residential land use projects such as the Project. As a result, lead emissions are not further evaluated in this Draft EIR.

107 SCAQMD, CEQA Air Quality Handbook, page 6-2.

3.1 Consistency with Air Quality Plans and Policies

The Project would have a significant impact if it would:

- Substantially conflict with or obstruct implementation of relevant air quality policies in the AQMP or the General Plan or other adopted regional and local plans adopted for reducing air quality impacts.

Evaluating whether the Project would conflict with or obstruct implementation of the applicable air quality plan is based on consistency with applicable control measures and policies adopted for the purpose of reducing air pollutant emissions and associated impacts.

3.2 Construction Emissions

Based on the most recently adopted significance thresholds in the SCAQMD *CEQA Air Quality Handbook,* the Project would potentially cause or contribute to an exceedance of an air quality standard if the following would occur:

- Regional construction emissions from both direct and indirect sources would exceed any of the following SCAQMD prescribed daily regional emissions thresholds:[108]
  - 75 pounds a day for VOC;
  - 100 pounds per day for NO_X;
  - 550 pounds per day for CO;
  - 150 pounds per day for SO_2;
  - 150 pounds per day for PM10; or
  - 55 pounds per day for PM2.5.

In addition, the SCAQMD has developed a methodology to assess the potential for localized emissions to cause an exceedance of applicable ambient air quality standards or ambient concentration limits. Impacts would be considered significant if the following would occur:

- Maximum daily localized emissions of NO_X and/or CO during construction are greater than the applicable localized significance thresholds, resulting in predicted ambient concentrations in the vicinity of the Project Site greater than the most stringent ambient air quality standards for NO_2 and/or CO.[109]
- Maximum daily localized emissions of PM10 and/or PM2.5 during construction are greater than the applicable localized significance thresholds, resulting in predicted ambient

[108] South Coast Air Quality Management District, SCAQMD Air Quality Significance Thresholds, (April 2019), http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2. Accessed January 2022.

[109] South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, (2008). Available: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds. Accessed January 2022.

concentrations in the vicinity of the Project Site to exceed 10.4 μg/m^3 over 24 hours (SCAQMD Rule 403 control requirement).

As discussed previously, the SCAQMD has established screening criteria that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance thresholds and therefore not cause or contribute to an exceedance of the applicable ambient air quality standards or ambient concentration limits without Project-specific dispersion modeling. This analysis uses these screening criteria to evaluate potential impacts from the Project's localized construction emissions.

3.3 Operational Emissions

The significance thresholds of significance, below, are the most recently adopted indicators in the SCAQMD *Air Quality Handbook* for determining the significance of operational emissions. The SCAQMD has established numerical indicators as significance thresholds based, in part, on Section 182(e) of the CAA, which sets 10 tons per year of VOC as a significance level for stationary source emissions in extreme non-attainment areas for ozone.[110] As shown in Table 4, the Air Basin is designated as extreme non-attainment for ozone. The SCAQMD converted this significance level to pounds per day for ozone precursor emissions (10 tons per year × 2,000 pounds per ton ÷ 365 days per year = 55 pounds per day). The significance thresholds for other pollutants are also based on federal stationary source significance levels. SCAQMD's numeric emission indicators are based on the recognition that the Air Basin is a distinct geographic area with a critical air pollution problem for which ambient air quality standards have been promulgated to protect public health.[111] Based on the indicators in the SCAQMD *CEQA Air Quality Handbook,* the Project would potentially cause or contribute to an exceedance of an air quality standard if the following would occur:

- Regional operational emissions exceed any of the following SCAQMD prescribed daily regional emissions thresholds:[112]
  - 55 pounds a day for VOC;
  - 55 pounds per day for NOX;
  - 550 pounds per day for CO;
  - 150 pounds per day for SO2;
  - 150 pounds per day for PM10; or
  - 55 pounds per day for PM2.5.

110 SCAQMD, CEQA Air Quality Handbook, page 6-1.

111 SCAQMD, CEQA Air Quality Handbook, page 6-2.

112 South Coast Air Quality Management District, SCAQMD Air Quality Significance Thresholds, (April 2019), http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2. Accessed January 2022.

In addition, the SCAQMD has developed a methodology to assess the potential for localized emissions to cause an exceedance of applicable ambient air quality standards. Impacts would be considered significant if the following were to occur:

- Maximum daily localized emissions of NO_X and/or CO during operation are greater than the applicable localized significance thresholds, resulting in predicted ambient concentrations in the vicinity of the project site greater than the most stringent ambient air quality standards for NO_2 and/or CO.[113]
- Maximum daily localized emissions of PM10 and/or PM2.5 during operation are greater than the applicable localized significance thresholds, resulting in predicted ambient concentrations in the vicinity of the project site to exceed 2.5 µg/m^3 over 24 hours (SCAQMD Rule 1303 allowable change in concentration).

As discussed previously, the SCAQMD has established screening criteria that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance thresholds and therefore not cause or contribute to an exceedance of the applicable ambient air quality standards or ambient concentration limits without Project-specific dispersion modeling. This analysis used the screening criteria to evaluate impacts from the Project's localized operational emissions.

3.4 Carbon Monoxide Hotspots

With respect to the formation of CO hotspots, the Project would be considered significant if the following would occur:

- The Project would cause or contribute to an exceedance of the CAAQS one-hour or eight-hour CO standards of 20 or 9.0 parts per million (ppm), respectively within one-quarter mile of a sensitive receptor.[114]

3.5 Toxic Air Contaminants

Based on criteria set forth by the SCAQMD, the project would expose sensitive receptors to substantial concentrations of toxic air contaminants if any of the following were to occur:[115]

- The Project would expose sensitive receptors to substantial concentrations of TACs if it emits carcinogenic materials or TACs that exceed the maximum incremental cancer risk of 10 in one million or a cancer burden greater than 0.5 excess cancer cases (in areas greater than or equal to one in one million) or an acute or chronic hazard index of 1.0.

As discussed further below in subsection 4, *Methodology,* construction impacts from TACs are evaluated quantitatively in a construction HRA due to the use of heavy-duty, diesel equipment.

113 Ibid.

114 The CAAQS are more conservative than the NAAQS (35 ppm for one-hour CO and 9.0 ppm for eight-hour CO).

115 South Coast Air Quality Management District, CEQA Air Quality Handbook, Chapter 6 (Determining the Air Quality Significance of a Project) and Chapter 10 (Assessing Toxic Air Pollutants), (1993); SCAQMD Air Quality Significance Thresholds, (April 2019), http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2. Accessed January 2022.

For operations, the impacts are analyzed qualitatively due to the limited and minimal sources of TACs associated with operation of the proposed land uses.

3.6 Odors

With respect to odors, the Project would be considered significant if it created objectionable odors affecting a substantial number of people.

SECTION 4
Methodology

The methodology to evaluate potential impacts to regional and local air quality that may result from the construction and long-term operations of the Project is conducted as follows. Detailed modeling calculations are provided in Appendices A through D provided at the end of this report.

4.1 Consistency with Air Quality Plan

The SCAQMD is required, pursuant to the CAA, to reduce emissions of criteria pollutants for which the Air Basin is in non-attainment of the NAAQS (e.g., ozone and PM2.5).[116] The SCAQMD's 2016 AQMP contains a comprehensive list of pollution control strategies directed at reducing emissions and achieving the five NAAQS related to these pollutants, including land use and transportation strategies from SCAG's 2016-2040 RTP/SCS designed to reduce VMT.[117] The 2016 AQMP control strategies were developed, in part, based on regional growth projections prepared by SCAG.[118] For this reason, projects whose growth is consistent with the assumptions used in the 2016 AQMP will be deemed to be consistent with the 2016 AQMP because their growth has already been included in the growth projections utilized in the formulation of the control strategies in the 2016 AQMP. Thus, emissions from projects, uses, and activities that are consistent with the applicable growth projections and control strategies used in the development of the 2016 AQMP would not jeopardize attainment of the air pollutant reduction goals identified in the AQMP even if their emissions exceed the SCAQMD's significance thresholds.[119] As noted above, the 2016 AQMP has been adopted by the SCAQMD and CARB. Therefore, this analysis considers the Project's consistency with the 2016 AQMP. The Project's consistency with the 2016 AQMP is evaluated based on consistency with its applicable growth projections and emission control strategies.

4.2 Existing Site Emissions

Existing operational emissions were estimated using CalEEMod, as described above. For mobile sources, emissions are the product of vehicle trips, trip distances, and vehicle emission factors. The vehicle trips were obtained for the existing uses from the Project's traffic study.[120] Trip

116 The Los Angeles County portion of the Air Basin is designated as nonattainment for the federal lead standard; however, this was due to localized emissions from two lead-acid battery recycling facilities in the City of Vernon and the City of Industry that are no longer operating. For reference see South Coast Air Quality Management District, Board Meeting, Agenda No. 30, Adopt the 2012 Lead State Implementation Plan for Los Angeles County, May 4, 2012.

117 SCAQMD, 2016 AQMP, pages ES-6 and 4-42.

118 SCAQMD, 2016 AQMP, pages 4-42 to 4-44.

119 SCAQMD, CEQA Air Quality Handbook, page 12-1.

120 Raju Associates, Inc., Technical Memorandum, 12300 W. Washington Boulevard Office Project, Trip Generation Analysis and Transportation Assessment Criteria, June 8, 2021.

distances were based on CalEEMod Version 2020.4.0 default distances for commercial uses for the existing site office use. Mobile source emission factors were taken from EMFAC2021 based on the vehicle fleet for the Air Basin.

CalEEMod estimates emissions from on-site natural gas combustion based on usage data from the CEC's *California Commercial End Use Survey* (CEUS), which lists energy demand by building type. Since 1978, the CEC has established building energy efficiency standards, which are updated periodically. The CEUS provides data on a limited statewide basis for different climate zones. Because CalEEMod applies correction factors to account for compliance with recent updates to the Title 24 Building Energy Efficiency Standards, energy demand is adjusted to account for assumed compliance with older Title 24 Building Energy Efficiency Standards, based on available conversion data.[121] This was accomplished by selecting the built-in "historic" function in the energy demand module within CalEEMod.

Other sources of emissions from existing uses include equipment used to maintain landscaping, such as lawnmowers and trimmers. The CalEEMod software uses landscaping equipment emission factors from the CARB off-road (OFFROAD) emissions factor model and the CARB *Technical Memo: Change in Population and Activity Factors for Lawn and Garden Equipment (6/13/2003)*.[122] The CalEEMod software assumes that landscaping equipment operates for 250 days per year in the Air Basin. Fugitive VOC emissions are based on consumer product usage factors provided by the SCAQMD within CalEEMod and architectural coating emission factors based on SCAQMD Rule 1113.

4.3 Construction Emissions

Construction of the Project has the potential to generate temporary criteria pollutant emissions through the use of heavy-duty construction equipment, such as excavators, and through vehicle trips generated from workers and haul trucks traveling to and from the Project Site. In addition, fugitive dust emissions would result from demolition and various soil-handling activities. Mobile source emissions, primarily NO_X, would result from the use of construction equipment such as dozers and loaders. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of construction activity, and prevailing weather conditions. The assessment of construction air quality impacts considers each of these potential sources.

Daily regional emissions during construction are forecasted by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying the mobile source and fugitive dust emissions factors. The emissions are estimated using CalEEMod Version 2020.4.0 software, an emissions inventory software program recommended by the SCAQMD. CalEEMod is based on outputs from OFFROAD and EMFAC, which are emissions estimation models developed by CARB and used to calculate emissions from construction activities, including on- and off-road vehicles. The input values used in this analysis

121 CARB, CalEEMod User's Guide, Appendix E, Section 5, May 2021.

122 CARB, OFFROAD Modeling Change Technical Memo: Change in Population and Activity Factors for Lawn and Garden Equipment, June 13, 2003, http://www.arb.ca.gov/msei/2001_residential_lawn_and_garden_changes_in_eqpt_pop_and_act.pdf. Accessed January 2022.

were adjusted to be Project-specific based on equipment types and the construction schedule. These values were then applied to the construction phasing assumptions used in the criteria pollutant analysis to generate criteria pollutant emissions values for each construction activity. Detailed construction equipment lists, construction scheduling, and emissions calculations are provided in Appendix A. Criteria pollutant emissions from worker vehicles and haul trucks were estimated outside of CalEEMod using EMFAC2021. Worker vehicles consisted of emission factors for light-duty automobiles and light-duty trucks. Vendor, cement, and haul trucks were based on emission factors for medium heavy-duty trucks and heavy-duty trucks.

This analysis assumes construction of the Project is estimated to require approximately 15 months, starting as early as mid-2022, depending on Project approvals. If construction commences at a later date, construction emissions would be lower than those estimated in this technical report due to the use of a more energy-efficient and cleaner burning construction vehicle fleet mix, pursuant to State regulations that require vehicle fleet operators to phase-in less polluting trucks. As a result, should Project construction commence at a later date than analyzed in this technical report, air quality impacts would be lower than the impacts disclosed herein. Subphases of construction would include demolition of the existing on-site structures and features, site preparation and minor grading, building construction, paving, and architectural coating and finishing. Demolition activities is estimated to generate approximately 510 cubic yards of demolition debris (based on conservative estimates of asphalt and general construction debris). The Project would export approximately 10 cubic yards of soil during grading and excavation activities; the Project does not include subterranean features. Heavy-duty equipment, material vendor supply trucks would be used during building construction. Landscaping and architectural coating would occur during the finishing activities. The maximum daily regional emissions from these activities are estimated by construction phase and compared to the SCAQMD significance thresholds. The maximum daily regional emissions are predicted values for the worst-case day and do not represent the emissions that would occur for every day of Project construction.

The localized effects from the on-site portion of the construction emissions are evaluated at nearby sensitive receptor locations potentially impacted by the Project according to the SCAQMD's Localized Significance Threshold Methodology.[123] The localized significance thresholds are only applicable to NO_X, CO, PM10, and PM2.5. The SCAQMD has established screening criteria for projects that disturb five acres or less that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance thresholds and therefore not cause or contribute to an exceedance of the applicable ambient air quality standards without project-specific dispersion modeling. The localized analysis is based on this SCAQMD screening criteria. The screening criteria depend on: (1) the area in which the Project is located, (2) the size of the Project Site, and (3) the distance between the Project Site and the nearest sensitive receptor. The Project Site is located in the SCAQMD SRA 2 and the Project Site is approximately 0.28 acres. The off-site air quality sensitive receptors would be the residential uses listed in Section 1.5 above, the closest of which would be located within 25 meters of the Project

[123] South Coast Air Quality Management District, Localized Significance Thresholds, (2003, revised 2008), http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds. Accessed March 2019.

Site. Therefore, the SCAQMD localized significance threshold (LST) screening criteria applicable to a 0.28-acre site in SRA 2 with sensitive receptors located within 25 meters to the Project Site was used.

As stated above, fugitive dust emissions would result from demolition and various soil-handling activities during construction of the Project. Fugitive dust emissions are regulated by the SCAQMD in its Rule 403 (Fugitive Dust). As discussed in Section 2.3 above, SCAQMD Rule 403 requires construction activities to control fugitive dust emissions during construction by complying with best available control measures, such as ensuring sufficient freeboard height for haul vehicles, covering loose material on haul vehicles, applying water or non-toxic soil stabilizers in sufficient quantities to prevent the generation of visible dust plumes on disturbed or unpaved road surfaces, and limiting vehicle speeds to 15 miles per hour on unpaved surfaces. Construction contractors are required to comply with the applicable provision of SCAQMD Rule 403. Applicable fugitive dust control measures are incorporated into the construction emissions modeling within the SCAQMD-approved CalEEMod software and include the application of water (or non-toxic soil stabilizer) to disturbed and exposed areas and limiting vehicle speeds to 15 miles per hour on unpaved surfaces. The Project's construction emissions calculations are provided in Exhibit B.

4.4 Operational Emissions

Operation of the Project has the potential to generate criteria pollutant emissions through vehicle trips traveling to and from the Project Site. In addition, emissions would result from on-site sources such as natural gas combustion, landscaping equipment, and use of consumer products. Operational impacts were assessed for the Project buildout year (i.e., estimated to be 2023 assuming construction begins at the earliest possible time in mid-2022).

The Project's operational emissions are estimated using the CalEEMod software. CalEEMod was used to forecast the Project's daily regional emissions from area and energy sources that would occur during long-term Project operations. Mobile source emissions were estimated based on CARB's EMFAC2021 and used to generate Air Basin-specific vehicle fleet emission factors in units of grams per mile, which are then converted to pounds per mile. Mobile source emissions were also estimated based on CalEEMod trip lengths for commercial uses and using trip rates from the Project's traffic study.[124] As mentioned above, conservatively, the Project traffic study did not include transit credit from public transit stops and used default trips rates in the Institute of Transportation Engineers, *Trip Generation, 10th Edition*.

Area source emissions are landscaping equipment, and consumer product usage (including paints) rates provided in CalEEMod. Energy source emissions are based on natural gas combustion (building heating and water heaters). Natural gas usage factors in CalEEMod are based on the California Energy Commission (CEC) California Commercial End Use Survey (CEUS) data set,

[124] Raju Associates, Inc., Technical Memorandum, 12300 W. Washington Boulevard Office Project, Trip Generation Analysis and Transportation Assessment Criteria, June 8, 2021.

which provides energy demand by building type and climate zone.[125] However, since the data from the CEUS is from 2002, correction factors are incorporated into CalEEMod to account for the appropriate version of the Title 24 Building Energy Efficiency Standards in effect. CalEEMod 2020.4.0 incorporates the 2019 Title 24 standards. The next version of the standards, the 2022 Title 24 standards, are expected to be in effect on January, 1, 2023. Should the Project be required to meet the 2022 standards, the Project's operational building energy emissions would be less than disclosed in this technical report due to implementation of more stringent standards.

Operational air quality impacts are assessed based on the incremental increase in emissions compared to baseline conditions. As discussed previously, the Project Site is currently developed with low-level commercial buildings which are currently in use and have existing operational emissions as shown in Table 1. Therefore, the Project's operational emissions analysis subtracts the emissions from the existing uses that would be removed as part of the Project to estimate the total net new emissions from the Project. The maximum daily net emissions from operation of the Project are compared to the SCAQMD daily regional significance thresholds.

The localized effects from the onsite portion of the operational emissions are evaluated at nearby sensitive receptor locations potentially impacted by the Project according to the SCAQMD's Localized Significance Threshold Methodology, which relies on on-site mass emission rate screening tables and project-specific dispersion modeling, where appropriate. Similar to construction, the SCAQMD LST screening criteria applicable to a 0.28-acre site in SRA 2 with sensitive receptors located within 25 meters to the Project Site was used. The Project's operational emissions calculations are provided in Exhibit C.

4.5 Toxic Air Contaminants (TACs)

The greatest potential for TAC emissions during construction would be related to DPM emissions associated with heavy-duty equipment during excavation and grading activities. Construction activities associated with the Project would be sporadic, transitory, and short-term in nature (approximately 15 months). The SCAQMD has not adopted guidance that requires that quantitative health risk assessments be performed for short-term exposures to TAC emissions. Specifically, the SCAQMD has stated that "SCAQMD currently does not have guidance on construction Health Risk Assessments."[126] Thus, a qualitative assessment of the impacts associated with the Project's short-term construction TAC emissions is provided in the analysis section below.

During long-term operations, TACs could be emitted as part of periodic maintenance operations, from routine cleaning, from periodic painting, etc., and from periodic visits from delivery trucks

[125] California Energy Commission, California Commercial End-Use Survey, http://capabilities.itron.com/CeusWeb/Chart.aspx. Accessed March 2019.

[126] SCAQMD, Final Environmental Assessment for: Proposed Amended Rule 307.1 – Alternative Fees for Air Toxics Emissions Inventory; Proposed Amended Rule 1401 – New Source Review of Toxic Air Contaminants; Proposed Amended Rule 1402 – Control of Toxic Air Contaminants from Existing Sources; SCAQMD Public Notification Procedures for Facilities Under the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) and Rule 1402; and, SCAQMD Guidelines for Participating in the Rule 1402 Voluntary Risk, page 2-23, September 2016, http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/final-ea_par-307-1_1401_1402.pdf?sfvrsn=4.

and service vehicles. However, these events are expected to be occasional and result in minimal emissions exposure to off-site sensitive receptors. As the Project consists of residential and commercial uses, the Project would not include sources of substantial TAC emissions identified by the SCAQMD or CARB siting recommendations.[127, 128] Thus, a qualitative assessment of the impacts associated with the Project's operational TAC emissions is provided in the analysis section below.

[127] SCAQMD, Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning, 2005, Table 2-3.

[128] CARB, Air Quality and Land Use Handbook: A Community Health Perspective, 2005, Table 1-1.

SECTION 5
Environmental Impacts

Threshold a) Would the Project conflict with or obstruct the implementation of the applicable air quality plan?

Impact Statement: The Project's short-term jobs during construction would not conflict the AQMP's long-term employment projections and Project construction would also comply with the applicable control strategies and regulations for reducing criteria pollutant emissions during construction activities. The Project's employee growth would not exceed the expected regional growth projections and would be consistent with regulations for reducing criteria pollutants. Therefore, the Project's construction and operations would not conflict with implementation of the AQMP or relevant air quality-related policies in the General Plan or other adopted regional and local plans adopted for reducing air quality impacts and impacts would be less than significant.

5.1 Consistency with Air Quality Plan

Construction

Under this criterion, the SCAQMD recommends that lead agencies demonstrate that a project would not directly obstruct implementation of an applicable air quality plan and that a project be consistent with the assumptions (typically land-use related, such as resultant employment or residential units) upon which the air quality plan is based. The Project would result in an increase in short-term employment compared to existing conditions. Although the Project will require workers over the construction process, these jobs are temporary in nature. Construction jobs under the Project would not conflict with the long-term employment projections upon which the AQMP is based. Control strategies in the AQMP with potential applicability to short-term emissions from construction activities include strategies denoted in the AQMP as MOB-08 and MOB-10, which are intended to reduce emissions from on-road and off-road heavy-duty vehicles and equipment by accelerating replacement of older, emissions-prone engines with newer engines meeting more stringent emission standards. Consistent with the Project, trucks and other vehicles in loading and unloading queues would be parked with engines off to reduce vehicle emissions during construction activities. Furthermore, Project contractors would be subject to CARB fleet rules and regulations to minimize emissions from on-road and off-road diesel equipment, as discussed above in Section 2.2. The Project would also comply with SCAQMD regulations for controlling fugitive dust pursuant to SCAQMD Rule 403.

Compliance with these requirements is consistent with and meets or exceeds the AQMP requirements for control strategies intended to reduce emissions from construction equipment and activities. Because the Project would not conflict with the control strategies intended to reduce

emissions from construction equipment, the Project would not conflict with or obstruct implementation of the AQMP, and impacts would be less than significant.

Operation

The AQMP was prepared to accommodate growth, reduce the levels of pollutants within the areas under the jurisdiction of SCAQMD, return clean air to the region, and minimize the impact on the economy. Projects that are considered consistent with the AQMP would not interfere with attainment because this growth is included in the projections used in the formulation of the AQMP.

The northern approximately two-thirds portion of the Project site is located in the City of Culver City with a zoning designation of Commercial General, respectively. The southern approximately one-third portion of Project site, which currently has a small 1-story garage building, is located in the City of Los Angeles with a zoning designation of C2-1 (Commercial, Height District 1). The Project would be replacing the existing low-level commercial buildings and a surface parking lot with a 49-foot tall, four-story office building and surface parking. The Project would be consistent with the zoning designation. The City of Culver City zoning designation of Commercial General allows for a height of 56 feet and the City of Los Angeles zoning designation of C2-1 does not have a height limit.

Also, the Project would not exceed the applicable criteria for a formal transportation study, since the Project would generate less than the criteria amount of 250 or more trips per day. Thus, the Project would not generate significant amounts of traffic and would not create operational problems that would interfere with the flow of traffic on adjacent roadways or driveways.[129] Further, the Project Site would have access to several public transportation options including the Culver City Bus Line 1, which runs along Washington Boulevard and has stops at S. Centinella Avenue to the west and at Grand View Boulevard to the east of the Project Site, and the Santa Monica Big Blue Bus Route 14, which runs along S. Centinela Avenue and Bundy Drive with stops at Washington Boulevard. Additionally, the Culver City Transit Center is located approximately two miles to the southeast of the Project Site and the Metro E Line (Expo) Bundy light rail station is approximately two and three quarter miles north of the Project Site. The Project would provide office and employment opportunities in an area served by local bus lines. As such, the Project would not conflict with SCAG's 2016-2040 RTP/SCS policies for the concentration of growth in proximity to transit.

The Project would generate indirect growth associated with office employees. The proposed building includes the development of a 11,186 square foot office building. These uses could indirectly increase the employment population by approximately 54 persons.[130] The estimated 54

[129] Raju Associates, Inc., Technical Memorandum, 12300 W. Washington Boulevard Office Project, Trip Generation Analysis and Transportation Assessment Criteria, June 8, 2021.

[130] Based on 11,186 square feet (SF) office × 0.00479 employees per average SF (per the Standard Commercial Office factor from Table 14 of the 2020 Developer School Fee Justification Study, LAUSD, March 2020) = 54 employees, https://achieve.lausd.net/cms/lib/CA01000043/Centricity/Domain/921/LAUSD%20Dev%20Fee%20Study%202020_Final.pdf, March 2020).

employee increase would represent approximately 0.035 percent of the employee growth anticipated in the SCAG 2016-2040 RTP/SCS for the Cities of Culver City and Los Angeles,[131] which would not exceed projected growth. In addition, some of the employment opportunities offered by the Project may be filled by persons already residing in the vicinity of the Project Site and the potential growth associated with the Project employees who many relocate their place of residence would not be substantial. Furthermore, the Project would be located in an area already served by existing infrastructure and anticipated within applicable Culver City and Los Angeles infrastructure plans (i.e., roadways, utility lines, etc.). As such, the Project would not generate growth beyond the range of development anticipated within the established SCAG regional forecast and the Project would not increase or induce residential density growth not otherwise anticipated.

Therefore, based on the above analysis, the Project would not spur additional growth other than that already anticipated for Culver City and Los Angeles. Consequently, the Project would not foster growth inducing impacts in conflict with the assumptions in the AQMP. The Project would not conflict with the AQMP and impacts would be less than significant.

Threshold b) Would the Project 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?

Impact Statement: The South Coast Air Basin is designated as non-attainment for ozone, PM10, and PM2.5 under federal and/or state ambient air quality standards. Construction and operation of the Project would generate emissions that would contribute to basin-wide air pollutant emissions; however, the Project's construction and operations regional emissions would not exceed the SCAQMD thresholds for any criteria pollutant, including ozone precursors (VOCs and NO_X), PM10, and PM2.5. Therefore, the Project's regional construction and operational emissions would not contribute to a cumulatively considerable net increase of criteria pollutants and impacts would be less than significant.

5.2 Cumulatively Considerable Non-Attainment Pollutants

The Project would result in emissions of criteria air pollutants for which the region is in non-attainment during both construction and operation. The Air Basin fails to meet the NAAQS for O_3 and PM2.5, and therefore is considered a federal "non-attainment" area for these pollutants. The Air Basin also does not meet the CAAQS for O_3, PM10, and PM2.5. SCAQMD has designed significance thresholds to assist the region in attaining the applicable CAAQS and NAAQS, apply to both primary (criteria and precursor) and secondary pollutants (ozone). An analysis of the

131 Southern California Association of Governments, 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, Demographic and Growth Forecast Appendix, Table 11, Jurisdictional Forecast, page 23, April 2016 http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS_DemographicsGrowthForecast.pdf, accessed January 2022.

Project's construction and operational emission impacts is provided below based on the SCAQMD daily regional significance thresholds.

Construction Emissions

The Project's maximum daily construction emissions were calculated as pounds per day for each construction phase by year. Construction contractors are required to comply with the applicable provision of SCAQMD Rule 403 for controlling fugitive dust emissions. Applicable fugitive dust control measures are incorporated into the construction emissions modeling within the SCAQMD-approved CalEEMod software and include the application of water (or non-toxic soil stabilizer) to disturbed and exposed areas and limiting vehicle speeds to 15 miles per hour on unpaved surfaces. The estimated maximum daily values do not represent the emissions that would occur for every day of construction. Due to variability in day-to-day construction activities, emissions could be lower on any given day, particularly on days when overlapping construction activities are not occurring. Results of the criteria pollutant calculations are presented in **Table 5**, *Maximum Unmitigated Regional Construction Emissions*. As shown therein, construction-related daily emissions for the criteria and precursor pollutants (VOC, NO_X, CO, SO_X, PM10, and PM2.5) would be below SCAQMD significance thresholds. Therefore, impacts related to regional construction emissions would be less than significant.

TABLE 5
MAXIMUM UNMITIGATED REGIONAL CONSTRUCTION EMISSIONS (POUNDS PER DAY)[a]

Source	VOC	NO_X	CO	SO_2	PM10[b]	PM2.5[b]
Demolition	1.9	20.2	17.4	<0.1	1.5	1.0
Site Preparation/Minor Grading	0.6	7.3	4.4	<0.1	0.6	0.3
Building Construction	1.8	16.4	17.1	<0.1	0.9	0.8
Building Construction, Architectural Coating, Paving[c]	4.6	23.2	28.9	0.1	1.4	1.1
Maximum Daily Construction Emissions	**4.6**	**23.2**	**28.9**	**0.1**	**1.5**	**1.1**
SCAQMD Regional Significance Threshold	75	100	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

NOTES:
[a] Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Exhibit B.
[b] Emissions include fugitive dust control measures consistent with SCAQMD Rule 403.
[c] Analysis accounted for emissions from overlapping phases.

