AIR QUALITY MODELING ANALYSIS
for the
TOPGOLF ONTARIO PROJECT
4th STREET & N. ARCHIBALD AVENUE
ONTARIO, SAN BERNARDINO COUNTY, CA 91764

Prepared for:

Sheppard, Mullin, Richter & Hampton LLP
333 S. Hope Street, 43rd Floor
Los Angeles CA 90071-1422

Prepared by:

PARKER
ENVIRONMENTAL CONSULTANTS

23822 Valencia Boulevard, Suite 301
Valencia, CA 91355

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A. AIR QUALITY MODELING ANALYSIS

1. INTRODUCTION

This report examines the degree to which the Topgolf Ontario Project ("Proposed Project"), located at the southeast corner of 4th Street and N. Archibald Avenue ("Project Site"), may result in significant environmental impacts with respect to air quality. Both short-term construction emissions occurring from activities such as demolition, haul truck trips, and long-term effects related to the ongoing operation of the Proposed Project are discussed in this report. The analysis contained herein focuses on air pollution from two perspectives: daily emissions and pollutant concentrations. As used in this study, the term "emissions" refers to the actual quantity of pollutant measured in pounds per day (ppd). The term "concentrations" refers to the amount of pollutant material per volumetric unit of air as measured in parts per million (ppm), parts per billion (ppb), or micrograms per cubic meter ($\mu g/m^3$).

This analysis also addresses the potential for the Proposed Project to conflict with or obstruct implementation of the applicable air quality plan, to violate an adopted air quality standard or contribute substantially to an existing or projected air quality violation, to result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is designated to be in non-attainment, to expose sensitive receptors to substantial pollutant concentrations, or to create objectionable odors affecting a substantial number of people. Documents and references used in the preparation of this section include, but are not limited to, the air quality modeling worksheets presented in Appendix A of this report, the South Coast Air Quality Management District (SCAQMD) *CEQA Air Quality Handbook* (1993), the 2016 Air Quality Management Plan (AQMP), and the City of Ontario Policy Plan Environmental Resource Element (Chapter ER4 Air Quality), as well as federal and state regulations and guidelines.

A. Project Site Location and Setting

As shown in Figure 1, Project Location Map, on page 3, the Project Site is located on the southeast corner of 4th Street and N. Archibald Avenue in the City of Ontario within the County of San Bernardino. The Project Site comprises of two parcels and occupies approximately 13.31 acres (579,698 square feet) of vacant, undeveloped land, on the northwestern-most portion of the Cucamonga-Guasti Regional Park. Industrial land uses are located north of the Project Site, across 4th Street. Multi-family residential buildings are located west of the Project Site, across N. Archibald Avenue. The remaining portions of the Cucamonga-Guasti Regional Park are located east and south of the Project Site, which contains park amenities and an existing flood control district basin to the south of the Project Site. The San Bernardino 10 Freeway (I-10) is located approximately 0.7 miles south of the Project Site and runs in an east-west direction.

B. Project Description

The Proposed Project would consist of a Topgolf facility which features climate-controlled hitting bays where players hit golf balls with embedded microchips into an outdoor outfield enclosed by perimeter netting. The Topgolf facility would feature a five patent technology platform gaming system in which

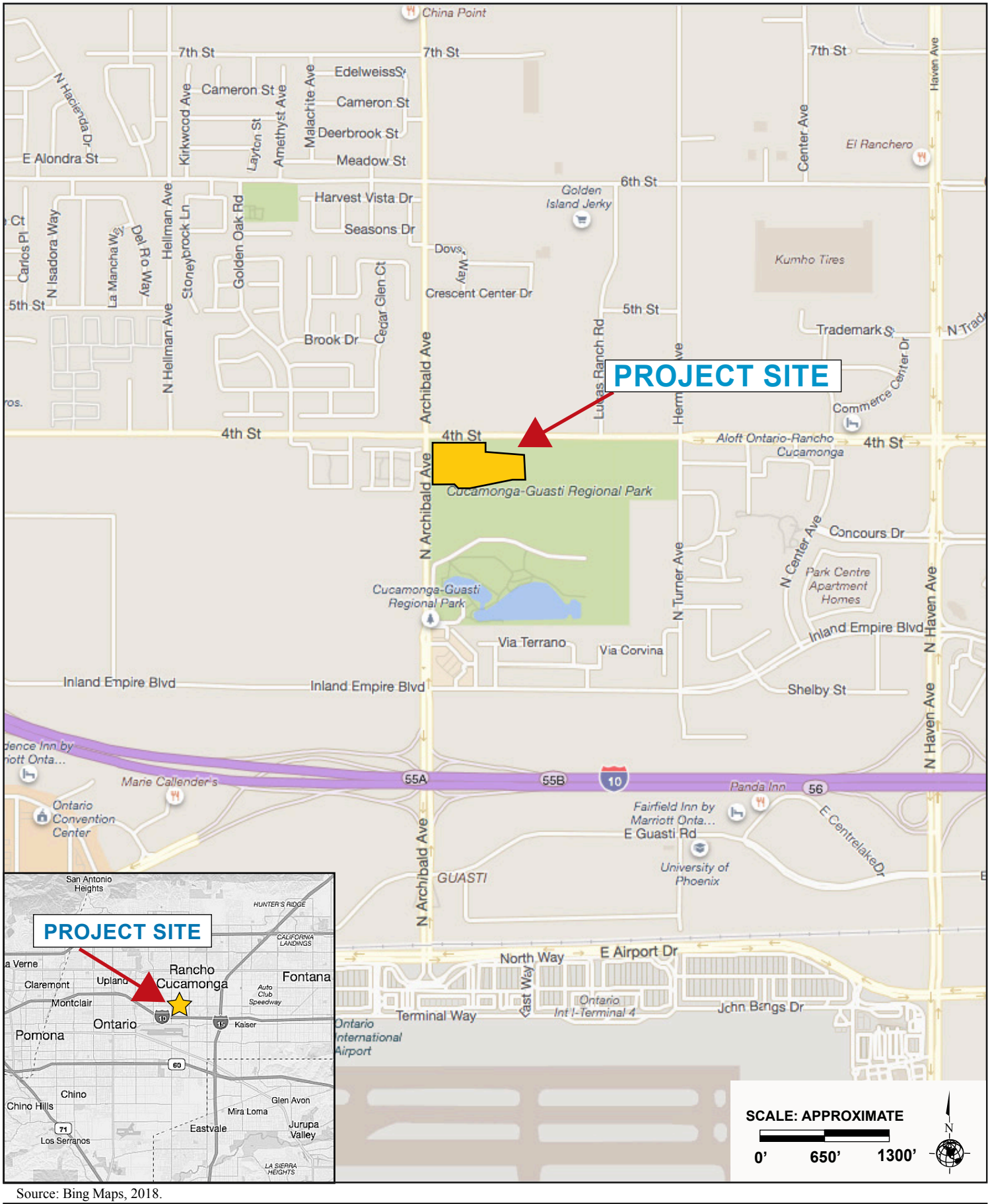
players hit golf balls embedded with a radio frequency identification microchip in a 240-yard outfield that features eleven targets at various distances. Microchips in the balls track each player's shot in real time, giving points for accuracy. The Proposed Project would consist of an approximately 67,521 gross square-foot three-story main building, outdoor patio, and an approximately 5-acre outdoor driving range outfield. The facility would be located so that the tee line is facing east, away from the afternoon sun. The proposed 67,521 square-foot building features 102 hitting bays, including bays designated for golf instruction and team practice. The hitting bays include golf clubs, comfortable seating, and television screens to monitor sporting events and tract Topgolf scoring. Figure 2, on page 4, illustrates the site plan for the Proposed Project.

The Proposed Project would also offer a beverage station/service bar and lounge with a full-service bar and restaurant. The Proposed Project would also provide an outdoor patio and rooftop terrace, furnished with tables, couches, and fire pits, with food service available. The spaces would be used for banquets, corporate events, and other event meetings, and can accommodate live music for events. Additionally, the Proposed Project features an approximately half-acre miniature golf course adjacent to the outfield and main building. The miniature golf course would include approximately 18 holes and a 500 square-foot building for golf clubs and ball storage and a point-of-sale terminal. An approximate breakdown of square footages for the key various use types within the building is provided in Table 1, below. A total of 524 surface parking spaces would be provided for the Proposed Project on the western portion of the Project Site.

Table 1
Proposed Development Program

Floor Level	Area (square feet)
Ground Level	22,079
Middle Level	23,082
Upper Level	22,360
TOTAL:	**67,521 sf**

Source: Aria Group, March 2019.



Source: Bing Maps, 2018.

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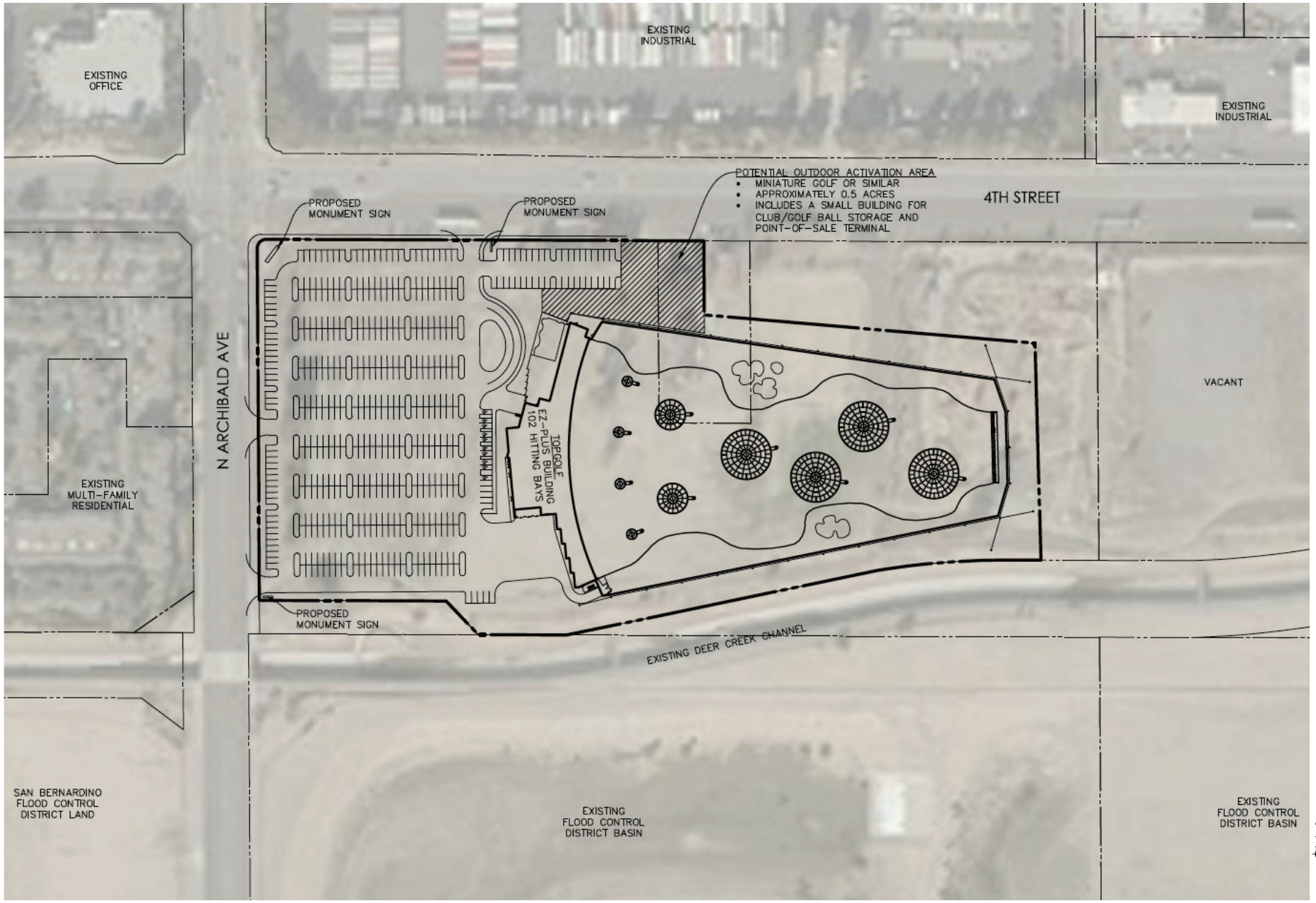
Figure 1
Project Location Map



Source: ARCO/Murray Design Build, June 20, 2018.

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Figure 2
Proposed Plot Plan

C. Project Requirements

The Proposed Project would be required to comply with regulations imposed by the California Air Resources Board (CARB), the South Coast Air Quality Management District (SCAQMD), and the City of Ontario Policy Plan Environmental Resource Element (Chapter ER4 Air Quality) aimed at controlling and reducing air quality emissions. These regulations that are applicable to the Proposed Project include the CARB regulations, 2016 Air Quality Management Plan, SCAQMD Rules, SCAG's 2016-2040 RTP/SCS, and the City of Ontario Policy Plan Environmental Resource Element (Chapter ER4 Air Quality). These regulations are discussed in more detail below within the "Regulatory Framework" subheading.

2. AIR QUALITY SETTING

A. Air Pollutants

Air pollutant emissions within the Air Basin are generated by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at an identified location and are usually associated with manufacturing and industry. Examples of point sources include boilers or combustion equipment that produce electricity or generate heat. Area sources are widely distributed and produce many small emissions. Examples of area sources include residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and consumer products such as lighter fluid and hair spray. Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources may be legally operated on roadways and highways. Off-road sources include aircraft, ships, trains, racecars, and self-propelled construction equipment. Air pollutants can also be generated by the natural environment, such as when fine dust particles are pulled off the ground surface and suspended in the air during high winds.

Both the federal and state governments have established ambient air quality standards for outdoor concentrations of various pollutants in order to protect public health and welfare. These pollutants are referred to as "criteria air pollutants" as a result of the specific standards, or criteria, that have been adopted for them. The national and state standards 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 protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

The criteria air pollutants that are most relevant to current air quality planning and regulation in the Air Basin include ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), respirable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), sulfur dioxide (SO_2), and lead (Pb). In addition, toxic air contaminants (TACs) are of concern in the Basin. The characteristics of each of these pollutants are briefly described below.

- *O_3* is a highly reactive and unstable gas that is formed when reactive organic gases (ROGs) and nitrogen oxides (NO_x), both byproducts of internal combustion engine exhaust, undergo slow

photochemical reactions in the presence of sunlight. O_3 concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.

- *CO* is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike O_3, motor vehicles operating at slow speeds are the primary source of CO in the Basin. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

- *PM_{10}* and *$PM_{2.5}$* consist of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter, respectively. Some sources of particulate matter, like pollen and windstorms, are naturally occurring. However, in populated areas, most particulate matter is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities.

- *NO_2* is a nitrogen oxide compound that is produced by the combustion of fossil fuels, such as in internal combustion engines (both gasoline and diesel powered), as well as point sources, especially power plants. Of the seven types of NO_x compounds, NO_2 is the most abundant in the atmosphere. As ambient concentrations of NO_2 are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of NO_2 than those indicated by regional monitors.

- *SO_2* is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms sulfates (SO_4). Collectively, these pollutants are referred to as sulfur oxides (SO_x).

- *Pb* occurs in the atmosphere as particulate matter. The combustion of leaded gasoline is the primary source of airborne Pb in the Basin. The use of leaded gasoline is no longer permitted for on road motor vehicles, so the majority of such combustion emissions are associated with off-road vehicles such as racecars. However, because leaded gasoline was emitted in large amounts from vehicles when leaded gasoline was used for on-road motor vehicles, Pb is present in many urban soils and can be re-suspended in the air. Other sources of Pb include the manufacturing and recycling of batteries, paint, ink, ceramics, ammunition, and the use of secondary lead smelters.

- *TACs* refer to a diverse group of air pollutants that are capable of causing chronic (i.e., of long duration) and acute (i.e., severe but of short duration) adverse effects on human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. TACs are different than "criteria" pollutants in that ambient air quality standards have not been established for them, largely

because there are hundreds of air toxics and their effects on health tend to be felt on a local scale rather than on a regional basis.

B. Health Effects of Criteria Pollutants

The health effects of the criteria pollutants (i.e., O_3, CO, PM_{10} and $PM_{2.5}$, NO_2, SO_2, and Pb) and TACs are described below. In addition, a list of the harmful effects of each criteria pollutant is provided in Table 2, Summary of Health Effects of Criteria Pollutants.

Table 2
Summary of Health Effects of Criteria Pollutants

Pollutants	Primary Health and Welfare Effects
Ozone (O_3)	• Aggravation of respiratory and cardiovascular diseases • Reduced lung function • Increased cough and chest discomfort
Carbon Monoxide (CO)	• Aggravation of some heart disease (angina) • Reduced tolerance for exercise • Impairment of mental function • Impairment of fetal development • Death at high levels of exposure
Particulate Matter (PM_{10} and $PM_{2.5}$)	• Reduced lung function • Aggravation of respiratory and cardio-respiratory diseases • Increases in mortality rate • Reduced lung function growth in children
Nitrogen Dioxide (NO_2)	• Aggravation of respiratory illness
Sulfur Dioxide (SO_2)	• Aggravation of respiratory diseases (asthma, emphysema) • Reduced lung function
Lead (Pb)	• Behavioral and hearing disabilities in children • Nervous system impairment
Source: SCAQMD, Guidance Document for Air Quality Issues in General Plans and Local Planning, 2005.	

1. Ozone (O_3)

Individuals exercising outdoors, children and people with pre-existing lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible sub-groups for ozone effects. Short-term exposures (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated ozone levels are also associated with increased school absences. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in high ozone communities.

Ozone exposure under exercising conditions is known to increase the severity of the above mentioned observed responses. Animal studies suggest that exposures to a combination of pollutants that include ozone may be more toxic than exposure to ozone alone. Although lung volume and resistance changes

observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.

2. Carbon Monoxide (CO)

Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of worsening oxygen supply to the heart.

Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport by competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include patients with diseases involving heart and blood vessels, fetuses, and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes.

Reduction in birth weight and impaired neurobehavioral development has been observed in animals chronically exposed to CO resulting in COHb levels similar to those observed in smokers. Recent studies have found increased risks for adverse birth outcomes with exposure to elevated CO levels. These include pre-term births and heart abnormalities. Additional research is needed to confirm these results.

3. Particulate Matter (PM_{10} and $PM_{2.5}$)

A consistent correlation between elevated ambient particulate matter (PM_{10} and $PM_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in life-span, and lung cancer.

Daily fluctuations in fine particulate matter concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children and to increased medication use in children and adults with asthma. Recent studies show that lung function growth in children is reduced with long-term exposure to particulate matter.

The elderly, people with pre-existing respiratory or cardiovascular disease and children appear to be more susceptible to the effects of PM_{10} and $PM_{2.5}$.

4. Nitrogen Dioxide (NO_2)

Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposures to NO_2 at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 in healthy individuals. Larger decreases in lung functions are observed in individuals with asthma or

chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups.

In animals, exposure to levels of NO_2 considerably higher than ambient concentrations results in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of O_3 and NO_2.

5. Sulfur Dioxide (SO_2)

A few minutes of exposure to low levels of SO_2 can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2.

Animal studies suggest that despite SO_2 being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO_2 levels. In these studies, efforts to separate the effects of SO_2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically or whether one pollutant alone is the predominant factor.

6. Sulfates

Most of the health effects associated with fine particles and SO_2 at ambient levels are also associated with SO_4. Thus, both mortality and morbidity effects have been observed with an increase in ambient SO_4 concentrations. However, efforts to separate the effects of SO_4 from the effects of other pollutants generally have not been successful.

Clinical studies of asthmatics exposed to sulfuric acid suggest that adolescent asthmatics are possibly a subgroup susceptible to acid aerosol exposure. Animal studies suggest that acidic particles such as sulfuric acid aerosol and ammonium bisulfate are more toxic than non-acidic particles like ammonium sulfate. Whether the effects are attributable to acidity or to particles remains unresolved.

7. Lead (Pb)

Fetuses, infants, and children are more sensitive than others to the adverse effects of lead exposure. Exposure to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence levels. In adults, increased lead levels are associated with increased blood pressure.

Lead poisoning can cause anemia, lethargy, seizures and death. It appears that there are no direct effects of lead on the respiratory system. Lead can be stored in the bone from early-age environmental exposure,

and elevated blood lead levels can occur due to the breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland) and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of lead because of previous environmental lead exposure of their mothers.

8. Toxic Air Contaminants (TACs)

TACs are a broad class of compounds known to cause or contribute to cancer or non-cancer health effects such as birth defects, genetic damage, and other adverse health effects. As discussed previously, effects from TACs may be both chronic and acute on human health. Acute health effects are attributable to sudden exposure to high quantities of air toxics. These effects include nausea, skin irritation, respiratory illness, and, in some cases, death. Chronic health effects can result from low-dose, long-term exposure from routine releases of air toxics. The effect of major concern for this type of exposure is cancer, which typically requires a period of 10 to 30 years after exposure to develop.

TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., benzene near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, state, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about two-thirds of the cancer risk from TACs (based on the statewide average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified by the CARB as TACs, and are listed as carcinogens either under California's Proposition 65 or under the federal Hazardous Air Pollutants programs. The United States Environmental Protection Agency (U.S. EPA) has adopted Ultra Low Sulfur Diesel (ULSD) fuel standards to reduce diesel particulate matter. As of June 1, 2006, refiners and importers nationwide have been required by the U.S. EPA to ensure that at least 80 percent of the volume of the highway diesel fuel they produce or import would be ULSD-compliant. As of December 10, 2010, only ULSD fuel is available for highway use nationwide. In California, which was an early adopter of ULSD fuel and engine technologies, 100 percent of the diesel fuel sold – downstream from refineries, up to and including fuel terminals that store diesel fuel – has been ULSD fuel since July 15, 2006. Since September 1, 2006, all diesel fuel offered for sale at retail outlets in California has been ULSD fuel.

C. Regulatory Framework

Air quality in the United States is governed by the federal Clean Air Act (CAA). In addition to being subject to the requirements of the CAA, air quality in California is also governed by more stringent regulations under the California Clean Air Act (CCAA). At the federal level, the CAA is administered by the U.S. EPA. In California, the CCAA is administered by the CARB at the state level and by the Air Quality Management Districts at the regional and local levels.

Air quality within the Basin is addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality within the Basin are discussed below.

1. Federal Agencies

a. The U.S. Environmental Protection Agency (U.S. EPA)

The U.S. EPA is responsible for setting and enforcing the federal ambient air quality standards for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The U.S. EPA also has jurisdiction over emissions sources outside state waters (outer continental shelf) and establishes various emissions standards for vehicles sold in states other than California.

As part of its enforcement responsibilities, the U.S. EPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP). The SIP is a plan for each state which identifies how that state will attain and/or maintain the primary and secondary National Ambient Air Quality Standards (NAAQS) set forth in section 109 of the CAA. These plans are developed through a public process, formally adopted by the state, and submitted by the Governor's designee to the U.S. EPA. The CAA requires the U.S. EPA to review each plan and any plan revisions and to approve the plan or plan revisions if consistent with the CAA.

2. State Agencies

a. California Air Resources Board (CARB)

The 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, the CARB conducts research, sets California Ambient Air Quality Standards, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. The CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hair spray, aerosol paints, and lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. In some cases, the state standards are more restrictive than the federal standards established under the CAA.

i. Toxic Air Contaminant Identification and Control Program

In 1983, the California Legislature adopted the Toxic Air Contaminant Identification and Control Program (AB 1807), which established a two-step process of risk identification and risk management to address the potential health effects from air toxic substances and protect the public health of Californians. In the first step (risk identification), the CARB and the Office of Environmental Health Hazard Assessment (OEHHA) determine if a substance should be formally identified as a TAC in California. CARB has identified over 200 compounds as toxic air contaminants through a combination of the state

process and U.S. EPA Hazardous Air Pollutants into the California list. In the second step (risk management), the CARB reviews the emission sources of an identified TAC to determine if any regulatory action is necessary to reduce the risk. The analysis includes a review of controls already in place, the available technologies and associated costs for reducing emissions, and the associated risk. As part of this process, CARB develops proposals to manage those potential risks with statewide emission control regulations called Airborne Toxic Control Measures (ATCMs). ATCMs decrease public exposure through process changes, best available control devices, and/or product reformulation in consideration of cost and health risk.

ii. Off-Road Diesel Emissions

Off-road diesel vehicles, which include construction equipment, are also regulated by the CARB for both in-use (existing) and new engines. Four sets of standards implemented by the CARB for new off-road diesel engines, known as Tiers. Tier 1 standards began in 1996. Tiers 2 and 3 were adopted in 2000 and were more stringent than the Tier 1 standards. Tier 2 and Tier 3 standards were completely phased in by 2006 and 2008, respectively. Tier 4 standards became effective in 2011. Tier 4 emission standards will reduce particulate matter and NO_X emissions of late model cars to 90 percent below current levels.

Since off-road vehicles that are used in construction and other related industries can last 30 years or longer, most of those that are in service today are still part of an older fleet that do not have emission controls. On July 26, 2007, the CARB approved the "In-Use Off-Road Diesel Fueled Fleets Regulation" to reduce emissions from existing (in-use) off-road diesel vehicles that are used in construction and other industries. This regulation became effective on June 15, 2008, and sets an anti-idling limit of five minutes for all off-road vehicles 25 horsepower and up. It also establishes emission rates targets for the off-road vehicles that decline over time to accelerate turnover to newer, cleaner engines and require exhaust retrofits to meet these targets. Revised in October 2016, the regulation enforced off-road restrictions on fleets adding vehicles with older tier engines, and started enforcing beginning July 1, 2014. By each annual compliance deadline, a fleet must demonstrate that it has either met the fleet average target for that year, or has completed the Best Available Control Technology (BACT) requirements. Large fleets have compliance deadlines each year from 2014 through 2023, medium fleets each year from 2017 through 2023, and small fleets each year from 2019 through 2028.

Reducing diesel particulate emissions is one of CARB's highest priorities and has set a long-term goal to reduce diesel particulate emissions by 85 percent by 2020. To further address TACs, CARB published the Air Quality and Land Use Handbook in April 2005, which discusses land use and planning strategies to protect sensitive receptors (such as children, pregnant women, the elderly, and those with existing health problems) from TAC emissions. This handbook serves as a general guide for local municipalities and agencies and is voluntary.

3. Regional Agencies

a. Southern California Association of Governments (SCAG)

The Southern California Association of Governments (SCAG) is a council of governments for Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. SCAG is a regional planning agency and forum for regional issues relating to transportation, the economy and community development, and the environment. Although SCAG is not an air quality management agency, it is responsible for developing transportation, land use, and energy conservation measures that affect air quality.

SCAG recently prepared the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS): A Plan for Mobility, Accessibility, Sustainability and a High Quality of Life, which was adopted by SCAG's Regional Council on April 7, 2016. The 2016 RTP/SCS is an update to the 2012-2035 RTP/SCS that further integrates land use and transportation in certain areas so that the region as a whole can grow smartly and sustainably. Between 2015 and 2040, the region is anticipated to experience increases in population, households and jobs. The 2016 RTP/SCS includes land use strategies, based on local general plans, as well as input from local governments, to achieve the AB 32 state-mandated reductions in GHG emissions through decreases in regional per capita VMT. As part of the 2016 RTP/SCS, transportation network improvements would be included, and more compact, infill, walkable and mixed-use development strategies to accommodate new region's growth would be encouraged to accommodate increases in population, households, employment, and travel demand.

Within the RTP, the SCS demonstrates the region's ability to attain and exceed the GHG emission reduction targets set forth by the CARB. SCAG's Sustainable Communities Strategy (SCS) provides specific strategies for successful implementation. These strategies include supporting projects that encourage diverse job opportunities for a variety of skills and education, recreation and culture 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.

The SCS outlines the region's plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. The regional vision of the SCS maximizes current voluntary local efforts that support the goals of SB 375, as evidenced by several Compass Blueprint Demonstration Projects and various county transportation improvements. The SCS focuses the majority of new housing and job growth in high-quality transit areas and other opportunity areas in existing main streets, downtowns, and commercial corridors, resulting in an improved jobs-housing balance and more opportunity for transit-oriented development. This overall land use development pattern supports and complements the proposed transportation network that emphasizes system preservation, active transportation, and transportation demand management measures.

b. South Coast Air Quality Management District (SCAQMD)

The SCAQMD is the agency principally responsible for comprehensive air pollution control in the Basin. To that end, the SCAQMD, a regional agency, works directly with SCAG, county transportation commissions and local governments, and cooperates actively with state and federal government agencies. The SCAQMD develops air quality related rules and regulations, establishes permitting requirements, inspects emissions sources, and provides regulatory enforcement through such measures as educational programs or fines, when necessary.

The SCAQMD is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources to meet federal and state ambient air quality standards (CAA and CCAA discussed above). SCAQMD has responded to this requirement by preparing a series of AQMPs. The most recent AQMP was adopted by the Governing Board of the SCAQMD on March 3, 2017 ("2016 AQMP"). The 2016 AQMP represents a thorough analysis of existing and potential regulatory control options, includes available, proven, and cost-effective strategies, and seeks to achieve multiple goals in partnership with other entities promoting reductions in greenhouse gases and toxic risk, as well as efficiencies in energy use, transportation, and goods movement. The 2016 AQMP recognizes the critical importance of working with other agencies to develop funding and incentives that encourage the accelerated transition to cleaner vehicles, and the modernization of buildings and industrial facilities to cleaner technologies in a manner that benefits not only air quality, but also local businesses and the regional economy.

The 2016 AQMP includes both stationary and mobile source strategies to ensure that rapidly approaching attainment deadlines are met, that public health is protected to the maximum extent feasible, and that the region is not faced with burdensome sanctions if the Plan is not approved or if the NAAQS are not met on time. As with every AQMP, a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures is updated with the latest data and methods. The most significant air quality challenge in the Basin is to reduce nitrogen oxide (NOx) emissions sufficiently to meet the upcoming ozone standard deadlines.

The 2016 AQMP is composed of stationary and mobile source emission reduction strategies from traditional regulatory control measures, incentive-based programs, co-benefits from climate programs, furthering deployment of cleaner technologies, mobile source strategies and reductions from federal sources. These strategies are implemented in partnership with the CARB and the U.S. EPA. In addition, the SCAG recently approved their 2016 RTP/SCS that include transportation programs, measures, and strategies generally designed to reduce vehicle miles traveled (VMT), which are contained within baseline emissions inventory in the 2016 AQMP. The transportation strategy and transportation control measures (TCMs), included as part of the 2016 AQMP and SIP for the South Coast Air Basin, are based on SCAG's 2016 RTP/SCS and Federal Transportation Improvement Program (FTIP). Some of the control measures achieve emission reductions by continuing existing regulatory requirements and programs and extensions of those programs, while some control measures are not regulatory in form, but instead focus on incentives, outreach, and education to bring about emission reductions through voluntary participation and behavioral changes needed to complement regulations. In order to meet current standards, the 2016

AQMP builds upon past successes with new regulatory commitments for additional emissions reductions to the same extent as past AQMPs.

The future air quality levels projected in the 2016 AQMP are based on several assumptions. For example, the SCAQMD assumes that general new development within the Basin will occur in accordance with population growth and transportation projections identified by SCAG's 2016 RTP/SCS. The 2016 AQMP also assumes that general development projects will include feasible strategies (i.e., mitigation measures) to reduce emissions generated during construction and operation in accordance with SCAQMD and local jurisdiction regulations, which are designed to address air quality impacts and pollution control measures. The 2016 AQMP incorporates new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling. General development projects would be affected in the form of any applicable rules and regulations – if any – that are adopted as a result of the 2016 AQMP. While economic growth for the region is desirable, it presents a challenge to air quality improvement efforts since the projected growth could offset the impressive progress made in reducing VOC, NOx, and PM2.5 emissions through adopted regulations. Meeting the U.S. EPA's current and more-stringent future air quality standards will require the continuation of emission reduction efforts from all levels of government.