SOURCE: ESA 2022

Operational Emissions

Operational criteria pollutant emissions were calculated for mobile, area, and stationary sources for the Project buildout year (2023). Daily trip generation rates for the Project were provided by the Project's traffic study and include trips associated with the proposed office uses.[132] Results

[132] Raju Associates, Inc., Technical Memorandum, 12300 W. Washington Boulevard Office Project, Trip Generation Analysis and Transportation Assessment Criteria, June 8, 2021.

of the criteria pollutant calculations are presented in **Table 6**, *Maximum Unmitigated Regional Operational Emissions*. The net increase in operational-related daily emissions (Project emissions minus existing emissions) for the criteria and precursor pollutants (VOC, NO_X, CO, SO_X, PM10, and PM2.5) would be substantially below the SCAQMD thresholds of significance. Therefore, Project-related operational emissions would result in a less than significant impact.

TABLE 6
MAXIMUM UNMITIGATED REGIONAL OPERATIONAL EMISSIONS (POUNDS PER DAY)[a]

Source	VOC	NO_X	CO	SO_2	PM10	PM2.5
Area	0.3	<0.1	<0.1	<0.1	<0.1	<0.1
Energy	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mobile	0.2	0.3	2.0	<0.1	0.5	0.1
Total Project Operational Emissions	0.5	0.3	2.0	<0.1	0.5	0.1
Existing Site Emissions Removed	**0.1**	**0.1**	**0.5**	**<0.1**	**0.1**	**<0.1**
Net Maximum Regional Operational Emissions	**0.4**	**0.3**	**1.5**	**<0.1**	**0.4**	**0.1**
SCAQMD Significance Threshold	55	55	550	150	150	55
Exceeds Thresholds?	No	No	No	No	No	No

[a] Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Exhibit C.

SOURCE: ESA 2022

The SCAQMD's approach for assessing cumulative impacts related to operations or long-term implementation is based on attainment of ambient air quality standards in accordance with the requirements of the CAA and California Clean Air Act. As discussed earlier, the SCAQMD has developed a comprehensive plan, the AQMP, which addresses the region's cumulative air quality condition.

A significant impact may occur if a project would add a cumulatively considerable contribution of a federal or California non-attainment pollutant. Because the Los Angeles County portion of the Air Basin is currently in non-attainment for ozone, NO_2, PM10, and $PM_{2.5}$, cumulative projects could exceed an air quality standard or contribute to an existing or projected air quality exceedance. Cumulative impacts to air quality are evaluated under two sets of thresholds for CEQA and the SCAQMD. In particular, Section 15064(h)(3) of the CEQA Guidelines provides guidance in determining the significance of cumulative impacts. Specifically, Section 15064(h)(3) states in part that:

> *A lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program which provides specific requirements that will avoid or substantially lessen the cumulative problem (e.g., water quality control plan, air quality plan, integrated waste management plan) within the geographic area in which the project is located. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public*

review process to implement, interpret, or make specific the law enforced or administered by the public agency.

For purposes of the cumulative air quality analysis with respect to CEQA Guidelines Section 15064(h)(3), the Project's incremental contribution to cumulative air quality impacts is determined based on compliance with the SCAQMD adopted the AQMP. As discussed above in Section 5.1, *Consistency with Air Quality Management Plan*, the Project would not conflict with or obstruct implementation of AQMP and would be consistent with the growth projections in the AQMP.

Nonetheless, SCAQMD no longer recommends relying solely upon consistency with the AQMP as an appropriate methodology for assessing cumulative air quality impacts. The SCAQMD recommends that project-specific air quality impacts be used to determine the potential cumulative impacts to regional air quality. The Project's regional emissions would be below SCAQMD significance thresholds as shown in Table 6. In particular, non-attainment pollutant emissions of ozone precursors and particulate matter would not exceed the SCAQMD significance thresholds. The formation of ground-level ozone is a complex process due to photochemical reactions of precursor pollutants (i.e., VOC and NO_X emissions) in the atmosphere in the presence of sunlight. Meteorological factors, such as wind, would result in dispersive effects of pollutants, including ozone precursor and particulate matter emissions, that are dispersed horizontally downwind and through vertical mixing. It is unlikely that the Project's emissions, which would not exceed the SCAQMD significance thresholds, would result in a substantial measurable increase in the respective pollutant concentrations in the Air Basin to a degree that clearly predictable and identifiable heath impacts would specifically result from this Project's emissions. Therefore, the Project's incremental contribution to long-term emissions of non-attainment pollutants and ozone precursors, considered together with cumulative projects, would not be cumulatively considerable, and therefore the cumulative impact of the Project would be less than significant.

Threshold c) Would the Project expose sensitive receptors to substantial pollutant concentrations?

Impact Statement: The Project's maximum daily localized construction and operational emissions of criteria air pollutants would not exceed the applicable SCAQMD localized significance thresholds. Therefore, with respect to the Project's localized emissions, impacts would be less than significant

Project-generated traffic, together with other cumulative traffic in the area, would incrementally increase carbon monoxide levels at an intersection or roadway within one-quarter mile of a sensitive receptor. However, the Project would not cause or contribute to an exceedance of the CAAQS one-hour or eight-hour CO standards of 20 or 9.0 parts per million, respectively. Therefore, CO hotspot impacts would be less than significant.

Based on the short-term and temporary TAC emissions during construction and the limited activity of TAC sources during operations, as well as compliance with applicable rules and regulations that limit TAC emissions, construction and operation of the Project would not

expose sensitive receptors to substantial TAC concentrations and impacts related to TACs would be less than significant.

5.3 Substantial Pollutant Concentrations

Localized Construction Emissions

The localized construction air quality analysis was conducted using the methodology described in the SCAQMD Localized Significance Threshold Methodology (June 2003, revised July 2008).[133] The screening criteria provided in the Localized Significance Threshold Methodology were used to determine localized construction emissions thresholds for the Project. As previously discussed, SCAQMD recommends the evaluation of localized air quality impacts to sensitive receptors in the immediate vicinity of the Project. The thresholds are based on applicable short-term (24-hrs) CAAQS and NAAQS.

Using the Localized Significance Threshold Methodology, the results of the analysis determined localized Project-related construction emissions would be below the SCAQMD thresholds of significance. Results of the pollutant calculations are presented in **Table 7**, *Unmitigated Localized Construction Emissions*. The emissions for increase in construction-related daily emissions for the criteria and precursor pollutants (NO_X, CO, PM10, and PM2.5) would be substantially below the SCAQMD thresholds of significance. Therefore, Project-related localized construction emissions would result in a less than significant impact.

TABLE 7
MAXIMUM UNMITIGATED LOCALIZED CONSTRUCTION EMISSIONS (POUNDS PER DAY)[a]

Source	NO_X	CO	PM10[b]	PM2.5[b]
Demolition	17.9	15.4	1.1	0.9
Site Preparation/Minor Grading	6.9	4.0	0.5	0.3
Building Construction	15.9	16.5	0.8	0.8
Building Construction, Paving, Architectural Coating[c]	22.8	27.8	1.1	1.0
Maximum Daily Construction Emissions	**22.8**	**27.8**	**1.1**	**1.0**
SCAQMD Localized Significance Threshold	71	372	2.6	2.3
Exceeds Threshold?	No	No	No	No

NOTES:
[a] Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Exhibit B.
[b] Emissions include fugitive dust control measures consistent with SCAQMD Rule 403.
[c] Analysis accounted for emissions from overlapping phases.

SOURCE: ESA 2022

133 South Coast Air Quality Management District, Localized Significance Thresholds, (2003, revised 2008), http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds. Accessed March 2019.

Localized Operational Emissions

The Project's localized operational air quality analysis was conducted using the methodology described in the SCAQMD Localized Significance Threshold Methodology (June 2003, revised July 2008). The screening criteria provided in the Localized Significance Threshold Methodology were used to determine localized operational emissions thresholds for the Project. The maximum daily increase in localized emissions and localized significance thresholds are presented in **Table 8**, *Maximum Unmitigated Localized Operational Emissions*. As shown therein, the increase in maximum localized operational emissions for sensitive receptors would be substantially below the localized thresholds for NO_X, CO, PM10, and PM2.5. Therefore, with respect to localized operational emissions, impacts would be less than significant.

TABLE 8
MAXIMUM UNMITIGATED LOCALIZED OPERATIONAL EMISSIONS (POUNDS PER DAY)[a]

Source	NO_X	CO	PM10	PM2.5
Area	<0.1	<0.1	<0.1	<0.1
Energy	<0.1	<0.1	<0.1	<0.1
Total Localized Project Operational Emissions	<0.1	<0.1	<0.1	<0.1
Localized Existing Site Emissions Removed	<0.1	<0.1	<0.1	<0.1
Net Maximum Localized Operational Emissions	<0.1	<0.1	<0.1	<0.1
SCAQMD Significance Threshold	71	370	0.3	0.3
Exceeds Thresholds?	No	No	No	No

[a] Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Exhibit C.

SOURCE: ESA 2022

Carbon Monoxide Hotspots

The potential for the Project to cause or contribute to CO hotspots is evaluated by comparing Project intersections (both intersection geometry and traffic volumes) with prior studies conducted by SCAQMD in support of their AQMPs and considering existing background CO concentrations. As discussed below, this comparison demonstrates that the Project would not cause or contribute considerably to the formation of CO hotspots, that CO concentrations at Project impacted intersections would remain well below the ambient air quality standards, and that no further CO analysis is warranted or required.

As shown previously in Table 2, CO levels in the Project area are substantially below the federal and state standards. Maximum CO levels in recent years are 2.0 ppm (one-hour average) and 1.3 ppm (eight-hour average) compared to the thresholds of 20 ppm (one-hour average) and 9.0 ppm (eight-hour average). CO levels decreased dramatically in the Air Basin with the introduction of the catalytic converter in 1975. No exceedances of CO have been recorded at monitoring stations in the Air Basin since 2003[134] and the Air Basin is currently designated as a CO attainment area

[134] SCAQMD, Final 2016 AQMP, March 2017, page 2-38.

for both the CAAQS and NAAQS. Thus, it is not expected that CO levels at Project-impacted intersections would rise to the level of an exceedance of these standards.

Additionally, SCAQMD conducted CO modeling for the 2003 AQMP for the four worst-case intersections in the Air Basin: (1) Wilshire Boulevard and Veteran Avenue; (2) Sunset Boulevard and Highland Avenue; (3) La Cienega Boulevard and Century Boulevard; and (4) Long Beach Boulevard and Imperial Highway. In the 2003 AQMP, SCAQMD notes that the intersection of Wilshire Boulevard and Veteran Avenue is the most congested intersection in Los Angeles County, with an average daily traffic volume of approximately 100,000 vehicles per day. This intersection is located near the on- and off-ramps to Interstate 405 in West Los Angeles. The evidence provided in the 2003 AQMP (Table 4-10 of Appendix V) shows that the peak modeled CO concentration due to vehicle emissions at these four intersections was 4.6 ppm (one-hour average) and 3.2 (eight-hour average) at Wilshire Boulevard and Veteran Avenue. When added to the existing background CO concentrations, the screening values would be 6.8 ppm (one-hour average) and 4.5 ppm (eight-hour average).

Based on the Project's traffic study, the Project would add a net of 11 trips during the peak hour and a net of about 56 daily trips over existing conditions.[135] The majority of the trips would be directed eastbound and westbound along W. Washington Boulevard. The number of net new peak hourly and daily trips is very small that it would not cause or contribute to increases in CO hotspot concentrations at roadway intersections above the thresholds of 20 ppm (one-hour average) and 9.0 ppm (eight-hour average). As a result, CO concentrations are expected to be less than those estimated in the 2003 AQMP, which would not exceed the thresholds. Thus, this comparison demonstrates that the Project would not contribute considerably to the formation of CO hotspots and no further CO analysis is required. The Project would result in less than significant impacts with respect to CO hotspots.

Toxic Air Contaminants

Construction

Temporary TAC emissions associated with DPM emissions from heavy construction equipment would occur during the construction phase of the Project. The nearest residential air quality sensitive receptors are located adjacent to the Project Site on the south. Other sensitive receptors are located to further the east, north and west, as described above in Section 1.5. According to OEHHA and the SCAQMD Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis,[136] health effects from TACs are described in terms of individual cancer risk based on a lifetime (i.e., 70-year) resident exposure duration. Given the temporary construction schedule (approximately 15 months), the Project would not result in a long-term (i.e., lifetime or 70-year) exposure as a result of Project construction.

135 Raju Associates, Inc., Technical Memorandum, 12300 W. Washington Boulevard Office Project, Trip Generation Analysis and Transportation Assessment Criteria, June 8, 2021.

136 SCAQMD, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis, August 2003.

In addition, the Project would be consistent with the applicable 2016 AQMP requirements for control strategies intended to reduce emissions from construction equipment and activities. The Project would comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than five minutes at a location and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these CARB regulations would minimize emissions of TACs during construction. The Project would also comply with the requirements of SCAQMD Rule 1403 if asbestos is found during the demolition and construction activities. Based on the short-term duration of Project construction and compliance with regulations that would minimize emissions, construction of the Project would not expose sensitive receptors to substantial TAC concentrations.

Operation

The SCAQMD recommends that health risk assessments be conducted for substantial sources of DPM emissions (e.g., truck stops and warehouse distribution facilities) and has provided guidance for analyzing mobile source diesel emissions. The Project does not consist of any of these uses. With implementation of the Project, one truck loading and unloading parking space would be provided. Thus, the Project is not anticipated to generate a substantial number of daily truck trips. As previously discussed, trucks would be subject to the five-minute regulatory idling limitation.

Other sources of hazardous TACs include industrial manufacturing processes and automotive repair facilities. The Project would not include any of these potential sources, although minimal emissions may result from the use of consumer products (e.g., aerosol sprays). With respect to the use of consumer products and architectural coatings, the office uses associated with the Project would be expected to generate minimal emissions from these sources. The Project's office land uses would not include installation of industrial-sized paint booths or require extensive use of commercial or household cleaning products. Based on this, the Project is not expected to release substantial amounts of TACs.

Therefore, based on the limited activity of TAC sources and TAC concentrations at off-site sensitive receptors relative to existing conditions, the Project would not warrant the need for a health risk assessment associated with on-site activities, and potential TAC impacts would be less than significant.

Threshold d)	Would the result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Impact Statement: The Project's land uses are related to office uses and are not expected to result in other emissions or introduce substantial sources of odors and is not associated with any land uses or operations that are associated with odor complaints. Therefore, Project construction and operations would not result in other emissions or create objectionable odors affecting a substantial number of people and impacts would be less than significant.

5.4 Other Emissions (Such as Odors)

Construction

Potential sources that may emit odors during construction activities include the use of architectural coatings and solvents. SCAQMD Rule 1113 (Architectural Coatings) limits the amount of VOCs from architectural coatings and solvents. According to the SCAQMD CEQA Air Quality Handbook, construction equipment is not a typical source of odors. Odors from the combustion of diesel fuel would be minimized by complying with the CARB ATCM that limits diesel-fueled commercial vehicle idling to five minutes at any given location, which was adopted in 2004. The Project would also comply with SCAQMD Rule 402 (Nuisance), which prohibits the emissions of nuisance air contaminants or odorous compounds. Through adherence with mandatory compliance with SCAQMD Rules and State measures, construction activities and materials would not create objectionable odors. Construction of the Project's proposed uses would not be expected to generate nuisance odors at nearby sensitive receptors.

Results of the construction related criteria pollutant calculations are presented in Table 5 (regional) and Table 7 (localized). The daily emissions for criteria pollutants would be below SCAQMD significance thresholds. Since implementation of the Project would not exceed the regional or localized significance thresholds for attainment or non-attainment pollutants, the Project is not anticipated to contribute to health impacts related to these pollutants specifically because these thresholds were established at levels considered safe to protect public health, including the health of sensitive populations.

Operations

According to the SCAQMD CEQA Air Quality Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The Project would not involve elements related to these types of uses. The Project would include various trash receptacles associated with the proposed development. On-site trash receptacles used by the Project would be covered and properly maintained to prevent adverse odors. The trash receptacles would also be located in an enclosed area approximately 80 feet away from the nearest sensitive receptors, further eliminating odor issues. With proper housekeeping practices, trash receptacles would be maintained in a manner that promotes odor control, and no adverse odor impacts are anticipated from the uses. Impacts with respect to odors would be less than significant.

Results of the operational related criteria pollutant calculations are presented in Table 6 (regional) and Table 8 (localized). The daily emissions for criteria pollutants would be below SCAQMD significance thresholds. Since implementation of the Project would not exceed the regional or local significance thresholds for attainment or non-attainment pollutants, the Project is not anticipated to contribute to health impacts related to these pollutants specifically because these thresholds were established at levels considered safe to protect public health, including the health of sensitive populations.

SECTION 6
Summary of Results

Air pollutant emissions associated with the Project have been evaluated to determine the level of impact from construction activities and future operations of the Project.

6.1 Construction

Construction of the Project has the potential to create air quality impacts through the use of heavy-duty construction equipment and through vehicle trips generated from construction workers traveling to and from the Project Site. In addition, fugitive dust emissions would result from grading and construction activities. However, use of typical construction equipment (in terms of size and age/emission standards) and compliance with Rule 403 requirements (regarding dust control measures such as watering three times per day and track out prevention measures), minimizes air emissions to the extent warranted.

As shown in Table 5, regional construction emissions would not exceed the SCAQMD significance thresholds. Therefore, impacts related to regional construction emissions would be less than significant. As shown in Table 7, localized emissions would not exceed the SCAQMD significance thresholds. Therefore, impacts related to localized construction emissions would be less than significant. As a result, Project-related construction impacts would be less than significant. The Project would also not expose sensitive receptors to substantial TAC concentrations and impacts related to TACs would be less than significant impacts.

6.2 Operation

Air pollutant emissions associated with Project operations would be generated by the consumption of natural gas, use of consumer products, and by the operation of on-road vehicles. As shown in Table 6 and Table 8, regional and localized operational emissions associated with the Project would not exceed the SCAQMD daily significance thresholds. In addition, the Project would not result in a CO hotspot, or emit unhealthy levels of TAC and odiferous emissions and impacts would be less than significant. Furthermore, the Project would be consistent with applicable air quality plans and policies. Therefore, impacts related to Project operational emissions and consistency with applicable air quality management plans, policies, or regulations would be less than significant.

Exhibit A

Existing Site Operational Emissions

ESA

12300 Washington Blvd
Air Quality and Greenhouse Gas Assessment

Existing Operational Emissions

Estimated Existing Operational Emissions (pounds per day) [a]

Source	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Area (Consumer Products, Landscaping)	4.5E-02	0.0E+00	2.1E-04	0.0E+00	0.0E+00	0.0E+00
Energy (Natural Gas)	7.4E-04	6.7E-03	5.6E-03	4.0E-05	5.1E-04	5.1E-04
Motor Vehicles	0.05	0.08	0.49	0.00	0.09	0.02
Maximum Net Regional (On-Site and Off-Site) Emissions	**0.1**	**0.1**	**0.5**	**<1**	**0.1**	**0.0**

12300 Washington Blvd - Existing - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

12300 Washington Blvd - Existing

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2.01	1000sqft	0.28	2,011.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - see existing assumptions

Construction Phase -

Energy Use - existing uses built before 2005 so historical data used as recommended by CalEEMod User Guide.

Waste Mitigation - AB 939

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	0.05	0.28

12300 Washington Blvd - Existing - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0450	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Energy	7.4000e-004	6.7200e-003	5.6400e-003	4.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004		8.0635	8.0635	1.5000e-004	1.5000e-004	8.1114

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0450	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Energy	7.4000e-004	6.7200e-003	5.6400e-003	4.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004		8.0635	8.0635	1.5000e-004	1.5000e-004	8.1114

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

12300 Washington Blvd - Existing - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	19.59	4.44	1.41	47,764	47,764
Total	19.59	4.44	1.41	47,764	47,764

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.544605	0.059179	0.183984	0.131834	0.023870	0.006107	0.012167	0.008589	0.000844	0.000527	0.023630	0.000739	0.003926

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	7.4000e-004	6.7200e-003	5.6400e-003	4.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004		8.0635	8.0635	1.5000e-004	1.5000e-004	8.1114
NaturalGas Unmitigated	7.4000e-004	6.7200e-003	5.6400e-003	4.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004		8.0635	8.0635	1.5000e-004	1.5000e-004	8.1114

12300 Washington Blvd - Existing - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	68.5393	7.4000e-004	6.7200e-003	5.6400e-003	4.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004		8.0635	8.0635	1.5000e-004	1.5000e-004	8.1114
Total		**7.4000e-004**	**6.7200e-003**	**5.6400e-003**	**4.0000e-005**		**5.1000e-004**	**5.1000e-004**		**5.1000e-004**	**5.1000e-004**		**8.0635**	**8.0635**	**1.5000e-004**	**1.5000e-004**	**8.1114**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	0.0685393	7.4000e-004	6.7200e-003	5.6400e-003	4.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004		8.0635	8.0635	1.5000e-004	1.5000e-004	8.1114
Total		**7.4000e-004**	**6.7200e-003**	**5.6400e-003**	**4.0000e-005**		**5.1000e-004**	**5.1000e-004**		**5.1000e-004**	**5.1000e-004**		**8.0635**	**8.0635**	**1.5000e-004**	**1.5000e-004**	**8.1114**

12300 Washington Blvd - Existing - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0450	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Unmitigated	0.0450	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	5.1100e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0398					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Total	**0.0450**	**0.0000**	**2.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**4.4000e-004**	**4.4000e-004**	**0.0000**		**4.7000e-004**

12300 Washington Blvd - Existing - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	5.1100e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0398					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Total	**0.0450**	**0.0000**	**2.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**4.4000e-004**	**4.4000e-004**	**0.0000**		**4.7000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

12300 Washington Blvd - Existing - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

12300 Washington Blvd - Existing - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

12300 Washington Blvd - Existing

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2.01	1000sqft	0.28	2,011.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - see existing assumptions

Construction Phase -

Energy Use - existing uses built before 2005 so historical data used as recommended by CalEEMod User Guide.

Waste Mitigation - AB 939

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	0.05	0.28

12300 Washington Blvd - Existing - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0450	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Energy	7.4000e-004	6.7200e-003	5.6400e-003	4.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004		8.0635	8.0635	1.5000e-004	1.5000e-004	8.1114

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0450	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Energy	7.4000e-004	6.7200e-003	5.6400e-003	4.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004		8.0635	8.0635	1.5000e-004	1.5000e-004	8.1114

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

12300 Washington Blvd - Existing - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	19.59	4.44	1.41	47,764	47,764
Total	19.59	4.44	1.41	47,764	47,764

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.544605	0.059179	0.183984	0.131834	0.023870	0.006107	0.012167	0.008589	0.000844	0.000527	0.023630	0.000739	0.003926

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	7.4000e-004	6.7200e-003	5.6400e-003	4.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004		8.0635	8.0635	1.5000e-004	1.5000e-004	8.1114
NaturalGas Unmitigated	7.4000e-004	6.7200e-003	5.6400e-003	4.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004		8.0635	8.0635	1.5000e-004	1.5000e-004	8.1114

12300 Washington Blvd - Existing - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	68.5393	7.4000e-004	6.7200e-003	5.6400e-003	4.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004		8.0635	8.0635	1.5000e-004	1.5000e-004	8.1114
Total		**7.4000e-004**	**6.7200e-003**	**5.6400e-003**	**4.0000e-005**		**5.1000e-004**	**5.1000e-004**		**5.1000e-004**	**5.1000e-004**		**8.0635**	**8.0635**	**1.5000e-004**	**1.5000e-004**	**8.1114**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	0.0685393	7.4000e-004	6.7200e-003	5.6400e-003	4.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004		8.0635	8.0635	1.5000e-004	1.5000e-004	8.1114
Total		**7.4000e-004**	**6.7200e-003**	**5.6400e-003**	**4.0000e-005**		**5.1000e-004**	**5.1000e-004**		**5.1000e-004**	**5.1000e-004**		**8.0635**	**8.0635**	**1.5000e-004**	**1.5000e-004**	**8.1114**

12300 Washington Blvd - Existing - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0450	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Unmitigated	0.0450	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	5.1100e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0398					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Total	**0.0450**	**0.0000**	**2.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**4.4000e-004**	**4.4000e-004**	**0.0000**		**4.7000e-004**

12300 Washington Blvd - Existing - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	5.1100e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0398					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Total	**0.0450**	**0.0000**	**2.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**4.4000e-004**	**4.4000e-004**	**0.0000**		**4.7000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

12300 Washington Blvd - Existing - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Exhibit B

Project Construction Emissions

ESA

12300 Washington Blvd

Air Quality Construction Analysis

Regional Emissions Summary	ROG	NOX	CO	SO2	Total PM10	Total PM2.5
Source	lb/day					
3.2 Demolition - 2022	1.9	20.2	17.4	<0.1	1.5	1.0
3.3 Site Preparation - 2022	0.6	7.3	4.4	<0.1	0.6	0.3
3.4 Building Construction - 2022	1.8	16.4	17.1	<0.1	0.9	0.8
3.4 Building Construction - 2023	1.7	15.1	16.9	<0.1	0.8	0.7
3.5 Paving - 2023	0.7	5.9	8.4	<0.1	0.4	0.3
3.6 Architectural Coating - 2023	2.3	2.3	3.6	<0.1	0.1	0.1
Overlapping Phases	**ROG**	**NOX**	**CO**	**SO2**	**Total PM10**	**Total PM2.5**
Building Construction + Pavings + Architectural Coatings	4.6	23.2	28.9	0.1	1.4	1.1
Project Daily Maximum Emissions	4.6	23.2	28.9	0.1	1.5	1.1
SCAQMD Regional Significance Threholds	75	100	550	150	150	55
Exceeds Thresholds?	No	No	No	No	No	No

12300 Washington Blvd

Air Quality Construction Analysis

Localized Emissions Summary	NOX	CO	Total PM10	Total PM2.5
Source	lb/day			
3.2 Demolition - 2022	17.9	15.4	1.1	0.9
3.3 Site Preparation - 2022	6.9	4.0	0.5	0.3
3.4 Building Construction - 2022	15.9	16.5	0.8	0.8
3.4 Building Construction - 2023	14.7	16.3	0.7	0.7
3.5 Paving - 2023	5.8	7.9	0.3	0.3
3.6 Architectural Coating - 2023	2.3	3.5	0.1	0.1
Building Construction + Pavings + Architectural Coatings	22.8	27.8	1.1	1.0
Project Daily Localized Maximum Emissions	22.8	27.8	1.1	1.0
SCAQMD Localized Significance Threholds	71	372	2.6	2.3
Exceeds Thresholds?	No	No	No	No

12300 Washington Blvd
Air Quality Construction Analysis

Regional Maximums Source	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	Total PM10	Fugitive PM2.5	Exhaust PM2.5	Total PM2.5
						lb/day				
3.2 Demolition - 2022	1.9	20.2	17.4	0.038	0.6	0.9	1.5	0.1	0.9	1.0
3.3 Site Preparation - 2022	0.6	7.3	4.4	0.012	0.3	0.3	0.6	0.0	0.2	0.3
3.4 Building Construction - 2022	1.8	16.4	17.1	0.030	0.1	0.8	0.9	0.0	0.8	0.8
3.4 Building Construction - 2023	1.7	15.1	16.9	0.030	0.1	0.7	0.8	0.0	0.7	0.7
3.5 Paving - 2023	0.7	5.9	8.4	0.014	0.1	0.3	0.4	0.0	0.3	0.3
3.6 Architectural Coating - 2023	2.3	2.3	3.6	0.006	0.0	0.1	0.1	0.0	0.1	0.1
Overlapping Phases										
	ROG	**NOX**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**Total PM10**	**Fugitive PM2.5**	**Exhaust PM2.5**	**Total PM2.5**
Building Construction + Pavings + Architectural Coatings	4.6	23.2	28.9	0.1	0.3	1.1	1.4	0.1	1.0	1.1
Project Daily Maximum Emissions	**4.6**	**23.2**	**28.9**	**0.1**	**0.6**	**1.1**	**1.5**	**0.1**	**1.0**	**1.1**

Localized Maximum Source	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	Total PM10	Fugitive PM2.5	Exhaust PM2.5	Total PM2.5
						lb/day				
3.2 Demolition - 2022	1.9	17.9	15.4	0.0	0.2	0.9	1.1	0.0	0.8	0.9
3.3 Site Preparation - 2022	0.6	6.9	4.0	0.0	0.2	0.3	0.5	0.0	0.2	0.3
3.4 Building Construction - 2022	1.8	15.9	16.5	0.0	0.0	0.8	0.8	0.0	0.8	0.8
3.4 Building Construction - 2023	1.7	14.7	16.3	0.0	0.0	0.7	0.7	0.0	0.7	0.7
3.5 Paving - 2023	0.6	5.8	7.9	0.0	0.0	0.3	0.3	0.0	0.3	0.3
3.6 Architectural Coating - 2023	2.3	2.3	3.5	0.0	0.0	0.1	0.1	0.0	0.1	0.1
Overlapping Phases										
Building Construction + Pavings + Architectural Coatings	4.6	22.8	27.8	0.0	0.0	1.1	1.1	0.0	1.0	1.0