In addition to the AQMP, the SCAQMD has prepared the CEQA Air Quality Handbook (1993) to assist lead agencies, as well as consultants, project proponents, and other interested parties, in evaluating potential air quality impacts of projects and plans proposed in the Basin. The AQMD is in the process of developing an "Air Quality Analysis Guidance Handbook" to replace the CEQA Air Quality Handbook approved by the AQMD Governing Board in 1993.

i. SCAQMD Rule 403 (Fugitive Dust)

The purpose of SCAQMD Rule 403 (Fugitive Dust) is to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions. The provisions of Rule 403 shall apply to any activity of man-made condition capable of generation fugitive dust. Rule 403 applies to the construction activities of the Proposed Project, especially the site clearing phase.

ii. SCAQMD Rule 1113 (Architectural Coatings)

Architectural coatings are any coatings applied to stationary structures or their appurtenances, or to fields and lawns. SCAQMD Rule 1113 (Architectural Coatings) is applicable to any person who supplies, sells, markets, offers for sale, or manufactures any architectural coating that is intended to be field applied within the District to stationary structures or their appurtenances, and to fields and lawns; as well as any person who applies, stores at a worksite, or solicits the application of any architectural coating within the District. The purpose of Rule 1113 is to limit the VOC content of architectural coatings used in the District. During the architectural coatings phase, the Proposed Project shall not add to such coating any colorant that contains VOC in excess of the corresponding applicable VOC limit specified in Rule 1113.

iii. SCAQMD Rule 1108 (Cutback Asphalt)

Cutback asphalt is a liquid petroleum product produced by fluxing an asphaltic base with suitable distillate and is classed as medium or slow curing grade. The provisions of SCAQMD Rule 1108 (Cutback Asphalt) state that a person shall not sell or offer for sale for use in the SCAQMD, or use any cutback asphalt containing more than 0.5 percent by volume organic compounds which evaporate at 260 degrees Celsius (500 degrees Fahrenheit) or lower as determined by ASTM Method D402 or other test method as approved by the Executive Officer. This rule would apply to the paving phase of the Proposed Project.

iv. SCAQMD Rule 1138 (Control of Emissions from Restaurant Operations)

SCAQMD Rule 1138 applies to owners and operators of commercial cooking operations, preparing food for human consumption. Rule 1138 requirements currently apply to chain-driven charbroilers used to cook meat. All other commercial restaurant cooking equipment including, but not limited to, under-fired charbroilers, may be subject to future rule provision. Rule 1138 applies to the Proposed Project's restaurant uses.

4. Local Agencies

a. City of Ontario Policy Plan

i. Environmental Resources Element

The City of Ontario's Policy Plan serves as the City's General Plan, which is mandated by state law. Chapter ER4 of the Policy Plan's Environmental Resources Element addresses air quality. The goals and policies related to reducing air quality emissions from the Policy Plan's Environmental Resources Element that are applicable to the Proposed Project include:

Goal ER4	Improved indoor and outdoor air quality and reduced locally generated pollutant emissions.
Policy ER4-1	*Land Use.* We reduce GHG and other local pollutant emissions through compact, mixed use, and transit-oriented development and development that improves the regional jobs-housing balance.
Policy ER4-4	*Indoor Air Quality.* We will comply with State Green Building Codes relative to indoor air quality.
Policy ER4-5	*Transportation.* We promote mass transit and non-motorized mobility options (e.g. walking, biking) to reduce air pollutant emissions.
Policy ER4-6	*Particulate Matter.* We support efforts to reduce particulate matter to meet State and Federal Clean Air Standards.

Policy ER4-8 *Tree Planting.* We protect healthy trees within the City and plant new trees to increase carbon sequestration and help the regional/local air quality.

D. Existing Air Quality Conditions

1. Existing Regional Air Quality

Ambient air quality is determined primarily by the type and amount of pollutants emitted into the atmosphere, as well as the size, topography, and meteorological conditions of a geographic area. The Basin has low mixing heights and light winds, which help to accumulate air pollutants. The most current average daily emissions inventory for the entire Basin and the San Bernardino County portion of the Basin is summarized in Table 3, 2015 Estimated Annual Average Emissions. As shown, exhaust emissions from mobile sources generate the majority of ROG, CO, NOx, and SOx in the Basin and the San Bernardino County portion of the Basin. Area-wide sources generate the most airborne particulates (i.e., PM_{10} and $PM_{2.5}$) in both the Basin and San Bernardino County.

Table 3
2015 Estimated Annual Average Emissions

Emissions Source	Emissions in Tons per Day					
	ROG	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
South Coast Air Basin						
Stationary (Point) Sources	107.4	54.1	57.0	10.9	22.1	14.4
Area-wide Sources	119.2	19.5	102.0	1.0	100.1	33.4
Mobile Sources	202.6	377.3	1,810.9	5.8	32.9	18.7
Natural (Non-anthropogenic) Sources	96.7	4.4	301.1	2.3	30.1	25.5
Total Emissions:	**526.0**	**455.3**	**2,270.9**	**19.9**	**185.2**	**92.0**
San Bernardino County - South Coast Air Basin						
Stationary (Point) Sources	26.0	68.8	22.1	5.1	37.4	21.9
Area-wide Sources	26.6	4.3	58.0	0.3	122.6	23.7
Mobile Sources	69.5	133.5	425.2	1.3	9.5	7.5
Natural (Non-anthropogenic) Sources	26.7	3.3	111.3	1.0	11.2	9.5
Total Emissions:	**148.8**	**209.9**	**616.6**	**7.8**	**180.7**	**62.6**

Sources: California Air Resources Board, Almanac Emission Projection Data, website: https://www.arb.ca.gov/app/emsinv/2013/emssumcat.php, accessed January 2019.

Measurements of ambient concentrations of the criteria pollutants are used by the U.S. EPA and the CARB to assess and classify the air quality of each air basin, county, or, in some cases, a specific urbanized area. The classification is determined by comparing actual monitoring data with national and state standards. If a pollutant concentration in an area is lower than the standard, the area is classified as being in "attainment." If the pollutant exceeds the standard, the area is classified as a "non-attainment" area. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated "unclassified."

The U.S. EPA and the CARB use different standards for determining whether the Basin is in attainment. Federal and state standards are summarized in Table 4, Ambient Air Quality Standards. The attainment

status for the San Bernardino County portion of the Basin with regard to the national ambient air quality standards (NAAQS) and California ambient air quality standards (CAAQS) are also shown in Table 4. The CCAA designates air basins as either in attainment or nonattainment for each state air quality standard. The South Coast Air Basin is designated as a state and federal nonattainment area for O_3 and $PM_{2.5}$. In addition, the South Coast Air Basin is designated as a state nonattainment area for PM_{10}, and designated non-attainment for lead in the San Bernardino County portion of the Basin.

Table 4
Ambient Air Quality Standards

Air Pollutant	Averaging Time	CAAQS		NAAQS	
		State Standard	Attainment Status	Federal Standard	Attainment Status
O_3	1 Hour	0.09 ppm	Non-attainment	--	Non-attainment
	8 Hour	0.07 ppm		0.070 ppm [a]	
CO	1 Hour	20.0 ppm	Attainment	35.0 ppm	Attainment
	8 Hour	9.0 ppm		9.0 ppm	
NO_2	1 Hour	0.18 ppm	Attainment	0.10 ppm	Attainment
	Annual	0.030 ppm		0.053 ppm	
SO_2 [b]	1 Hour	0.25 ppm	Attainment	0.075 ppm	Non-Attainment
	24 Hour	0.04 ppm		0.14 ppm	
Pb	30 Day	1.5 µg/m^3	Attainment	--	Attainment
	Calendar Quarter Year	--		1.5 µg/m^3	
	Rolling 3-Month Average	--		0.15 µg/m^3	
PM_{10}	24 Hour	50 µg/m^3	Non-attainment	150 µg/m^3	Non-attainment
	Annual	20 µg/m^3		--	
$PM_{2.5}$	24 Hour	--	Non-attainment	35 µg/m^3	Attainment
	Annual	12 µg/m^3		12 µg/m^3 [c]	

Notes:

[a] *On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.75 to 0.70 ppm.*

[b] *As of June 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 nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.*

[c] *The national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12 µg/m^3 effective December 14, 2012.*

Sources: CARB, Ambient Air Quality Standards, May 4, 2016, website: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf, accessed September 2018, CARB: State Area Designation Maps, current as of June 2017 (state and national), website: http://www.arb.ca.gov/desig/adm/adm.htm, accessed September 2018.

2. Existing Local Air Quality

The SCAQMD divides the Basin into 38 source receptor areas (SRAs) in which 38 monitoring stations operate to monitor the various concentrations of air pollutants in the region. As shown in Figure 3,

SCAQMD Air Basin and Source Receptor Areas, the Project Site is located within SRA 33, which covers the Southwest San Bernardino Valley area. SCAQMD Station No. 5817 collects ambient air quality data for SRA 33. This station currently monitors emission levels of CO and NO_2. Table 5, Summary of Ambient Air Quality in the Project Vicinity, identifies the national and state ambient air quality standards for the relevant air pollutants, along with the ambient pollutant concentrations from 2013 to 2016, with 2016 being the latest year for available data.[1] For data not monitored for SRA 33, data from SRA 32 (Northwest San Bernardino Valley) or SRA 34 (Central San Bernardino Valley 1) was utilized to show the nearest data for that pollutant.

According to the air quality data shown in Table 5, the state one-hour ozone standard was exceeded 34 days in 2014, 49 days in 2015, 53 days in 2016, and 66 days in 2017. The national eight-hour ozone standard was exceeded 57 days in 2014, 66 days in 2015, 88 days in 2016, and 87 days in 2017. The state eight-hour ozone standard was exceeded 60 days in 2014, 69 days in 2015, 89 days in 2016, and 87 days in 2017. The federal 24-hour PM_{10} standard has not been exceeded from 2014 through 2017, while the state 24-hour PM_{10} standard was exceeded nine days in 2014, 12 days in 2015, five days in 2016, and 26 days in 2017. In addition, the state annual average standard for PM_{10} was exceeded each year from 2014 through 2017. The national 24-hour $PM_{2.5}$ standard was exceeded for one day in 2014, 10 days in 2015, six days in 2016, and seven days in 2017. The national and state annual average standards for $PM_{2.5}$ were exceeded in 2014 through 2017.[2] Furthermore, neither national nor state standards for SO_2, CO, Lead (Pb) or NO_2 have been exceeded from 2014 through 2017.

a. Existing TACs

The SCAQMD released the draft final report of the fourth round of its Basin-wide Multiple Air Toxics Exposure Study (MATES IV) in May 2015. MATES IV estimated the cancer risk from TAC emissions throughout the Basin by conducting a monitoring program, an updated emissions inventory of TACs, and a modeling effort to characterize health risks in the Basin. MATES IV focused on carcinogenic risk from TACs and did not estimate other health effects from particulate exposures. Based on average measurements at ten fixed monitoring sites, the study estimated 70-year lifetime carcinogenic risk from TACs in the Basin to be approximately 320 to 480 per million at individual monitoring sites. Mobile sources (e.g., cars, trucks, trains, ships, aircraft, etc.) represented approximately 90 percent of the cancer risk with the remaining 10 percent attributing to toxics emitted from stationary sources including industrial operations such as refineries and metal processing facilities. Approximately 68 percent of the overall cancer risk in the Basin was attributed to diesel particulate emissions. The population-weighted risk in MATES IV shows a 57 percent reduction in modeled air toxics risk compared to the risks in MATES III period (2005).

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1 *The most current air quality data available pertaining to ambient pollutant concentrations over a four-year period provided by the SCAQMD is from 2014 through 2017.*

2 *A 24-hour average is the average concentration of a pollutant for a 24-hour period, while the annual arithmetic mean is the numerical average concentration of the data for a whole year.*

Table 5
Summary of Ambient Air Quality in the Project Vicinity

Air Pollutants Monitored Within SRA 33 Southwest San Bernardino Valley Area [a]	Year			
	2014	2015	2016	2017
O_3				
Maximum 1-hour concentration measured	0.126 ppm	0.136 ppm	0.156 ppm	0.150 ppm
Number of days exceeding national 0.124 ppm 1-hour standard	1	2	10	9
Number of days exceeding State 0.09 ppm 1-hour standard	34	49	53	66
Maximum 8-hour concentration measured	0.101 ppm	0.106 ppm	0.116 ppm	0.127 ppm
Number of days exceeding national 0.07 ppm 8-hour standard	57	66	88	87
Number of days exceeding State 0.07 ppm 8-hour standard	60	69	89	87
CO				
Maximum 1-hour concentration measured	3.0 ppm	2.1 ppm	1.7 ppm	4.2 ppm
Maximum 8-hour concentration measured	1.2 ppm	1.3 ppm	1.3 ppm	1.3 ppm
NO_2				
Maximum 1-hour concentration measured	74.1 ppb	87.2 ppb	93.4 ppb	86.0 ppb
Annual average	16.6 ppb	29.9 ppb	29.3 ppb	28.8 ppb
Does measured annual average exceed national 53.4 ppb annual average standard?	No	No	No	No
Does measured annual average exceed State 30 ppb annual average standard?	No	No	No	No
PM_{10}				
Maximum 24-hour concentration measured	80 µg/m^3	77 µg/m^3	72 µg/m^3	106 µg/m^3
Number of days exceeding national 150 µg/m^3 24-hour standard	0	0	0	0
Number of days exceeding State 50 µg/m^3 24-hour standard	9	12	5	26
Annual Average Concentration (Annual Arithmetic Mean (AAM))	28.9 µg/m^3	26.9 µg/m^3	25.0 µg/m^3	31.5 µg/m^3
Does measured AAM exceed State 20 µg/m^3 AAM standard?	Yes	Yes	Yes	Yes
$PM_{2.5}$				
Maximum 24-hour concentration measured	38.4 µg/m^3	52.7 µg/m^3	44.14 µg/m^3	44.8 µg/m^3
Number of days exceeding national 35.0 µg/m^3 24-hour standard	1	10	6	7
Annual Arithmetic Mean (AAM)	12.96 µg/m^3	14.48 µg/m^3	14.73 µg/m^3	14.43 µg/m^3
Does measured AAM exceed national 12 µg/m^3 AAM standard?	Yes	Yes	Yes	Yes
Does measured AAM exceed State 12 µg/m^3 AAM standard?	Yes	Yes	Yes	Yes
SO_2				
Maximum 1-hour concentration measured	4.0 ppb	4.0 ppb	6.3 ppb	3.9 ppb
99th Percentile Concentration (1 hour)	2.8 ppb	3.1 ppb	2.0 ppb	2.1 ppb
Pb				
Maximum monthly average concentration measured	0.009 µg/m^3	0.010 µg/m^3	0.007 µg/m^3	0.004 µg/m^3
Maximum 3-month rolling averages	0.01 µg/m^3	0.01 µg/m^3	0.01 µg/m^3	0.00 µg/m^3

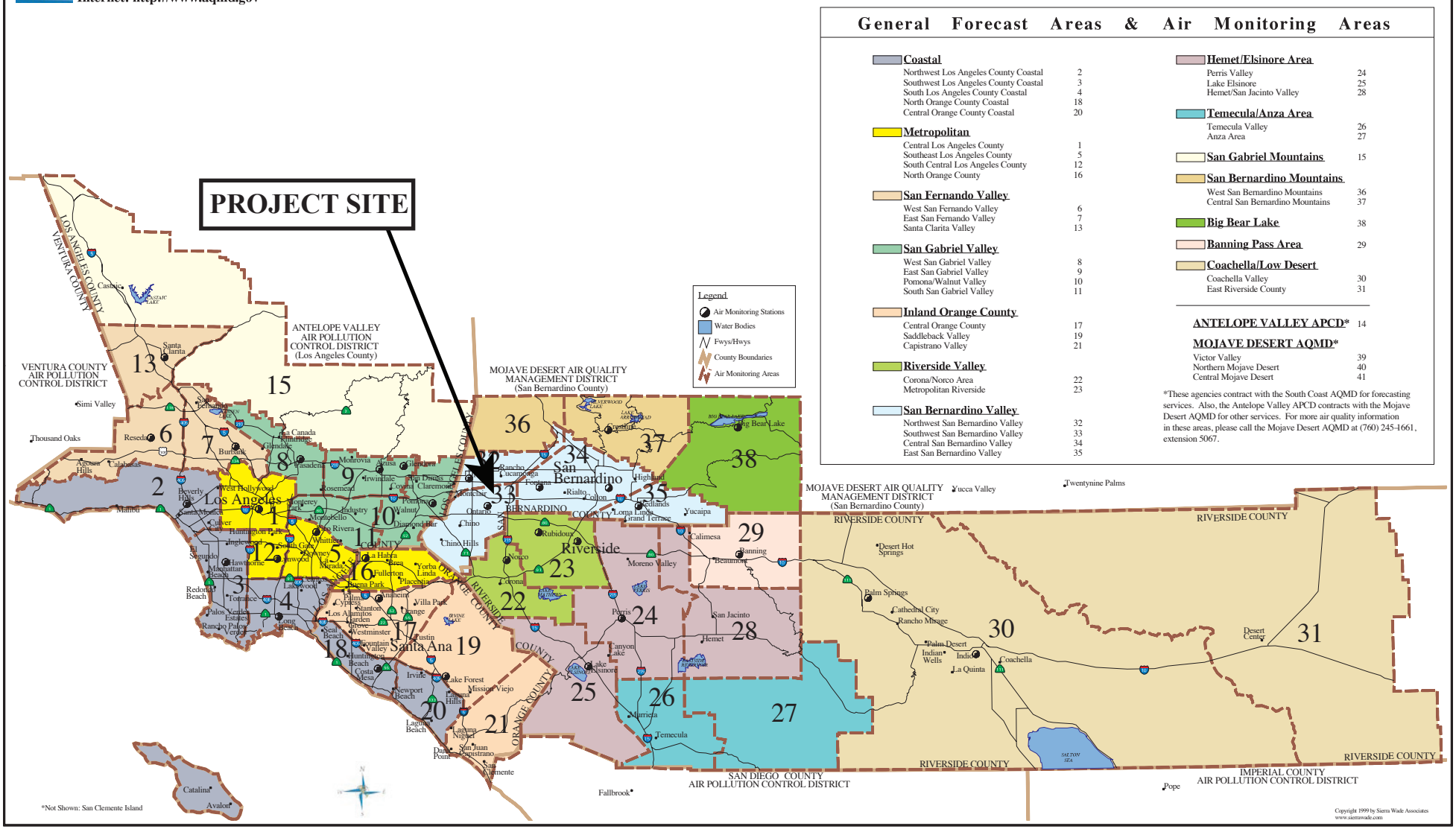
Notes: ppm = parts by volume per million molecules of air
ppb = parts per billion per billion molecules of air
µg/m^3=micrograms per cubic meter

[a] *For data not monitored in SRA 33, data from SRA 32 (Northwest San Bernardino Valley) or SRA 34 (Central San Bernardino Valley 1) was utilized.*

Source: SCAQMD, Historical Data by Year, 2014-2017, website: http://www.aqmd.gov/home/library/air-quality-data-studies/historical-data-by-year, accessed February 2019.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

21865 Copley Drive, Diamond Bar, CA 91765-4182
Information: 1-800-CUT-SMOG (1-800-288-7664)
Internet: http://www.aqmd.gov



Source: South Coast Air Quality Management District, 1999.

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Figure 3
SCAQMD Air Basin and Source Receptor Areas

As part of MATES IV, the SCAQMD prepared an interactive map that shows estimates of cancer risks in the Basin from ambient levels of TACs based on the modeling effort to provide insight into relative risks. The map reports estimated cancer risks for discrete two-kilometer-by-two-kilometer grid cells. The cancer risk estimates reported there should not be interpreted as actual rates of disease in the exposed population, but rather as estimates of potential risk, based on a number of conservative assumptions. In general, MATES IV indicates that the highest cancer risks from TACs are found near shipping ports, goods movement sources, and near freeways and other transportation corridors.

The City of Ontario falls in an estimated range of 1,001 - 1,200+ risks per one million. The Project Site falls in an estimated range of 1,001-1,200 risks per one million. See Figure 4, MATES IV Total Cancer Risk for Project Site, below. Compared to previous studies of air toxics in the Basin, the MATES IV study found decreasing air toxics exposure from the analysis done in the MATES III time period. While there has been substantial improvement in air quality regarding air toxics emissions and exposures, the risks are still unacceptably high, especially near sources of toxic emissions such as ports and transportation corridors.

3. Sensitive Receptors

Figure 5, Air Quality Sensitive Receptors, show the locations of nearby sensitive receptors that may be affected by the Proposed Project during the construction phase. The sensitive receptors surrounding the Project area include: 1) the multi-family residential buildings to the west of the Project Site, 2) portions of the Cucamonga-Guasti Regional Park to the south of the Project Site, and 3) single-family homes fronting 4th Street to the northwest of the Project Site.

3. ENVIRONMENTAL IMPACTS

A. Thresholds of Significance

1. State CEQA Guidelines Appendix G

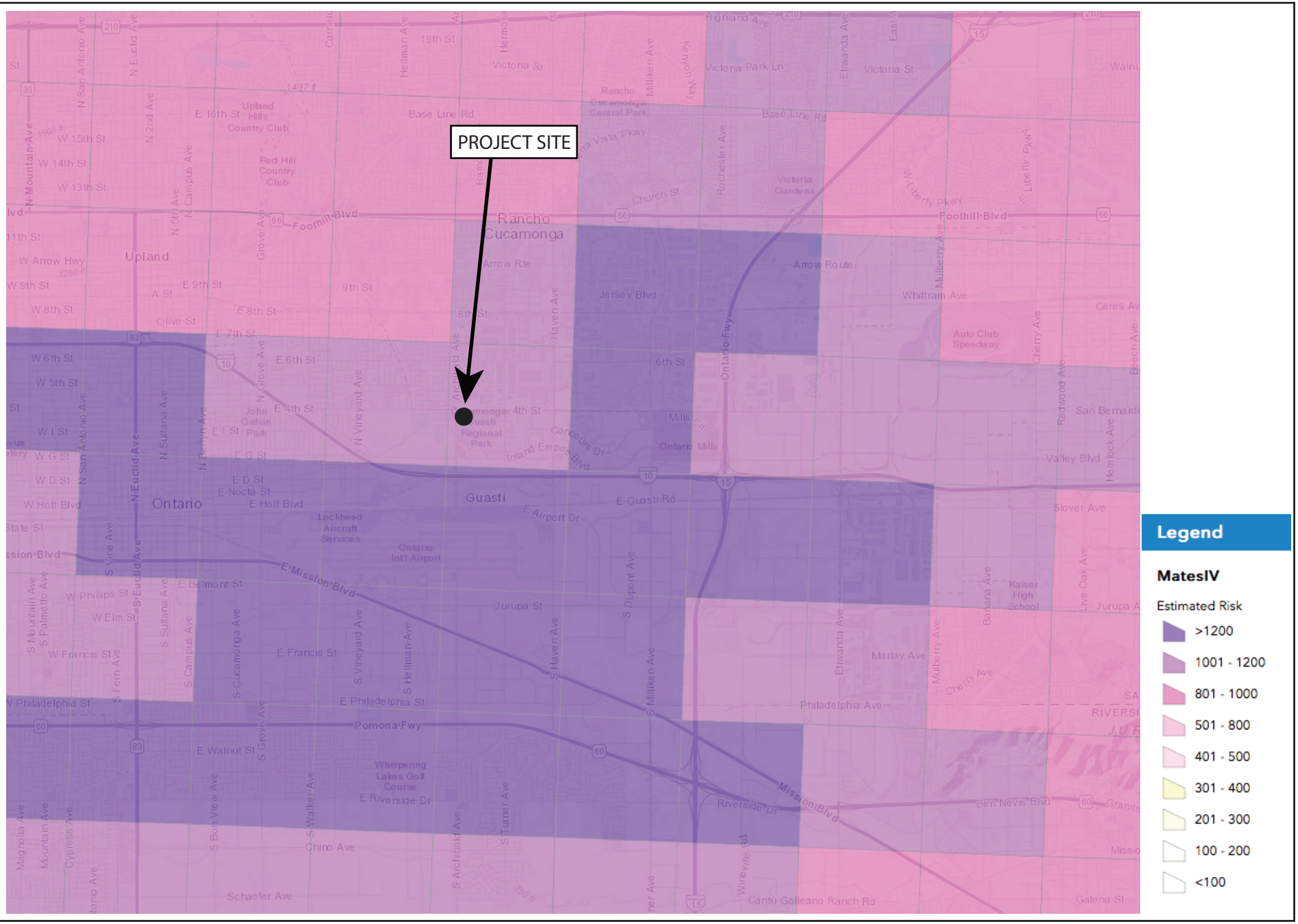
In accordance with guidance provided in Appendix G to the state CEQA Guidelines, the Proposed Project would have a significant impact on air quality if it would cause any of the following to occur:

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.



Source: SCAQMD, MATES IV Carcinogenic Risk Interactive Map, accessed October 2018.

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Figure 4
MATES IV Total Cancer Risk for Project Site

Source: Google Earth, Aerial View, 2018.

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Figure 5
Air Quality Sensitive Receptors

2. SCAQMD

The SCAQMD recommends that projects should be evaluated in terms of air pollution control thresholds established by the SCAQMD and published in the CEQA Air Quality Handbook. These thresholds were developed by the SCAQMD to provide quantifiable levels to which projects can be compared. The most current mass regional significance thresholds, shown in Table 6, SCAQMD Air Quality Significance Thresholds, are used in this analysis.

Table 6
SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds		
Pollutant	**Construction**	**Operation**
NOx	100 pounds/day	55 pounds/day
VOC [a]	75 pounds/day	55 pounds/day
PM_{10}	150 pounds/day	150 pounds/day
$PM_{2.5}$	55 pounds/day	55 pounds/day
SO_x	150 pounds/day	150 pounds/day
CO	550 pounds/day	550 pounds/day

Notes:
[a] The SCAQMD significance threshold is in terms of VOC while CalEEMod calculates reactive organic compounds (ROG) emissions. For purposes of this analysis, VOC and ROG are used interchangeably since ROG represents approximately 99.9 percent of VOC emissions.
Source: SCAQMD Air Quality Significance Thresholds, website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2, Revision March 2015.

B. Project Impacts

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

1. Consistency with the 2016 AQMP

This analysis evaluates the two criteria for consistency with regional plans and the regional AQMP adopted by the SCAQMD:

1) Would the Project increase the frequency or severity of existing air quality violations, cause or contribute to new air quality violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP?

2) Would the Project exceed the assumptions utilized in preparing the AQMP?

   a. Is the Project consistent with the population and employment growth projections on which the AQMP forecasted emission levels are based?

   b. Does the Project include AQ mitigation measures?

c. To what extent is Project development consistent with the AQMP land use policies?

First Criterion

With respect to the first criteria, area air quality planning, including the AQMP, assumes that there will be emissions from new growth but that such emissions would not impede the attainment and would actually contribute to the attainment of applicable air quality standards within the Basin if the Proposed Project's emissions are below the SCAQMD's regional thresholds of significance. As discussed in more detail below, the Proposed Project would not result in construction or operational air quality emissions that exceed the SCAQMD thresholds of significance at the Project level.

Additionally, the Proposed Project's construction-related emissions would be temporary in nature, lasting only for the duration of the construction period, and would not have a long-term impact on the region's ability to meet state and federal air quality standards. Furthermore, the Proposed Project would be required to comply with applicable SCAQMD rules and regulations for new or modified sources. For example, the Proposed Project must comply with SCAQMD Rule 403 for the control of fugitive dust during construction. According to the SCAQMD, the application of water to disturbed areas two times a day has a control efficiency of 55 percent. By meeting SCAQMD rules and regulations, Project construction activities would be consistent with the goals and objectives of the AQMP to improve air quality in the Basin.

With respect to operations, the Proposed Project would not introduce substantial stationary sources of emissions. Carbon monoxide (CO) is the preferred benchmark pollutant for assessing local area air quality impacts from post-construction motor vehicle operations. As discussed in greater detail below, the intersections in the Project vicinity do not experience extremely high traffic volumes (i.e., 400,000 vehicles per day) that would result in a CO hotspot. Therefore, the Proposed Project would not increase the frequency or severity of an existing CO violation or cause or contribute to new CO violations.

An analysis of potential localized operational impacts from on site activities was conducted. As shown in Table 11 in the analysis below, localized NO_2 as NOx, CO, PM_{10}, and $PM_{2.5}$ operational impacts would be less than significant. Thus, the Proposed Project would not have the potential to increase the frequency or severity of existing air quality violations or cause or contribute to new air quality violations. As the Proposed Project would not exceed any of the state and federal standards, the Project would also not delay timely attainment of air quality standards or interim emission reductions specified in the AQMP.

Second Criterion

With respect to the second criteria, the AQMP was prepared to achieve national and state air pollution standards within the region. Projects that are consistent with the projections of employment, population and housing forecasts identified by SCAG are considered to be consistent with the AQMP growth projections since the forecast assumptions by SCAG form the basis of the land use and transportation control portions of the AQMP. The Proposed Project does not propose any land uses that would directly increase population in the area (i.e. residential land uses) and would therefore not exceed the population

and housing projections of the 2016-2040 RTP/SCS for the Ontario City subregion and would not jeopardize attainment of the air quality conditions projected in the AQMP.

Additionally, the Proposed Project would comply with any applicable future required regulatory compliance measures and control measures enforced by the SCAQMD. SCAQMD enforces stationary and mobile measures with respect to both operational and construction emissions. Future measures in Appendix IV-A of the 2016 AQMP focus on 8-hour O_3 and $PM_{2.5}$ control measures designed to achieve the O_3 and $PM_{2.5}$ Air Quality Standards. The measures are based on a variety of incentive programs and control strategies that are at or near commercial availability and/or are deemed technologically feasible in the next few years. In general, the SCAQMD would continue to verify rule compliance through site inspections, recordkeeping, and submittal of compliance plans (when applicable). The Proposed Project would adhere to current and future applicable regulatory compliance measures, which would be consistent with the goals of the 2016 AQMP. The Proposed Project does not require any air quality mitigation measures.

With respect to land use policies, the Proposed Project would serve to implement a number of land use policies and strategies listed in the RTP/SCS and the AQMP. Such land use strategies applicable to the Proposed Project include: to provide more options for short trips/neighborhood mobility areas, expand electric vehicle charging stations, support local sustainability planning, and balance growth distribution between 500-foot buffer areas and High Quality Transit Areas. The Proposed Project would include sustainability features, such as landscaping with drought-resistant plant materials and providing energy efficient field lighting and fixtures, which are further discussed in the Proposed Project's Greenhouse Gas Emissions Analysis, dated February 2019. The Proposed Project is in close proximity to residential neighborhoods and transit opportunities along Inland Empire Boulevard and Archibald Avenue. This would allow future employees the opportunities to live and work in the City, to promote alternatives to drive, and reduce vehicle miles traveled. As such, the Proposed Project would support the SCAQMD and SCAG's objectives for reducing VMT, and would be consistent with AQMP land use policies and strategies.

2. Consistency with the City of Ontario Policy Plan

The City's Policy Plan, which acts as the City's General Plan, specifically the Environmental Resource Element, sets forth the goals, objectives, and policies that would guide the City in the implementation of its air quality improvement programs and strategies. Table 7, below provides a consistency analysis of the Policy Plan's goals and policies are relevant to the Proposed Project.

Table 7
Consistency Analysis with the Applicable Goals and Policies
of the City of Ontario Policy Plan

Goals and Policies	Consistency Assessment
Environmental Resources Element	
Goal ER4: Improved indoor and outdoor air quality and reduced locally generated pollutant emissions.	**Consistent.** The Proposed Project would adhere to the performance standards detailed in the Ontario Municipal Code and in the California Green Building Code, which establishes indoor air quality filtration standards and promotes energy efficiency. Localized emissions are further analyzed in Tables 10 and 11, below. As shown in Tables 10 and 11, the Proposed Project would not exceed the SCAQMD Localized Thresholds. As such, the Proposed Project would not significantly increase localized air quality emissions for the nearby sensitive receptors. Therefore, the Proposed Project would be developed to reduce indoor and outdoor air quality impacts.
Policy ER4-1: *Land Use.* We reduce GHG and other local pollutant emissions through compact, mixed use, and transit-oriented development and development that improves the regional jobs-housing balance.	**Consistent.** The Proposed Project would replace a vacant, underutilized site with a commercial land use near a various mix of land uses, including residential, commercial, and industrial uses. The Proposed Project would provide nearby residents with job opportunities that promote residents living and working within the City of Ontario and reduce vehicle miles traveled.
Policy ER4-4: *Indoor Air Quality.* We will comply with State Green Building Codes relative to indoor air quality.	**Consistent.** The Proposed Project would adhere to the performance standards detailed in the Ontario Municipal Code and the California Green Building Code, which establish indoor air quality filtration standards and promote energy efficiency. Thus, the Proposed Project would be developed with energy efficient design standards relative to indoor air quality.
Policy ER4-5: *Transportation.* We promote mass transit and non-motorized mobility options (e.g. walking, biking) to reduce air pollutant emissions.	**Consistent.** The Proposed Project is currently undeveloped. The Proposed Project Site is easily accessible via alternative modes of transportation such as walking, bicycling, and public transit. Within the project area, Inland Empire Boulevard, Archibald Avenue, and 6th Street are marked as Class II Bike Lanes. Vineyard Avenue is designated as a Class III bike lane south of Inland Empire Boulevard. The Project Site is also accessible by transit as the nearest bus stop is Omnitrans Route 61, which serves Fontana and Pomona via Ontario. Additionally, the intersection of N. Archibald Avenue and Fourth Street is improved with a stripped crosswalk that provides safe pedestrian passage to the Project Site. As such the Proposed Project would be consistent with this policy.
Policy ER4-6: *Particulate Matter.* We support efforts to reduce particulate matter to meet State and Federal Clean Air Standards.	**Consistent.** As required by the SCAQMD, the Proposed Project would adhere to SCAQMD Rule 403 (Fugitive Dust), which would help to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions. The provisions of Rule 403 shall apply to any activity of man-made condition capable of generation fugitive dust. Rule 403 applies to the construction activities of the Proposed Project, especially the site clearing phase. Additionally, as shown in Tables 8 through 11, below, the Proposed Project's particulate matter emissions would be below the SCAQMD PM_{10} and $PM_{2.5}$ standards. Therefore, the

	Proposed Project's particulate matter emissions would be below established standards and controlled through applicable SCAQMD Rules.
Policy ER4-8: *Tree Planting.* We protect healthy trees within the City and plant new trees to increase carbon sequestration and help the regional/local air quality.	**Consistent.** The Proposed Project would provide trees and landscaping in the outdoor patio areas. Trees would also be located throughout the surface parking areas and in landscaped setbacks fronting Archibald Avenue and 4th Street. Therefore, the Proposed Project would help to increase carbon sequestration.
Source: City of Ontario Policy Plan, Environmental Resources Element, Chapter 4, Air Quality, website: http://www.ontarioplan.org/policy-plan/environmental-resources-element/er4-air-quality/, accessed February 2019.	