12300 Washington Blvd
Air Quality Construction Analysis

	x X	aj AJ	aw AW	bs BS	cc CC	cw CW	dl DL	ec EC	ep EP	ff FF	x	aj	aw	bs	cc	cw	dl	ec	ep	ff
Summer	**Onsite Emissions**										**Offsite Emissions**									
Source	**ROG**	**NOX**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**Total PM10**	**Fugitive PM2.5**	**Exhaust PM2.5**	**Total PM2.5**	**ROG**	**NOX**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**Total PM10**	**Fugitive PM2.5**	**Exhaust PM2.5**	**Total PM2.5**
	lb/day										**lb/day**									
3.2 Demolition - 2022	1.85	17.87	15.40	0.03	0.24	0.89	1.14	0.04	0.85	0.88	0.03	2.37	2.04	0.011	0.37	0.02	0.38	0.10	0.01	0.11
3.3 Site Preparation - 2022	0.58	6.93	3.96	0.01	0.21	0.26	0.46	0.02	0.24	0.26	0.01	0.41	0.49	0.002	0.10	0.00	0.10	0.03	0.00	0.03
3.4 Building Construction - 2022	1.81	15.91	16.47	0.03	0.00	0.81	0.81	0.00	0.77	0.77	0.01	0.49	0.61	0.002	0.10	0.00	0.10	0.02	0.00	0.03
3.4 Building Construction - 2023	1.68	14.68	16.35	0.03	0.00	0.71	0.71	0.00	0.67	0.67	0.01	0.42	0.60	0.002	0.10	0.00	0.10	0.02	0.00	0.03
3.5 Paving - 2023	0.64	5.83	7.91	0.01	0.00	0.28	0.28	0.00	0.26	0.26	0.01	0.03	0.45	0.001	0.14	0.00	0.14	0.04	0.00	0.04
3.6 Architectural Coating - 2023	2.30	2.27	3.51	0.01	0.00	0.10	0.10	0.00	0.10	0.10	0.00	0.00	0.06	0.000	0.02	0.00	0.02	0.01	0.00	0.01

Regional Emissions	**ROG**	**NOX**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**Total PM10**	**Fugitive PM2.5**	**Exhaust PM2.5**	**Total PM2.5**
3.2 Demolition - 2022	1.9	20.2	17.4	0.0	0.6	0.9	1.5	0.1	0.9	1.0
3.3 Site Preparation - 2022	0.6	7.3	4.4	0.0	0.3	0.3	0.6	0.0	0.2	0.3
3.4 Building Construction - 2022	1.8	16.4	17.1	0.0	0.1	0.8	0.9	0.0	0.8	0.8
3.4 Building Construction - 2023	1.7	15.1	16.9	0.0	0.1	0.7	0.8	0.0	0.7	0.7
3.5 Paving - 2023	0.7	5.9	8.4	0.0	0.1	0.3	0.4	0.0	0.3	0.3
3.6 Architectural Coating - 2023	2.3	2.3	3.6	0.0	0.0	0.1	0.1	0.0	0.1	0.1

Note: Offsite emissions pasted over from EMFAC2021 analysis

Overlapping Phases										
	ROG	**NOX**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**Total PM10**	**Fugitive PM2.5**	**Exhaust PM2.5**	**Total PM2.5**
Building Construction + Pavings + Architectural Coatings	4.6	23.2	28.9	0.1	0.3	1.1	1.4	0.1	1.0	1.1
Project Daily Maximum Emissions	**4.63**	**23.24**	**28.88**	**0.05**	**0.61**	**1.10**	**1.52**	**0.13**	**1.04**	**1.11**

**Note: No overlapping phases for the Watseka Project*

12300 Washington Blvd
Air Quality Construction Analysis

Winter	Onsite Emissions										Offsite Emissions									
Source	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	Total PM10	Fugitive PM2.5	Exhaust PM2.5	Total PM2.5	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	Total PM10	Fugitive PM2.5	Exhaust PM2.5	Total PM2.5
	lb/day										lb/day									
3.2 Demolition - 2022	1.85	17.87	15.40	0.03	0.24	0.89	1.14	0.04	0.85	0.88	0.03	2.37	2.04	0.01	0.37	0.02	0.38	0.10	0.01	0.11
3.3 Site Preparation - 2022	0.58	6.93	3.96	0.01	0.21	0.26	0.46	0.02	0.24	0.26	0.01	0.41	0.49	0.002	0.10	0.00	0.10	0.03	0.00	0.03
3.4 Building Construction - 2022	1.81	15.91	16.47	0.03	0.00	0.81	0.81	0.00	0.77	0.77	0.01	0.49	0.61	0.002	0.10	0.00	0.10	0.02	0.00	0.03
3.4 Building Construction - 2023	1.68	14.68	16.35	0.03	0.00	0.71	0.71	0.00	0.67	0.67	0.01	0.42	0.60	0.002	0.10	0.00	0.10	0.02	0.00	0.03
3.5 Paving - 2023	0.64	5.83	7.91	0.01	0.00	0.28	0.28	0.00	0.26	0.26	0.01	0.03	0.45	0.001	0.14	0.00	0.14	0.04	0.00	0.04
3.6 Architectural Coating - 2023	2.30	2.27	3.51	0.01	0.00	0.10	0.10	0.00	0.10	0.10	0.00	0.00	0.06	0.000	0.02	0.00	0.02	0.01	0.00	0.01

Regional Emissions	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	Total PM10	Fugitive PM2.5	Exhaust PM2.5	Total PM2.5
3.2 Demolition - 2022	1.9	20.2	17.4	0.0	0.6	0.9	1.5	0.1	0.9	1.0
3.3 Site Preparation - 2022	0.6	7.3	4.4	0.0	0.3	0.3	0.6	0.0	0.2	0.3
3.4 Building Construction - 2022	1.8	16.4	17.1	0.0	0.1	0.8	0.9	0.0	0.8	0.8
3.4 Building Construction - 2023	1.7	15.1	16.9	0.0	0.1	0.7	0.8	0.0	0.7	0.7
3.5 Paving - 2023	0.7	5.9	8.4	0.0	0.1	0.3	0.4	0.0	0.3	0.3
3.6 Architectural Coating - 2023	2.3	2.3	3.6	0.0	0.0	0.1	0.1	0.0	0.1	0.1

Note: Offsite emissions pasted over from EMFAC2021 analysis

Overlapping Phases

	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	Total PM10	Fugitive PM2.5	Exhaust PM2.5	Total PM2.5
Building Construction + Pavings + Architectural Coatings	4.6	23.2	28.9	0.1	0.3	1.1	1.4	0.1	1.0	1.1
Project Daily Maximum Emissions	**4.63**	**23.24**	**28.88**	**0.05**	**0.61**	**1.10**	**1.52**	**0.13**	**1.04**	**1.11**

**Note: No overlapping phases for the Watseka Project*

12300 Washington

Total On-Road Emissions

260 Max construction days per year

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Idling per Day (minutes)
Demolition	2022				
Total Haul Trips	102				
Hauling	12	10	8	20	15
Vendor	0	13	8	6.9	15
Worker	14	13	8	14.7	0
					Total:
Site Preparation	2022				
Total Haul Trips	2				
Hauling	2	1	8	20	15
Vendor	0	13	8	6.9	15
Worker	6	13	8	14.7	0
					Total:
Building Construction	2022				
Total Haul Trips	0				
Hauling	0	132	8	20	15
Vendor	6	132	8	6.9	15
Worker	6	132	8	14.7	0
					Total:
Building Construction	2023				
Total Haul Trips	0				
Hauling	0	208	8	20	15
Vendor	6	208	8	6.9	15
Worker	6	208	8	14.7	0
					Total:
Paving	2023				
Total Haul Trips	0				
Hauling	0	27	8	20	15
Vendor	0	27	8	6.9	15
Worker	14	27	8	14.7	0
					Total:
Architectural Coatings	2023				
Total Haul Trips	0				
Hauling	0	53	8	20	15
Vendor	0	53	8	6.9	15
Worker	2	53	8	14.7	0
					Total:

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Total On-Road Emissions

Construction Phase	Regional Emissions (pounds/day)										(MT/yr)
	ROG	NOX	CO	SO2	PM10 Dust	PM10 Exh	Total PM10	PM2.5 Dust	PM2.5 Exh	Total PM2.5	Total CO2e
Demolition											
Total Haul Trips											
Hauling	0.02	2.33	1.47	0.01	0.22	0.01	0.24	0.06	0.01	0.07	4.99
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.05	0.57	0.00	0.14	0.00	0.14	0.04	0.00	0.04	0.87
	0.03	2.37	2.04	0.01	0.37	0.02	0.38	0.10	0.01	0.11	5.85
Site Preparation											
Total Haul Trips											
Hauling	0.00	0.39	0.24	0.00	0.04	0.00	0.04	0.01	0.00	0.01	0.08
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.02	0.24	0.00	0.06	0.00	0.06	0.02	0.00	0.02	0.37
	0.01	0.41	0.49	0.00	0.10	0.00	0.10	0.03	0.00	0.03	0.45
Building Construction											
Total Haul Trips											
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.47	0.37	0.00	0.04	0.00	0.04	0.01	0.00	0.01	11.67
Worker	0.00	0.02	0.24	0.00	0.06	0.00	0.06	0.02	0.00	0.02	3.77
	0.01	0.49	0.61	0.00	0.10	0.00	0.10	0.02	0.00	0.03	15.44
Building Construction											
Total Haul Trips											
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.40	0.38	0.00	0.04	0.00	0.04	0.01	0.00	0.01	18.04
Worker	0.00	0.02	0.22	0.00	0.06	0.00	0.06	0.02	0.00	0.02	5.80
	0.01	0.42	0.60	0.00	0.10	0.00	0.10	0.02	0.00	0.03	23.84
Paving											
Total Haul Trips											
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.04	0.52	0.00	0.14	0.00	0.14	0.04	0.00	0.04	1.76
	0.01	0.04	0.52	0.00	0.14	0.00	0.14	0.04	0.00	0.04	1.76
Architectural Coatings											
Total Haul Trips											
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.01	0.07	0.00	0.02	0.00	0.02	0.01	0.00	0.01	0.49
	0.00	0.01	0.07	0.00	0.02	0.00	0.02	0.01	0.00	0.01	0.49

12300 Washington
Running Emissions

		Running Emissions Factor (grams/mile)					
		ROG	NOX	CO	SO2	PM10	PM2.5
2022Hauling	Hauling	0.0325344	2.4583809	0.65778232	0.01452669	0.02588933	0.02476401
2022Vendor	Vendor	0.03535494	1.80972193	0.57986975	0.01306916	0.01898875	0.01816031
2022Worker	Worker	0.02332108	0.099793995	1.25191561	0.00317458	0.0018993	0.00174836
2023Hauling	Hauling	0.01586692	1.819839793	0.56014535	0.01438353	0.02429532	0.02323937
2023Vendor	Vendor	0.02206036	1.34489113	0.48651794	0.01294707	0.01714041	0.01639227
2023Worker	Worker	0.02067082	0.088812578	1.15075765	0.00310334	0.00178901	0.00164668
2024Hauling	Hauling	0.01506835	1.736594392	0.53415245	0.01416079	0.0242504	0.02319665
2024Vendor	Vendor	0.01969384	1.266700708	0.44120439	0.01277308	0.01665469	0.01592783
2024Worker	Worker	0.01832772	0.079436569	1.06105707	0.00303024	0.00168421	0.00155002
2025Hauling	Hauling	0.01437944	1.662749972	0.51520497	0.01390779	0.02389452	0.02285639
2025Vendor	Vendor	0.01760775	1.192913115	0.40524391	0.01255696	0.0160024	0.01530399
2025Worker	Worker	0.01639808	0.071550735	0.98584257	0.0029604	0.00160066	0.00147299
GWP		N/A	N/A	N/A	N/A	N/A	N/A

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (pounds/day) ROG	NOX	CO	SO2	PM10	PM2.5
Demolition	2022									
Total Haul Trips	102									
Hauling	12	10	8	20	0.02	1.30	0.35	0.01	0.01	0.01
Vendor	0	13	8	6.9	0.00	0.00	0.00	0.00	0.00	0.00
Worker	14	13	8	14.7	0.01	0.05	0.57	0.00	0.00	0.00
Site Preparation	2022									
Total Haul Trips	2									
Hauling	2	1	8	20	0.00	0.22	0.06	0.00	0.00	0.00
Vendor	0	13	8	6.9	0.00	0.00	0.00	0.00	0.00	0.00
Worker	6	13	8	14.7	0.00	0.02	0.24	0.00	0.00	0.00

12300 Washington
Running Emissions

		Running Emissions Factor (grams/mile)					
		ROG	NOX	CO	SO2	PM10	PM2.5
2022Hauling	Hauling	0.0325344	2.4583809	0.65778232	0.01452669	0.02588933	0.02476401
2022Vendor	Vendor	0.03535494	1.80972193	0.57986975	0.01306916	0.01898875	0.01816031
2022Worker	Worker	0.02332108	0.099793995	1.25191561	0.00317458	0.0018993	0.00174836
2023Hauling	Hauling	0.01586692	1.819839793	0.56014535	0.01438353	0.02429532	0.02323937
2023Vendor	Vendor	0.02206036	1.34489113	0.48651794	0.01294707	0.01714041	0.01639227
2023Worker	Worker	0.02067082	0.088812578	1.15075765	0.00310334	0.00178901	0.00164668
2024Hauling	Hauling	0.01506835	1.736594392	0.53415245	0.01416079	0.0242504	0.02319665
2024Vendor	Vendor	0.01969384	1.266700708	0.44120439	0.01277308	0.01665469	0.01592783
2024Worker	Worker	0.01832772	0.079436569	1.06105707	0.00303024	0.00168421	0.00155002
2025Hauling	Hauling	0.01437944	1.662749972	0.51520497	0.01390779	0.02389452	0.02285639
2025Vendor	Vendor	0.01760775	1.192913115	0.40524391	0.01255696	0.0160024	0.01530399
2025Worker	Worker	0.01639808	0.071550735	0.98584257	0.0029604	0.00160066	0.00147299
GWP		N/A	N/A	N/A	N/A	N/A	N/A

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (pounds/day)					
					ROG	NOX	CO	SO2	PM10	PM2.5
Building Construction	2022									
Total Haul Trips	0									
Hauling	0	132	8	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6	132	8	6.9	0.00	0.17	0.05	0.00	0.00	0.00
Worker	6	132	8	14.7	0.00	0.02	0.24	0.00	0.00	0.00
Building Construction	2023									
Total Haul Trips	0									
Hauling	0	208	8	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6	208	8	6.9	0.00	0.12	0.04	0.00	0.00	0.00
Worker	6	208	8	14.7	0.00	0.02	0.22	0.00	0.00	0.00

12300 Washington
Running Emissions

		Running Emissions Factor (grams/mile)					
		ROG	NOX	CO	SO2	PM10	PM2.5
2022Hauling	Hauling	0.0325344	2.4583809	0.65778232	0.01452669	0.02588933	0.02476401
2022Vendor	Vendor	0.03535494	1.80972193	0.57986975	0.01306916	0.01898875	0.01816031
2022Worker	Worker	0.02332108	0.099793995	1.25191561	0.00317458	0.0018993	0.00174836
2023Hauling	Hauling	0.01586692	1.819839793	0.56014535	0.01438353	0.02429532	0.02323937
2023Vendor	Vendor	0.02206036	1.34489113	0.48651794	0.01294707	0.01714041	0.01639227
2023Worker	Worker	0.02067082	0.088812578	1.15075765	0.00310334	0.00178901	0.00164668
2024Hauling	Hauling	0.01506835	1.736594392	0.53415245	0.01416079	0.0242504	0.02319665
2024Vendor	Vendor	0.01969384	1.266700708	0.44120439	0.01277308	0.01665469	0.01592783
2024Worker	Worker	0.01832772	0.079436569	1.06105707	0.00303024	0.00168421	0.00155002
2025Hauling	Hauling	0.01437944	1.662749972	0.51520497	0.01390779	0.02389452	0.02285639
2025Vendor	Vendor	0.01760775	1.192913115	0.40524391	0.01255696	0.0160024	0.01530399
2025Worker	Worker	0.01639808	0.071550735	0.98584257	0.0029604	0.00160066	0.00147299
GWP		N/A	N/A	N/A	N/A	N/A	N/A

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (pounds/day)					
					ROG	NOX	CO	SO2	PM10	PM2.5
Paving	2023									
Total Haul Trips	0									
Hauling	0	27	8	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	27	8	6.9	0.00	0.00	0.00	0.00	0.00	0.00
Worker	14	27	8	14.7	0.01	0.04	0.52	0.00	0.00	0.00
Architectural Coatings	2023									
Total Haul Trips	0									
Hauling	0	53	8	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	53	8	6.9	0.00	0.00	0.00	0.00	0.00	0.00
Worker	2	53	8	14.7	0.00	0.01	0.07	0.00	0.00	0.00

12300 Washington
Running Emissions

		Running Emissions Factor (grams/mile)		
		CO2	CH4	N2O
2022Hauling	Hauling	1603.34652	0.09449585	0.25576515
2022Vendor	Vendor	1410.969	0.0512488	0.19739632
2022Worker	Worker	321.142479	0.00545327	0.00787415
2023Hauling	Hauling	1583.27715	0.08682775	0.25237618
2023Vendor	Vendor	1396.08358	0.04699151	0.19562382
2023Worker	Worker	313.935283	0.00489596	0.00723926
2024Hauling	Hauling	1559.36414	0.08218565	0.24859598
2024Vendor	Vendor	1377.97499	0.0444451	0.19361282
2024Worker	Worker	306.539439	0.00439547	0.00668816
2025Hauling	Hauling	1532.44355	0.07834145	0.24434833
2025Vendor	Vendor	1355.54323	0.04236339	0.19105447
2025Worker	Worker	299.474202	0.00397643	0.00621593
	GWP	1	25	290

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (MT/year) CO2	CH4	N2O	CO2e
Demolition	2022							
Total Haul Trips	102							
Hauling	12	10	8	20	3.85	0.01	0.18	4.03
Vendor	0	13	8	6.9	0.00	0.00	0.00	0.00
Worker	14	13	8	14.7	0.86	0.00	0.01	0.87
Site Preparation	2022							
Total Haul Trips	2							
Hauling	2	1	8	20	0.06	0.00	0.00	0.07
Vendor	0	13	8	6.9	0.00	0.00	0.00	0.00
Worker	6	13	8	14.7	0.37	0.00	0.00	0.37

12300 Washington
Running Emissions

		Running Emissions Factor (grams/mile)		
		CO2	CH4	N2O
2022Hauling	Hauling	1603.34652	0.09449585	0.25576515
2022Vendor	Vendor	1410.969	0.0512488	0.19739632
2022Worker	Worker	321.142479	0.00545327	0.00787415
2023Hauling	Hauling	1583.27715	0.08682775	0.25237618
2023Vendor	Vendor	1396.08358	0.04699151	0.19562382
2023Worker	Worker	313.935283	0.00489596	0.00723926
2024Hauling	Hauling	1559.36414	0.08218565	0.24859598
2024Vendor	Vendor	1377.97499	0.0444451	0.19361282
2024Worker	Worker	306.539439	0.00439547	0.00668816
2025Hauling	Hauling	1532.44355	0.07834145	0.24434833
2025Vendor	Vendor	1355.54323	0.04236339	0.19105447
2025Worker	Worker	299.474202	0.00397643	0.00621593
	GWP	1	25	290

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (MT/year) CO2	CH4	N2O	CO2e
Building Construction	2022							
Total Haul Trips	0							
Hauling	0	132	8	20	0.00	0.00	0.00	0.00
Vendor	6	132	8	6.9	7.71	0.01	0.31	8.03
Worker	6	132	8	14.7	3.74	0.00	0.03	3.77
Building Construction	2023							
Total Haul Trips	0							
Hauling	0	208	8	20	0.00	0.00	0.00	0.00
Vendor	6	208	8	6.9	12.02	0.01	0.49	12.52
Worker	6	208	8	14.7	5.76	0.00	0.04	5.80

12300 Washington
Running Emissions

		Running Emissions Factor (grams/mile)		
		CO2	CH4	N2O
2022Hauling	Hauling	1603.34652	0.09449585	0.25576515
2022Vendor	Vendor	1410.969	0.0512488	0.19739632
2022Worker	Worker	321.142479	0.00545327	0.00787415
2023Hauling	Hauling	1583.27715	0.08682775	0.25237618
2023Vendor	Vendor	1396.08358	0.04699151	0.19562382
2023Worker	Worker	313.935283	0.00489596	0.00723926
2024Hauling	Hauling	1559.36414	0.08218565	0.24859598
2024Vendor	Vendor	1377.97499	0.0444451	0.19361282
2024Worker	Worker	306.539439	0.00439547	0.00668816
2025Hauling	Hauling	1532.44355	0.07834145	0.24434833
2025Vendor	Vendor	1355.54323	0.04236339	0.19105447
2025Worker	Worker	299.474202	0.00397643	0.00621593
	GWP	1	25	290

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (MT/year) CO2	CH4	N2O	CO2e
Paving	2023							
Total Haul Trips	0							
Hauling	0	27	8	20	0.00	0.00	0.00	0.00
Vendor	0	27	8	6.9	0.00	0.00	0.00	0.00
Worker	14	27	8	14.7	1.74	0.00	0.01	1.76
Architectural Coatings	2023							
Total Haul Trips	0							
Hauling	0	53	8	20	0.00	0.00	0.00	0.00
Vendor	0	53	8	6.9	0.00	0.00	0.00	0.00
Worker	2	53	8	14.7	0.49	0.00	0.00	0.49

12300 Washington
Idling Emissions

	Idling Emissions Factor (grams/minute)					
	ROG	NOX	CO	SO2	PM10	PM2.5
2022Hauling Hauling	0.00169977	2.582796523	2.82568716	0.00444796	0.00151979	0.00145156
2022Vendor Vendor	0.0088016	1.525652349	1.58615876	0.00259146	0.00130692	0.00124902
2022Worker Worker	0	0	0	0	0	0
2023Hauling Hauling	0.00164931	2.372437361	2.98604523	0.00426675	0.00137668	0.0013147
2023Vendor Vendor	0.00838046	1.395369076	1.67167502	0.00249247	0.00114677	0.00109581
2023Worker Worker	0	0	0	0	0	0
2024Hauling Hauling	0.00217975	2.344515422	2.97579359	0.00417141	0.00130215	0.00124328
2024Vendor Vendor	0.00835665	1.376563623	1.66566119	0.00244322	0.00103748	0.00099118
2024Worker Worker	0	0	0	0	0	0
2025Hauling Hauling	0.00341689	2.317873048	2.96368499	0.00407507	0.0012408	0.00118447
2025Vendor Vendor	0.0086834	1.358330245	1.65830264	0.00239209	0.00094223	0.00089998
2025Worker Worker	0	0	0	0	0	0
GWP	N/A	N/A	N/A	N/A	N/A	N/A

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	Idling minutes per Day (miles)	Regional Emissions (pounds/day)					
					ROG	NOX	CO	SO2	PM10	PM2.5
Demolition	2022									
Total Haul Trips	102									
Hauling	12	10	8	15	0.00	1.02	1.12	0.00	0.00	0.00
Vendor	0	13	8	15	0.00	0.00	0.00	0.00	0.00	0.00
Worker	14	13	8	0	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	2022									
Total Haul Trips	2									
Hauling	2	1	8	15	0.00	0.17	0.19	0.00	0.00	0.00
Vendor	0	13	8	15	0.00	0.00	0.00	0.00	0.00	0.00
Worker	6	13	8	0	0.00	0.00	0.00	0.00	0.00	0.00

12300 Washington
Idling Emissions

	Idling Emissions Factor (grams/minute)					
	ROG	NOX	CO	SO2	PM10	PM2.5
2022Hauling Hauling	0.00169977	2.582796523	2.82568716	0.00444796	0.00151979	0.00145156
2022Vendor Vendor	0.0088016	1.525652349	1.58615876	0.00259146	0.00130692	0.00124902
2022Worker Worker	0	0	0	0	0	0
2023Hauling Hauling	0.00164931	2.372437361	2.98604523	0.00426675	0.00137668	0.0013147
2023Vendor Vendor	0.00838046	1.395369076	1.67167502	0.00249247	0.00114677	0.00109581
2023Worker Worker	0	0	0	0	0	0
2024Hauling Hauling	0.00217975	2.344515422	2.97579359	0.00417141	0.00130215	0.00124328
2024Vendor Vendor	0.00835665	1.376563623	1.66566119	0.00244322	0.00103748	0.00099118
2024Worker Worker	0	0	0	0	0	0
2025Hauling Hauling	0.00341689	2.317873048	2.96368499	0.00407507	0.0012408	0.00118447
2025Vendor Vendor	0.0086834	1.358330245	1.65830264	0.00239209	0.00094223	0.00089998
2025Worker Worker	0	0	0	0	0	0
GWP	N/A	N/A	N/A	N/A	N/A	N/A

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	Idling minutes per Day (miles)	Regional Emissions (pounds/day)					
					ROG	NOX	CO	SO2	PM10	PM2.5
Building Construction	2022									
Total Haul Trips	0									
Hauling	0	132	8	15	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6	132	8	15	0.00	0.30	0.31	0.00	0.00	0.00
Worker	6	132	8	0	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	2023									
Total Haul Trips	0									
Hauling	0	208	8	15	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6	208	8	15	0.00	0.28	0.33	0.00	0.00	0.00
Worker	6	208	8	0	0.00	0.00	0.00	0.00	0.00	0.00

12300 Washington
Idling Emissions

	Idling Emissions Factor (grams/minute)					
	ROG	NOX	CO	SO2	PM10	PM2.5
2022Hauling Hauling	0.00169977	2.582796523	2.82568716	0.00444796	0.00151979	0.00145156
2022Vendor Vendor	0.0088016	1.525652349	1.58615876	0.00259146	0.00130692	0.00124902
2022Worker Worker	0	0	0	0	0	0
2023Hauling Hauling	0.00164931	2.372437361	2.98604523	0.00426675	0.00137668	0.0013147
2023Vendor Vendor	0.00838046	1.395369076	1.67167502	0.00249247	0.00114677	0.00109581
2023Worker Worker	0	0	0	0	0	0
2024Hauling Hauling	0.00217975	2.344515422	2.97579359	0.00417141	0.00130215	0.00124328
2024Vendor Vendor	0.00835665	1.376563623	1.66566119	0.00244322	0.00103748	0.00099118
2024Worker Worker	0	0	0	0	0	0
2025Hauling Hauling	0.00341689	2.317873048	2.96368499	0.00407507	0.0012408	0.00118447
2025Vendor Vendor	0.0086834	1.358330245	1.65830264	0.00239209	0.00094223	0.00089998
2025Worker Worker	0	0	0	0	0	0
GWP	N/A	N/A	N/A	N/A	N/A	N/A

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	Idling minutes per Day (miles)	Regional Emissions (pounds/day)					
					ROG	NOX	CO	SO2	PM10	PM2.5
Paving	2023									
Total Haul Trips	0									
Hauling	0	27	8	15	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	27	8	15	0.00	0.00	0.00	0.00	0.00	0.00
Worker	14	27	8	0	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coatings	2023									
Total Haul Trips	0									
Hauling	0	53	8	15	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	53	8	15	0.00	0.00	0.00	0.00	0.00	0.00
Worker	2	53	8	0	0.00	0.00	0.00	0.00	0.00	0.00

12300 Washington
Idling Emissions

	Idling Emissions Factor (grams/minute)		
	CO2	CH4	N2O
2022Hauling Hauling	503.622224	0.10784065	0.08091578
2022Vendor Vendor	291.54918	0.05866195	0.04646894
2022Worker Worker	0	0	0
2023Hauling Hauling	482.754893	0.0977218	0.07754797
2023Vendor Vendor	280.28723	0.05367034	0.04466847
2023Worker Worker	0	0	0
2024Hauling Hauling	472.805795	0.09566056	0.07598602
2024Vendor Vendor	275.207401	0.05274178	0.04388609
2024Worker Worker	0	0	0
2025Hauling Hauling	462.784074	0.09392132	0.07441412
2025Vendor Vendor	269.94172	0.05195541	0.04307546
2025Worker Worker	0	0	0
GWP	1	25	290

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	Idling minutes per Day (miles)	Regional Emissions (MT/year) CO2	CH4	N2O	CO2e
Demolition	2022							
Total Haul Trips	102							
Hauling	12	10	8	15	0.91	0.00	0.04	0.95
Vendor	0	13	8	15	0.00	0.00	0.00	0.00
Worker	14	13	8	0	0.00	0.00	0.00	0.00
Site Preparation	2022							
Total Haul Trips	2							
Hauling	2	1	8	15	0.02	0.00	0.00	0.02
Vendor	0	13	8	15	0.00	0.00	0.00	0.00
Worker	6	13	8	0	0.00	0.00	0.00	0.00

12300 Washington
Idling Emissions

		Idling Emissions Factor (grams/minute)		
		CO2	CH4	N2O
2022Hauling	Hauling	503.622224	0.10784065	0.08091578
2022Vendor	Vendor	291.54918	0.05866195	0.04646894
2022Worker	Worker	0	0	0
2023Hauling	Hauling	482.754893	0.0977218	0.07754797
2023Vendor	Vendor	280.28723	0.05367034	0.04466847
2023Worker	Worker	0	0	0
2024Hauling	Hauling	472.805795	0.09566056	0.07598602
2024Vendor	Vendor	275.207401	0.05274178	0.04388609
2024Worker	Worker	0	0	0
2025Hauling	Hauling	462.784074	0.09392132	0.07441412
2025Vendor	Vendor	269.94172	0.05195541	0.04307546
2025Worker	Worker	0	0	0
	GWP	1	25	290

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	Idling minutes per Day (miles)	Regional Emissions (MT/year) CO2	CH4	N2O	CO2e
Building Construction	2022							
Total Haul Trips	0							
Hauling	0	132	8	15	0.00	0.00	0.00	0.00
Vendor	6	132	8	15	3.46	0.02	0.16	3.64
Worker	6	132	8	0	0.00	0.00	0.00	0.00
Building Construction	2023							
Total Haul Trips	0							
Hauling	0	208	8	15	0.00	0.00	0.00	0.00
Vendor	6	208	8	15	5.25	0.03	0.24	5.51
Worker	6	208	8	0	0.00	0.00	0.00	0.00

12300 Washington
Idling Emissions

		Idling Emissions Factor (grams/minute)		
		CO2	CH4	N2O
2022Hauling	Hauling	503.622224	0.10784065	0.08091578
2022Vendor	Vendor	291.54918	0.05866195	0.04646894
2022Worker	Worker	0	0	0
2023Hauling	Hauling	482.754893	0.0977218	0.07754797
2023Vendor	Vendor	280.28723	0.05367034	0.04466847
2023Worker	Worker	0	0	0
2024Hauling	Hauling	472.805795	0.09566056	0.07598602
2024Vendor	Vendor	275.207401	0.05274178	0.04388609
2024Worker	Worker	0	0	0
2025Hauling	Hauling	462.784074	0.09392132	0.07441412
2025Vendor	Vendor	269.94172	0.05195541	0.04307546
2025Worker	Worker	0	0	0
	GWP	1	25	290

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	Idling minutes per Day (miles)	Regional Emissions (MT/year) CO2	CH4	N2O	CO2e
Paving	2023							
Total Haul Trips	0							
Hauling	0	27	8	15	0.00	0.00	0.00	0.00
Vendor	0	27	8	15	0.00	0.00	0.00	0.00
Worker	14	27	8	0	0.00	0.00	0.00	0.00
Architectural Coatings	2023							
Total Haul Trips	0							
Hauling	0	53	8	15	0.00	0.00	0.00	0.00
Vendor	0	53	8	15	0.00	0.00	0.00	0.00
Worker	2	53	8	0	0.00	0.00	0.00	0.00

12300 Washington
Road Dust, Break Wear, and Tire wear Emissions

	Emission Factors (grams/mile)					
	PM10			PM2.5		
	RD	BW	TW	RD	BW	TW
2022Hauling Hauling	3.00E-01	0.084546169	0.03526695	7.36E-02	0.02959116	0.00881674
2022Vendor Vendor	3.00E-01	0.0638863	0.02363348	7.36E-02	0.0223602	0.00590837
2022Worker Worker	3.00E-01	0.009107149	0.008	7.36E-02	0.0031875	0.002
2023Hauling Hauling	3.00E-01	0.082817776	0.03527371	7.36E-02	0.02898622	0.00881843
2023Vendor Vendor	3.00E-01	0.063015802	0.02363686	7.36E-02	0.02205553	0.00590921
2023Worker Worker	3.00E-01	0.009081686	0.008	7.36E-02	0.00317859	0.002
2024Hauling Hauling	3.00E-01	0.082315236	0.03527902	7.36E-02	0.02881033	0.00881975
2024Vendor Vendor	3.00E-01	0.062716793	0.02363951	7.36E-02	0.02195088	0.00590988
2024Worker Worker	3.00E-01	0.009001983	0.008	7.36E-02	0.00315069	0.002
2025Hauling Hauling	3.00E-01	0.082193524	0.03528459	7.36E-02	0.02876773	0.00882115
2025Vendor Vendor	3.00E-01	0.062593489	0.02364229	7.36E-02	0.02190772	0.00591057
2025Worker Worker	3.00E-01	0.008968156	0.008	7.36E-02	0.00313885	0.002

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (pounds/day)					
					PM10			PM2.5		
					RD	BW	TW	RD	BW	TW
Demolition	2022									
Total Haul Trips	102									
Hauling	12	10	8	20	0.16	0.04	0.02	0.04	0.02	0.00
Vendor	0	13	8	6.9	0.00	0.00	0.00	0.00	0.00	0.00
Worker	14	13	8	14.7	0.14	0.00	0.00	0.03	0.00	0.00
Site Preparation	2022									
Total Haul Trips	2									
Hauling	2	1	8	20	0.03	0.01	0.00	0.01	0.00	0.00
Vendor	0	13	8	6.9	0.00	0.00	0.00	0.00	0.00	0.00
Worker	6	13	8	14.7	0.06	0.00	0.00	0.01	0.00	0.00

12300 Washington
Road Dust, Break Wear, and Tire wear Emissions

	Emission Factors (grams/mile)					
	PM10			PM2.5		
	RD	BW	TW	RD	BW	TW
2022Hauling Hauling	3.00E-01	0.084546169	0.03526695	7.36E-02	0.02959116	0.00881674
2022Vendor Vendor	3.00E-01	0.0638863	0.02363348	7.36E-02	0.0223602	0.00590837
2022Worker Worker	3.00E-01	0.009107149	0.008	7.36E-02	0.0031875	0.002
2023Hauling Hauling	3.00E-01	0.082817776	0.03527371	7.36E-02	0.02898622	0.00881843
2023Vendor Vendor	3.00E-01	0.063015802	0.02363686	7.36E-02	0.02205553	0.00590921
2023Worker Worker	3.00E-01	0.009081686	0.008	7.36E-02	0.00317859	0.002
2024Hauling Hauling	3.00E-01	0.082315236	0.03527902	7.36E-02	0.02881033	0.00881975
2024Vendor Vendor	3.00E-01	0.062716793	0.02363951	7.36E-02	0.02195088	0.00590988
2024Worker Worker	3.00E-01	0.009001983	0.008	7.36E-02	0.00315069	0.002
2025Hauling Hauling	3.00E-01	0.082193524	0.03528459	7.36E-02	0.02876773	0.00882115
2025Vendor Vendor	3.00E-01	0.062593489	0.02364229	7.36E-02	0.02190772	0.00591057
2025Worker Worker	3.00E-01	0.008968156	0.008	7.36E-02	0.00313885	0.002

Construction Phase	Daily One-Way Trips	Haul Days per Phase	Work Hours per Day	One-Way Trip Distance per Day	Regional Emissions (pounds/day)					
					PM10			PM2.5		
		(days)	(hours/day)	(miles)	RD	BW	TW	RD	BW	TW
Building Construction	2022									
Total Haul Trips	0									
Hauling	0	132	8	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6	132	8	6.9	0.03	0.01	0.00	0.01	0.00	0.00
Worker	6	132	8	14.7	0.06	0.00	0.00	0.01	0.00	0.00
Building Construction	2023									
Total Haul Trips	0									
Hauling	0	208	8	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6	208	8	6.9	0.03	0.01	0.00	0.01	0.00	0.00
Worker	6	208	8	14.7	0.06	0.00	0.00	0.01	0.00	0.00

12300 Washington
Road Dust, Break Wear, and Tire wear Emissions

	Emission Factors (grams/mile)					
	PM10			PM2.5		
	RD	BW	TW	RD	BW	TW
2022Hauling Hauling	3.00E-01	0.084546169	0.03526695	7.36E-02	0.02959116	0.00881674
2022Vendor Vendor	3.00E-01	0.0638863	0.02363348	7.36E-02	0.0223602	0.00590837
2022Worker Worker	3.00E-01	0.009107149	0.008	7.36E-02	0.0031875	0.002
2023Hauling Hauling	3.00E-01	0.082817776	0.03527371	7.36E-02	0.02898622	0.00881843
2023Vendor Vendor	3.00E-01	0.063015802	0.02363686	7.36E-02	0.02205553	0.00590921
2023Worker Worker	3.00E-01	0.009081686	0.008	7.36E-02	0.00317859	0.002
2024Hauling Hauling	3.00E-01	0.082315236	0.03527902	7.36E-02	0.02881033	0.00881975
2024Vendor Vendor	3.00E-01	0.062716793	0.02363951	7.36E-02	0.02195088	0.00590988
2024Worker Worker	3.00E-01	0.009001983	0.008	7.36E-02	0.00315069	0.002
2025Hauling Hauling	3.00E-01	0.082193524	0.03528459	7.36E-02	0.02876773	0.00882115
2025Vendor Vendor	3.00E-01	0.062593489	0.02364229	7.36E-02	0.02190772	0.00591057
2025Worker Worker	3.00E-01	0.008968156	0.008	7.36E-02	0.00313885	0.002

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (pounds/day)					
					PM10			PM2.5		
					RD	BW	TW	RD	BW	TW
Paving	2023									
Total Haul Trips	0									
Hauling	0	27	8	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	27	8	6.9	0.00	0.00	0.00	0.00	0.00	0.00
Worker	14	27	8	14.7	0.14	0.00	0.00	0.03	0.00	0.00
Architectural Coatings	2023									
Total Haul Trips	0									
Hauling	0	53	8	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	53	8	6.9	0.00	0.00	0.00	0.00	0.00	0.00
Worker	2	53	8	14.7	0.02	0.00	0.00	0.00	0.00	0.00

12300 Washington
Road Dust

Paved Road Dust Emission Factors (Assumes No Precipitation)

Formula: $EF_{Dust,P} = (k\ (sL)^{0.91} \times (W)^{1.02})$

Where:

$EF_{Dust,P}$ =	Paved Road Dust Emission Factor (having the same units as k)
k =	particle size multiplier
sL =	road surface silt loading (g/m^2)
W =	average fleet vehicle weight (tons) (CARB uses 2.4 tons as a fleet average vehicle weight factor)

	Emission Factor (grams per VMT)	
	PM10	PM2.5
k	0.9979	0.2449
sL	0.1	0.1
W	2.4	2.4
$EF_{Dust,P}$	3.00E-01	7.36E-02

Unpaved Road Dust Emission Factors (Assumes No Precipitation)

Formula: $EF_{Dust,U} = (k\ (\ s / 12)^{1} \times (Sp / 30)^{0.5} / (M / 0.5)^{0.2}) - C)$

Where:

$EF_{Dust,U}$ =	Unpaved Road Dust Emission Factor (having the same units as k)
k =	particle size multiplier
s =	surface material silt content (%)
Sp =	mean vehicle speed (mph)
M =	surface material moisture content (%)
C =	Emission Factor for 1980s vehicle fleet exhaust, brake wear, and tire wear

	Emission Factor (grams per VMT)	
	PM10	PM2.5
k	816.47	81.65
s	4.3%	4.3%
Sp	15	15
M	0.5%	0.5%
C	0.00047	0.00036
$EF_{Dust,U}$	5.20E+00	5.19E-01

Sources:

SCAQMD, CalEEMod, Version 2011.1.
CARB, *Entrained Dust from Paved Road Travel: Emission Estimation Methodology Background Document* , (1997).
USEPA, *AP-42* , Fifth Edition, Volume I, Chapter 13.2.1 - Paved Roads, (2011).
PCR Services Corporation, 2013.

12300 Washington Blvd - Construction - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

12300 Washington Blvd - Construction

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	11.19	1000sqft	0.10	11,186.00	0
Parking Lot	10.10	1000sqft	0.10	10,100.00	0
City Park	0.08	Acre	0.08	3,283.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - see construction assumptions

Construction Phase - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment -

Trips and VMT - construction mobile emissions calculation outside of CalEEMod.

Demolition -

Grading -

12300 Washington Blvd - Construction - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	53.00
tblConstructionPhase	NumDays	100.00	340.00
tblConstructionPhase	NumDays	10.00	13.00
tblConstructionPhase	NumDays	5.00	27.00
tblConstructionPhase	NumDays	1.00	13.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblGrading	MaterialExported	0.00	10.00
tblLandUse	LandUseSquareFeet	11,190.00	11,186.00
tblLandUse	LandUseSquareFeet	3,484.80	3,283.00
tblLandUse	LotAcreage	0.26	0.10
tblLandUse	LotAcreage	0.23	0.10
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblTripsAndVMT	HaulingTripNumber	37.00	0.00

12300 Washington Blvd - Construction - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblTripsAndVMT	HaulingTripNumber	1.00	0.00
tblTripsAndVMT	VendorTripNumber	4.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	9.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	2.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.8542	17.8744	16.4656	0.0281	0.6222	0.8947	1.5169	0.0942	0.8469	0.9411	0.0000	2,663.1463	2,663.1463	0.5502	0.0000	2,676.9013
2023	4.6183	22.7824	27.7644	0.0466	0.0000	1.0948	1.0948	0.0000	1.0392	1.0392	0.0000	4,406.5189	4,406.5189	0.9866	0.0000	4,431.1833
Maximum	**4.6183**	**22.7824**	**27.7644**	**0.0466**	**0.6222**	**1.0948**	**1.5169**	**0.0942**	**1.0392**	**1.0392**	**0.0000**	**4,406.5189**	**4,406.5189**	**0.9866**	**0.0000**	**4,431.1833**

12300 Washington Blvd - Construction - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.8542	17.8744	16.4656	0.0281	0.2427	0.8947	1.1373	0.0367	0.8469	0.8836	0.0000	2,663.1463	2,663.1463	0.5502	0.0000	2,676.9013
2023	4.6183	22.7824	27.7644	0.0466	0.0000	1.0948	1.0948	0.0000	1.0392	1.0392	0.0000	4,406.5189	4,406.5189	0.9866	0.0000	4,431.1833
Maximum	**4.6183**	**22.7824**	**27.7644**	**0.0466**	**0.2427**	**1.0948**	**1.1373**	**0.0367**	**1.0392**	**1.0392**	**0.0000**	**4,406.5189**	**4,406.5189**	**0.9866**	**0.0000**	**4,431.1833**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**61.00**	**0.00**	**14.53**	**61.00**	**0.00**	**2.90**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

12300 Washington Blvd - Construction - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/1/2022	7/15/2022	6	13	
2	Site Preparation	Site Preparation	7/16/2022	7/31/2022	6	13	
3	Building Construction	Building Construction	8/1/2022	8/31/2023	6	340	
4	Paving	Paving	8/1/2023	8/31/2023	6	27	
5	Architectural Coating	Architectural Coating	8/1/2023	9/30/2023	6	53	

Acres of Grading (Site Preparation Phase): 6.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.1

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 16,779; Non-Residential Outdoor: 5,593; Striped Parking Area: 606 (Architectural

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Generator Sets	1	8.00	84	0.74
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Air Compressors	1	8.00	78	0.48
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

12300 Washington Blvd - Construction - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	Cement and Mortar Mixers	2	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Architectural Coating	Aerial Lifts	1	8.00	63	0.31
Architectural Coating	Air Compressors	1	8.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

12300 Washington Blvd - Construction - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6222	0.0000	0.6222	0.0942	0.0000	0.0942			0.0000			0.0000
Off-Road	1.8542	17.8744	15.3985	0.0276		0.8947	0.8947		0.8469	0.8469		2,645.2125	2,645.2125	0.5243		2,658.3190
Total	**1.8542**	**17.8744**	**15.3985**	**0.0276**	**0.6222**	**0.8947**	**1.5169**	**0.0942**	**0.8469**	**0.9411**		**2,645.2125**	**2,645.2125**	**0.5243**		**2,658.3190**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2427	0.0000	0.2427	0.0367	0.0000	0.0367			0.0000			0.0000
Off-Road	1.8542	17.8744	15.3985	0.0276		0.8947	0.8947		0.8469	0.8469	0.0000	2,645.2125	2,645.2125	0.5243		2,658.3190
Total	**1.8542**	**17.8744**	**15.3985**	**0.0276**	**0.2427**	**0.8947**	**1.1373**	**0.0367**	**0.8469**	**0.8836**	**0.0000**	**2,645.2125**	**2,645.2125**	**0.5243**		**2,658.3190**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.5797	6.9332	3.9597	9.7300e-003		0.2573	0.2573		0.2367	0.2367		942.5179	942.5179	0.3048		950.1386
Total	**0.5797**	**6.9332**	**3.9597**	**9.7300e-003**	**0.5303**	**0.2573**	**0.7877**	**0.0573**	**0.2367**	**0.2940**		**942.5179**	**942.5179**	**0.3048**		**950.1386**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2068	0.0000	0.2068	0.0223	0.0000	0.0223			0.0000			0.0000
Off-Road	0.5797	6.9332	3.9597	9.7300e-003		0.2573	0.2573		0.2367	0.2367	0.0000	942.5179	942.5179	0.3048		950.1386
Total	**0.5797**	**6.9332**	**3.9597**	**9.7300e-003**	**0.2068**	**0.2573**	**0.4642**	**0.0223**	**0.2367**	**0.2591**	**0.0000**	**942.5179**	**942.5179**	**0.3048**		**950.1386**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8090	15.9145	16.4656	0.0281		0.8135	0.8135		0.7740	0.7740		2,663.1463	2,663.1463	0.5502		2,676.9013
Total	**1.8090**	**15.9145**	**16.4656**	**0.0281**		**0.8135**	**0.8135**		**0.7740**	**0.7740**		**2,663.1463**	**2,663.1463**	**0.5502**		**2,676.9013**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8090	15.9145	16.4656	0.0281		0.8135	0.8135		0.7740	0.7740	0.0000	2,663.1463	2,663.1463	0.5502		2,676.9013
Total	**1.8090**	**15.9145**	**16.4656**	**0.0281**		**0.8135**	**0.8135**		**0.7740**	**0.7740**	**0.0000**	**2,663.1463**	**2,663.1463**	**0.5502**		**2,676.9013**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6751	14.6797	16.3488	0.0282		0.7074	0.7074		0.6730	0.6730		2,663.8103	2,663.8103	0.5441		2,677.4116
Total	**1.6751**	**14.6797**	**16.3488**	**0.0282**		**0.7074**	**0.7074**		**0.6730**	**0.6730**		**2,663.8103**	**2,663.8103**	**0.5441**		**2,677.4116**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6751	14.6797	16.3488	0.0282		0.7074	0.7074		0.6730	0.6730	0.0000	2,663.8103	2,663.8103	0.5441		2,677.4116
Total	**1.6751**	**14.6797**	**16.3488**	**0.0282**		**0.7074**	**0.7074**		**0.6730**	**0.6730**	**0.0000**	**2,663.8103**	**2,663.8103**	**0.5441**		**2,677.4116**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6339	5.8322	7.9088	0.0128		0.2837	0.2837		0.2633	0.2633		1,204.8247	1,204.8247	0.3675		1,214.0117
Paving	9.7000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6436**	**5.8322**	**7.9088**	**0.0128**		**0.2837**	**0.2837**		**0.2633**	**0.2633**		**1,204.8247**	**1,204.8247**	**0.3675**		**1,214.0117**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6339	5.8322	7.9088	0.0128		0.2837	0.2837		0.2633	0.2633	0.0000	1,204.8247	1,204.8247	0.3675		1,214.0117
Paving	9.7000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6436**	**5.8322**	**7.9088**	**0.0128**		**0.2837**	**0.2837**		**0.2633**	**0.2633**	**0.0000**	**1,204.8247**	**1,204.8247**	**0.3675**		**1,214.0117**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.0095					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2902	2.2706	3.5068	5.6400e-003		0.1036	0.1036		0.1029	0.1029		537.8839	537.8839	0.0751		539.7601
Total	**2.2997**	**2.2706**	**3.5068**	**5.6400e-003**		**0.1036**	**0.1036**		**0.1029**	**0.1029**		**537.8839**	**537.8839**	**0.0751**		**539.7601**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.0095					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2902	2.2706	3.5068	5.6400e-003		0.1036	0.1036		0.1029	0.1029	0.0000	537.8839	537.8839	0.0751		539.7601
Total	**2.2997**	**2.2706**	**3.5068**	**5.6400e-003**		**0.1036**	**0.1036**		**0.1029**	**0.1029**	**0.0000**	**537.8839**	**537.8839**	**0.0751**		**539.7601**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

12300 Washington Blvd - Construction

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	11.19	1000sqft	0.10	11,186.00	0
Parking Lot	10.10	1000sqft	0.10	10,100.00	0
City Park	0.08	Acre	0.08	3,283.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - see construction assumptions

Construction Phase - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment -

Trips and VMT - construction mobile emissions calculation outside of CalEEMod.

Demolition -

Grading -

12300 Washington Blvd - Construction - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	53.00
tblConstructionPhase	NumDays	100.00	340.00
tblConstructionPhase	NumDays	10.00	13.00
tblConstructionPhase	NumDays	5.00	27.00
tblConstructionPhase	NumDays	1.00	13.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblGrading	MaterialExported	0.00	10.00
tblLandUse	LandUseSquareFeet	11,190.00	11,186.00
tblLandUse	LandUseSquareFeet	3,484.80	3,283.00
tblLandUse	LotAcreage	0.26	0.10
tblLandUse	LotAcreage	0.23	0.10
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblTripsAndVMT	HaulingTripNumber	37.00	0.00

12300 Washington Blvd - Construction - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblTripsAndVMT	HaulingTripNumber	1.00	0.00
tblTripsAndVMT	VendorTripNumber	4.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	9.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	2.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.8542	17.8744	16.4656	0.0281	0.6222	0.8947	1.5169	0.0942	0.8469	0.9411	0.0000	2,663.1463	2,663.1463	0.5502	0.0000	2,676.9013
2023	4.6183	22.7824	27.7644	0.0466	0.0000	1.0948	1.0948	0.0000	1.0392	1.0392	0.0000	4,406.5189	4,406.5189	0.9866	0.0000	4,431.1833
Maximum	**4.6183**	**22.7824**	**27.7644**	**0.0466**	**0.6222**	**1.0948**	**1.5169**	**0.0942**	**1.0392**	**1.0392**	**0.0000**	**4,406.5189**	**4,406.5189**	**0.9866**	**0.0000**	**4,431.1833**

12300 Washington Blvd - Construction - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.8542	17.8744	16.4656	0.0281	0.2427	0.8947	1.1373	0.0367	0.8469	0.8836	0.0000	2,663.1463	2,663.1463	0.5502	0.0000	2,676.9013
2023	4.6183	22.7824	27.7644	0.0466	0.0000	1.0948	1.0948	0.0000	1.0392	1.0392	0.0000	4,406.5189	4,406.5189	0.9866	0.0000	4,431.1833
Maximum	**4.6183**	**22.7824**	**27.7644**	**0.0466**	**0.2427**	**1.0948**	**1.1373**	**0.0367**	**1.0392**	**1.0392**	**0.0000**	**4,406.5189**	**4,406.5189**	**0.9866**	**0.0000**	**4,431.1833**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**61.00**	**0.00**	**14.53**	**61.00**	**0.00**	**2.90**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

12300 Washington Blvd - Construction - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/1/2022	7/15/2022	6	13	
2	Site Preparation	Site Preparation	7/16/2022	7/31/2022	6	13	
3	Building Construction	Building Construction	8/1/2022	8/31/2023	6	340	
4	Paving	Paving	8/1/2023	8/31/2023	6	27	
5	Architectural Coating	Architectural Coating	8/1/2023	9/30/2023	6	53	

Acres of Grading (Site Preparation Phase): 6.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.1

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 16,779; Non-Residential Outdoor: 5,593; Striped Parking Area: 606 (Architectural

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Generator Sets	1	8.00	84	0.74
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Air Compressors	1	8.00	78	0.48
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

12300 Washington Blvd - Construction - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	Cement and Mortar Mixers	2	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Architectural Coating	Aerial Lifts	1	8.00	63	0.31
Architectural Coating	Air Compressors	1	8.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

12300 Washington Blvd - Construction - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6222	0.0000	0.6222	0.0942	0.0000	0.0942			0.0000			0.0000
Off-Road	1.8542	17.8744	15.3985	0.0276		0.8947	0.8947		0.8469	0.8469		2,645.2125	2,645.2125	0.5243		2,658.3190
Total	**1.8542**	**17.8744**	**15.3985**	**0.0276**	**0.6222**	**0.8947**	**1.5169**	**0.0942**	**0.8469**	**0.9411**		**2,645.2125**	**2,645.2125**	**0.5243**		**2,658.3190**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2427	0.0000	0.2427	0.0367	0.0000	0.0367			0.0000			0.0000
Off-Road	1.8542	17.8744	15.3985	0.0276		0.8947	0.8947		0.8469	0.8469	0.0000	2,645.2125	2,645.2125	0.5243		2,658.3190
Total	**1.8542**	**17.8744**	**15.3985**	**0.0276**	**0.2427**	**0.8947**	**1.1373**	**0.0367**	**0.8469**	**0.8836**	**0.0000**	**2,645.2125**	**2,645.2125**	**0.5243**		**2,658.3190**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.5797	6.9332	3.9597	9.7300e-003		0.2573	0.2573		0.2367	0.2367		942.5179	942.5179	0.3048		950.1386
Total	**0.5797**	**6.9332**	**3.9597**	**9.7300e-003**	**0.5303**	**0.2573**	**0.7877**	**0.0573**	**0.2367**	**0.2940**		**942.5179**	**942.5179**	**0.3048**		**950.1386**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2068	0.0000	0.2068	0.0223	0.0000	0.0223			0.0000			0.0000
Off-Road	0.5797	6.9332	3.9597	9.7300e-003		0.2573	0.2573		0.2367	0.2367	0.0000	942.5179	942.5179	0.3048		950.1386
Total	**0.5797**	**6.9332**	**3.9597**	**9.7300e-003**	**0.2068**	**0.2573**	**0.4642**	**0.0223**	**0.2367**	**0.2591**	**0.0000**	**942.5179**	**942.5179**	**0.3048**		**950.1386**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8090	15.9145	16.4656	0.0281		0.8135	0.8135		0.7740	0.7740		2,663.1463	2,663.1463	0.5502		2,676.9013
Total	**1.8090**	**15.9145**	**16.4656**	**0.0281**		**0.8135**	**0.8135**		**0.7740**	**0.7740**		**2,663.1463**	**2,663.1463**	**0.5502**		**2,676.9013**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8090	15.9145	16.4656	0.0281		0.8135	0.8135		0.7740	0.7740	0.0000	2,663.1463	2,663.1463	0.5502		2,676.9013
Total	**1.8090**	**15.9145**	**16.4656**	**0.0281**		**0.8135**	**0.8135**		**0.7740**	**0.7740**	**0.0000**	**2,663.1463**	**2,663.1463**	**0.5502**		**2,676.9013**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6751	14.6797	16.3488	0.0282		0.7074	0.7074		0.6730	0.6730		2,663.8103	2,663.8103	0.5441		2,677.4116
Total	**1.6751**	**14.6797**	**16.3488**	**0.0282**		**0.7074**	**0.7074**		**0.6730**	**0.6730**		**2,663.8103**	**2,663.8103**	**0.5441**		**2,677.4116**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6751	14.6797	16.3488	0.0282		0.7074	0.7074		0.6730	0.6730	0.0000	2,663.8103	2,663.8103	0.5441		2,677.4116
Total	**1.6751**	**14.6797**	**16.3488**	**0.0282**		**0.7074**	**0.7074**		**0.6730**	**0.6730**	**0.0000**	**2,663.8103**	**2,663.8103**	**0.5441**		**2,677.4116**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6339	5.8322	7.9088	0.0128		0.2837	0.2837		0.2633	0.2633		1,204.8247	1,204.8247	0.3675		1,214.0117
Paving	9.7000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6436**	**5.8322**	**7.9088**	**0.0128**		**0.2837**	**0.2837**		**0.2633**	**0.2633**		**1,204.8247**	**1,204.8247**	**0.3675**		**1,214.0117**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6339	5.8322	7.9088	0.0128		0.2837	0.2837		0.2633	0.2633	0.0000	1,204.8247	1,204.8247	0.3675		1,214.0117
Paving	9.7000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6436**	**5.8322**	**7.9088**	**0.0128**		**0.2837**	**0.2837**		**0.2633**	**0.2633**	**0.0000**	**1,204.8247**	**1,204.8247**	**0.3675**		**1,214.0117**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.0095					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2902	2.2706	3.5068	5.6400e-003		0.1036	0.1036		0.1029	0.1029		537.8839	537.8839	0.0751		539.7601
Total	**2.2997**	**2.2706**	**3.5068**	**5.6400e-003**		**0.1036**	**0.1036**		**0.1029**	**0.1029**		**537.8839**	**537.8839**	**0.0751**		**539.7601**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington Blvd - Construction - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.0095					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2902	2.2706	3.5068	5.6400e-003		0.1036	0.1036		0.1029	0.1029	0.0000	537.8839	537.8839	0.0751		539.7601
Total	**2.2997**	**2.2706**	**3.5068**	**5.6400e-003**		**0.1036**	**0.1036**		**0.1029**	**0.1029**	**0.0000**	**537.8839**	**537.8839**	**0.0751**		**539.7601**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

12300 Washington
Air Quality Assessment

Localized Significance Thresholds
(SCAQMD, Final Localized Significance Threshold Methodology, Appendix C (2008))

Source Receptor Area 2
Adjacent to Sensitive Receptor (i.e., within 25 meters)

	Screening Values			Project Site [a]
Acres	1	2	5	0.284
Construction LSTs				
NOX	103	147	221	**71**
CO	562	827	1,531	**372**
PM10	4	6	13	**2.6**
PM2.5	3	4	6	**2.3**
Operational LSTs				
NOX	103	147	221	**71**
CO	562	827	1,531	**372**
PM10	1	2	3	**0.3**
PM2.5[b]	1	1	2	**0.3**

Notes:

a. Project screening levels are linearly interpolated based on the 1- and 2- acre acreening levels.

b. PM2.5 value scaled to PM10 LST as PM2.5 is a component of PM10 and cannot be a larger value.