In conclusion, the Proposed Project would be consistent with applicable regional plans pertaining to air quality including the City of Ontario Policy Plan and the AQMP. Impacts associated with plan consistency would be less than significant without mitigation.

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?**

A significant impact may occur if a project adds a considerable cumulative contribution to federal or State non-attainment pollutants. A project may have a significant impact where project-related emissions would exceed federal, State, or regional standards or thresholds, or where project-related emissions would cumulatively contribute to an existing or projected air quality violation. As the Basin is currently in State non-attainment for ozone, PM_{10}, and $PM_{2.5}$, related projects could exceed an air quality standard or contribute to an existing or projected air quality exceedance. In regards to determining the significance of the Proposed Project's cumulative contribution to an exceedance of criteria air pollution concentrations, the SCAQMD neither recommends quantified analyses of construction and/or operational emissions from multiple development projects nor provides methodologies or thresholds of significance to be used to assess the cumulative emissions generated by multiple cumulative projects. Instead, the SCAQMD recommends that a project's potential contribution to cumulative impacts should be assessed utilizing the same significance criteria as those for project specific impacts. Furthermore, SCAQMD states that if an individual development project generates less than significant construction or operational emissions, then the development project would not generate a cumulatively considerable increase in emissions for those pollutants for which the Basin is in non-attainment. Thus, the analysis presented below addresses the project's construction and operational impacts relative to the SCAQMD's regional thresholds of significance.

1. Construction Emissions

a. Regional Construction Emissions

For purposes of analyzing impacts associated with air quality, this analysis assumes a construction schedule of approximately 10 months. This assumption is conservative and yields the maximum daily

impacts. Construction activities associated with the Proposed Project would be undertaken in four consecutive phases: (1) site clearing, (2) building construction, (3) architectural coating/finishing, and (4) paving. These construction activities would temporarily create emissions of dust, fumes, equipment exhaust, and other air contaminants at various stages of construction. Construction activities involving site clearing, surface grading, and foundation preparation would primarily generate $PM_{2.5}$ and PM_{10} emissions. Mobile sources (such as diesel-fueled equipment onsite and traveling to and from the Project Site) would primarily generate NO_x emissions. The application of architectural coatings would primarily result in the release of ROG emissions. The amount of emissions generated on a daily basis would vary, depending on the amount and types of construction activities occurring at the same time.

Table 8
Estimated Peak Daily Construction Emissions

Emission Source	Emissions in Pounds per Day					
	ROG	NO_x	CO	SO2	PM_{10}	$PM_{2.5}$
Grading						
On-Site Fugitive Dust	--	--	--	--	4.36	1.67
On-Site Off-Road (Diesel Equipment)	4.87	53.50	35.64	0.07	2.37	2.20
Off Site (Hauling, Vendor, Worker)	0.60	17.30	4.49	0.05	1.41	0.42
Total Emissions	***5.47***	***70.80***	***40.13***	***0.12***	***8.14***	***4.29***
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**
Building Construction						
On-Site Off-Road (Diesel Equipment)	2.03	18.26	15.98	0.03	1.03	0.98
Off Site (Hauling, Vendor, Worker)	0.66	14.59	5.24	0.04	1.38	0.44
Total Emissions	***2.69***	***32.85***	***21.22***	***0.07***	***2.41***	***1.42***
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**
Paving						
On-Site Off-Road (Diesel Equipment)	1.47	14.80	15.27	0.02	0.78	0.72
On-Site Paving	1.43	--	--	--	0.00	0.00
Off Site (Hauling, Vendor, Worker)	0.13	0.91	0.96	<0.01	0.28	0.08
Total Emissions	***3.03***	***15.71***	***16.23***	***0.02***	***1.06***	***0.80***
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**
Architectural Coating						
On-Site Architectural Coating	18.81	--	--	--	0.00	0.00
On-Site Off-Road (Diesel Equipment)	1.50	11.01	11.52	0.02	0.75	0.73
Off Site (Hauling, Vendor, Worker)	0.05	0.34	0.38	<0.01	0.11	0.03
Total Emissions	***20.36***	***11.35***	***11.90***	***0.02***	***0.86***	***0.76***
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**

Note: Calculations assume compliance with SCAQMD Rule 403 – Fugitive Dust and Rule 1113 – Architectural Coatings.
Source: CalEEMod 2016.3.2, Calculation sheets are provided in Appendix A.

The analysis of daily construction emissions has been prepared utilizing the California Emissions Estimator Model (CalEEMod) as recommended by the SCAQMD. Table 8, Estimated Peak Daily Construction Emissions, identifies daily emissions that are estimated to occur on peak construction days for each construction phase. These calculations assume that appropriate dust control measures would be implemented as part of the Proposed Project during each phase of development, as required and regulated by SCAQMD.

As required by SCAQMD Rule 403 (Fugitive Dust), the calculations of PM_{10} and $PM_{2.5}$ presented in Table 8 assume that appropriate dust control measures would be implemented as part of the Proposed Project during each phase of development. Rule 403 control requirements include, but are not limited to, the following:

- All unpaved demolition and construction areas would be wetted at least twice daily during excavation and construction, and temporary dust covers would be used to reduce dust emissions. Wetting could reduce fugitive dust by as much as 50 percent;
- The construction area would be kept sufficiently dampened to control dust caused by grading and hauling, and at all times provide reasonable control of dust caused by wind;
- A wheel washing system would be utilized to remove bulk material from tires and vehicle undercarriages before vehicles exit the Project Site;
- All clearing, earth moving, or excavation activities would be discontinued during periods of high winds (i.e., greater than 15 miles per hour (mph)), so as to prevent excessive amounts of dust;
- All dirt/soil loads would be secured by trimming, watering or other appropriate means to prevent spillage and dust;
- All dirt/soil materials transported off-site would be either sufficiently watered or securely covered to prevent excessive amount of dust;
- General contractors would maintain and operate construction equipment so as to minimize exhaust emissions; and
- Trucks having no current hauling activity would not idle but be turned off.

As shown in Table 8, the peak daily emissions generated during the construction phases of the proposed Project would not exceed the regional emission thresholds recommended by the SCAQMD.

2. Regional Operational Emissions

a. Existing Emissions

The Project Site is currently developed with a vacant undeveloped land. Therefore, no existing air quality emissions are currently being emitted from the Project Site.

b. Proposed Project Emissions

Operational emissions associated with the Proposed Project were calculated using CalEEMod and the project characteristics as defined above. Operational emissions associated with the Proposed Project would be comprised of mobile source emissions and area source emissions. Mobile source emissions are

generated by the increase in motor vehicle trips to and from the Project Site. Area source emissions would be generated by natural gas consumption for space and water heating, and landscape maintenance equipment. Because the Proposed Project is a unique entertainment land use and does not fall within the definition of a typical golf course, various assumptions were made to appropriately generate a conservative calculation of the Proposed Project's operational air quality emissions. As such, the following analytical assumptions were applied to the CalEEMod analysis with regard to the Project's emissions:

- Mobile Sources: The CalEEMod analysis is based on the trip generation data provided by Gibson Transportation Consulting, Inc., to calculate the mobile source emissions. (see Traffic Impact Study for the Ontario Topgolf Project, dated March 2019). The Proposed Project is estimated to generate approximately 1,855 trips per weekday (1,826 trips from the main Topgolf facility and 30 net trips from the mini golf course) and 3,172 trips on Saturdays (3,121 trips from the main Topgolf facility and 50 trips from the mini golf course). In addition, although the proposed use is golf-related, Topgolf is an entertainment style use that generates trip types and lengths that are more closely aligned with a movie theater than a regional golf course. Thus, the trip types (i.e., customer, worker and vendor trips) and associated trip lengths were adjusted to be consistent with the CalEEMod default rates for a movie theater land use.
- Energy Consumption: Air quality emissions were for energy consumption, such as the production of electricity and natural gas, were adjusted to account for the 67,521 square foot indoor TopGolf facility. Because the Topgolf facility contains food and beverage services that are more intensive than a typical golf course concession building, approximately 18,400 square feet of the total 67,521 square foot facility was conservatively based on a quality restaurant land use to account for the food/beverage stations, service bar, kitchen areas, banquet space, and all outdoor patio/terrace areas. Energy use for the remainder of the facility was based on the CalEEMod default energy use rates for a movie theater to account for the lighting, heating, ventilation and air conditioning (HVAC) requirements of high occupancy areas. Additionally, as required by the City, the Proposed Project is required to exceed Title 24 energy standards by 5 percent. Thus, the Proposed Project's operational energy emissions reflect the mitigated scenario to account for this project design feature.
- Solid Waste: As required by the City, the Proposed Project would be required to institute an on-site recycling program to segregate food wastes and recyclable materials. This requirement, coupled with source reduction and recycling measures instituted by the City's commercial waste hauling company is estimated to reduce the Project's landfill waste by 50 percent. Thus, the Proposed Project's waste emissions reflect the mitigated scenario to account for this project design feature.
- Water Demand: Energy is needed to pump and distribute water to developments. As such, the plumbing and landscaping for the Proposed Project would require energy to operate and result in air quality emissions. As discussed above, for purposes of capturing the water use associated with the Proposed Project's food/beverage services, approximately 18,400 square feet of the 67,521 square foot Topgolf facility was conservatively calculated as a restaurant use. In addition, outdoor water use was based on an approximate 80 percent reduction in outdoor water use as compared to

a typical golf course, as the miniature golf and the driving range component would be improved with artificial turf in lieu of natural grass. Thus, the Proposed Project's water use-related air quality emissions reflect the mitigated scenario to account for these features.

To determine if a regional air quality impact would occur, the increase in the Proposed Project's operational air quality emissions are compared to the SCAQMD's recommended mass regional thresholds for operational emissions shown in Table 6, above. As shown in Table 9, Proposed Project Estimated Daily Regional Operational Emissions, below, the Project Site's operational emissions would be below the regional thresholds of significance set by the SCAQMD.

Table 9
Estimated Daily Regional Operational Emissions

Emissions Source	Emissions in Pounds per Day					
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Summertime (Smog Season) Emissions						
Area Sources	2.00	<0.01	0.07	<0.01	<0.01	<0.01
Energy Sources	0.19	1.77	1.49	0.01	0.13	0.13
Mobile Sources	4.72	20.39	40.74	0.12	8.85	2.45
Total Project Emissions:	***6.91***	***22.16***	***42.30***	***0.13***	***8.98***	***2.58***
SCAQMD Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Potentially Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**
Wintertime (Non-Smog Season) Emissions						
Area Sources	2.00	<0.01	0.07	<0.01	<0.01	<0.01
Energy Sources	0.19	1.77	1.49	0.01	0.13	0.13
Mobile Sources	4.47	20.47	40.24	0.12	8.85	2.45
Total Project Emissions	***6.66***	***22.24***	***41.80***	***0.13***	***8.98***	***2.58***
SCAQMD Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Potentially Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod 2016.3.2, Calculation worksheets are provided in Appendix A.

As discussed above, the Proposed Project would not generate construction or operational emissions that exceed the SCAQMD's recommended regional thresholds of significance. Therefore, the Proposed Project would not generate a cumulatively considerable increase in emissions of the pollutants for which the Basin is in non-attainment, and impacts would be less than significant.

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

1. Localized Construction Emissions

In addition to the SCAQMD's regional significance thresholds, the SCAQMD has established localized significance criteria in the form of ambient air quality standards for criteria pollutants. To minimize the

need for detailed air quality modeling to assess localized impacts, SCAQMD developed mass-based localized significance thresholds (LSTs) that are the amount of pounds of emissions per day that can be generated by a project that would cause or contribute to adverse localized air quality impacts. These localized thresholds, which are found in the mass rate look-up tables in the "Final Localized Significance Threshold Methodology" document prepared by the SCAQMD, apply to projects that are less than or equal to five acres in size and are only applicable to the following criteria pollutants: NO_x, CO, PM_{10}, and $PM_{2.5}$. While the Proposed Project would involve grading on approximately 13.31 acres, it is reasonable to assume that the surface grading and foundational activities would occur in phases and within sections of the Project Site and would not involve grading on more than five acres per day. Thus, the LST's for a five-acre site were applied in this analysis.

The Project Site is located in SRA 33, which covers the Southwest San Bernardino Valley area. The nearest sensitive receptors that could potentially be subject to the localized air quality impacts associated with construction of the Proposed Project includes the surrounding multi-family neighborhood to the west and the park to the south of the Project Site. Given the proximity of these sensitive receptors to the Project Site, the LSTs with receptors located within 25 meters (82.02 feet) are used to address the potential localized air quality impacts associated with the construction-related NO_X, CO, PM_{10}, and $PM_{2.5}$ emissions for each construction phase. As shown in Table 10, Localized On-Site Peak Daily Construction Emissions, peak daily emissions generated within the Project Site during construction activities for each phase would not exceed the applicable construction LSTs for an approximate five-acre site in SRA 33.

Table 10
Localized On-Site Peak Daily Construction Emissions

Construction Phase [a]	Total On-site Emissions (Pounds per Day)			
	NO_x [b]	CO	PM_{10}	$PM_{2.5}$
Grading	53.50	35.64	6.73	3.87
Building Construction	18.26	15.98	1.03	0.98
Paving	14.80	15.27	0.78	0.72
Architectural Coatings	11.01	11.52	0.75	0.73
SCAQMD Localized Thresholds	**270**	**2,193**	**16**	**9**
Potentially Significant Impact?	***No***	***No***	***No***	***No***

Notes:
[a] *The localized thresholds for all phases are based on a receptor distance of 25 meters in SCAQMD's SRA 33 for a Project Site of five acres.*
[b] *The localized thresholds listed for NO_x in this table takes into consideration the gradual conversion of NO_x to NO_2, and are provided in the mass rate look-up tables in the "Appendix C - Mass Rate LST Look-up Tables" document prepared by the SCAQMD. As discussed previously, the analysis of localized air quality impacts associated with NO_x emissions is focused on NO_2 levels as they are associated with adverse health effects.*
Source: Final Localized Significance Threshold Methodology, June 2003, Revised July 2008; and CalEEMod 2016.3.2, Calculation sheets are provided in Appendix A.

2. Localized Operational Emissions

Localized operational emissions from natural gas, architectural coatings, and consumer products would increase the amount of localized air pollution on the Project Site. Operation of the Proposed Project would replace vacant open space on-site. As such, the Proposed Project would introduce new sources of localized emissions to the area. Table 11, below, shows the net amount of on-site emissions from the operation of the Proposed Project. As shown, the Proposed Project's on-site localized emissions would not exceed any of the localized thresholds for a site of five acres. Therefore, localized on-site operational emissions would be less than significant.

Table 11
Localized On-Site Peak Daily Operational Emissions

Emissions Source [a, b]	Total On-site Emissions (Pounds per Day)			
	NO_x	CO	PM_{10}	$PM_{2.5}$
Area	<0.01	0.07	<0.01	<0.01
Energy	1.77	1.49	0.13	0.13
Net On-Site Emissions:	**1.77**	**1.56**	**0.13**	**0.13**
SCAQMD Localized Thresholds	**270**	**2,193**	**4**	**2**
Potentially Significant Impact?	***No***	***No***	***No***	***No***

[a] *The localized thresholds for all sources are based on a receptor distance of 25 meters in SCAQMD's SRA 33 for a Project Site of 5 acres.*
[b] *Emissions from area and energy sources were analyzed, since mobile sources are off-site localized emissions. Area and energy emissions are the same for winter and summer months.*
Source: CalEEMod 2016.3.2, Calculation sheets are provided in Appendix A to this report.

3. Toxic Air Contaminants Impacts

The Proposed Project consists of a commercial development containing golf hitting bays, lounges, a full-service bar, and restaurant uses that would not support any land uses or activities that would involve the use, storage, or processing of carcinogenic or non-carcinogenic TACs. Additionally, as noted in CAPCOA's *Health Risk Assessments for Proposed Land Use Projects* (2009), the SCAQMD recommends that Health Risk Assessments (HRAs) be conducted for substantial sources of diesel particulate matter for developments that include truck stops and warehouse distribution facilities that generate more than 100 trucks per day or more than 40 trucks with operating transport refrigeration units, which does not apply to the Proposed Project. As such, no significant toxic airborne emissions would result from the operation of the Proposed Project**.**

The greatest potential for TAC emissions during construction would be from diesel particulate emissions associated with heavy equipment operations. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person continuously exposed to concentrations of TACs over a 70-year lifetime will contract cancer based on the use of standard risk assessment methodology. Given the short-term construction schedule of approximately 10 months, the Proposed Project would not result in a long-term

(i.e., 70-year) source of TAC emissions. No residual emissions and corresponding individual cancer risk are anticipated after construction. Because there is such a short-term exposure period (10 out of 840 months), construction TAC emissions would result in a less-than-significant impact. Therefore, impacts associated with the generation and/or release of TACs would be less than significant.

In conclusion, on-site localized emissions from the Proposed Project's construction and operational would not exceed the established SCAQMD localized thresholds. Therefore, localized construction and operational related air quality impacts would be considered less than significant without mitigation. Additionally, potential air toxic impacts to sensitive receptors from Project TAC emissions would also be less than significant without mitigation.

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

The Proposed Project does not include any of the uses identified by the SCAQMD as being associated with odors (such as agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, or fiberglass molding). In addition, SCAQMD Best Available Control Technology Guidelines would limit potential objectionable odor impacts during the Proposed Project's long-term operations phase.

Potential sources that may emit odors during construction activities include the use of architectural coatings and solvents, as well as asphalt paving. SCAQMD Rules 1108 and 1113 limit the amount of volatile organic compounds from cutback asphalt and architectural coatings and solvents, respectively. Based on mandatory compliance with SCAQMD rules, no construction activities or materials that would create a significant level of objectionable odors are proposed.

The Proposed Project would not create objectionable odors affecting a substantial number of people during construction or long-term operation. Odors from garbage chutes and enclosed refuse containers would be controlled through standard best management practices and ongoing building maintenance procedures. While restaurant-related uses have the potential to generate odors from cooking and disposal of organic waste, restaurant operators would be subject to SCAQMD Rule 1138, which requires the installation of odor-reducing equipment. Therefore, a less-than-significant impact would occur with respect to the creation of objectionable odors during operation.

In conclusion, the Proposed Project's adherence to SCAQMD Rule 1108, Rule 1113, Rule 1138 and SCAQMD Best Available Control Technology Guidelines would limit potential objectionable odor impacts during the Proposed Project's short-term construction and long-term operations phase. Therefore, impacts associated with odors from the Proposed Project would be less than significant without mitigation.

C. Mitigation Measures

The Proposed Project's air quality impacts would not exceed the regional and localized construction and operational air quality thresholds. The Proposed Project's impacts would be reduced to less-than-significant levels with adherence to the applicable regulatory measures as discussed in the analysis above. Therefore, no mitigation measures are required.

D. Cumulative Impacts

Development of the Proposed Project in conjunction with other development projects within the Project vicinity would result in an increase in construction and operational emissions in the already urbanized area of the City of Ontario. The 2016 AQMP was prepared to accommodate growth, reduce pollutants within the areas under SCAQMD jurisdiction, improve the overall air quality of the region, and minimize the impact on the economy. Growth that is consistent with the 2016 AQMP would not interfere with attainment because this growth is included in the projections utilized in the formulation of the AQMP. Consequently, as long as growth in the Basin is within the projections for growth identified by SCAG, implementation of the 2016 AQMP will not be obstructed by such growth and cumulative impacts would be less than significant. Since the Proposed Project is consistent with SCAG's growth projections, it would not have a cumulatively considerable contribution to an impact regarding a potential conflict with or obstruction of the implementation of the applicable air quality plan. Thus, the Proposed Project's cumulative impacts related to conformance with the 2016 AQMP would be less than significant.

The SCAQMD recommends that a project's potential contribution to cumulative impacts should be assessed utilizing the same significance criteria as those for project specific impacts. Therefore, according to the SCAQMD, individual development projects that generate construction or operational emissions that exceed the SCAQMD recommended daily thresholds for project-specific impacts would also cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in non-attainment. Thus, as discussed above, because the construction-related and operational daily emissions associated with Proposed Project would not exceed the SCAQMD's recommended thresholds, the emissions generated by the Proposed Project would not be cumulatively considerable.

B. REFERENCES

ARB/CAPCOA Risk Management Guidance for Stationary Sources of Air Toxics, July 23, 2015.

California Air Resources Board, Air Quality and Land Use Handbook: A Community Health Perspective, April 2005.

California Air Resources Board, Ambient Air Quality Standards, website: *http://www.arb.ca.gov/research/aaqs/aaqs.htm*, accessed September 2018.

California Air Resources Board: State Area Designation Maps, current as of June 2017 (state and national), website: *http://www.arb.ca.gov/desig/ adm/adm.htm*, accessed September 2018.

CAPCOA Planning Managers, Health Risk Assessments for Proposed Land Use Projects, July 2009.

City of Ontario, Policy Plan, Environmental Resources Element, Chapter 4, Air Quality, website: *http://www.ontarioplan.org/policy-plan/environmental-resources-element/er4-air-quality/*, accessed February 2019.

Southern California Association of Governments, Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), 2016-2040, adopted April 2016. Website: *http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS.pdf*, accessed September 2018.

South Coast Air Quality Management District, 2016 Air Quality Management Plan, March 2017.

South Coast Air Quality Management District, Air Quality Significance Thresholds, Revision March 2015, website: *http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2*, accessed September 2018.

South Coast Air Quality Management District, California Emissions Estimator Model (CalEEMod Version 2016.3.2), 2017.

South Coast Air Quality Management District, CEQA Air Quality Handbook, 1993, page 5-1.

South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, June 2003, Revised July 2008.

South Coast Air Quality Management District, Historical Data by Year, website: *http://www.aqmd.gov/home/library/air-quality-data-studies/historical-data-by-year*, accessed February 2019.

South Coast Air Quality Management District, Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES IV) Source: http://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf, accessed September 2018.

Title 24 of the California Code of Regulations.

C. PREPARERS

Parker Environmental Consultants, LLC
23822 Valencia Boulevard, Suite 301
Santa Clarita, California 91355
tel: (661) 257-2282
www.parkerenvironmental.com

Shane Parker, President
Elise Lorenzana, Senior Environmental Planner
Adrianna Gjonaj, Assistant Environmental Planner

APPENDIX A

Air Quality CalEEMod Worksheets
Topgolf Ontario Project
March 2019.

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Topgolf Ontario Project

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	524.00	Space	6.00	0.00	0
Golf Course	18.00	Hole	0.50	21,780.00	0
Quality Restaurant	18.40	1000sqft	0.30	18,400.00	0
User Defined Recreational	102.00	User Defined Unit	6.50	49,121.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Topgolf Ontario Project - South Coast AQMD Air District, Winter

Project Characteristics -

Land Use - User defined retail is 67,521 sf Topgolf Facility ith 102 hitting bays. Approx. 18,400 sf of total floor area was identified as restaurant space to account for water and energy use associated with food, beverage, kitchen, banquet and all outdoor patio/terrace space within the facility.

Grading - Approximately 11,000 cy soil export on 13.3-acre site.

Trips and VMT - Vendor, paving, and architectural coatings increased as conservative estimate.

Vehicle Trips - Trip rates per Gibson Transportation Consulting traffic data. Trip rates modified to reflect total ADT of 1,855 per Traffic Study Table 7, Trip Generation Estimates. Trip types for calculating VMT were modified to be comparable to a movie theater land use to reflect the unique entertainment use of a Topgolf facility.

Energy Mitigation - City of Ontario requires 5% energy improvement above Title 24 standards.

Water Mitigation - Mini-golf and driving range area to use artificial turf in lieu of grass.

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	300.00	138.00
tblConstructionPhase	NumDays	30.00	22.00
tblConstructionPhase	NumDays	20.00	11.00
tblEnergyUse	LightingElect	0.00	3.62
tblEnergyUse	NT24E	0.00	5.02
tblEnergyUse	NT24NG	0.00	17.13
tblEnergyUse	T24E	0.00	2.89
tblEnergyUse	T24NG	0.00	16.76
tblGrading	AcresOfGrading	55.00	75.00
tblGrading	MaterialExported	0.00	11,000.00
tblLandUse	LandUseSquareFeet	209,600.00	0.00
tblLandUse	LandUseSquareFeet	0.00	21,780.00
tblLandUse	LandUseSquareFeet	0.00	49,121.00
tblLandUse	LotAcreage	4.72	6.00
tblLandUse	LotAcreage	125.66	0.50

Topgolf Ontario Project - South Coast AQMD Air District, Winter

tblLandUse	LotAcreage	0.42	0.30
tblLandUse	LotAcreage	0.00	6.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblTripsAndVMT	VendorTripNumber	15.00	138.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblVehicleTrips	CC_TTP	48.00	79.20
tblVehicleTrips	CC_TTP	0.00	79.20
tblVehicleTrips	CNW_TTP	0.00	19.00
tblVehicleTrips	CW_TTP	33.00	1.80
tblVehicleTrips	CW_TTP	0.00	1.80
tblVehicleTrips	DV_TP	39.00	18.00
tblVehicleTrips	DV_TP	0.00	18.00
tblVehicleTrips	PB_TP	9.00	44.00
tblVehicleTrips	PB_TP	0.00	44.00
tblVehicleTrips	PR_TP	52.00	38.00
tblVehicleTrips	PR_TP	0.00	38.00
tblVehicleTrips	ST_TR	40.63	2.80
tblVehicleTrips	ST_TR	94.36	0.00
tblVehicleTrips	ST_TR	0.00	30.60
tblVehicleTrips	SU_TR	39.53	2.80
tblVehicleTrips	SU_TR	72.16	0.00
tblVehicleTrips	SU_TR	0.00	30.60
tblVehicleTrips	WD_TR	35.74	1.65
tblVehicleTrips	WD_TR	89.95	0.00
tblVehicleTrips	WD_TR	0.00	17.90

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					
2020	20.3629	70.8000	40.1347	0.1183	11.0432	2.4297	13.4729	4.0766	2.2532	6.3298	0.0000	11,987.8266	11,987.8266	2.3539	0.0000	12,046.6738
Maximum	**20.3629**	**70.8000**	**40.1347**	**0.1183**	**11.0432**	**2.4297**	**13.4729**	**4.0766**	**2.2532**	**6.3298**	**0.0000**	**11,987.8266**	**11,987.8266**	**2.3539**	**0.0000**	**12,046.6738**

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					
2020	20.3629	70.8000	40.1347	0.1183	5.7115	2.4297	8.1412	2.0366	2.2532	4.2898	0.0000	11,987.8266	11,987.8266	2.3539	0.0000	12,046.6738
Maximum	**20.3629**	**70.8000**	**40.1347**	**0.1183**	**5.7115**	**2.4297**	**8.1412**	**2.0366**	**2.2532**	**4.2898**	**0.0000**	**11,987.8266**	**11,987.8266**	**2.3539**	**0.0000**	**12,046.6738**

Topgolf Ontario Project - South Coast AQMD Air District, Winter

	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	48.28	0.00	39.57	50.04	0.00	32.23	0.00	0.00	0.00	0.00	0.00	0.00

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	2.0014	6.3000e-004	0.0681	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1450	0.1450	3.9000e-004		0.1547
Energy	0.1978	1.7986	1.5108	0.0108		0.1367	0.1367		0.1367	0.1367		2,158.2616	2,158.2616	0.0414	0.0396	2,171.0871
Mobile	4.4725	20.4737	40.2436	0.1155	8.7281	0.1236	8.8517	2.3355	0.1159	2.4514		11,756.7971	11,756.7971	0.7504		11,775.5571
Total	**6.6717**	**22.2728**	**41.8225**	**0.1263**	**8.7281**	**0.2605**	**8.9886**	**2.3355**	**0.2528**	**2.5883**		**13,915.2037**	**13,915.2037**	**0.7922**	**0.0396**	**13,946.7989**

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	2.0014	6.3000e-004	0.0681	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1450	0.1450	3.9000e-004		0.1547
Energy	0.1945	1.7683	1.4854	0.0106		0.1344	0.1344		0.1344	0.1344		2,121.9619	2,121.9619	0.0407	0.0389	2,134.5717
Mobile	4.4725	20.4737	40.2436	0.1155	8.7281	0.1236	8.8517	2.3355	0.1159	2.4514		11,756.7971	11,756.7971	0.7504		11,775.5571
Total	**6.6684**	**22.2426**	**41.7971**	**0.1261**	**8.7281**	**0.2582**	**8.9863**	**2.3355**	**0.2505**	**2.5860**		**13,878.9040**	**13,878.9040**	**0.7915**	**0.0389**	**13,910.2835**

	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	**0.05**	**0.14**	**0.06**	**0.14**	**0.00**	**0.88**	**0.03**	**0.00**	**0.91**	**0.09**	**0.00**	**0.26**	**0.26**	**0.09**	**1.69**	**0.26**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/6/2020	2/4/2020	5	22	
2	Building Construction	Building Construction	2/5/2020	8/14/2020	5	138	
3	Paving	Paving	8/15/2020	8/31/2020	5	11	
4	Architectural Coating	Architectural Coating	9/1/2020	10/30/2020	5	44	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 6

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 133,952; Non-Residential Outdoor: 44,651; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Topgolf Ontario Project - South Coast AQMD Air District, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cement and Mortar Mixers	1	8.00	9	0.56
Building Construction	Cranes	1	7.00	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	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	8.00	9	0.56
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	5	6.00	78	0.48
Architectural Coating	Forklifts	2	8.00	89	0.20

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
Grading	9	23.00	0.00	1,375.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	38.00	138.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	8.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	7	8.00	3.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2020

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					9.6940	0.0000	9.6940	3.7092	0.0000	3.7092			0.0000			0.0000
Off-Road	4.8683	53.4961	35.6448	0.0683		2.3721	2.3721		2.1981	2.1981		6,598.5299	6,598.5299	1.9800		6,648.0290
Total	**4.8683**	**53.4961**	**35.6448**	**0.0683**	**9.6940**	**2.3721**	**12.0660**	**3.7092**	**2.1981**	**5.9073**		**6,598.5299**	**6,598.5299**	**1.9800**		**6,648.0290**

3.2 Grading - 2020

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	0.4883	17.2273	3.6433	0.0476	1.0921	0.0557	1.1478	0.2993	0.0533	0.3526		5,143.1128	5,143.1128	0.3669		5,152.2844
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
Worker	0.1135	0.0766	0.8466	2.4700e-003	0.2571	1.9500e-003	0.2590	0.0682	1.8000e-003	0.0700		246.1839	246.1839	7.0600e-003		246.3605
Total	**0.6018**	**17.3038**	**4.4899**	**0.0500**	**1.3492**	**0.0576**	**1.4068**	**0.3675**	**0.0551**	**0.4225**		**5,389.2967**	**5,389.2967**	**0.3739**		**5,398.6448**

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					4.3623	0.0000	4.3623	1.6691	0.0000	1.6691			0.0000			0.0000
Off-Road	4.8683	53.4961	35.6448	0.0683		2.3721	2.3721		2.1981	2.1981	0.0000	6,598.5299	6,598.5299	1.9800		6,648.0290
Total	**4.8683**	**53.4961**	**35.6448**	**0.0683**	**4.3623**	**2.3721**	**6.7343**	**1.6691**	**2.1981**	**3.8673**	**0.0000**	**6,598.5299**	**6,598.5299**	**1.9800**		**6,648.0290**

3.2 Grading - 2020

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	0.4883	17.2273	3.6433	0.0476	1.0921	0.0557	1.1478	0.2993	0.0533	0.3526		5,143.1128	5,143.1128	0.3669		5,152.2844
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
Worker	0.1135	0.0766	0.8466	2.4700e-003	0.2571	1.9500e-003	0.2590	0.0682	1.8000e-003	0.0700		246.1839	246.1839	7.0600e-003		246.3605
Total	**0.6018**	**17.3038**	**4.4899**	**0.0500**	**1.3492**	**0.0576**	**1.4068**	**0.3675**	**0.0551**	**0.4225**		**5,389.2967**	**5,389.2967**	**0.3739**		**5,398.6448**

3.3 Building Construction - 2020

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	2.0346	18.2567	15.9767	0.0261		1.0347	1.0347		0.9757	0.9757		2,455.5485	2,455.5485	0.5802		2,470.0542
Total	**2.0346**	**18.2567**	**15.9767**	**0.0261**		**1.0347**	**1.0347**		**0.9757**	**0.9757**		**2,455.5485**	**2,455.5485**	**0.5802**		**2,470.0542**