Exhibit C

Project Operational Emissions

ESA

12300 Washington Blvd
Air Quality Assessment

Regional Operational Emissions

Maximum Unmitigated Regional Operational Emissions (pounds per day) [a]

Source	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Area (Consumer Products, Landscaping)	0.255	2.00E-05	0.002	0.00E+00	1.00E-05	1.00E-05
Energy (Natural Gas)	0.003	0.031	0.026	1.90E-04	0.002	0.002
Motor Vehicles	0.21	0.31	1.99	0.01	0.48	0.12
Total Project On-Site and Off-Site Emissions	**0.5**	**0.3**	**2.0**	**0.0**	**0.5**	**0.1**
SCAQMD Numeric Indicators	**55.0**	**55.0**	**550.0**	**150.0**	**150.0**	**55.0**
Over/(Under)	(55)	(55)	(548.0)	(150.0)	(150)	(55)
Exceeds Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

Net Regional Operations

Maximum Unmitigated Regional Operational Emissions (pounds per day) [a]

Source	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Area (Consumer Products, Landscaping)	0.210	2.00E-05	0.002	0.00E+00	1.00E-05	1.00E-05
Energy (Natural Gas)	0.003	0.024	0.020	1.50E-04	0.002	0.002
Motor Vehicles	0.16	0.23	1.50	0.00	0.39	0.10
Total Project On-Site and Off-Site Emissions	**0.4**	**0.3**	**1.5**	**0.0**	**0.4**	**0.1**
SCAQMD Numeric Indicators	**55**	**55**	**550**	**150**	**150.0**	**55.0**
Over/(Under)	(55)	(55)	(548)	(150)	(149.6)	(54.9)
Exceeds Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

12300 Washington Blvd
Air Quality Assessment

Localized Operational Emissions

Maximum Unmitigated Localized Operational Emissions (pounds per day)[a]

Source	NO_X	CO	PM_{10}	$PM_{2.5}$
Area (Consumer Products, Landscaping)	2.00E-05	2.18E-03	1.00E-05	1.00E-05
Energy (Natural Gas)	0.03	0.03	0.002	0.002
Total Project On-Site Emissions	**0.03**	**0.03**	**0.002**	**0.002**
SCAQMD Numeric Indicators	**71.5**	**372.3**	**0.3**	**0.3**
Over/(Under)	(71)	(372)	(0.3)	(0.3)
Exceeds Thresholds?	**No**	**No**	**No**	**No**

Localized significance thresholds from SCAQMD Look-Up tables, scaled for a 0.284-acre site in SRA2 with the neareast sensitive receptor within 25 meters from the Site.

Net Localized Operational Emissions

Maximum Unmitigated Localized Operational Emissions (pounds per day)[a]

Source	NO_X	CO	PM_{10}	$PM_{2.5}$
Area (Consumer Products, Landscaping)	2.00E-05	1.97E-03	1.00E-05	1.00E-05
Energy (Natural Gas)	0.02	0.02	0.002	0.002
Total Project On-Site Emissions	**0.02**	**0.02**	**0.002**	**0.002**
SCAQMD Numeric Indicators	**71**	**372**	**0.3**	**0.3**
Over/(Under)	-71	-372	-0.3	-0.3
Exceeds Thresholds?	**No**	**No**	**No**	**No**

Localized significance thresholds from SCAQMD Look-Up tables, scaled for a 0.284-acre site in SRA2 with the neareast sensitive receptor within 25 meters from the Site.

12300 Washington
Air Quality and GHG Assessment
Operational Mobile Emissions

				Criteria Pollutant Emission Factors (lb/mile)										Criteria Pollutant Emissions (pounds/day)									
	Year	Max Daily VMT	Annual VMT	ROG	NOx	CO	SOx	PM10 Road Dust	PM10	PM10 Total	PM2_5 Road Dust	PM2_5	PM2.5 Tota	ROG	NOx	CO	SOx	PM10 Road Dust	PM10	PM10 Total	PM2_5 Road Dust	PM2_5	PM2.5 Total
Existing	2021	131	47,764	3.86E-04	6.36E-04	3.74E-03	8.77E-06	6.61E-04	5.80E-05	7.19E-04	1.62E-04	2.29E-05	1.85E-04	0.05	0.08	0.49	0.00	0.09	0.01	0.09	0.02	0.00	0.02
Project	2024	670	244,679	3.18E-04	4.61E-04	2.97E-03	8.25E-06	6.61E-04	5.64E-05	7.17E-04	1.62E-04	2.14E-05	1.84E-04	0.21	0.31	1.99	0.01	0.44	0.04	0.48	0.11	0.01	0.12

Source: Raju Associates, Inc. Memorandum of Understanding for Transportation Study, June 2021.

12300 Washington
Road Dust Emission Factors

Paved Road Dust Emission Factors (Assumes No Precipitation)

Formula: $EF_{Dust,P} = (k\ (sL)^{0.91} \times (W)^{1.02})$

Where:

$EF_{Dust,P}$ =	Paved Road Dust Emission Factor (having the same units as k)
k =	particle size multiplier
sL =	road surface silt loading (g/m^2)
W =	average fleet vehicle weight (tons) (CARB uses 2.4 tons as a fleet average vehicle weight factor)

	Emission Factor (grams per VMT)	
	PM10	PM2.5
k	0.9979	0.2449
sL	0.1	0.1
W	2.4	2.4
$EF_{Dust,P}$	3.00E-01	7.36E-02

Unpaved Road Dust Emission Factors (Assumes No Precipitation)

Formula: $EF_{Dust,U} = (k\ (\ s / 12)^{1} \times (Sp / 30)^{0.5} / (M / 0.5)^{0.2}) - C)$

Where:

$EF_{Dust,U}$ =	Unpaved Road Dust Emission Factor (having the same units as k)
k =	particle size multiplier
s =	surface material silt content (%)
Sp =	mean vehicle speed (mph)
M =	surface material moisture content (%)
C =	Emission Factor for 1980s vehicle fleet exhaust, brake wear, and tire wear

	Emission Factor (grams per VMT)	
	PM10	PM2.5
k	816.47	81.65
s	4.3%	4.3%
Sp	15	15
M	0.5%	0.5%
C	0.00047	0.00036
$EF_{Dust,U}$	5.20E+00	5.19E-01

Sources:

SCAQMD, CalEEMod, Version 2011.1.
CARB, *Entrained Dust from Paved Road Travel: Emission Estimation Methodology Background Document* , (1997).
USEPA, *AP-42* , Fifth Edition, Volume I, Chapter 13.2.1 - Paved Roads, (2011).
ESA, 2020.

12300 Washington Blvd - Operations - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

12300 Washington Blvd - Operations

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	11.19	1000sqft	0.10	11,186.00	0
Parking Lot	10.10	1000sqft	0.10	10,100.00	0
City Park	0.08	Acre	0.08	3,283.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - see operational assumptions

Construction Phase -

Vehicle Trips - Based on Project MOU for Transportation Study

Waste Mitigation - AB 939

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	3,267.00	3,283.00
tblLandUse	LotAcreage	0.26	0.10
tblLandUse	LotAcreage	0.23	0.10
tblLandUse	LotAcreage	0.08	0.08

12300 Washington Blvd - Operations - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	2.21	6.79
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	0.70	6.79
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	9.74	6.79

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2546	2.0000e-005	2.1800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.6700e-003	4.6700e-003	1.0000e-005		4.9800e-003
Energy	3.4100e-003	0.0310	0.0260	1.9000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003		37.1725	37.1725	7.1000e-004	6.8000e-004	37.3934

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2546	2.0000e-005	2.1800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.6700e-003	4.6700e-003	1.0000e-005		4.9800e-003
Energy	3.4100e-003	0.0310	0.0260	1.9000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003		37.1725	37.1725	7.1000e-004	6.8000e-004	37.3934

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

12300 Washington Blvd - Operations - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
General Office Building	75.95	75.95	75.95	244,679	244,679
Parking Lot	0.00	0.00	0.00		
Total	75.95	75.95	75.95	244,679	244,679

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.543401	0.061496	0.184986	0.128935	0.023820	0.006437	0.011961	0.008652	0.000812	0.000508	0.024540	0.000745	0.003706
General Office Building	0.543401	0.061496	0.184986	0.128935	0.023820	0.006437	0.011961	0.008652	0.000812	0.000508	0.024540	0.000745	0.003706
Parking Lot	0.543401	0.061496	0.184986	0.128935	0.023820	0.006437	0.011961	0.008652	0.000812	0.000508	0.024540	0.000745	0.003706

12300 Washington Blvd - Operations - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	3.4100e-003	0.0310	0.0260	1.9000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003		37.1725	37.1725	7.1000e-004	6.8000e-004	37.3934
NaturalGas Unmitigated	3.4100e-003	0.0310	0.0260	1.9000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003		37.1725	37.1725	7.1000e-004	6.8000e-004	37.3934

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	315.966	3.4100e-003	0.0310	0.0260	1.9000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003		37.1725	37.1725	7.1000e-004	6.8000e-004	37.3934
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.4100e-003**	**0.0310**	**0.0260**	**1.9000e-004**		**2.3500e-003**	**2.3500e-003**		**2.3500e-003**	**2.3500e-003**		**37.1725**	**37.1725**	**7.1000e-004**	**6.8000e-004**	**37.3934**

12300 Washington Blvd - Operations - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	0.315966	3.4100e-003	0.0310	0.0260	1.9000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003		37.1725	37.1725	7.1000e-004	6.8000e-004	37.3934
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.4100e-003**	**0.0310**	**0.0260**	**1.9000e-004**		**2.3500e-003**	**2.3500e-003**		**2.3500e-003**	**2.3500e-003**		**37.1725**	**37.1725**	**7.1000e-004**	**6.8000e-004**	**37.3934**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2546	2.0000e-005	2.1800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.6700e-003	4.6700e-003	1.0000e-005		4.9800e-003
Unmitigated	0.2546	2.0000e-005	2.1800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.6700e-003	4.6700e-003	1.0000e-005		4.9800e-003

12300 Washington Blvd - Operations - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0292					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2252					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-004	2.0000e-005	2.1800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.6700e-003	4.6700e-003	1.0000e-005		4.9800e-003
Total	**0.2546**	**2.0000e-005**	**2.1800e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**4.6700e-003**	**4.6700e-003**	**1.0000e-005**		**4.9800e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0292					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2252					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-004	2.0000e-005	2.1800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.6700e-003	4.6700e-003	1.0000e-005		4.9800e-003
Total	**0.2546**	**2.0000e-005**	**2.1800e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**4.6700e-003**	**4.6700e-003**	**1.0000e-005**		**4.9800e-003**

12300 Washington Blvd - Operations - South Coast Air Basin, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

12300 Washington Blvd - Operations - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

12300 Washington Blvd - Operations

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	11.19	1000sqft	0.10	11,186.00	0
Parking Lot	10.10	1000sqft	0.10	10,100.00	0
City Park	0.08	Acre	0.08	3,283.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - see operational assumptions

Construction Phase -

Vehicle Trips - Based on Project MOU for Transportation Study

Waste Mitigation - AB 939

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	3,267.00	3,283.00
tblLandUse	LotAcreage	0.26	0.10
tblLandUse	LotAcreage	0.23	0.10
tblLandUse	LotAcreage	0.08	0.08

12300 Washington Blvd - Operations - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	2.21	6.79
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	0.70	6.79
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	9.74	6.79

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2546	2.0000e-005	2.1800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.6700e-003	4.6700e-003	1.0000e-005		4.9800e-003
Energy	3.4100e-003	0.0310	0.0260	1.9000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003		37.1725	37.1725	7.1000e-004	6.8000e-004	37.3934

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2546	2.0000e-005	2.1800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.6700e-003	4.6700e-003	1.0000e-005		4.9800e-003
Energy	3.4100e-003	0.0310	0.0260	1.9000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003		37.1725	37.1725	7.1000e-004	6.8000e-004	37.3934

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

12300 Washington Blvd - Operations - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
General Office Building	75.95	75.95	75.95	244,679	244,679
Parking Lot	0.00	0.00	0.00		
Total	75.95	75.95	75.95	244,679	244,679

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.543401	0.061496	0.184986	0.128935	0.023820	0.006437	0.011961	0.008652	0.000812	0.000508	0.024540	0.000745	0.003706
General Office Building	0.543401	0.061496	0.184986	0.128935	0.023820	0.006437	0.011961	0.008652	0.000812	0.000508	0.024540	0.000745	0.003706
Parking Lot	0.543401	0.061496	0.184986	0.128935	0.023820	0.006437	0.011961	0.008652	0.000812	0.000508	0.024540	0.000745	0.003706

12300 Washington Blvd - Operations - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	3.4100e-003	0.0310	0.0260	1.9000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003		37.1725	37.1725	7.1000e-004	6.8000e-004	37.3934
NaturalGas Unmitigated	3.4100e-003	0.0310	0.0260	1.9000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003		37.1725	37.1725	7.1000e-004	6.8000e-004	37.3934

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	315.966	3.4100e-003	0.0310	0.0260	1.9000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003		37.1725	37.1725	7.1000e-004	6.8000e-004	37.3934
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.4100e-003**	**0.0310**	**0.0260**	**1.9000e-004**		**2.3500e-003**	**2.3500e-003**		**2.3500e-003**	**2.3500e-003**		**37.1725**	**37.1725**	**7.1000e-004**	**6.8000e-004**	**37.3934**

12300 Washington Blvd - Operations - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	0.315966	3.4100e-003	0.0310	0.0260	1.9000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003		37.1725	37.1725	7.1000e-004	6.8000e-004	37.3934
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.4100e-003**	**0.0310**	**0.0260**	**1.9000e-004**		**2.3500e-003**	**2.3500e-003**		**2.3500e-003**	**2.3500e-003**		**37.1725**	**37.1725**	**7.1000e-004**	**6.8000e-004**	**37.3934**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2546	2.0000e-005	2.1800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.6700e-003	4.6700e-003	1.0000e-005		4.9800e-003
Unmitigated	0.2546	2.0000e-005	2.1800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.6700e-003	4.6700e-003	1.0000e-005		4.9800e-003

12300 Washington Blvd - Operations - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0292					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2252					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-004	2.0000e-005	2.1800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.6700e-003	4.6700e-003	1.0000e-005		4.9800e-003
Total	**0.2546**	**2.0000e-005**	**2.1800e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**4.6700e-003**	**4.6700e-003**	**1.0000e-005**		**4.9800e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0292					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2252					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-004	2.0000e-005	2.1800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.6700e-003	4.6700e-003	1.0000e-005		4.9800e-003
Total	**0.2546**	**2.0000e-005**	**2.1800e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**4.6700e-003**	**4.6700e-003**	**1.0000e-005**		**4.9800e-003**

12300 Washington Blvd - Operations - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

12300 Washington
Air Quality Assessment

Localized Significance Thresholds
(SCAQMD, Final Localized Significance Threshold Methodology, Appendix C (2008))

Source Receptor Area 2
Adjacent to Sensitive Receptor (i.e., within 25 meters)

	Screening Values			Project Site [a]
Acres	1	2	5	0.284
Construction LSTs				
NOX	103	147	221	**71**
CO	562	827	1,531	**372**
PM10	4	6	13	**2.6**
PM2.5	3	4	6	**2.3**
Operational LSTs				
NOX	103	147	221	**71**
CO	562	827	1,531	**372**
PM10	1	2	3	**0.3**
PM2.5[b]	1	1	2	**0.3**

Notes:

a. Project screening levels are linearly interpolated based on the 1- and 2- acre acreening levels.

b. PM2.5 value scaled to PM10 LST as PM2.5 is a component of PM10 and cannot be a larger value.

WASHINGTON WING PROJECT
12300 W. WASHINGTON BLVD, CULVER CITY, CA

Noise and Vibration Technical Report

Prepared for
The Jacmar Properties, LLC
220 West Valley Boulevard
Alhambra, California 91803

January 2022

ESA

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January 2022

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ACRONYMS AND ABBREVIATIONS

Acronym	Description
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
City	City of Culver City
CCMC	Culver City Municipal Code
CNEL	Community Noise Equivalent Level
dB	decibel
dBA	A-weighted dB scale
FTA	Federal Transit Administration
FHWA	Federal Highway Administration
L_{dn}	Day-night average noise level
L_{eq}	Equivalent Sound Level
L_{max}	Maximum Noise Level
L_{min}	Minimum Noise Level
Metro	Los Angeles County Metropolitan Transportation Authority
MM	Mitigation Measure
Noise Element	City of Culver City General Plan Noise Element
PPV	peak particle velocity
RCNM	Roadway Construction Noise Model
TeNS	Caltrans Technical Noise Supplement
TNM	Traffic Noise Model

EXECUTIVE SUMMARY

The Jacmar Properties, LLC proposes to redevelop an approximately 12,363 square-foot (approximately 0.283 acre) property located at 12300 Washington Boulevard (Project Site) in Culver City. The Project Site is bounded to the north by W. Washington Boulevard, to the east by Campbell Drive, to the south by existing residential development, and to the west by a bank and associated surface parking. The proposed Project would develop a four-story, 49-foot tall, approximately 11,100 square-foot office building.

In accordance with the requirements under the California Environmental Quality Act (CEQA), this Technical Report provides an estimate of noise and vibration levels for the Project and the potential impacts from associated construction and operational activities. The analysis describes the existing noise environment in the vicinity of the Project Site, estimates future noise and vibration levels at surrounding land uses resulting from construction and operation of the Project, and identifies the potential for significant noise impacts based on applicable noise and vibration threshold of significance. The findings of the analyses are as follows:

- Construction activities would be required to comply with Culver City's allowable construction hours of between 8:00 A.M. and 8:00 P.M. Mondays through Friday, 9:00 A.M. and 7:00 P.M. Saturdays, and 10:00 A.M. and 7:00 P.M. Sundays, and would be temporary in nature. Through compliance with Culver City's allowable construction hours, and applicable noise reduction practices in the City's General Plan Noise Element Policy 2.A, noise impacts related to on-site construction activities would be less than significant at noise sensitive receptor locations.

- Construction activities would not exceed a noise level of 75 dBA L_{eq} at 50 feet within 500 feet of a residential zone and would be required to comply with the City of Los Angeles' allowable construction hours of between 7:00 A.M. and 9:00 P.M. Mondays through Friday, 8:00 A.M. and 6:00 P.M. Saturdays, and would be temporary in nature. Through compliance with Los Angeles' allowable construction hours, and applicable noise reduction practices, noise impacts related to on-site construction activities would be less than significant at noise sensitive receptor locations.

- Off-site haul truck trip would not substantially increase noise levels over the ambient condition. In addition, construction activities would occur only during daytime hours within the allowable hours specified in the City's Municipal Code. Therefore, noise impacts from off-site construction traffic would be less than significant and no mitigation measures are required.

- The Project's noise impacts on existing development from operational on-site stationary noise sources and traffic would not exceed the established thresholds. Operational related noise impacts would be less than significant.

- Project construction and operation would not generate excessive vibration levels at nearby sensitive receptor locations. Thus, vibration impacts would be less than significant.

- The Project is not located within the 65 dBA CNEL contour for airport noise and the Project would have no impact with respect to exposure of persons working in the Project area to aviation noise.

SECTION 1
Introduction

1.1 Project Description

The Jacmar Properties, LLC proposes to redevelop an approximately 12,363 square-foot (approximately 0.283 acre) property located at 12300 Washington Boulevard (Project Site) in Culver City. The Project Site is bounded to the north by W. Washington Boulevard, to the east by Campbell Drive, to the south by existing residential development, and to the west by a bank and associated surface parking. The proposed Project would develop a four-story, 49-foot tall, 11,100 square-foot office building. The Project would include new landscaping and outdoor deck spaces on Level 2, Level 3 and Level 4. The Project would include surface parking with 32 parking spaces, including 2 handicapped, 1 loading, 7 electric vehicle (EV) capable, 4 EV ready, and 4 EV charging spaces.

The Project Site is shown in **Figure 1**, *Aerial Photograph with Surrounding Land Uses.* Nearby uses surrounding the Project Site include the following:

- North – One- and two-story residential uses are located to the north of the Project Site, on the north side of W. Washington Boulevard.
- East – A one-story restaurant use and associated parking is located on the southeast corner of W. Washington Boulevard and Campbell Drive. A two-story residential use is located east of the restaurant use.
- South – One-story residential uses are located to the south of the Project Site.
- West – A bank and associated surface parking is located to the west of the Project Site.

1.2 Existing Site Conditions

The existing site is currently developed with a one-story office building, a small shed, and a small garage building, all of which would be demolished and removed to support development of the Project. The existing site also includes a surface parking lot for the existing uses.

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SOURCE: ESA, 2022; Basemap Google Earth, 2022

Washington Wing (12300 Washington Blvd)

Figure 1
Aerial Photograph with Surrounding Land Uses

ESA

1.3 Noise and Vibration Descriptors

1.3.1 Noise

Noise Principals and Descriptors

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air). Noise is generally defined as unwanted sound (i.e., loud, unexpected, or annoying sound). Acoustics is defined as the physics of sound. In acoustics, the fundamental scientific model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver. Acoustics addresses primarily the propagation and control of sound.

Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) that is measured in decibels (dB), which is the standard unit of sound amplitude measurement. The dB scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound, with 0 dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain. Pressure waves traveling through air exert a force registered by the human ear as sound.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude, with audible frequencies of the sound spectrum ranging from 20 to 20,000 Hz. The typical human ear is not equally sensitive to this frequency range. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that deemphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to these extremely low and extremely high frequencies. This method of frequency filtering or weighting is referred to as A-weighting, expressed in units of A-weighted decibels (dBA), which is typically applied to community noise measurements. Some representative common outdoor and indoor noise sources and their corresponding A-weighted noise levels are shown in **Figure 2**, *Decibel Scale and Common Noise Sources*.

Noise Exposure and Community Noise

An individual's noise exposure is a measure of noise over a period of time; a noise level is a measure of noise at a given instant in time, as presented in Figure 3. However, noise levels rarely persist at that level over a long period of time. Rather, community noise varies continuously over a period of time with respect to the sound sources contributing to the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with many of the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources, such as changes in traffic volume. What makes community noise variable throughout a day, besides the

slowly changing background noise, is the addition of short-duration, single-event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual. These successive additions of sound to the community noise environment change the community noise level from instant to instant, requiring the noise exposure to be measured over periods of time to characterize an existing community noise environment. The following noise descriptors are used to characterize environmental noise levels over time, which are applicable to the Project.

L_{eq}: The equivalent sound level over a specified period of time, typically, 1 hour (L_{eq}). The L_{eq} may also be referred to as the average sound level.

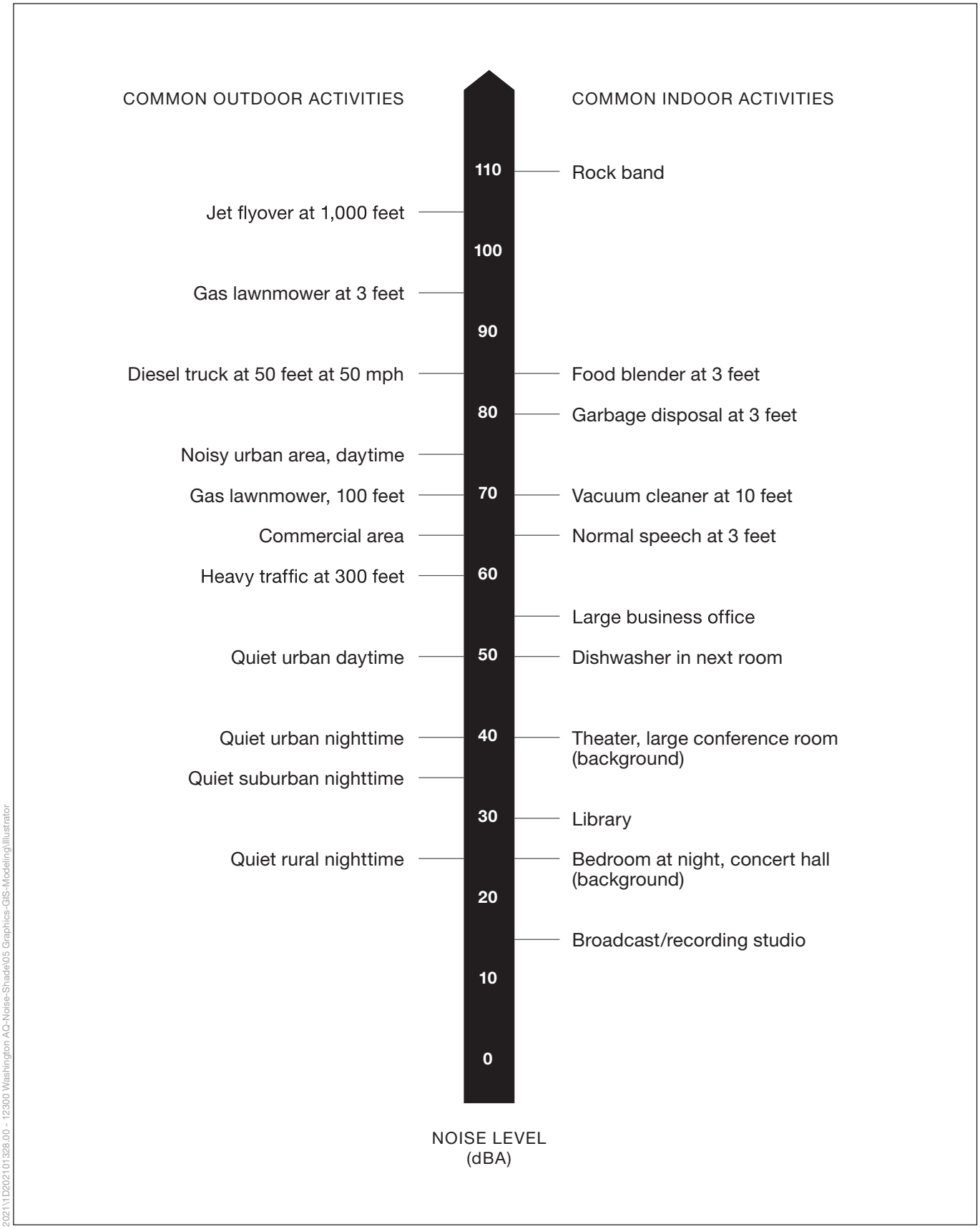
L_{max}: The maximum, instantaneous noise level experienced during a given period of time.

L_{min}: The minimum, instantaneous noise level experienced during a given period of time.

L_x: The noise level exceeded a percentage of a specified time period. For instance, L_{50} and L_{90} represent the noise levels that are exceeded 50 percent and 90 percent of the time, respectively.

L_{dn}: The average A-weighted noise level during a 24-hour day, obtained after an addition of 10 dB to measured noise levels between the hours of 10:00 p.m. to 7:00 a.m. to account nighttime noise sensitivity. The L_{dn} is also termed the day-night average noise level (DNL).

CNEL: The Community Noise Equivalent Level (CNEL) is the average A-weighted noise level during a 24-hour day that includes an addition of 5 dB to measured noise levels between the hours of 7:00 a.m. to 10:00 p.m. and an addition of 10 dB to noise levels between the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively.



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SOURCE: Caltrans

Washington Wing (12300 Washington Blvd)

Figure 2
Decibel Scale and Common Noise Sources

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Effects of Noise on People

Noise is generally loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity that is a nuisance or disruptive. The effects of noise on people can be placed into four general categories:

- Subjective effects (e.g., dissatisfaction, annoyance)
- Interference effects (e.g., communication, sleep, and learning interference)
- Physiological effects (e.g., startle response)
- Physical effects (e.g., hearing loss)

Although exposure to high noise levels has been demonstrated to cause physical and physiological effects, the principal human responses to typical environmental noise exposure are related to subjective effects and interference with activities. Interference effects interrupt daily activities and include interference with human communication activities, such as normal conversations, watching television, telephone conversations, and interference with sleep. Sleep interference effects can include both awakening and arousal to a lesser state of sleep.[1]

With regard to the subjective effects, the responses of individuals to similar noise events are diverse and influenced by many factors, including the type of noise, the perceived importance of the noise, the appropriateness of the noise to the setting, the duration of the noise, the time of day and the type of activity during which the noise occurs, and individual noise sensitivity. Overall, there is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction on people. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted (i.e., comparison to the ambient noise environment). In general, the more a new noise level exceeds the previously existing ambient noise level, the less acceptable the new noise level will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships generally occur[2]:

- Except in carefully controlled laboratory experiments, a change of 1 dBA in ambient noise levels cannot be perceived;
- Outside of the laboratory, a 3 dBA change in ambient noise levels is considered to be a barely perceivable difference;
- A change in ambient noise levels of 5 dBA is considered to be a readily perceivable difference; and

[1] California Department of Transportation, Technical Noise Supplement, Section 2.2.1, September 2013. https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf. Accessed January 2022.

[2] California Department of Transportation, Technical Noise Supplement, Section 2.2.1, September 2013.

- A change in ambient noise levels of 10 dBA is subjectively heard as doubling of the perceived loudness.

These relationships occur in part because of the logarithmic nature of sound and the decibel scale. The human ear perceives sound in a non-linear fashion; therefore, the dBA scale was developed. Because the dBA scale is based on logarithms, two noise sources do not combine in a simple additive fashion, but rather logarithmically. Under the dBA scale, a doubling of sound energy corresponds to a 3 dBA increase. In other words, when two sources are each producing sound of the same loudness, the resulting sound level at a given distance would be approximately 3 dBA higher than one of the sources under the same conditions. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA. Under the dB scale, three sources of equal loudness together produce a sound level of approximately 5 dBA louder than one source, and ten sources of equal loudness together produce a sound level of approximately 10 dBA louder than the single source.[3]

Noise Attenuation

When noise propagates over a distance, the noise level reduces with distance at a rate that depends on the type of noise source and the propagation path. Noise from a localized source (i.e., point source) propagates uniformly outward in a spherical pattern, referred to as "spherical spreading." Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (i.e., reduce) at a rate between 6 dBA for acoustically "hard" sites and 7.5 dBA for "soft" sites for each doubling of distance from the reference measurement, as their energy is continuously spread out over a spherical surface (e.g., for hard surfaces, 80 dBA at 50 feet attenuates to 74 at 100 feet, 68 dBA at 200 feet, etc.).[4] Hard sites are those with a reflective surface between the source and the receiver, such as asphalt or concrete surfaces or smooth bodies of water.[5] No excess ground attenuation is assumed for hard sites and the reduction in noise levels with distance (drop-off rate) is simply the geometric spreading of the noise from the source.[6] Soft sites have an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees, which in addition to geometric spreading, provides an excess ground attenuation value of 1.5 dBA (per doubling distance).[7]

Roadways and highways consist of several localized noise sources on a defined path, and hence are treated as "line" sources, which approximate the effect of several point sources.[8] Noise from a line source propagates over a cylindrical surface, often referred to as "cylindrical spreading."[9] Line sources (e.g., traffic noise from vehicles) attenuate at a rate between 3 dBA for hard sites and 4.5 dBA for soft sites for each doubling of distance from the reference measurement.[10]

3 California Department of Transportation, Technical Noise Supplement, Section 2.2.1.1, September 2013.
4 California Department of Transportation, Technical Noise Supplement, Section 2.1.4.2, September 2013.
5 California Department of Transportation, Technical Noise Supplement, Section 2.1.4.2, September 2013.
6 California Department of Transportation, Technical Noise Supplement, Section 2.1.4.2, September 2013.
7 California Department of Transportation, Technical Noise Supplement, Section 2.1.4.2, September 2013.
8 California Department of Transportation, Technical Noise Supplement, Section 2.1.4.1, September 2013.
9 California Department of Transportation, Technical Noise Supplement, Section 2.1.4.1, September 2013.
10 California Department of Transportation, Technical Noise Supplement, Section 2.1.4.1, September 2013.