3.3 Building Construction - 2020

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
Vendor	0.4747	14.4661	3.8445	0.0345	0.8832	0.0728	0.9560	0.2543	0.0697	0.3239		3,677.8767	3,677.8767	0.2554		3,684.2613
Worker	0.1875	0.1265	1.3987	4.0800e-003	0.4248	3.2200e-003	0.4280	0.1127	2.9700e-003	0.1156		406.7387	406.7387	0.0117		407.0303
Total	**0.6622**	**14.5926**	**5.2432**	**0.0386**	**1.3080**	**0.0760**	**1.3840**	**0.3669**	**0.0726**	**0.4395**		**4,084.6154**	**4,084.6154**	**0.2670**		**4,091.2916**

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	2.0346	18.2567	15.9767	0.0261		1.0347	1.0347		0.9757	0.9757	0.0000	2,455.5485	2,455.5485	0.5802		2,470.0542
Total	**2.0346**	**18.2567**	**15.9767**	**0.0261**		**1.0347**	**1.0347**		**0.9757**	**0.9757**	**0.0000**	**2,455.5485**	**2,455.5485**	**0.5802**		**2,470.0542**

3.3 Building Construction - 2020

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
Vendor	0.4747	14.4661	3.8445	0.0345	0.8832	0.0728	0.9560	0.2543	0.0697	0.3239		3,677.8767	3,677.8767	0.2554		3,684.2613
Worker	0.1875	0.1265	1.3987	4.0800e-003	0.4248	3.2200e-003	0.4280	0.1127	2.9700e-003	0.1156		406.7387	406.7387	0.0117		407.0303
Total	**0.6622**	**14.5926**	**5.2432**	**0.0386**	**1.3080**	**0.0760**	**1.3840**	**0.3669**	**0.0726**	**0.4395**		**4,084.6154**	**4,084.6154**	**0.2670**		**4,091.2916**

3.4 Paving - 2020

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	1.4741	14.8019	15.2690	0.0242		0.7814	0.7814		0.7212	0.7212		2,308.7661	2,308.7661	0.7245		2,326.8789
Paving	1.4291					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.9032**	**14.8019**	**15.2690**	**0.0242**		**0.7814**	**0.7814**		**0.7212**	**0.7212**		**2,308.7661**	**2,308.7661**	**0.7245**		**2,326.8789**

3.4 Paving - 2020

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
Vendor	0.0275	0.8386	0.2229	2.0000e-003	0.0512	4.2200e-003	0.0554	0.0147	4.0400e-003	0.0188		213.2103	213.2103	0.0148		213.5804
Worker	0.0987	0.0666	0.7362	2.1500e-003	0.2236	1.7000e-003	0.2253	0.0593	1.5600e-003	0.0609		214.0730	214.0730	6.1400e-003		214.2265
Total	**0.1262**	**0.9052**	**0.9590**	**4.1500e-003**	**0.2748**	**5.9200e-003**	**0.2807**	**0.0740**	**5.6000e-003**	**0.0796**		**427.2832**	**427.2832**	**0.0209**		**427.8069**

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	1.4741	14.8019	15.2690	0.0242		0.7814	0.7814		0.7212	0.7212	0.0000	2,308.7661	2,308.7661	0.7245		2,326.8789
Paving	1.4291					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.9032**	**14.8019**	**15.2690**	**0.0242**		**0.7814**	**0.7814**		**0.7212**	**0.7212**	**0.0000**	**2,308.7661**	**2,308.7661**	**0.7245**		**2,326.8789**

3.4 Paving - 2020

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
Vendor	0.0275	0.8386	0.2229	2.0000e-003	0.0512	4.2200e-003	0.0554	0.0147	4.0400e-003	0.0188		213.2103	213.2103	0.0148		213.5804
Worker	0.0987	0.0666	0.7362	2.1500e-003	0.2236	1.7000e-003	0.2253	0.0593	1.5600e-003	0.0609		214.0730	214.0730	6.1400e-003		214.2265
Total	**0.1262**	**0.9052**	**0.9590**	**4.1500e-003**	**0.2748**	**5.9200e-003**	**0.2807**	**0.0740**	**5.6000e-003**	**0.0796**		**427.2832**	**427.2832**	**0.0209**		**427.8069**

3.5 Architectural Coating - 2020

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	18.8142					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.4989	11.0142	11.5176	0.0179		0.7480	0.7480		0.7325	0.7325		1,703.3019	1,703.3019	0.2047		1,708.4196
Total	**20.3131**	**11.0142**	**11.5176**	**0.0179**		**0.7480**	**0.7480**		**0.7325**	**0.7325**		**1,703.3019**	**1,703.3019**	**0.2047**		**1,708.4196**

3.5 Architectural Coating - 2020

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
Vendor	0.0103	0.3145	0.0836	7.5000e-004	0.0192	1.5800e-003	0.0208	5.5300e-003	1.5100e-003	7.0400e-003		79.9538	79.9538	5.5500e-003		80.0926
Worker	0.0395	0.0266	0.2945	8.6000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0498**	**0.3411**	**0.3781**	**1.6100e-003**	**0.1086**	**2.2600e-003**	**0.1109**	**0.0292**	**2.1300e-003**	**0.0314**		**165.5830**	**165.5830**	**8.0100e-003**		**165.7832**

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	18.8142					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.4989	11.0142	11.5176	0.0179		0.7480	0.7480		0.7325	0.7325	0.0000	1,703.3019	1,703.3019	0.2047		1,708.4196
Total	**20.3131**	**11.0142**	**11.5176**	**0.0179**		**0.7480**	**0.7480**		**0.7325**	**0.7325**	**0.0000**	**1,703.3019**	**1,703.3019**	**0.2047**		**1,708.4196**

3.5 Architectural Coating - 2020

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
Vendor	0.0103	0.3145	0.0836	7.5000e-004	0.0192	1.5800e-003	0.0208	5.5300e-003	1.5100e-003	7.0400e-003		79.9538	79.9538	5.5500e-003		80.0926
Worker	0.0395	0.0266	0.2945	8.6000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0498**	**0.3411**	**0.3781**	**1.6100e-003**	**0.1086**	**2.2600e-003**	**0.1109**	**0.0292**	**2.1300e-003**	**0.0314**		**165.5830**	**165.5830**	**8.0100e-003**		**165.7832**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.4725	20.4737	40.2436	0.1155	8.7281	0.1236	8.8517	2.3355	0.1159	2.4514		11,756.7971	11,756.7971	0.7504		11,775.5571
Unmitigated	4.4725	20.4737	40.2436	0.1155	8.7281	0.1236	8.8517	2.3355	0.1159	2.4514		11,756.7971	11,756.7971	0.7504		11,775.5571

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Golf Course	29.70	50.40	50.40	46,093	46,093
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	0.00	0.00	0.00		
User Defined Recreational	1,825.80	3,121.20	3121.20	2,842,041	2,842,041
Total	1,855.50	3,171.60	3,171.60	2,888,134	2,888,134

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
Golf Course	16.60	8.40	6.90	1.80	79.20	19.00	38	18	44
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
User Defined Recreational	16.60	8.40	6.90	1.80	79.20	19.00	38	18	44

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Golf Course	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Parking Lot	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Quality Restaurant	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
User Defined Recreational	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1945	1.7683	1.4854	0.0106		0.1344	0.1344		0.1344	0.1344		2,121.9619	2,121.9619	0.0407	0.0389	2,134.5717
NaturalGas Unmitigated	0.1978	1.7986	1.5108	0.0108		0.1367	0.1367		0.1367	0.1367		2,158.2616	2,158.2616	0.0414	0.0396	2,171.0871

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					
Golf Course	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
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
Quality Restaurant	13784.4	0.1487	1.3514	1.1352	8.1100e-003		0.1027	0.1027		0.1027	0.1027		1,621.6909	1,621.6909	0.0311	0.0297	1,631.3278
User Defined Recreational	4560.85	0.0492	0.4471	0.3756	2.6800e-003		0.0340	0.0340		0.0340	0.0340		536.5707	536.5707	0.0103	9.8400e-003	539.7593
Total		**0.1978**	**1.7986**	**1.5108**	**0.0108**		**0.1367**	**0.1367**		**0.1367**	**0.1367**		**2,158.2616**	**2,158.2616**	**0.0414**	**0.0396**	**2,171.0871**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Golf Course	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
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
Quality Restaurant	13.5886	0.1465	1.3322	1.1191	7.9900e-003		0.1013	0.1013		0.1013	0.1013		1,598.6590	1,598.6590	0.0306	0.0293	1,608.1591
User Defined Recreational	4.44807	0.0480	0.4361	0.3663	2.6200e-003		0.0331	0.0331		0.0331	0.0331		523.3029	523.3029	0.0100	9.5900e-003	526.4126
Total		**0.1945**	**1.7683**	**1.4854**	**0.0106**		**0.1344**	**0.1344**		**0.1344**	**0.1344**		**2,121.9619**	**2,121.9619**	**0.0407**	**0.0389**	**2,134.5717**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

Use Low VOC Cleaning Supplies

	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	2.0014	6.3000e-004	0.0681	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1450	0.1450	3.9000e-004		0.1547
Unmitigated	2.0014	6.3000e-004	0.0681	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1450	0.1450	3.9000e-004		0.1547

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	0.2268					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7682					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.4000e-003	6.3000e-004	0.0681	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1450	0.1450	3.9000e-004		0.1547
Total	**2.0014**	**6.3000e-004**	**0.0681**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**		**0.1450**	**0.1450**	**3.9000e-004**		**0.1547**

6.2 Area by SubCategory

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	0.2268					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7682					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.4000e-003	6.3000e-004	0.0681	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1450	0.1450	3.9000e-004		0.1547
Total	**2.0014**	**6.3000e-004**	**0.0681**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**		**0.1450**	**0.1450**	**3.9000e-004**		**0.1547**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Turf Reduction

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

Topgolf Ontario Project

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	524.00	Space	6.00	0.00	0
Golf Course	18.00	Hole	0.50	21,780.00	0
Quality Restaurant	18.40	1000sqft	0.30	18,400.00	0
User Defined Recreational	102.00	User Defined Unit	6.50	49,121.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Topgolf Ontario Project - South Coast AQMD Air District, Summer

Project Characteristics -

Land Use - User defined retail is 67,521 sf Topgolf Facility ith 102 hitting bays. Approx. 18,400 sf of total floor area was identified as restaurant space to account for water and energy use associated with food, beverage, kitchen, banquet and all outdoor patio/terrace space within the facility.

Grading - Approximately 11,000 cy soil export on 13.3-acre site.

Trips and VMT - Vendor, paving, and architectural coatings increased as conservative estimate.

Vehicle Trips - Trip rates per Gibson Transportation Consulting traffic data. Trip rates modified to reflect total ADT of 1,855 per Traffic Study Table 7, Trip Generation Estimates. Trip types for calculating VMT were modified to be comparable to a movie theater land use to reflect the unique entertainment use of a Topgolf facility.

Energy Mitigation - City of Ontario requires 5% energy improvement above Title 24 standards.

Water Mitigation - Mini-golf and driving range area to use artificial turf in lieu of grass.

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	300.00	138.00
tblConstructionPhase	NumDays	30.00	22.00
tblConstructionPhase	NumDays	20.00	11.00
tblEnergyUse	LightingElect	0.00	3.62
tblEnergyUse	NT24E	0.00	5.02
tblEnergyUse	NT24NG	0.00	17.13
tblEnergyUse	T24E	0.00	2.89
tblEnergyUse	T24NG	0.00	16.76
tblGrading	AcresOfGrading	55.00	75.00
tblGrading	MaterialExported	0.00	11,000.00
tblLandUse	LandUseSquareFeet	209,600.00	0.00
tblLandUse	LandUseSquareFeet	0.00	21,780.00
tblLandUse	LandUseSquareFeet	0.00	49,121.00
tblLandUse	LotAcreage	4.72	6.00
tblLandUse	LotAcreage	125.66	0.50

Topgolf Ontario Project - South Coast AQMD Air District, Summer

tblLandUse	LotAcreage	0.42	0.30
tblLandUse	LotAcreage	0.00	6.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblTripsAndVMT	VendorTripNumber	15.00	138.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblVehicleTrips	CC_TTP	48.00	79.20
tblVehicleTrips	CC_TTP	0.00	79.20
tblVehicleTrips	CNW_TTP	0.00	19.00
tblVehicleTrips	CW_TTP	33.00	1.80
tblVehicleTrips	CW_TTP	0.00	1.80
tblVehicleTrips	DV_TP	39.00	18.00
tblVehicleTrips	DV_TP	0.00	18.00
tblVehicleTrips	PB_TP	9.00	44.00
tblVehicleTrips	PB_TP	0.00	44.00
tblVehicleTrips	PR_TP	52.00	38.00
tblVehicleTrips	PR_TP	0.00	38.00
tblVehicleTrips	ST_TR	40.63	2.80
tblVehicleTrips	ST_TR	94.36	0.00
tblVehicleTrips	ST_TR	0.00	30.60
tblVehicleTrips	SU_TR	39.53	2.80
tblVehicleTrips	SU_TR	72.16	0.00
tblVehicleTrips	SU_TR	0.00	30.60
tblVehicleTrips	WD_TR	35.74	1.65
tblVehicleTrips	WD_TR	89.95	0.00
tblVehicleTrips	WD_TR	0.00	17.90

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					
2020	20.3592	70.5750	39.9695	0.1194	11.0432	2.4288	13.4720	4.0766	2.2524	6.3290	0.0000	12,101.3035	12,101.3035	2.3391	0.0000	12,159.7817
Maximum	**20.3592**	**70.5750**	**39.9695**	**0.1194**	**11.0432**	**2.4288**	**13.4720**	**4.0766**	**2.2524**	**6.3290**	**0.0000**	**12,101.3035**	**12,101.3035**	**2.3391**	**0.0000**	**12,159.7817**

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					
2020	20.3592	70.5750	39.9695	0.1194	5.7115	2.4288	8.1403	2.0366	2.2524	4.2890	0.0000	12,101.3035	12,101.3035	2.3391	0.0000	12,159.7817
Maximum	**20.3592**	**70.5750**	**39.9695**	**0.1194**	**5.7115**	**2.4288**	**8.1403**	**2.0366**	**2.2524**	**4.2890**	**0.0000**	**12,101.3035**	**12,101.3035**	**2.3391**	**0.0000**	**12,159.7817**

Topgolf Ontario Project - South Coast AQMD Air District, Summer

	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	48.28	0.00	39.58	50.04	0.00	32.23	0.00	0.00	0.00	0.00	0.00	0.00

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	2.0014	6.3000e-004	0.0681	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1450	0.1450	3.9000e-004		0.1547
Energy	0.1978	1.7986	1.5108	0.0108		0.1367	0.1367		0.1367	0.1367		2,158.2616	2,158.2616	0.0414	0.0396	2,171.0871
Mobile	4.7217	20.3921	40.7445	0.1224	8.7281	0.1220	8.8501	2.3355	0.1144	2.4499		12,465.5733	12,465.5733	0.7304		12,483.8343
Total	**6.9209**	**22.1912**	**42.3234**	**0.1332**	**8.7281**	**0.2589**	**8.9870**	**2.3355**	**0.2513**	**2.5868**		**14,623.9799**	**14,623.9799**	**0.7722**	**0.0396**	**14,655.0761**

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	2.0014	6.3000e-004	0.0681	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1450	0.1450	3.9000e-004		0.1547
Energy	0.1945	1.7683	1.4854	0.0106		0.1344	0.1344		0.1344	0.1344		2,121.9619	2,121.9619	0.0407	0.0389	2,134.5717
Mobile	4.7217	20.3921	40.7445	0.1224	8.7281	0.1220	8.8501	2.3355	0.1144	2.4499		12,465.5733	12,465.5733	0.7304		12,483.8343
Total	**6.9176**	**22.1610**	**42.2979**	**0.1331**	**8.7281**	**0.2566**	**8.9847**	**2.3355**	**0.2490**	**2.5845**		**14,587.6802**	**14,587.6802**	**0.7715**	**0.0389**	**14,618.5607**

	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	**0.05**	**0.14**	**0.06**	**0.14**	**0.00**	**0.89**	**0.03**	**0.00**	**0.92**	**0.09**	**0.00**	**0.25**	**0.25**	**0.09**	**1.69**	**0.25**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/6/2020	2/4/2020	5	22	
2	Building Construction	Building Construction	2/5/2020	8/14/2020	5	138	
3	Paving	Paving	8/15/2020	8/31/2020	5	11	
4	Architectural Coating	Architectural Coating	9/1/2020	10/30/2020	5	44	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 6