Therefore, noise due to a line source attenuates less with distance than that of a point source with increased distance.

Additionally, receptors located downwind from a noise source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels.[11] Atmospheric temperature inversion (i.e., increasing temperature with elevation) can increase sound levels at long distances (e.g., more than 500 feet). Other factors such as air temperature, humidity, and turbulence can also have significant effects on noise levels.[12]

1.3.2 Vibration

Vibration can be interpreted as energy transmitted in waves through the ground or man-made structures, which generally dissipate with distance from the vibration source. Because energy is lost during the transfer of energy from one particle to another, vibration becomes less perceptible with increasing distance from the source.

As discussed in the California Department of Transportation's (Caltrans) *Transportation and Construction Vibration Guidance Manual,* operation of construction equipment generates ground vibration.[13] Maintenance operations and traffic traveling on roadways can also be a source of such vibration.[14] If the amplitudes are high enough, ground vibration has the potential to damage structures, cause cosmetic damage or disrupt the operation of vibration-sensitive equipment such as electron microscopes and advanced technology production and research equipment.[15] Groundborne vibration and groundborne noise can also be a source of annoyance to individuals who live or work close to vibration-generating activities.[16] Traffic, including heavy trucks traveling on a highway, rarely generates vibration amplitudes high enough to cause structural or cosmetic damage.[17] However, there have been cases in which heavy trucks traveling over potholes or other discontinuities in the pavement have caused vibration high enough to result in complaints from nearby residents.[18]

In describing vibration in the ground and in structures, the motion of a particle (i.e., a point in or on the ground or structure) is used. The concepts of particle displacement, velocity, and acceleration are used to describe how the ground or structure responds to excitation. Although displacement is generally easier to understand than velocity or acceleration, it is rarely used to

11 California Department of Transportation, Technical Noise Supplement, Section 2.1.4.3, September 2013.

12 California Department of Transportation, Technical Noise Supplement, Section 2.1.4.3, September 2013.

13 California Department of Transportation, Transportation and Construction Vibration Guidance Manual, April 2020, Page 1, https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf. Accessed January 2022.

14 California Department of Transportation, Transportation and Construction Vibration Guidance Manual, April 2020, Page 1.

15 California Department of Transportation, Transportation and Construction Vibration Guidance Manual, April 2020, Page 1.

16 California Department of Transportation, Transportation and Construction Vibration Guidance Manual, April 2020, Page 1.

17 California Department of Transportation, Transportation and Construction Vibration Guidance Manual, April 2020, Page 1.

18 California Department of Transportation, Transportation and Construction Vibration Guidance Manual, April 2020, Page 1.

describe ground and structure-borne vibration because most transducers used to measure vibration directly measure velocity or acceleration, not displacement. Accordingly, vibratory motion is commonly described by identifying the peak particle velocity (PPV).[19] Caltrans states that there are no Caltrans or Federal Highway Administration standards for vibration, and the Caltrans *Transportation and Construction Vibration Guidance Manual* does not set standards; however, it provides a summary of vibration criteria that have been reported by various researchers, organizations, and governmental agencies and can be used to evaluate the potential for damage and annoyance from vibration-generating activities.[20] The Caltrans Manual is meant to provide practical guidance to Caltrans engineers, planners, and consultants who must address vibration issues associated with the construction, operation, and maintenance of Caltrans projects.[21] Structural damage can potentially result from vibration events that generate vibration levels of 0.2-inch per second PPV at fragile buildings, 0.5-inch per second PPV at older residential buildings or historic buildings, and 2.0-inch per second PPV at modern industrial or commercial buildings.[22] Transient vibration events that generate a vibration level of 0.04-inch per second PPV is considered barely perceptible by a human.[23]

Groundborne noise specifically refers to the rumbling noise emanating from the motion of building room surfaces due to vibration of floors and walls; it is perceptible only inside buildings.[24] The relationship between groundborne vibration and groundborne noise depends on the frequency content of the vibration and the acoustical absorption characteristics of the receiving room. For typical buildings, groundborne vibration that causes low frequency noise (i.e., the vibration spectrum peak is near 30 Hz) results in a groundborne noise level that is approximately 40 decibels lower than the velocity level. For groundborne vibration that causes mid-frequency noise (i.e., the vibration spectrum peak is near 60 Hz), the groundborne noise level will be approximately 25 decibels lower than the velocity level.[25] Therefore, for typical buildings, the groundborne noise decibel level is lower than the groundborne vibration velocity level.

In general, manmade earthborne vibrations attenuate rapidly with distance from the source. For instance, vibration of truck pass by is characterized by peaks that are considerably higher than those generated by automobiles.[26] These peaks last no more than a few seconds and often only a

19 California Department of Transportation, Transportation and Construction Vibration Guidance Manual, April 2020, Page 6.

20 California Department of Transportation, Transportation and Construction Vibration Guidance Manual, April 2020, pages 21-25.

21 California Department of Transportation, Transportation and Construction Vibration Guidance Manual, April 2020, page 1.

22 California Department of Transportation, Transportation and Construction Vibration Guidance Manual, April 2020, page 38.

23 California Department of Transportation, Transportation and Construction Vibration Guidance Manual, April 2020, page 38.

24 Federal Transit Administration (FTA), Transit Noise and Vibration Impact Assessment Manual, 2018, Page 109, https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed January 2022.

25 FTA, Transit Noise and Vibration Impact Assessment Manual, 2018, Page 119.

26 California Department of Transportation, Transportation and Construction Vibration Guidance Manual, April 2020, Appendix A, page 13.

fraction of a second, including a rapid drop-off with distance.[27] Truck vibration levels at 50 feet from the centerline of the nearest lane would be about half of vibration levels measured at 15 feet from the centerline of the near lane.[28] At 100 feet, vibration levels from trucks are about one fourth, at 200 feet about one tenth, and at 300 feet less than one twentieth.[29] Because vibration drops off rapidly with distance, there is rarely a cumulative increase in groundborne vibration from the presence of multiple trucks.[30]

1.4 Existing Noise and Vibration Conditions

1.4.1 Ambient Noise Levels

The predominant existing noise source surrounding the Project Site is traffic noise from W. Washington Boulevard, S. Centinela Avenue, and traffic on other nearby roadways. Secondary noise sources include general commercial-related activities, such as truck deliveries, refuse collection services, landscaping equipment usage from the surrounding commercial and residential land uses, and noise from human activities in urban environments such as the closing of building and car doors, pets, etc.

Ambient noise measurements were taken at three locations, representing the nearby noise-sensitive land uses in the vicinity of the Project Site to establish ambient noise levels. The measurement locations, along with existing development, are shown on **Figure 3**, *Noise Measurements and Existing Noise Sensitive Locations*.

The ambient noise measurements were conducted using the Larson-Davis 820 Precision Integrated Sound Level Meter ("SLM"). The Larson-Davis 820 SLM is a Type 1 standard instrument as defined in the American National Standard Institute S1.4. All instruments were calibrated and operated according to the applicable manufacturer specification. The microphone was placed at a height of 5 feet above the local grade, at the following locations as shown in Figure 3:

- Measurement Location R1: This measurement location represents the existing noise environment and noise-sensitive receptors located to the south along Campbell Drive, and is considered representative of the noise environment of the existing off-site residential uses on the south. The sound level meter was placed just south of the Project Site along Campbell Drive adjacent to the nearest residential use.

[27] California Department of Transportation, Transportation and Construction Vibration Guidance Manual, April 2020, Appendix A, page 13.
[28] California Department of Transportation, Transportation and Construction Vibration Guidance Manual, April 2020, Appendix A, page 13.
[29] California Department of Transportation, Transportation and Construction Vibration Guidance Manual, April 2020, page 10.
[30] California Department of Transportation, Transportation and Construction Vibration Guidance Manual, April 2020, Appendix A, page 13.

20211D202101328.00 - 12300 Washington AQ-Noise-Shade\05 Graphics-GIS-Modeling\Illustrator

SOURCE: ESA, 2022; Basemap Google Earth, 2022

Washington Wing (12300 Washington Blvd)

Figure 3
Noise Measurements and Existing Noise Sensitive Locations

ESA

- Measurement Location R2: This measurement location represents the existing noise environment of the multi-family residential use located to the east of the Project Site along W. Washington Boulevard. The sound level meter was placed adjacent to the multi-family residential use along W. Washington Boulevard.
- Measurement Location R3: This measurement location represents the existing noise environment of the residential uses located to the north of the Project Site along W. Washington Boulevard. The sound level meter was placed at the corner of W. Washington Boulevard and Campbell Drive.

A summary of noise measurement data is provided in **Table 1,** *Summary of Ambient Noise Measurements*. The daytime measured noise levels ranged from 61.2 dBA to 69.9 dBA L_{eq}.

TABLE 1
SUMMARY OF AMBIENT NOISE MEASUREMENTS

Location, Duration, Existing Land Uses and, Date of Measurements	Measured Ambient Noise Levels (dBA) [a]
	Daytime Average, L_{eq}
R1, Residential uses to the south of the Project Site	61.2
R2, Residential use to the east of the Project Site	69.9
R3, Residential uses to the north of the Project Site	69.2

[a] Detailed measured noise data, including hourly Leq levels, are included in Exhibit A.

SOURCE: ESA, 2022

1.4.2 Groundborne Vibration Environment

Aside from periodic construction work occurring throughout the region, field observations noted that other sources of groundborne vibration in the Project Site vicinity are limited to heavy-duty vehicular travel (buses, etc.) on local roadways. Rubber-tired vehicles traveling at a distance of 50 feet typically generates groundborne vibration velocity levels of approximately 0.006 inches per second PPV (approximately 63 VdB).[31] Groundborne noise levels would generally be 25 to 40 decibels lower than the velocity level depending on the frequency level of the source.[32]

1.5 Sensitive Receptors

1.5.1 Noise

Some land uses are considered more sensitive to noise than others due to the types of activities typically involved at the receptor locations and the effect that noise can have on those activities and the persons engaged in them. Noise sensitive receptors are defined as those specific land uses that have associated indoor and/or outdoor human activities that may be subject to stress and/or significant interference from noise produced by community sound sources. Typically, residences,

[31] FTA, Transit Noise and Vibration Impact Assessment, Figure 6-4, September 2018.

[32] California Department of Transportation, Transportation and Construction Vibration Guidance Manual, April 2020, page 38.

hospitals and schools are considered noise sensitive, as their land uses of sleeping, recuperation, and concentration, can be adversely affected by noise.

Existing noise sensitive uses within 500 feet of the Project Site include the following as shown above in Figure 3:

- South of Project Site: Existing one- and two-story residential uses are located adjacent to the Project Site along Campbell Drive and S. Centinela Avenue. These receptors are represented by Measurement Location R1.
- East of Project Site: An existing two-story residential use is located to the east of the Alibi Room Restaurant/Bar on the south side of W. Washington Boulevard. These receptors are represented by Measurement Location R2.
- North of Project Site: Existing one- and two-story residential uses are located across W. Washington Boulevard. These receptors are represented by Measurement Location R3.
- West of Project Site: Existing one- and two-story residential uses are located west of the commercial uses on S. Centinela Avenue along Kenyon Avenue. Given that these receptors are located on the other side of the commercial uses on S. Centinela Avenue, they would not have a clear line-of-sight to the Project Site and noise from the Project Site would be blocked at these locations. Therefore, these receptors are not carried forward in the quantitative analysis as no significant impacts would occur at these receptors.

All other noise-sensitive uses are located at greater distances from the Project Site and would experience lower noise levels from potential sources of noise on the Project Site. Therefore, noise levels at additional sensitive receptors beyond those identified above are not evaluated.

1.5.2 Vibration

Typically, groundborne vibration generated by man-made activities (i.e., rail and roadway traffic, operation of mechanical equipment and typical construction equipment) diminishes rapidly with distance from the vibration source.[33] The Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment provides vibration structure damage criteria for: (1) reinforced-concrete, steel, or timber (no plaster); (2) engineered concrete and masonry (no plaster); (3) non-engineered timber and masonry buildings; (3) and buildings extremely susceptible to vibration damage.[34]

The FTA's document also provides vibration human annoyance criteria. The nearest off-site buildings to the Project Site that could be subjected to Project-related vibration structural damage and human annoyance impacts are the residential uses located to the south of the Project Site with the potential for perceptible vibration due to short-term construction and long-term Project operations.

[33] California Department of Transportation, Transportation and Construction Vibration Guidance Manual, September 2020, page 10.

[34] FTA, Transit Noise and Vibration Impact Assessment. September, 2018.

SECTION 2
Regulatory Framework

2.1 Federal

2.1.1 Federal Noise Standards

Under the authority of the Noise Control Act of 1972, the United States Environmental Protection Agency (USEPA) established noise emission criteria and testing methods published in Parts 201 through 205 of Title 40 of the Code of Federal Regulations (CFR) that apply to some transportation equipment (e.g., interstate rail carriers, medium trucks, and heavy trucks) and construction equipment. In 1974, the USEPA issued guidance levels for the protection of public health and welfare in residential land use areas of an outdoor L_{dn} of 55 dBA and an indoor L_{dn} of 45 dBA. These guidance levels are not considered as standards or regulations and were developed without consideration of technical or economic feasibility.[35] There are no federal noise standards that directly regulate environmental noise related to the construction or operation of the Project.

2.1.2 Federal Vibration Standards

There are no federal vibration standards or regulations adopted by an agency that are applicable to evaluating vibration impacts from land use development projects such as the Project. However, the FTA has adopted vibration criteria.[36] The vibration damage criteria adopted by the FTA are shown in **Table 2,** *Construction Vibration Damage Criteria***.**

TABLE 2
CONSTRUCTION VIBRATION DAMAGE CRITERIA

Building Category	PPV (in/sec)
I. Reinforced-concrete, steel, or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

SOURCE: FTA, Transit Noise and Vibration Impact Assessment Manual, 2018.

The FTA has also adopted criteria for assessing potential human annoyance impacts caused by groundborne vibration for the following three land-use category receptors: Vibration Category 1 –

35 United States Environmental Protection Agency, EPA Identifies Noise Levels Affecting Health and Welfare. April 1974.

36 FTA, Transit Noise and Vibration Impact Assessment Manual, Table 7-5, page 186, 2018.

High Sensitivity, Vibration Category 2 – Residential, and Vibration Category 3 – Institutional.[37] The FTA defines Category 1 as buildings where vibration would interfere with operations within the building, including vibration-sensitive research and manufacturing facilities, hospitals with vibration-sensitive equipment, and university research operations.[38] Vibration-sensitive equipment includes, but is not limited to, electron microscopes, high-resolution lithographic equipment, and optical microscopes.[39] Category 2 refers to all residential land uses and any buildings where people sleep, such as hotels and hospitals.[40] Category 3 refers to institutions and offices that have vibration-sensitive equipment and have the potential for activity interference such as schools, churches, doctors' offices. Commercial or industrial locations including office buildings are not included in this category unless there is vibration-sensitive activity or equipment within the building.[41] The groundborne vibration thresholds associated with human annoyance for these three land-use categories are shown in **Table 3**, *Groundborne Vibration Impact Criteria for General Assessment*. As discussed previously, groundborne noise is a result of groundborne vibration. The FTA criteria for groundborne noise is based on the equivalent groundborne vibration level; therefore, an assessment of the FTA groundborne vibration criteria is also an equivalent assessment of the FTA groundborne noise criteria.

TABLE 3
GROUNDBORNE VIBRATION IMPACT CRITERIA FOR GENERAL ASSESSMENT

Land Use Category	Frequent Events[a]	Occasional Events[b]	Infrequent Events[c]
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB[d]	65 VdB[d]	65 VdB[d]
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB

a "Frequent Events" is defined as more than 70 vibration events of the same source per day.
b "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.
c "Infrequent Events" is defined as fewer than 30 vibration events of the same kind per day.
d This criterion is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes.

SOURCE: FTA, Transit Noise and Vibration Impact Assessment Manual, 2018.

2.2 State of California

2.2.1 California Noise Standards

The State of California has established noise insulation standards for new multi-family residential units, hotels, and motels that would be subject to relatively high levels of transportation-related noise. These requirements are collectively known as the California Noise Insulation Standards (Title 24, California Code of Regulations). The noise insulation standards set forth an interior

37 FTA, Transit Noise and Vibration Impact Assessment Manual, Table 6-1, page 124, 2018.
38 FTA, Transit Noise and Vibration Impact Assessment Manual, Table 6-1, page 124, 2018.
39 FTA, Transit Noise and Vibration Impact Assessment Manual, Table 6-1, page 124, 2018.
40 FTA, Transit Noise and Vibration Impact Assessment Manual, Table 6-1, page 124, 2018.
41 FTA, Transit Noise and Vibration Impact Assessment Manual, Table 6-1, page 124, 2018.

standard of 45 dBA CNEL in any habitable room. The standards require an acoustical analysis demonstrating that dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to exterior noise levels greater than 60 dBA CNEL. Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

2.2.2 Groundborne Vibration and Noise

Caltrans' *Transportation and Construction Vibration Manual* (2020) document provide thresholds of vibration impact for structure and human annoyance. The threshold of vibration impact for human annoyance would apply for residential uses since commercial uses are not considered vibration sensitive uses.[42]

Table 4, *Caltrans Vibration Annoyance Potential Criteria*, include the vibration impact criteria for human annoyance.

TABLE 4
CALTRANS VIBRATION ANNOYANCE POTENTIAL CRITERIA

	Maximum PPV (in/sec)	
Structure and Condition	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.1
Severe	2.0	0.4

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Source: Caltrans, Transportation and Construction Vibration Guidance Manual, Table 20, April 2020.

2.3 City of Culver City

2.3.1 Noise Standard

The City of Culver City Noise Standards are developed from those of several Federal and State agencies including the Federal Highway Administration, the Environmental Protection Agency, the Department of Housing and Urban Development, the American National Standards Institute, and the State of California Department of Health Services. These standards set limits on the noise exposure level for various land uses. **Table 5**, *City of Culver City Interior and Exterior Noise Standards*, lists interior and exterior noise level standards and the type of occupancy to which they should be applied.

[42] Caltrans, Transportation and Construction Vibration Manual, 2013.

TABLE 5
CITY OF CULVER CITY INTERIOR AND EXTERIOR NOISE STANDARDS

Zone	Interior Standard dBA (CNEL)	Exterior Standard dBA(CNEL)
Residential	45	65
Commercial Retail	55	--
Office Building	50	--
Open Space - Parks	--	65

Source: *City of Culver City Noise Element*.

Section 9.07.055 of Culver City's Noise Regulations Chapter 9.07 states that it shall be prohibited for any persons to operate a loud speaker or sound amplified equipment for the purposes of transmitting messages, giving instructions or providing entertainment which is audible at a distance of fifty (50) feet or beyond the subject's property line without first filing an application and obtaining a permit. According to Section 9.07.055, every user of sound amplifying equipment on public or private property, except block parties which have obtained a permit from the Chief of Police or activities in public parks which have obtained a permit for use of amplifying equipment from the Parks, Recreation and Community Services Department shall file an application with the Committee on Permits and Licenses at least ten (10) days prior to the day on which the sound amplifying equipment is to be used. The commercial and noncommercial use of sound amplifying equipment shall be subject to the following restrictions:

- The only sounds permitted shall be either music or human speech, or both.
- The operation of sound amplifying equipment shall occur only between the hours of:
  - 8:00 a.m. through 8:00 p.m. Monday through Thursday,
  - 8:00 a.m. through 10:00 p.m. Friday,
  - 10:00 a.m. through 10:00 p.m. Saturday,
  - 10:00 a.m. through 8:00 p.m. Sunday and City specified holidays.

Table 6, *Noise and Land Use Compatibility Matrix – California,* illustrates land use compatibility with regard to noise. These standards and criteria will be incorporated into the land use planning process to reduce future noise and land use incompatibilities. This table is the primary tool that allows the City of Culver City to ensure integrated planning for compatibility between land uses and outdoor noise. Community Noise Equivalent Level (CNEL) for specific land uses are classified into four categories: (1) "Clearly Compatible" (2) "Compatible with Mitigation" (3) "Normally Incompatible" and (4) "Clearly Incompatible". A CNEL value of 70 dBA is considered the dividing line between a "conditionally acceptable" and "normally unacceptable" noise environment for noise sensitive land uses, including residences, transient lodgings, schools, and library.

TABLE 6
NOISE AND LAND USE COMPATIBILITY MATRIX - CALIFORNIA

Land Use	Community Noise Exposure CNEL (dBA)			
	Normally Acceptable[a]	Conditionally Acceptable[b]	Normally Unacceptable[c]	Clearly Unacceptable[d]
Residential – Low density, Single-Family, Duplex, Mobile Homes	50 – 60	55 – 70	70 – 75	75 – 85
Residential – Multiple Family	50 – 65	60 – 70	70 – 75	70 – 85
Transient Lodging – Motel, Hotels	50 – 65	60 – 70	70 – 80	80 – 85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 – 70	60 – 70	70 – 80	80 – 85
Auditoriums, Concert Halls, Amphitheaters	NA	50 – 70	NA	65 – 85
Sports Arenas, Outdoor Spectator Sports	NA	50 – 75	NA	70 – 85
Playgrounds, Neighborhood Parks	50 – 70	NA	67.5 – 75	72.5 – 85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 – 70	NA	70 – 80	80 – 85
Office Buildings, Business Commercial and Professional	50 – 70	67.5 – 77.5	75 – 85	NA
Industrial, Manufacturing, Utilities, Agriculture	50 – 75	70 – 80	75 – 85	NA

[a] **Normally Acceptable –** Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
[b] **Conditionally Acceptable –** New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
[c] **Normally Unacceptable –** New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
[d] **Clearly Unacceptable** – New construction or development should generally not be undertaken.
NA: Not Applicable

Source: Office of Planning and Research, State of California General Plan Guidelines, October 2003.

2.3.2 General Plan Noise Element

The City's General Plan Noise Element includes Policy 2.A, pertaining to stationary noise sources, as follows:

Policy 2.A Create a comprehensive ordinance establishing noise regulation criteria, and standards for noise sources and receptors to include but not be limited to the following:

- Noise reduction features during site planning to mitigate anticipated noise impacts on affected noise sensitive land uses, such as schools, hospitals, convalescent homes, and libraries.

- Temporary sound barrier installation at construction site if construction noise is impacting nearby noise sensitive land uses.

- Noise abatement and acoustical design criteria for construction and operation of any new development.

2.3.3 Municipal Code

Chapter 9.07 of the City of Culver City Municipal Code (CCMC) provides specific noise restrictions and exemptions for noise sources within the City. CCMC noise regulations state that construction activity shall be prohibited, except between the hours of 8:00 A.M. and 8:00 P.M. Mondays through Fridays; 9:00 A.M. and 7:00 P.M. Saturdays; 10:00 A.M. and 7:00 P.M. Sundays. It is prohibited for any person to operate any radio, disc player or cassette player or similar device at a construction site in a manner that results in noise levels that are audible beyond the construction site property line.

2.3.4 Groundborne Vibration and Groundborne Noise

The City of Culver City does not address vibration either in their municipal code or in the Noise Element of the General Plan. Instead, the Caltrans *Transportation and Construction Vibration Manual* (2020) and the FTA *Transit Noise and Vibration Impact Assessment* (2018) guidance documents provide screening level thresholds for vibration impacts for potential building structural damage and human annoyance.

2.4 City of Los Angeles

2.4.1 Noise Standard

The City has adopted local guidelines based, in part, on the community noise compatibility guidelines established by the Governor's Office of Planning and Research for use in assessing the compatibility of various land use types within a range of noise levels. These guidelines are set forth in the 2006 L.A. CEQA Thresholds Guide (Thresholds Guide) in terms of CNEL levels. As explained above, these CNEL guidelines for specific land uses are classified into four categories: (1) "normally acceptable," (2) "conditionally acceptable," (3) "normally unacceptable," and (4) "clearly unacceptable." As shown in **Table 7**, *City of Los Angeles Land Use Compatibility for Community Noise,* the categories overlap to some degree. For example, a CNEL value of 60 dBA is the lower limit of what is considered a "conditionally acceptable" noise environment for multi-family residential uses, although the upper limit of what is considered "normally acceptable" for multi-family residential uses is set at 65 dBA CNEL.[43] New development should generally be discouraged within the "normally unacceptable" or "clearly unacceptable" categories. However, if new development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

[43] City of L.A. CEQA Thresholds Guide, Section I.2, 2006.

TABLE 7
CITY OF LOS ANGELES LAND USE COMPATIBILITY FOR COMMUNITY NOISE

	Community Noise Exposure CNEL (dBA)			
Land Use	**Normally Acceptable [a]**	**Conditionally Acceptable [b]**	**Normally Unacceptable [c]**	**Clearly Unacceptable [d]**
Single-Family, Duplex, Mobile Homes	50 – 60	55 – 70	70 – 75	Above 70
Multi-Family Homes	50 – 65	60 – 70	70 – 75	Above 70
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 – 70	60 – 70	70 – 80	Above 80
Transient Lodging—Motels, Hotels	50 – 65	60 – 70	70 – 80	Above 80
Auditoriums, Concert Halls, Amphitheaters	—	50 – 70	—	Above 65
Sports Arena, Outdoor Spectator Sports	—	50 – 75	—	Above 70
Playgrounds, Neighborhood Parks	50 – 70	—	67 – 75	Above 72
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 – 75	—	70 – 80	Above 80
Office Buildings, Business and Professional Commercial	50 – 70	67 – 77	Above 75	—
Industrial, Manufacturing, Utilities, Agriculture	50 – 75	70 – 80	Above 75	—

[a] **Normally Acceptable:** Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

[b] **Conditionally Acceptable:** New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

[c] **Normally Unacceptable:** New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

[d] **Clearly Unacceptable:** New construction or development should generally not be undertaken.

Source: City of L.A. CEQA Thresholds Guide, 2006.

2.4.2 General Plan Noise Element

The overall purpose of the Noise Element of the General Plan is to guide policymakers in making land use determinations and in preparing noise ordinances that would limit exposure of people to excessive noise levels. The following policies and objectives from the Noise Element of the General Plan are applicable to the Project:[44]

Objective 2 (Non-airport): Reduce or eliminate non-airport related intrusive noise, especially relative to noise-sensitive uses.

Policy 2.1: Enforce and/or implement applicable City, State, and federal regulations intended to mitigate proposed noise producing activities, reduce intrusive noise and alleviate noise that is deemed a public nuisance.

[44] Noise Element of the Los Angeles City General Plan, adopted February 3, 1999.

Objective 3 (Land Use Development): Reduce or eliminate noise impacts associated with proposed development of land and changes in land use.

Policy 3.1: Develop land use policies and programs that will reduce or eliminate potential and existing noise impacts.

2.4.3 Municipal Code

The City of Los Angeles Noise Regulations are provided in Chapter XI of the Los Angeles Municipal Code (LAMC). Section 111.02 of the LAMC provides procedures and criteria for the measurement of the sound level of "offending" noise sources. In accordance with the LAMC, a noise source that causes a noise level increase of 5 dBA over the existing average ambient noise level as measured at an adjacent property line is considered to create a noise violation. To account for people's greater tolerance for short-duration noise events, the Noise Regulations provide a 5 dBA allowance for a noise source that causes noise lasting more than five minutes but less than 15 minutes in any one-hour period, and an additional 5 dBA allowance (total of 10 dBA) for a noise source that causes noise lasting five minutes or less in any one-hour period.[45]

Section 112.02 limits increases in noise levels from air conditioning, refrigeration, heating, pumping and filtering equipment. Such equipment may not be operated in such manner as to create any noise which would cause the noise level on the premises of any other occupied property, or, if a condominium, apartment house, duplex, or attached business, within any adjoining unit, to exceed the ambient noise level by more than five (5) decibels.

Section 112.05 of the LAMC sets a maximum noise level for construction equipment of 75 dBA at a distance of 50 feet when operated within 500 feet of a residential zone. Compliance with this standard is required only where "technically feasible."[46] Section 41.40 of the LAMC prohibits construction between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, 6:00 P.M. and 8:00 A.M. on Saturday, and at any time on Sunday (i.e., construction is allowed Monday through Friday between 7:00 A.M. to 9:00 P.M.; and Saturdays and National Holidays between 8:00 A.M. to 6:00 P.M.). In general, the City's Department of Building and Safety enforces noise ordinance provisions relative to equipment and the Los Angeles Police Department enforces provisions relative to noise generated by people.

Section 113.01 of the LAMC prohibits collecting or disposing of rubbish or garbage, operating any refuse disposal truck, or collecting, loading, picking up, transferring, unloading, dumping, discarding, or disposing of any rubbish or garbage, as such terms are defined in Section 66.00 of LAMC, within 200 feet of any residential building between the hours of 9:00 P.M. and 6:00 A.M. of the following day, unless a permit therefore has been duly obtained beforehand from the Board of Police Commissioners.

45 Los Angeles Municipal Code, Chapter XI, Article I, Section 111.02-(b).

46 In accordance with the City's Noise Ordinances, "technically feasible" means that the established noise limitations can be complied with at a Project Site, with the use of mufflers, shields, sound barriers, and/or other noise reduction devices or techniques employed during the operation of equipment.

Section 91.1207.14.2 prohibits interior noise levels attributable to exterior sources from exceeding 45 dBA in any habitable room. The noise metric shall be either the day-night average sound level (L_{dn}) or the community noise equivalent (CNEL), consistent with the noise element of the local general plan.

2.4.4 Groundborne Vibration and Groundborne Noise

The City of Los Angeles has not adopted standards or regulations addressing groundborne vibration or groundborne noise impacts from land use development projects such as the Project. As such, available guidelines from Caltrans and the FTA are utilized to assess impacts due to groundborne vibration and noise. As discussed above, in most circumstances common groundborne vibrations related to roadway traffic and construction activities pose no threat to buildings or structures.

SECTION 3
Thresholds of Significance

In accordance with the State CEQA Guidelines Appendix G, the Project would have a significant impact related to noise and vibration if it would result in:

a) **Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.**

b) **Generation of excessive groundborne vibration or groundborne noise levels.**

c) **For a project located within the vicinity of a private airstrip or 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.**

In assessing the Project's potential impacts related to noise and groundborne vibration and groundborne noise in this section, the following significance thresholds evaluate potential noise and vibration impacts of the project based on the regulatory framework described above.

3.1 Noise Levels

3.1.1 Construction

The City of Culver City has not adopted numerical construction noise limits in its municipal code. However, Culver City has adopted allowable hours for construction. Project construction activities that occur between the hours of 8:00 P.M. and 8:00 A.M. Monday through Friday; 7:00 P.M. and 9:00 A.M. on Saturdays; and 7:00 P.M. and 10:00 A.M. on Sundays would comply with the City's noise standards.

The City of Los Angeles has adopted numerical construction noise limits in its municipal code. The standards in LAMC Chapter XI, Article 2, Section 112.05 on construction noise will be used to demonstrate that the Project would not result in a significant impact. Under this standard, the applicant must at minimum demonstrate compliance with LAMC Section 112.05. As discussed above, LAMC Section 112.05 sets a maximum noise level for construction equipment of 75 dBA at a distance of 50 feet when operated within 500 feet of a residential zone. Los Angeles Has also adopted allowable hours for construction. Section 41.40 of the LAMC prohibits construction between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, 6:00 P.M. and 8:00 A.M. on Saturday, and at any time on Sunday (i.e., construction is allowed Monday through Friday between 7:00 A.M. to 9:00 P.M.; and Saturdays and National Holidays between 8:00 A.M. to 6:00 P.M.). Project construction activities that occur between the hours would comply with the City's noise standards.

3.1.2 Operation

The following criteria are applied to the Project's operational noise. The Project would have a significant impact from operations if:

- For Project-related traffic noise, the Project causes the ambient noise levels measured at the property line of affected uses to increase by 3 dBA CNEL to or within the "normally unacceptable" or "clearly unacceptable" categories; or the Project causes the ambient noise levels measured at the property line of affected uses to increase by 5 dBA CNEL or more within the "normally acceptable" or "conditionally acceptable" categories.
- For Project-related operational on-site (i.e., non-roadway) noise sources such as outdoor building mechanical/electrical equipment or parking facilities increase the ambient noise level (L_{eq}) at noise sensitive uses by 5 dBA L_{eq}.

In summary, for operational noise, the criteria for off-site operational noise is an increase in the ambient noise level of 3 dBA or 5 dBA CNEL, depending on the existing noise conditions at the affected noise-sensitive land use category. On-site operational noise is an increase in the ambient noise level of 5 dBA L_{eq} at an adjacent property line.[47]

3.2 Groundborne Vibration and Groundborne Noise

The cities of Culver City and Los Angeles have not adopted criteria to assess vibration impacts in their respective municipal codes. Thus, for this Project, the FTA's criteria for structural damage and for human annoyance, as described in **Table 2** and **Table 3**, respectively, above, to evaluate potential impacts related to Project construction and operation.

- Building Damage - Project construction or operational activities cause ground-borne vibration levels to exceed 0.2 inch-per-second PPV at the nearest buildings; or
- Human Perception - Project construction or operational activities cause ground-borne vibration levels to exceed 72 VdB for frequent events (more than 70 events per day); 75 VdB for occasional events (30 to 70 events per day); or 80 VdB for infrequent events (fewer than 30 events per day) at the nearest residential buildings when people normally sleep.

3.3 Aviation Noise Exposure

A significant impact would occur if the Project would expose people working on the Project Site to excessive noise levels from a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport. The Federal

[47] Since the noise levels are measured at exterior locations at property lines, the noise levels inside buildings would be less than the values used for determining impacts. With windows closed, the minimum exterior-to-interior noise attenuation for typical structures in California is approximately 25 to 30 dBA or potentially more with improved noise abatement materials or techniques. See: Gordon, C.G., W.J. Galloway, B.A. Kugler, and D.L. Nelson. NCHRP Report 117: Highway Noise: A Design Guide for Highway Engineers. Washington, D.C.: Transportation Research Board, National Research Council, 1971.

Aviation Administration (FAA) has determined that the 65 dBA L_{dn} (also CNEL) is the Federal significance threshold for aircraft noise exposure.[48]

48 Federal Aviation Administration, Aircraft Noise and Noise Monitoring, https://www.faa.gov/airports/airport_development/omp/FAQ/Noise_Monitoring/, page last modified: May 5, 2020, accessed January 31, 2022.

SECTION 4
Methodology

4.1 On-Site Construction Noise

On-site construction noise impacts were projected by determining the noise levels expected to be generated by the different types of construction activities anticipated, calculating the construction-related noise levels produced by the construction equipment assumed at sensitive receptors. More, specifically, the following steps were undertaken to assess construction-period noise impacts.

1. Ambient noise levels at surrounding sensitive receptor locations were estimated based on field measurement data (see **Table 1**);
2. For each type of construction equipment expected to be used during each phase of construction, based on information provided by Project Applicant, typical noise levels were obtained from the Federal Highway Administration (FHWA) roadway construction noise model (RCNM);
3. The construction noise levels were then calculated for each construction phase using the FHWA RCNM, conservatively, in terms of hourly L_{eq} based on the standard point source noise-distance attenuation factor of 6.0 dBA for each doubling of distance, assuming that all of the equipment for each construction phase would be in use concurrently, which is as conservative assumption. Since it is not physically possible for equipment to be all located at the same location at the same time, the loudest equipment was assumed to be located at 50 feet while other equipment were located at a staggered distances further away.
4. Construction noise levels, with incorporation of noise-reducing Regulatory Compliance Measures (i.e., an estimated 10 dBA reduction from the use of noise barriers, equipment mufflers or sound enclosures beyond standard manufacturer specifications, substitution of less noisy equipment than assumed in the modeling analysis, or similar measures), were then compared to the construction noise significance thresholds identified above (Section 112.05 of the LAMC).

4.2 Off-Site Roadway Noise (Construction and Operations)

Roadway CNEL noise levels were calculated using the methodology based on the Federal Highway Administration's (FHWA's) Highway Traffic Noise Model (TNM) and traffic volumes at the study intersections reported in the Project traffic study prepared by Raju Associates, Inc.[49]

[49] Raju Associates, Inc., Technical Memorandum, 12300 W. Washington Boulevard Office Project, Trip Generation Analysis and Transportation Assessment Criteria, June 8, 2021.

The analysis considers the average noise level at specific locations based on traffic volumes, average speeds, and site environmental conditions.

This method allows for the definition of roadway configurations, barrier information (if any), and receiver locations. Roadway noise attributable to Project development was compared to baseline noise levels that would occur under the "without Project" condition.

4.3 Stationary Point-Source Noise (Operations)

Stationary point-source noise levels were evaluated by identifying the noise levels generated by outdoor stationary noise sources such as rooftop mechanical equipment, parking structure, automobile operations, and loading/refuse collection area activity, calculating the hourly L_{eq} noise level from each noise source at sensitive receiver property lines, and comparing such noise levels to existing ambient noise levels. More specifically, the following steps were undertaken to calculate outdoor stationary point-source noise impacts:

1. Ambient noise levels at surrounding sensitive receptor locations were estimated based on field measurement data (see **Table 1**);
2. Typical noise levels generated by each type of stationary point-source noise generator including mechanical equipment, truck loading area, and parking lot operations were obtained from measured noise levels for similar equipment/activities, noise levels published in environmental noise assessment documents for land use development projects or scientific journals, or noise levels from equipment manufacturer specifications
3. Distances between stationary point-source noise generators and surrounding sensitive receptor locations were measured using Project architectural drawings, Google Earth, and site plans;
4. Stationary point-source noise levels were then calculated for each sensitive receptor location based on the standard point source noise-distance attenuation factor of 6.0 dBA for each doubling of distance;
5. Noise level increases, if any, were compared to the stationary point-source noise significance thresholds identified above in Section 3, *Thresholds of Significance*; and
6. Outdoor mechanical equipment is assessed based on the City Municipal Code requirements and measured data, and their impacts on the nearby offsite receptors are determined based on their distance from these receptors. The noise levels determined at the offsite, noise-sensitive receptors are then compared to the stationary source noise significance thresholds identified in the City Municipal Code.

4.4 Groundborne Vibration and Noise (Construction and Operations)

Groundborne vibration and noise impacts were evaluated for potential building damage and human annoyance impacts by identifying the Project's potential vibration sources, estimating the distance between the Project's vibration sources and the nearest structure and vibration annoyance receptor locations, and making a significance determination based on the significance thresholds described above in Section 3, *Thresholds of Significance*.

Construction activities may generate groundborne vibration and noise from transient sources due to the temporary and sporadic use of vibration-generating equipment. Operation of the Project has no potential to cause structure damage to the Project's own buildings or to off-site buildings that are farther away because the Project would not include any equipment that would generate substantial vibration or noise levels. Construction and operational activities may generate groundborne vibration and noise levels that could be felt by people as a result of trucks and vehicles driving to and from the Project Site, or from the operation of typical commercial-grade stationary mechanical and electrical equipment used for residential and commercial land uses, such as air handling units, condenser units, and exhaust fans, which could produce groundborne vibration and noise.

4.5 Aviation Noise

Impacts related to aviation noise are evaluated by reviewing noise contour maps from airport uses within two miles of the Project Site and whether the Project Site is located with the FAA criteria for impacts, defined as the 65 dBA L_{dn} (CNEL) contour.

4.6 Regulatory Compliance Measure

City of Culver City General Plan Policy 2.A of the Noise Element requires noise reduction techniques be implemented to ensure that noise levels are reduces to the maximum extent feasible. Therefore, in accordance with Policy 2.A, the Project would implement the following noise reduction measures:

- Noise reduction features during site planning to mitigate anticipated noise impacts on affected noise sensitive land uses, such as schools, hospitals, convalescent homes, and libraries.

- Temporary sound barrier installation at construction site if construction noise is impacting nearby noise sensitive land uses.

- Noise abatement and acoustical design criteria for construction and operation of any new development.

SECTION 5
Environmental Impacts

Threshold a) Would the Project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Impact Statement: The Project would not result in the generation of a temporary or permanent increases in ambient noise levels in excess of the standards. Impacts would be less than significant.

5.1 Temporary Increase in Ambient Noise Levels

On-Site Construction Noise

Noise impacts from construction activities are generally a function of the noise generated by construction equipment, equipment locations, the sensitivity of nearby land uses, and the timing and duration of the noise-generating activities. Construction would require the following activities: (1) demolition; (2) site preparation/minor grading; (3) building construction, (4) paving, and (5) architectural coatings and finishing. The Project would be constructed using typical construction techniques; no blasting or impact pile driving would be used.

Project construction would require the use of mobile heavy equipment. Noise levels for individual pieces of construction equipment expected to be used during Project construction are shown in **Table 8**, *Construction Equipment Noise Levels*. These maximum noise levels would occur when equipment is operating under full power conditions. The estimated usage factor for the equipment is also shown in **Table 8**. The usage factors are based on the FHWA's Roadway Construction Noise Model User's Guide.[50] The average (Hourly L_{eq}) noise level associated with each construction stage were calculated based on the quantity, type, and usage factors for each type of equipment expected to be used during each construction stage assuming that multiple pieces of equipment are operating, simultaneously. Additionally, overlapping construction phase (building construction, paving, and architectural coating) noise levels were combined to estimate the maximum construction noise level during a worst-case scenario.

50 Federal Highway Administration, Roadway Construction Noise Model User's Guide, 2006. https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf

TABLE 8
CONSTRUCTION EQUIPMENT NOISE LEVELS

Equipment	Estimated Usage Factor, %	Maximum Noise Level at 50 feet from Equipment, dBA (Lmax)
Air Compressor	50	78
Concrete Saw	20	90
Crane	40	81
Drum Mixer	50	80
Forklift	10	75
Generator	50	81
Grader	40	85
Jackhammer	20	89
Man Lift	20	75
Other Equipment	50	85
Paver	50	77
Roller	20	80
Rubber Tired Dozer	40	82
Tractor/Loader/Backhoe	40	78
Welder	40	74

SOURCE: FHWA Roadway Construction Noise Model User's Guide, 2006.

TABLE 9
ESTIMATED CONSTRUCTION NOISE LEVELS AT EXISTING OFF-SITE SENSITIVE RECEPTORS

Analysis Location	Construction Phases	Construction Noise Level at Receptor with Regulatory Compliance Measures [a] (dBA L_{eq})	Exceed Threshold? (75 dBA L_{eq} at 50 feet)
At 50 Feet	Demolition	75	No
	Site Preparation/Minor Grading	71	
	Building Construction/Paving/ Architectural Coating	75	

[a] Estimated construction noise levels represent the worst-case condition when the noisiest equipment is assumed to be located at a distance equal to the analysis location and are expected to be in use the entire duration of each construction phase.

[b] Noise levels include a 10 dBA minimum reduction from acoustic barrier implemented under General Plan Policy 2.A of the Culver City Noise Element.

Source: ESA, 2022

A summary of the construction noise impacts at the existing nearby sensitive receptors is provided in **Table 9,** *Estimated Construction Noise Levels at Existing Off-Site Sensitive Receptors*, with supporting calculation files provided in Exhibit B of this Technical Report. As shown in **Table 9**, construction noise levels would not exceed the significance threshold of 75 dBA L_{eq} at 50 feet.

Project construction activities would not occur between the hours of 8:00 P.M. and 8:00 A.M. Monday through Friday; 7:00 P.M. and 9:00 A.M. on Saturdays; 7:00 P.M. and 10:00 A.M. on Sundays in accordance with Chapter 9.07 of the CCMC noise regulations. Project construction would also comply with Section 41.40 of the LAMC, which prohibits construction between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, 6:00 P.M. and 8:00 A.M. on Saturday, and at any time on Sunday. (The Project would comply with the more stringent of the CCMC and LAMC, which means construction would be allowed from 8:00 A.M. to 8:00 P.M. Monday through Friday; 9:00 A.M. to 6:00 P.M. on Saturdays; and no construction on Sundays.) Therefore, on-site construction noise impacts would be less than significant.

Although no significant impacts are identified related to project construction activities, City of Culver City General Plan Policy 2.A of the Noise Element requires noise reduction techniques be implemented to ensure that noise levels are reduces to the maximum extent feasible. Therefore, in accordance with Policy 2.A, the Project would implement the following noise reduction measures:

- Noise reduction features during site planning to mitigate anticipated noise impacts on affected noise sensitive land uses, such as schools, hospitals, convalescent homes, and libraries.
- Temporary sound barrier installation at construction site if construction noise is impacting nearby noise sensitive land uses.
- Noise abatement and acoustical design criteria for construction and operation of any new development.

The measures identified above are included in the construction noise levels calculated in **Table 9** and represent a 10 dBA reduction from the installation of noise barriers.

Off-Site Construction Noise

Delivery and haul truck trips would occur throughout the construction period, although truck trips would be limited to the more stringent of the CCMC and LAMC, which means construction would be allowed from 8:00 A.M. to 8:00 P.M. Monday through Friday; 9:00 A.M. to 6:00 P.M. on Saturdays; and no construction on Sundays.. Haul trucks would be anticipated to access the site from Campbell Drive to remove demolition materials and provide deliveries to the Project Site during construction activities. The Project does not include subterranean facilities; therefore, no mass excavation or mass soil export trucks are required. Approximately 10 cubic yards of export is required for miscellaneous soil, which can be accommodated in a single truck trip. The demolition phase would generation the maximum number of trucks at 12 truck trips per day (6

inbound and 6 outbound trips), which would be approximately up to 2 truck trips per hour. This would generate a traffic noise level of approximately 50 dBA L_{eq}, which is more than 10 dBA below the existing ambient noise level in the Project vicinity as shown above in **Table 1**. Therefore, off-site construction noise impacts would be less than significant.

5.2 Permanent Increase in Ambient Noise Levels

Impacts from On-site Stationary Noise Sources

Fixed Mechanical Equipment

The operation of mechanical equipment such as air conditioning equipment may generate audible noise levels. However, mechanical equipment would be shielded from nearby noise sensitive uses to attenuate noise and avoid conflicts with adjacent uses. It is not anticipated that the mechanical equipment would be significantly different than the mechanical equipment that is currently present. In addition, the project's mechanical equipment would need to comply with the applicable noise standards for mechanical equipment, which establish maximum permitted noise levels, as . Project compliance with the applicable noise standards would ensure that operational noise impacts are minimal.

Parking Lot

The surface parking lot would have an entrance on Campbell Drive, where an existing driveway is currently located. Based on the Project traffic study, the peak hour traffic volume would be 11 vehicles.[51] Using FTA's calculation for noise generated by parking lot traffic, the entering vehicles would create noise levels up to 42.8 dBA L_{eq} at 25 feet.[52] The Project would have a perimeter wall on the southern end, which would reduce noise levels by 10 dBA at the nearest residential use to the south. The noise levels at sensitive receptors would be more than 20 dBA less than the measured daytime ambient noise levels as shown above in **Table 1**. Supporting calculation files provided in Exhibit C of this Technical Report. Therefore, based on the low level of noise, the noise impacts from the parking lot would be less than significant.

Loading Dock and Refuse Collection

The loading parking space for the Project would be located at the southern end of the Project Site. The area would be completely enclosed and shielded from surrounding sensitive uses. Based on a noise survey that was conducted at a loading dock and trash collection facilities by ESA, loading dock activity (namely idling semi-trucks and backup alarm beeps) could generate a reference noise levels of approximately 76 dBA L_{eq} at a reference distance of 25 feet.[53] Delivery truck idling is restricted to no more than five consecutive minutes in the loading area pursuant to State

[51] Raju Associates, Inc., Technical Memorandum, 12300 W. Washington Boulevard Office Project, Trip Generation Analysis and Transportation Assessment Criteria, June 8, 2021.

[52] FTA, Transit Noise and Vibration Impact Assessment Manual, September 2018, Tables 4-13 and 4-14.

[53] The loading dock facility noise measurements were conducted at a loading dock facility at a Wal-Mart store using the Larson-Davis 820 Precision Integrated Sound Level Meter ("SLM") in May 2003. The Larson-Davis 820 SLM is a Type 1 standard instrument as defined in the American National Standard Institute S1.4. All instruments were calibrated and operated according to the applicable manufacturer specification. The microphone was placed at a height of approximately 5 feet above the local grade.

regulation (Title 13 California Code of Regulations [CCR], Section 2485). Pursuant to Title 13 California Code of Regulations [CCR], Section 2485, signs would be posted in delivery loading areas specifying this idling restriction. Based on the idling limitation of five minutes, the hourly average noise level would be 65.2 dBA L_{eq}. The Project would have a perimeter wall on the southern end, which would reduce noise levels by 10 dBA at the nearest residential use to the south. The noise levels at sensitive receptors would be more than 15 dBA less than the measured daytime ambient noise levels as shown above in **Table 1**. Supporting calculation files provided in Exhibit C of this Technical Report.

The Project would include various trash receptacles associated with the proposed development. On-site trash receptacles used by the Project would be covered and properly maintained to prevent adverse odors. The trash receptacles would also be located in an enclosed area approximately 80 feet away from the nearest sensitive receptors, which would block noise to the outside environment.

Based on the above, the noise levels from the Project's loading area and refuse collection area would be below the ambient noise levels at sensitive receptor locations by more than 10 dBA and impacts would be less than significant.

Offsite Project Traffic

Based on the Project's traffic study, the Project would add a net of 11 trips during the peak hour and a net of about 56 daily trips over existing conditions.[54] The majority of the trips would be directed eastbound and westbound along W. Washington Boulevard. The number of net new peak hourly and daily trips is very small that it would not cause or contribute to increases in traffic noise levels. As discussed previously, the dBA scale is based on logarithms, where a doubling of sound energy corresponds to a 3 dBA increase. Therefore, a doubling of traffic volumes is generally required in order to result in a 3 dBA increase in traffic noise. The Project's net of 11 trips during the peak hour and a net of about 56 daily trips over existing conditions would not cause of doubling of traffic volumes on roadway segments. Thus, the Project would generate traffic noise less than the significance threshold of 3 dBA CNEL to or within the "normally unacceptable" or "clearly unacceptable" categories and 5 dBA CNEL within the "normally acceptable" or "conditionally acceptable" categories. Impacts would be less than significant.

Threshold b) Generation of excessive groundborne vibration or groundborne noise levels?

Impact Statement: The Project would not generate excessive groundborne vibration during construction or operations. Vibration impacts would be less than significant.

54 Raju Associates, Inc., Technical Memorandum, 12300 W. Washington Boulevard Office Project, Trip Generation Analysis and Transportation Assessment Criteria, June 8, 2021.

5.3 Groundborne Vibration

Structural Impacts

Construction

Construction activities can generate varying degrees of groundborne vibration, depending on the construction procedures and the construction equipment used. The operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of the construction site varies depending on soil type, ground strata, and construction characteristics of the receptor buildings. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Groundborne vibration from construction activities rarely reaches levels that damage structures. The PPV for construction equipment pieces anticipated to be used during Project construction are listed in **Table 10**, *Typical Vibration Velocities for Potential Project Construction Equipment*.

TABLE 10
TYPICAL VIBRATION VELOCITIES FOR THE PROJECT CONSTRUCTION EQUIPMENT

	Approximate PPV (in/sec)				
Equipment	**25 Feet**	**50 Feet**	**60 Feet**	**75 Feet**	**100 Feet**
Loaded Trucks	0.076	0.027	0.020	0.015	0.010
Jackhammer	0.035	0.012	0.009	0.007	0.004
Small Bulldozer	0.003	0.001	0.0008	0.0006	0.0004

Source: FTA, Transit Noise and Vibration Impact Assessment, September 2018.

Construction of the Project would generate groundborne construction vibration during demolition, site preparation/minor grading and building construction activities. Based on the vibration data provided in **Table 10**, vibration velocities from construction equipment that may be used near the residential building to the south of the Project Site would range from approximately 0.003 to 0.035 inches per second PPV at 25 feet from the source of activity. The Project would use loaded trucks, but they would not be used near the residential building to the south of the Project Site. Loaded trucks would be used to haul materials and would be approximately 40 to 50 feet away from the nearest residential building and would generate vibration of approximately 0.038 inches per second PPV. Supporting calculation files provided in Exhibit D of this Technical Report. These vibration values would not exceed the 0.2 inch per second PPV significance threshold for potential residential building damage. Impacts would be less than significant.

Operation

The Project's operations would include typical commercial-grade stationary mechanical and electrical equipment, such as air handling units, condenser units, and exhaust fans, which would produce vibration. In addition, the primary sources of transient vibration would include passenger vehicle circulation within the proposed parking area. According to America Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), pumps or compressors would generate groundborne vibration levels of 0.5 in/sec PPV at 1 foot.[55] At 25 feet, this vibration level drops to approximately 0.004 in/sec PPV (approximately 60 VdB), which is below the threshold.[56] According to the FTA, for smooth roadways, the vibration from rubber-tired traffic is rarely perceptible.[57] The Project's parking areas would be paved with smooth and maintained surfaces and vehicles would be traveling at very low speeds minimizing vibration levels. Parking area vibration would also be confined to the immediate area and would not be expected to be perceptible off the Project Sites. The potential vibration levels from all Project operational sources at the closest existing sensitive receptor locations would be less than the significance threshold of 0.2 inch per second PPV significance threshold for potential residential building damage. As such, vibration impacts associated with operation of the Project would be below the significance threshold and impacts would be less than significant.

Human Annoyance

Construction

With respect to human annoyance, the FTA's *Transit Noise and Vibration Impact Assessment* identifies residential buildings and institutional buildings that have vibration-sensitive equipment or have the potential for activity interference such as churches, as sensitive uses. The nearest residential uses to the Project Site are receptor locations R1, R2, and R3. There are no nearby institutional uses that would be impact by Project vibrations.

The nearest existing off-site residential structure is located to the south of the Project Site, with other residential structures at greater distances to the east and the north. As discussed above, these structures could be exposed to groundborne noise from construction activities that would range from approximately from 0.003 to 0.038 inch per second PPV during construction. These values are equivalent to approximately 58.0 VdB to 79.9 VdB. The Project would generate transient vibrations from period construction and not generate continuous vibrations. Supporting calculation files provided in Exhibit D of this Technical Report

Furthermore, the Project would comply with the more stringent of the CCMC and LAMC, which means construction would be allowed from 8:00 A.M. to 8:00 P.M. Monday through Friday; 9:00 A.M. to 6:00 P.M. on Saturdays; and no construction on Sundays. Construction vibration-generation activities would not occur during the nighttime hours when people normally sleep and would not occur on Sundays. Thus, compliance with Chapter 9.07 of the CCMC and Section

55 America Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., Heating, Ventilating, and Air-Conditioning Applications, 1999.

56 FTA, Transit Noise and Vibration Impact Assessment Manual, pages 111, 184 and 185, 2018.

57 FTA, Transit Noise and Vibration Impact Assessment Manual, pages 112 and 113, 2018.

41.40 of the LAMC would eliminate the potential for groundborne vibration and groundborne noise human annoyance impacts at the nearby residential uses (locations R1, R2, R3) during sensitive nighttime hours. Impacts would be less than significant.

Operation

Groundborne noise generated by operational activities would generate approximately up to 0.004 inch per second PPV (equivalent to approximately 60 VdB) adjacent to the Project Site.[58]The potential groundborne noise levels from all Project operational sources at the closest existing sensitive receptor locations would be less than the significance FTA threshold for human annoyance for perceptibility. As such, groundborne noise impacts associated with operation of the Project would be below the significance threshold and impacts would be less than significant.

As discussed above, operation of the Project would result in vibration levels substantially less than the significance threshold for groundborne vibration at vibration-sensitive receptors. For typical buildings, groundborne vibration results in groundborne noise levels approximately 25 to 40 decibels lower than the velocity level.[59] Given that the vibration level would be much lower than the perceptibility threshold at vibration-sensitive uses, and given that groundborne noise would be approximately 25 to 40 decibels lower than the velocity level, operational groundborne noise impacts would also be less than significant at vibration-sensitive uses.

Threshold c) For a project located within the vicinity of a private airstrip or 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?

Impact Statement: The Project is located within two miles of the Santa Monica Municipal Airport. However, the Project Site is not located within the 65 dBA CNEL contour. Therefore, the Project would have no impact.

5.4 Airport Vicinity

The Project Site is located approximately 1.7 miles southeast of the Santa Monica Municipal Airport. According to the Santa Monica Municipal Airport *Calendar Year 2020 CNEL Noise Contours* (April 2021),[60] the 65 dBA CNEL contour is wholly within the airport facility. Given that the Project Site is approximately 1.7 miles away from the airport, the Project would not expose people in the Project vicinity to excessive noise levels from airport use and no impact would occur. No further analysis is required.

58 FTA, Transit Noise and Vibration Impact Assessment Manual, pages 111, 184 and 185, 2018.
59 FTA, Transit Noise and Vibration Impact Assessment Manual, 2018, Page 120.
60 Santa Monica Municipal Airport, Calendar Year 2020 CNEL Noise Contours, Figure 3-8, April 2021.

SECTION 6
Summary of Results

Construction Noise and Vibration

The Project would result in less than significant construction impacts related to noise and vibration and no mitigation is required. Nonetheless, consistent with City General Plan policies, the Project would implement the City's General Plan Policy 2.A to ensure noise levels are minimized and do not cause adverse effects to the nearby sensitive receptors. Construction activities would be required to comply with the more stringent of the CCMC and LAMC, which means construction would be allowed from 8:00 A.M. to 8:00 P.M. Monday through Friday; 9:00 A.M. to 6:00 P.M. on Saturdays; and no construction on Sundays. Through compliance with the allowable construction hours, and applicable noise reduction strategies in the City's General Plan Noise Element Policy 2.A, noise impacts related to on-site construction activities would be less than significant at noise sensitive receptor locations.

Off-site haul truck trip would not substantially increase noise levels over the ambient condition. In addition, construction activities would occur only during daytime hours within the allowable hours specified in the City's Municipal Code. Therefore, noise impacts from off-site construction traffic would be less than significant and no mitigation measures are required.

Project construction would not generate excessive vibration levels at nearby sensitive receptor locations. Thus, vibration impacts would be less than significant and no mitigation is required.

Operational Noise and Vibration

The Project would result in less than significant operational impacts related to noise and vibration and no mitigation is required. The Project's noise impacts on existing development from operational on-site stationary noise sources and traffic would not exceed the established thresholds. Operational related noise impacts would be less than significant.

Project operation would not generate excessive vibration levels at nearby sensitive receptor locations. Thus, vibration impacts would be less than significant and no mitigation is required.

EXHIBIT A

Ambient Noise Data

Summary

File Name on Meter	LxT_Data.204
File Name on PC	SLM_0004161_LxT_Data_204.00.ldbin
Serial Number	0004161
Model	SoundTrack LxT®
Firmware Version	2.404
User	
Location	R1
Job Description	
Note	

Measurement

Description	
Start	2022-01-25 08:10:02
Stop	2022-01-25 08:25:02
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre Calibration	2022-01-25 08:06:02
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamp	PRMLxT1		
Microphone Correction	Off		
Integration Method	Exponential		
Overload	145.0 dB		
	A	**C**	**Z**
Under Range Peak	**100.9**	97.9	102.9 dB
Under Range Limit	**38.1**	37.7	44.8 dB
Noise Floor	28.9	28.6	35.7 dB

Results

LA_{Seq}	61.2 dB	
LASE	90.8 dB	
EAS	132.814 µPa²h	
EAS8	4.250 mPa²h	
EAS40	21.250 mPa²h	
$LA_{peak\ (max)}$	2022-01-25 08:21:11	101.0 dB
LAS_{max}	2022-01-25 08:21:12	83.2 dB
LAS_{min}	2022-01-25 08:21:26	50.1 dB
SEA	-99.9 dB	
LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{peak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{peak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{peak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s
LC_{Seq}	69.9 dB	
LA_{Seq}	61.2 dB	
LC_{Seq} - LA_{Seq}	8.7 dB	
LAI_{eq}	66.1 dB	
LA_{eq}	61.2 dB	
LAI_{eq} - LA_{eq}	4.9 dB	

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	61.2					
$L_{S(max)}$	83.2	2022/01/25 8:21:12				
$L_{S(min)}$	50.1	2022/01/25 8:21:26				
$L_{Peak(max)}$	101.0	2022/01/25 8:21:11				

# Overloads	0	
Overload Duration	0.0 s	

Dose Settings

Dose Name	OSHA-1	OSHA-2
Exchange Rate	5	5 dB
Threshold	90	80 dB
Criterion Level	90	90 dB
Criterion Duration	8	8 h

Results

Dose	-99.9	0.00 %
Projected Dose	-99.9	0.04 %
TWA (Projected)	-99.9	32.8 dB
TWA (t)	-99.9	7.8 dB
Lep (t)	46.2	46.2 dB

Statistics

LAS5.00	66.0 dB
LAS10.00	63.5 dB
LAS33.30	58.4 dB
LAS50.00	56.4 dB
LAS66.60	54.6 dB
LAS90.00	52.5 dB

Summary

File Name on Meter	LxT_Data.205
File Name on PC	SLM_0004161_LxT_Data_205.00.ldbin
Serial Number	0004161
Model	SoundTrack LxT®
Firmware Version	2.404
User	
Location	R2
Job Description	
Note	

Measurement

Description	
Start	2022-01-25 08:26:06
Stop	2022-01-25 08:41:06
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre Calibration	2022-01-25 08:06:01
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRMLxT1
Microphone Correction	Off
Integration Method	Exponential
Overload	145.0 dB

	A	**C**	**Z**
Under Range Peak	**100.9**	97.9	102.9 dB
Under Range Limit	**38.1**	37.7	44.8 dB
Noise Floor	28.9	28.6	35.7 dB

Results

LA_{Seq}	69.9 dB	
LASE	99.4 dB	
EAS	972.067 µPa²h	
EAS8	31.106 mPa²h	
EAS40	155.531 mPa²h	
$LA_{peak\ (max)}$	2022-01-25 08:38:45	98.4 dB
LAS_{max}	2022-01-25 08:40:27	79.3 dB
LAS_{min}	2022-01-25 08:32:48	52.7 dB
SEA	-99.9 dB	
LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{peak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{peak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{peak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s
LC_{Seq}	76.0 dB	
LA_{Seq}	69.9 dB	
LC_{Seq} - LA_{Seq}	6.1 dB	
LAI_{eq}	72.2 dB	
LA_{eq}	69.9 dB	
LAI_{eq} - LA_{eq}	2.3 dB	

	A		**C**		**Z**	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	69.9					
$L_{S(max)}$	79.3	2022/01/25 8:40:27				
$L_{S(min)}$	52.7	2022/01/25 8:32:48				
$L_{Peak(max)}$	98.4	2022/01/25 8:38:45				

# Overloads	0
Overload Duration	0.0 s

Dose Settings

Dose Name	OSHA-1	OSHA-2
Exchange Rate	5	5 dB
Threshold	90	80 dB
Criterion Level	90	90 dB
Criterion Duration	8	8 h

Results

Dose	-99.9	-99.9 %
Projected Dose	-99.9	-99.9 %
TWA (Projected)	-99.9	-99.9 dB
TWA (t)	-99.9	-99.9 dB
Lep (t)	54.8	54.8 dB

Statistics

LAS5.00	75.1 dB
LAS10.00	73.6 dB
LAS33.30	69.9 dB
LAS50.00	68.0 dB
LAS66.60	65.6 dB
LAS90.00	58.4 dB

Summary

File Name on Meter	LxT_Data.206
File Name on PC	SLM_0004161_LxT_Data_206.00.ldbin
Serial Number	0004161
Model	SoundTrack LxT®
Firmware Version	2.404
User	
Location	R3
Job Description	
Note	

Measurement

Description	
Start	2022-01-25 08:41:59
Stop	2022-01-25 08:56:59
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre Calibration	2022-01-25 08:06:01
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamp	PRMLxT1		
Microphone Correction	Off		
Integration Method	Exponential		
Overload	145.0 dB		
	A	**C**	**Z**
Under Range Peak	**100.9**	97.9	102.9 dB
Under Range Limit	**38.1**	37.7	44.8 dB
Noise Floor	28.9	28.6	35.7 dB

Results

LA_{Seq}	69.2 dB	
LASE	98.7 dB	
EAS	823.702 µPa²h	
EAS8	26.358 mPa²h	
EAS40	131.792 mPa²h	
$LA_{peak\ (max)}$	2022-01-25 08:42:44	102.2 dB
LAS_{max}	2022-01-25 08:42:45	83.4 dB
LAS_{min}	2022-01-25 08:50:43	51.5 dB
SEA	-99.9 dB	
LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{peak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{peak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{peak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s
LC_{Seq}	74.6 dB	
LA_{Seq}	69.2 dB	
LC_{Seq} - LA_{Seq}	5.4 dB	
LA_{leq}	71.1 dB	
LA_{eq}	69.2 dB	
LA_{leq} - LA_{eq}	2.0 dB	

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	69.2					
$L_{S(max)}$	83.4	2022/01/25 8:42:45				
$L_{S(min)}$	51.5	2022/01/25 8:50:43				
$L_{Peak(max)}$	102.2	2022/01/25 8:42:44				

# Overloads	0	
Overload Duration	0.0 s	

Dose Settings

Dose Name	OSHA-1	OSHA-2
Exchange Rate	5	5 dB
Threshold	90	80 dB
Criterion Level	90	90 dB
Criterion Duration	8	8 h

Results

Dose	-99.9	0.00 %
Projected Dose	-99.9	0.08 %
TWA (Projected)	-99.9	38.2 dB
TWA (t)	-99.9	13.2 dB
Lep (t)	54.1	54.1 dB

Statistics

LAS5.00	74.0 dB
LAS10.00	72.9 dB
LAS33.30	69.1 dB
LAS50.00	67.4 dB
LAS66.60	64.9 dB
LAS90.00	58.9 dB

EXHIBIT B

Construction Noise Calculations

Project: 12300 Washington

Construction Noise Impact on Sensitive Receptors

				At 50 Feet				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Demolition					***82***	***74.99***		**10**
Concrete Saw	1	90	20%	50	80	73	76	10
Generator	1	81	50%	100	65	62	65	10
Dozer	1	82	40%	150	62	58	61	10
Jackhammer	1	89	20%	75	75	68	71	10
Tractor/Loader/Backhoe	2	78	40%	75	67	64	67	10
Site Preparation/Minor Grading					***75***	***71***		
Grader	1	85	40%	50	75	71	74	10
Tractor/Loader/Backhoe	1	78	40%	100	62	58	61	10
Building Construction					***74***	***70***		
Compressor (air)	1	78	40%	75	64	60	63	10
Crane	1	81	16%	150	61	53	56	10
Forklift	2	75	10%	100	62	52	55	10
Generator	1	81	50%	50	71	68	71	10
Tractor/Loader/Backhoe	2	78	40%	100	65	61	64	10
Welder	1	74	40%	75	60	56	59	10
Paving					***76***	***73***		
Paver	1	77	50%	75	63	60	63	10
Other Equipment	1	85	50%	50	75	72	75	10
Roller	1	80	20%	100	64	57	60	10
Drum Mixer	2	80	50%	150	63	60	63	10
Architectural Coating					***68***	***64***		
Man Lift	1	75	20%	150	55	48	51	10
Compressor (air)	1	78	40%	50	68	64	67	10
Overlapping Phases								
Building Construction + Pavings + Architectural Coatings						74.86		
Maximum Combined Noise Levels						***74.99***		

Project: 12300 Washington

Construction Noise Impact on Sensitive Receptors

				R1					R2					R3				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L11**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L12**	**Estimated Noise Shielding, dBA**
Demolition					***87***	***80***		**10**		***86***	***80***				***86***	***79***		
Concrete Saw	1	90	20%	25	86	79	82	10	100	84	77	80		100	84	77	80	
Generator	1	81	50%	100	65	62	65	10	150	71	68	71	0	200	69	66	69	0
Dozer	1	82	40%	150	62	58	61	10	200	70	66	69	0	250	68	64	67	0
Jackhammer	1	89	20%	50	79	72	75	10	125	81	74	77	0	150	79	72	75	0
Tractor/Loader/Backhoe	2	78	40%	50	71	67	70	10	125	73	69	72	0	150	71	67	70	0
Site Preparation/Minor Grading					***81***	***77***				***79***	***75***				***79***	***75***		
Grader	1	85	40%	25	81	77	80	10	100	79	75	78	0	100	79	75	78	0
Tractor/Loader/Backhoe	1	78	40%	100	62	58	61	10	150	68	64	67	0	200	66	62	65	0
Building Construction					***78***	***75***				***79***	***75***				***78***	***74***		
Compressor (air)	1	78	40%	50	68	64	67	10	125	70	66	69	0	150	68	64	67	0
Crane	1	81	16%	150	61	53	56	10	200	69	61	64	0	250	67	59	62	0
Forklift	2	75	10%	100	62	52	55	10	150	68	58	61	0	200	66	56	59	0
Generator	1	81	50%	25	77	74	77	10	100	75	72	75	0	100	75	72	75	0
Tractor/Loader/Backhoe	2	78	40%	100	65	61	64	10	150	71	67	70	0	200	69	65	68	0
Welder	1	74	40%	50	64	60	63	10	125	66	62	65	0	150	64	60	63	0
Paving					***81***	***78***				***80***	***77***				***80***	***77***		
Paver	1	77	50%	50	67	64	67	10	125	69	66	69	0	150	67	64	67	0
Other Equipment	1	85	50%	25	81	78	81	10	100	79	76	79	0	100	79	76	79	0
Roller	1	80	20%	100	64	57	60	10	150	70	63	66	0	200	68	61	64	0
Drum Mixer	2	80	50%	150	63	60	63	10	200	71	68	71	0	250	69	66	69	0
Architectural Coating					***74***	***70***				***72***	***68***				***72***	***68***		
Man Lift	1	75	20%	150	55	48	51	10	200	63	56	59	0	250	61	54	57	0
Compressor (air)	1	78	40%	25	74	70	73	10	100	72	68	71	0	100	72	68	71	0
Overlapping Phases																		
Building Construction + Pavings + Architectural Coatings						80					79					79		
Maximum Combined Noise Levels						**80**					**80**					**79**		

TRAFFIC NOISE ANALYSIS TOOL

Project Name: 12300 W. Washington Boulevard
Analysis Scenario: Construction
Source of Traffic Volumes: Construction Analysis (i.e., CalEEMod)

	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Demolition Trucks	Hard	40	25	25	25	13	0	2	50.1	50.4

Model Notes:
The calculation is based on the methodology described in FHWA Traffic Noise Model Technical Manual (1998).
The peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.
Accuracy of the calculation is within ±0.1 dB when comparing to TNM results.
Noise propagation greater than 50 feet is based on the following assumptions:
For hard ground, the propagation rate is 3 dB per doubling the distance.
For soft ground, the propagation rate is 4.5 dB per doubling the distance.
Vehicles are assumed to be on a long straight roadway with cruise speed.

EXHIBIT C

Operational Noise Calculations

12300 W. Washington Boulevard
Loading Area Noise Calculation

Reference Noise Level for Loading Area

Category	Reference Distance[a] (ft)	Reference Noise Level[a] (dBA Leq)	Adjusted Noise Level (dBA Leq)	With Perimeter Wall (dBA Leq)
Loading Area	25	76	65.2	55.2

Source:

[a] The loading dock facility noise measurements were conducted at a loading dock facility at a Walmart store using the Larson-Davis 820 Precision Integrated Sound Level Meter (SLM) in May 2003. The Larson-Davis 820 SLM is a Type 1 standard instrument as defined in the American National Standard Institute S1.4. All instruments were calibrated and operated according to the applicable manufacturer specification. The microphone was placed at a height of approximately five feet above the local grade.

12300 W. Washington Boulevard

Loading Noise Calculation Loading Area Noise Calculation

Conversion from 5 minutes idling over 1-hour

Maximum Peak Hour Trips: 11 (See: Raju Associates, Inc., Technical Memorandum, 12300 W. Washington Boulevard Office Project, Trip Generation Analysis and Transportation Assessment Criteria, June 8, 2021.).

% Trucks of Peak Hour Trips: 8% (Heavy, Meadium, and Light Trucks)

~ 1 truck trips/peak hour (1 truck)

	Minutes	dBA	Anti-Log Calc.
Truck 1	1	76	39810717.06
Truck 1	2	76	39810717.06
Truck 1	3	76	39810717.06
Truck 1	4	76	39810717.06
Truck 1	5	76	39810717.06
	6	0	1
	7	0	1
	8	0	1
	9	0	1
	10	0	1
	11	0	1
	12	0	1
	13	0	1
	14	0	1
	15	0	1
	16	0	1
	17	0	1
	18	0	1
	19	0	1
	20	0	1
	21	0	1
	22	0	1
	23	0	1
	24	0	1
	25	0	1
	26	0	1
	27	0	1
	28	0	1
	29	0	1
	30	0	1
	31	0	1
	32	0	1
	33	0	1
	34	0	1
	35	0	1
	36	0	1
	37	0	1
	38	0	1
	39	0	1
	40	0	1
	41	0	1
	42	0	1
	43	0	1
	44	0	1
	45	0	1
	46	0	1
	47	0	1
	48	0	1
	49	0	1
	50	0	1
	51	0	1
	52	0	1
	53	0	1
	54	0	1
	55	0	1
	56	0	1
	57	0	1
	58	0	1
	59	0	1
	60	0	1

Sum of Anti-Log	Divide by 60	Re-convert to Log
199,053,640.28	3,317,560.67	**65.2 dBA Leq**
(Total sound energy)	*(Number of samples)*	*(Convert to decibel scale)*

Parking Related Noise Analysis

Project Name: 6007 Sunset Blvd

AM or PM Peak Hour Trips	11	trips	
Leq	**36.8**	dBA	at 50 feet
Leq	**42.8**	dBA	at 25 feet
Perimeter walls:	**-10.0**	dBA	
Leq, with Perimeter walls	**32.8**	dBA	at 25 feet

$$Leq(h) = SELref + 10\log(NA/1000) - 35.6$$

Where: Leq(h) = hourly Leq noise level at 50 feet
SELref (92 dBA SEL) = reference noise level for stationary noise source represented in sound exposure level (SEL) at 50 feet
NA = number of automobiles per hour

EXHIBIT D

Vibration Calculations

12300 W. Washington Boulevard
Vibration Level Calculations

				R1		
				N =	1.5	
Construction Equipment	**Project Equipment**	**Equipment Velocity Decibels @ 25 Feet* (VdB)**	**Equipment Peak Particle Velocity @ 25 Feet* (inches/second)**	**Distance to Structure (Feet)**	**Estimated Velocity Decibels @ Distance** (VdB)**	**Estimated Peak Particle Velocity @ Distance*** (inches/second)**
Loaded Trucks	Yes	86	0.076	40	79.9	0.038
Jackhammer	Yes	79	0.035	25	79.0	0.035
Small Bulldozer	Yes	58	0.003	25	58.0	0.003

Source:
Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, 2018.

Notes:
* Values taken from Table 7-4.
** Based on the formula VdB(D) = VdB(25ft) - 30 x LOG10 (D/25), where D is equal to the distance (see page 185).
*** Based on the formula $PPV(D) = PPV(25\ ft) \times (25/D)^{N}$, where D is equal to the distance (see page 185).
N = soil type classification factor (typically ranges from 1 to 1.5)

WASHINGTON WING PROJECT
12300 W. WASHINGTON BLVD, CULVER CITY, CA

Shade and Shadow Impact Analysis

Prepared for
The Jacmar Properties, LLC
220 West Valley Boulevard
Alhambra, California 91803

January 2022

ESA

WASHINGTON WING PROJECT
12300 W. WASHINGTON BLVD, CULVER CITY, CA

Shade and Shadow Impact Analysis

Prepared for
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Alhambra, California 91803

January 2022

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Shade and Shadow Impact Analysis

WASHINGTON WING PROJECT

Shade and Shadow Impact Analysis

A. Introduction

The Jacmar Properties, LLC proposes to redevelop an approximately 12,363 square-foot (approximately 0.283 acre) property located at 12300 Washington Boulevard (Project Site) in Culver City. The Project Site is bounded to the north by W. Washington Boulevard, to the east by Campbell Drive, to the south by existing residential development, and to the west by a bank and associated surface parking. The proposed Project would develop a four-story, 49-foot tall, 11,100 square-foot office building.

This report analyzes the Project's potential to result in shade/shadow impacts on adjacent shade sensitive uses.[1] As analyzed herein, the Project would not result in significant shadow impacts.

B. Methodology

The consequences of shadows on land uses can be positive, including cooling effects during warm weather; or negative, such as loss of warmth during cooler weather and loss of natural light for landscaping and human activity. Sensitive uses include "routinely usable outdoor spaces" associated with residential, recreational or institutional uses (e.g., schools, convalescent homes), commercial uses such as pedestrian-oriented outdoor spaces or restaurants with outdoor eating areas, nurseries, and existing solar collectors. These uses are considered sensitive because sunlight is important to function, physical comfort, or commerce. In order to determine the extent of shading impacts, shading diagrams of the worst case scenarios (longest shadows) have been prepared that show adjacent off-site shade-sensitive uses on an aerial photograph.

The shading diagrams illustrate the shadows cast by the Project on nearby surrounding uses to the north, northwest, and northeast during the winter solstice on December 21 from 9:00 A.M. to 3:00 P.M.; the spring equinox on March 21 from 9:00 A.M. to 5:00 P.M.; the summer solstice on June 21 from 9:00 A.M. to 5:00 P.M.; and the fall equinox from 9:00 A.M. to 5:00 P.M. The duration of shading that would occur based on modeling and as depicted in the shading diagrams is compared to threshold standards below to determine if a significant shadow impact would occur as a result of Project implementation. In assessing the significance of shading impacts, existing shading of sensitive areas during the analysis periods is considered with the emphasis being on net new shading caused by the Project.

[1] The City of Culver City relies on the criteria set forth in the *City of Los Angeles' CEQA Thresholds Guide (2006)* to determine shadow/shadow impacts on shade sensitive uses.

C. Significance Criteria

Appendix G of the CEQA Guidelines does not provide screening questions that address impacts with regard to shading. However, the City of Culver City considers that a project would have a potentially significant impact if:

- **Threshold** - Shade-sensitive uses would be shaded more than three hours between the hours of 9:00 A.M. and 3:00 P.M. Pacific Standard Time (PST), between early November and mid-March or more than four hours between the hours of 9:00 A.M. and 5:00 P.M. Pacific Daylight Time (PDT) between early mid-March and early November.[2]

D. Project Location and Surrounding Shadow Sensitive Uses

The Project Site is surrounded by commercial and residential uses. Surrounding land uses include the following:

- North – One- and two-story residential uses are located to the north of the Project Site, on the north side of W. Washington Boulevard.
- East – A one-story restaurant use and associated parking is located on the southeast corner of W. Washington Boulevard and Campbell Drive. A two-story residential use is located east of the restaurant use.
- South – One-story residential uses are located to the south of the Project Site.
- West – A bank and associated surface parking is located to the west of the Project Site.

Figure 1, *Aerial Photograph with Surrounding Land Uses*, illustrates the surrounding uses.

New structures typically have the potential to result in shading impacts when shadow-sensitive uses are located to the north, northwest, or northeast of new structures. Shade sensitive uses in the Project vicinity include the backyards, outdoor spaces, and solar collectors (if any) associated with the residential uses to the north, east, and south of the Project Site and solar collectors (if any) associated with the commercial uses to the west and east of the Project Site.

E. Project Characteristics

The proposed Project is an office building, and would include 3,283 square-feet of new landscaping and outdoor deck spaces on Level 2, Level 3 and Level 4.. The northern approximately two-thirds portion of the Project site has a General Plan land use designation and zoning designation of Commercial-General Corridor and Commercial General and is currently developed with a small 1-story office building and shed. The southern approximately one-third portion of Project site has a General Plan land use designation of Residential-Low Density and

[2] The durations originally cited in the *L.A. CEQA Threshold Guide*, were originally geared to change in early April and Late October, consistent with the change to daylight savings time that was in effect at that time. The durations used here have been modified to match the current starting and ending dates for daylight savings time.

zoning designation of C2-1 (Commercial, Height District 1) and is currently developed with a small 1-story garage building and surface parking area.

The Project would include a contemporary four story building (49 feet tall). Parking for the proposed uses would be provided within surface parking areas on the Project Site.

F. Impact Analysis

Potential shading impacts could result when shadow-sensitive uses are located to the north, northwest, or northeast of new structures as the sun position and location is in the south. **Figure 2**, *Winter Solstice Shadows – December 21,* **Figure 3**, *Spring Equinox Shadows – March 21*, **Figure 4**, *Summer Solstice Shadows – June 21*, and **Figure 5**, *Fall Equinox Solstice Shadows – September 21*, illustrates the Project's shadows during the worse-case shadow scenarios. As depicted therein, shadow-sensitive uses include backyards, solar collectors, and pools, associated with residential uses located to the northwest and north.

As shown on Figure 2, during the winter solstice, the shadows from the Project building would extend northwest, north, and northeast across W. Washington Boulevard and onto the sidewalk and street-side landscaped areas of the residential uses, but would not extend onto or past the residential buildings. The shadows from the Project building would extend northeast onto Campbell Drive and onto the restaurant use to the east during the afternoon but would not extend to the residential building to the east at the 3:00 PM hour. The restaurant use to the east does not have rooftop solar collectors. Therefore, shadows cast during the winter solstice would not exceed the three-hour threshold at shadow-sensitive uses and shading impacts would be less than significant.

As shown on Figure 3, during the spring equinox, the shadows from the Project building would extend west and northwest onto W. Washington Boulevard and onto the surface parking lot and eastern side of the bank building to the west of the Project Site. The shadows from the Project building would extend north onto W. Washington Boulevard but would not extend to the residential uses to the north. The shadows from the Project building would extend east and northeast onto Campbell Drive and the western side of the restaurant building but would not extend to the residential uses to the east. Therefore, shadows cast during the spring equinox would not exceed the four-hour threshold at shadow-sensitive uses and shading impacts would be less than significant.

As shown on Figure 4, during the summer solstice, the shadows from the Project building would extend to the west onto the surface parking lot for the bank use and to the east onto Campbell Drive. The shadows from the Project building would not extend onto any shadow-sensitive uses. Therefore, shadows cast during the summer solstice would not exceed the four-hour threshold and shading impacts would be less than significant.

As shown on Figure 5, during the fall equinox, the shadows from the Project building would extend northwest onto W. Washington Boulevard and onto the surface parking lot and eastern side of the bank building to the west of the Project Site. The shadows from the Project building would extend north onto W. Washington Boulevard but would not extend to the residential uses

to the north. The shadows from the Project building would extend east and northeast onto Campbell Drive and the western side of the restaurant building but would not extend to the residential uses to the east. Therefore, shadows cast during the fall equinox would not exceed the four-hour threshold at shadow-sensitive uses and shading impacts would be less than significant.

G. Conclusion

No shadow-sensitive uses would be subject to significant new shading by the Project building for more than three hours between the hours of 9:00 A.M. and 3:00 P.M. between early November and mid-March, or for more than four hours between the hours of 9:00 A.M. and 5:00 P.M. between mid-March and early November. As a result, the addition of the Project would not significantly shade any nearby shadow-sensitive uses based on the significance thresholds stated above, and impacts would be less than significant impact.

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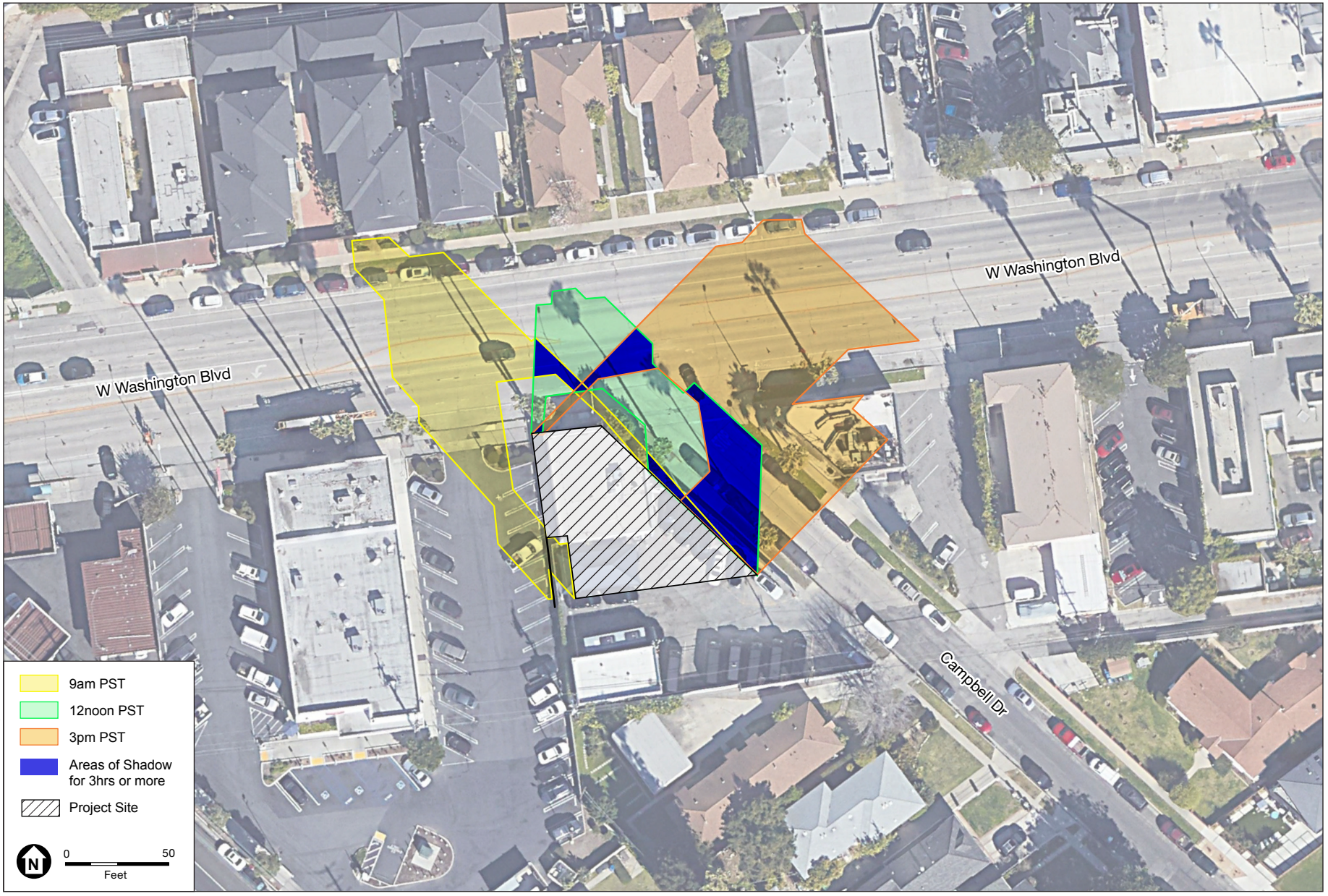
SOURCE: ESA, 2022; Basemap Google Earth, 2022

Washington Wing (12300 Washington Blvd)

Figure 1
Aerial Photograph with Surrounding Land Uses

ESA



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SOURCE: ESA, 2022; Basemap Google Earth, 2022

Washington Wing (12300 Washington Blvd)

Figure 2
Winter Solstice (December 21)
Project Off-Site Shadows

ESA

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SOURCE: ESA, 2022; Basemap Google Earth, 2022

Washington Wing (12300 Washington Blvd)

Figure 3
Spring Equinox (March 20)
Project Off-Site Shadows

ESA

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SOURCE: ESA, 2022; Basemap Google Earth, 2022

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Figure 4
Summer Solstice (June 21)
Project Off-Site Shadows

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SOURCE: ESA, 2022; Basemap Google Earth, 2022

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Figure 5
Fall Equinox (September 22)
Project Off-Site Shadows

ESA