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 133,952; Non-Residential Outdoor: 44,651; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cement and Mortar Mixers	1	8.00	9	0.56
Building Construction	Cranes	1	7.00	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	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	8.00	9	0.56
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	5	6.00	78	0.48
Architectural Coating	Forklifts	2	8.00	89	0.20

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
Grading	9	23.00	0.00	1,375.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	38.00	138.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	8.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	7	8.00	3.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2020

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					9.6940	0.0000	9.6940	3.7092	0.0000	3.7092			0.0000			0.0000
Off-Road	4.8683	53.4961	35.6448	0.0683		2.3721	2.3721		2.1981	2.1981		6,598.5299	6,598.5299	1.9800		6,648.0290
Total	**4.8683**	**53.4961**	**35.6448**	**0.0683**	**9.6940**	**2.3721**	**12.0660**	**3.7092**	**2.1981**	**5.9073**		**6,598.5299**	**6,598.5299**	**1.9800**		**6,648.0290**

3.2 Grading - 2020

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	0.4747	17.0089	3.3843	0.0485	1.0921	0.0548	1.1470	0.2993	0.0525	0.3518		5,239.5576	5,239.5576	0.3516		5,248.3475
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
Worker	0.1041	0.0700	0.9403	2.6400e-003	0.2571	1.9500e-003	0.2590	0.0682	1.8000e-003	0.0700		263.2160	263.2160	7.5700e-003		263.4052
Total	**0.5788**	**17.0788**	**4.3246**	**0.0511**	**1.3492**	**0.0568**	**1.4060**	**0.3675**	**0.0543**	**0.4217**		**5,502.7736**	**5,502.7736**	**0.3592**		**5,511.7527**

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					4.3623	0.0000	4.3623	1.6691	0.0000	1.6691			0.0000			0.0000
Off-Road	4.8683	53.4961	35.6448	0.0683		2.3721	2.3721		2.1981	2.1981	0.0000	6,598.5299	6,598.5299	1.9800		6,648.0290
Total	**4.8683**	**53.4961**	**35.6448**	**0.0683**	**4.3623**	**2.3721**	**6.7343**	**1.6691**	**2.1981**	**3.8673**	**0.0000**	**6,598.5299**	**6,598.5299**	**1.9800**		**6,648.0290**

3.2 Grading - 2020

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	0.4747	17.0089	3.3843	0.0485	1.0921	0.0548	1.1470	0.2993	0.0525	0.3518		5,239.5576	5,239.5576	0.3516		5,248.3475
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
Worker	0.1041	0.0700	0.9403	2.6400e-003	0.2571	1.9500e-003	0.2590	0.0682	1.8000e-003	0.0700		263.2160	263.2160	7.5700e-003		263.4052
Total	**0.5788**	**17.0788**	**4.3246**	**0.0511**	**1.3492**	**0.0568**	**1.4060**	**0.3675**	**0.0543**	**0.4217**		**5,502.7736**	**5,502.7736**	**0.3592**		**5,511.7527**

3.3 Building Construction - 2020

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	2.0346	18.2567	15.9767	0.0261		1.0347	1.0347		0.9757	0.9757		2,455.5485	2,455.5485	0.5802		2,470.0542
Total	**2.0346**	**18.2567**	**15.9767**	**0.0261**		**1.0347**	**1.0347**		**0.9757**	**0.9757**		**2,455.5485**	**2,455.5485**	**0.5802**		**2,470.0542**

3.3 Building Construction - 2020

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
Vendor	0.4532	14.4811	3.4482	0.0355	0.8832	0.0717	0.9550	0.2543	0.0686	0.3229		3,787.3887	3,787.3887	0.2378		3,793.3334
Worker	0.1719	0.1156	1.5535	4.3700e-003	0.4248	3.2200e-003	0.4280	0.1127	2.9700e-003	0.1156		434.8786	434.8786	0.0125		435.1912
Total	**0.6251**	**14.5966**	**5.0018**	**0.0399**	**1.3080**	**0.0750**	**1.3829**	**0.3669**	**0.0716**	**0.4385**		**4,222.2673**	**4,222.2673**	**0.2503**		**4,228.5246**

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	2.0346	18.2567	15.9767	0.0261		1.0347	1.0347		0.9757	0.9757	0.0000	2,455.5485	2,455.5485	0.5802		2,470.0542
Total	**2.0346**	**18.2567**	**15.9767**	**0.0261**		**1.0347**	**1.0347**		**0.9757**	**0.9757**	**0.0000**	**2,455.5485**	**2,455.5485**	**0.5802**		**2,470.0542**

3.3 Building Construction - 2020

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
Vendor	0.4532	14.4811	3.4482	0.0355	0.8832	0.0717	0.9550	0.2543	0.0686	0.3229		3,787.3887	3,787.3887	0.2378		3,793.3334
Worker	0.1719	0.1156	1.5535	4.3700e-003	0.4248	3.2200e-003	0.4280	0.1127	2.9700e-003	0.1156		434.8786	434.8786	0.0125		435.1912
Total	**0.6251**	**14.5966**	**5.0018**	**0.0399**	**1.3080**	**0.0750**	**1.3829**	**0.3669**	**0.0716**	**0.4385**		**4,222.2673**	**4,222.2673**	**0.2503**		**4,228.5246**

3.4 Paving - 2020

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	1.4741	14.8019	15.2690	0.0242		0.7814	0.7814		0.7212	0.7212		2,308.7661	2,308.7661	0.7245		2,326.8789
Paving	1.4291					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.9032**	**14.8019**	**15.2690**	**0.0242**		**0.7814**	**0.7814**		**0.7212**	**0.7212**		**2,308.7661**	**2,308.7661**	**0.7245**		**2,326.8789**

3.4 Paving - 2020

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
Vendor	0.0263	0.8395	0.1999	2.0600e-003	0.0512	4.1600e-003	0.0554	0.0147	3.9800e-003	0.0187		219.5588	219.5588	0.0138		219.9034
Worker	0.0905	0.0608	0.8176	2.3000e-003	0.2236	1.7000e-003	0.2253	0.0593	1.5600e-003	0.0609		228.8835	228.8835	6.5800e-003		229.0480
Total	**0.1168**	**0.9003**	**1.0175**	**4.3600e-003**	**0.2748**	**5.8600e-003**	**0.2806**	**0.0740**	**5.5400e-003**	**0.0796**		**448.4423**	**448.4423**	**0.0204**		**448.9514**

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	1.4741	14.8019	15.2690	0.0242		0.7814	0.7814		0.7212	0.7212	0.0000	2,308.7661	2,308.7661	0.7245		2,326.8789
Paving	1.4291					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.9032**	**14.8019**	**15.2690**	**0.0242**		**0.7814**	**0.7814**		**0.7212**	**0.7212**	**0.0000**	**2,308.7661**	**2,308.7661**	**0.7245**		**2,326.8789**

3.4 Paving - 2020

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
Vendor	0.0263	0.8395	0.1999	2.0600e-003	0.0512	4.1600e-003	0.0554	0.0147	3.9800e-003	0.0187		219.5588	219.5588	0.0138		219.9034
Worker	0.0905	0.0608	0.8176	2.3000e-003	0.2236	1.7000e-003	0.2253	0.0593	1.5600e-003	0.0609		228.8835	228.8835	6.5800e-003		229.0480
Total	**0.1168**	**0.9003**	**1.0175**	**4.3600e-003**	**0.2748**	**5.8600e-003**	**0.2806**	**0.0740**	**5.5400e-003**	**0.0796**		**448.4423**	**448.4423**	**0.0204**		**448.9514**

3.5 Architectural Coating - 2020

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	18.8142					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.4989	11.0142	11.5176	0.0179		0.7480	0.7480		0.7325	0.7325		1,703.3019	1,703.3019	0.2047		1,708.4196
Total	**20.3131**	**11.0142**	**11.5176**	**0.0179**		**0.7480**	**0.7480**		**0.7325**	**0.7325**		**1,703.3019**	**1,703.3019**	**0.2047**		**1,708.4196**

3.5 Architectural Coating - 2020

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
Vendor	9.8500e-003	0.3148	0.0750	7.7000e-004	0.0192	1.5600e-003	0.0208	5.5300e-003	1.4900e-003	7.0200e-003		82.3345	82.3345	5.1700e-003		82.4638
Worker	0.0362	0.0243	0.3271	9.2000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0461**	**0.3391**	**0.4020**	**1.6900e-003**	**0.1086**	**2.2400e-003**	**0.1109**	**0.0292**	**2.1100e-003**	**0.0314**		**173.8879**	**173.8879**	**7.8000e-003**		**174.0830**

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	18.8142					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.4989	11.0142	11.5176	0.0179		0.7480	0.7480		0.7325	0.7325	0.0000	1,703.3019	1,703.3019	0.2047		1,708.4196
Total	**20.3131**	**11.0142**	**11.5176**	**0.0179**		**0.7480**	**0.7480**		**0.7325**	**0.7325**	**0.0000**	**1,703.3019**	**1,703.3019**	**0.2047**		**1,708.4196**

3.5 Architectural Coating - 2020

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
Vendor	9.8500e-003	0.3148	0.0750	7.7000e-004	0.0192	1.5600e-003	0.0208	5.5300e-003	1.4900e-003	7.0200e-003		82.3345	82.3345	5.1700e-003		82.4638
Worker	0.0362	0.0243	0.3271	9.2000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0461**	**0.3391**	**0.4020**	**1.6900e-003**	**0.1086**	**2.2400e-003**	**0.1109**	**0.0292**	**2.1100e-003**	**0.0314**		**173.8879**	**173.8879**	**7.8000e-003**		**174.0830**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.7217	20.3921	40.7445	0.1224	8.7281	0.1220	8.8501	2.3355	0.1144	2.4499		12,465.5733	12,465.5733	0.7304		12,483.8343
Unmitigated	4.7217	20.3921	40.7445	0.1224	8.7281	0.1220	8.8501	2.3355	0.1144	2.4499		12,465.5733	12,465.5733	0.7304		12,483.8343

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Golf Course	29.70	50.40	50.40	46,093	46,093
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	0.00	0.00	0.00		
User Defined Recreational	1,825.80	3,121.20	3121.20	2,842,041	2,842,041
Total	1,855.50	3,171.60	3,171.60	2,888,134	2,888,134

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
Golf Course	16.60	8.40	6.90	1.80	79.20	19.00	38	18	44
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
User Defined Recreational	16.60	8.40	6.90	1.80	79.20	19.00	38	18	44

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Golf Course	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Parking Lot	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Quality Restaurant	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
User Defined Recreational	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1945	1.7683	1.4854	0.0106		0.1344	0.1344		0.1344	0.1344		2,121.9619	2,121.9619	0.0407	0.0389	2,134.5717
NaturalGas Unmitigated	0.1978	1.7986	1.5108	0.0108		0.1367	0.1367		0.1367	0.1367		2,158.2616	2,158.2616	0.0414	0.0396	2,171.0871

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					
Golf Course	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
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
Quality Restaurant	13784.4	0.1487	1.3514	1.1352	8.1100e-003		0.1027	0.1027		0.1027	0.1027		1,621.6909	1,621.6909	0.0311	0.0297	1,631.3278
User Defined Recreational	4560.85	0.0492	0.4471	0.3756	2.6800e-003		0.0340	0.0340		0.0340	0.0340		536.5707	536.5707	0.0103	9.8400e-003	539.7593
Total		**0.1978**	**1.7986**	**1.5108**	**0.0108**		**0.1367**	**0.1367**		**0.1367**	**0.1367**		**2,158.2616**	**2,158.2616**	**0.0414**	**0.0396**	**2,171.0871**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Golf Course	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
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
Quality Restaurant	13.5886	0.1465	1.3322	1.1191	7.9900e-003		0.1013	0.1013		0.1013	0.1013		1,598.6590	1,598.6590	0.0306	0.0293	1,608.1591
User Defined Recreational	4.44807	0.0480	0.4361	0.3663	2.6200e-003		0.0331	0.0331		0.0331	0.0331		523.3029	523.3029	0.0100	9.5900e-003	526.4126
Total		**0.1945**	**1.7683**	**1.4854**	**0.0106**		**0.1344**	**0.1344**		**0.1344**	**0.1344**		**2,121.9619**	**2,121.9619**	**0.0407**	**0.0389**	**2,134.5717**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

Use Low VOC Cleaning Supplies

	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	2.0014	6.3000e-004	0.0681	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1450	0.1450	3.9000e-004		0.1547
Unmitigated	2.0014	6.3000e-004	0.0681	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1450	0.1450	3.9000e-004		0.1547

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	0.2268					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7682					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.4000e-003	6.3000e-004	0.0681	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1450	0.1450	3.9000e-004		0.1547
Total	**2.0014**	**6.3000e-004**	**0.0681**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**		**0.1450**	**0.1450**	**3.9000e-004**		**0.1547**

6.2 Area by SubCategory

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	0.2268					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7682					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.4000e-003	6.3000e-004	0.0681	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1450	0.1450	3.9000e-004		0.1547
Total	**2.0014**	**6.3000e-004**	**0.0681**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**		**0.1450**	**0.1450**	**3.9000e-004**		**0.1547**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Turf Reduction

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

Appendix B

Preparer's Resumes and Qualifications

PARKER
ENVIRONMENTAL CONSULTANTS

STAFF RESUMES

SHANE E. PARKER
President

Shane Parker has over 20 years of professional experience in the environmental consulting field. Mr. Parker's experience is extensive and varied and has included complex projects with multi-jurisdictional boundaries involving federal, state, regional and local governmental agencies. Mr. Parker has managed and authored CEQA- and NEPA-related documentation for numerous lead agencies throughout the southern California region, including the cities of Agoura Hills, Duarte, Inglewood, Lancaster, Los Angeles, Malibu, Manhattan Beach, Santa Clarita, Santa Monica, Murrieta, Rancho Palos Verdes, Torrance, and West Hollywood. Other lead agencies Mr. Parker has provided services to include the Community Redevelopment Agency of the City of Los Angeles, the County of Los Angeles Metropolitan Transportation Authority, the Los Angeles Memorial Coliseum Commission, the Los Angeles Community College District, and Santa Monica Community College District.

EDUCATIONAL BACKGROUND AND PROFESSIONAL AFFILIATIONS

- B.A. in Geography/Environmental Studies-University of California, Los Angeles
- Association of Environmental Professionals (AEP) (Member)
- City of Malibu Environmental Review Board Member (2002-2007)
- Urban Land Institute (Member)
- Participates in CEQA and NEPA workshops and conferences

PROFESSIONAL EXPERIENCE

- 2010-Present, President, Parker Environmental Consultants, LLC
- 1999-2010, Vice President/Principal, Christopher A. Joseph & Associates
- 1995-1999, Senior Environmental Planner, PCR Corp.
- 1992 USFS, Forestry Technician/Seasonal Fire Fighter.

PROJECT EXPERIENCE

Hotels/Entertainment

- The Marriott Courtyard Suites and Residence Inn Hotel Project (LASED Specific Plan)
- Howard Hughes Center (EIR Addenda)
- Malibu Forge Lodge Bed & Breakfast (EIR)
- Malibu Civic Center/La Paz Project (EIR)
- Manhattan Beach Civic Center/Metlox (EIR)
- Schrader Hotel MND
- Los Angeles Sports Arena Redevelopment EIR
- Los Angeles Memorial Coliseum Redevelopment EIR

PARKER
ENVIRONMENTAL CONSULTANTS

SHANE PARKER, President (Continued)

Schools and Institutional Campuses

- Emerson College (EIR)
- Kaiser Baldwin Hills Medical Office Building (MND)
- Kaiser West Los Angeles Medical Office Building Parking Structure (MND)
- Kaiser Mental Health Campus Medical Office Building (MND)
- University Gateway (Negative Declaration)
- Santa Monica College (SMC) - Malibu Campus (EIR)
- SMC Bundy Campus Master Plan (EIR)
- SMC Madison Theater Project (EIR) Schools and Institutional Campuses
- SMC Career and Educational Facilities Master Plan (2010 Update) (EIR)
- Southwestern School of Law Student Housing and Campus Improvement Project
- Calabasas Viewpoint School Modernization Program (EIR)
- Los Angeles Trade-Technical College 30- Year Master Plan (EIR)
- Colburn School of Performing Arts Expansion Project (IS/MND)
- City of Hope Arnold & Mabel Beckman Center for Cancer Immunotherapeutics and Tumor Immunology ("CITI") Building MND
- Fashion Institute of Design and Merchandising (FIDM) Residences (IS/MND)
- Hillcrest Christian School and Church EIR

High Density Residential/Mixed-Use

- City Market Los Angeles EIR
- Sunset and Gordon Mixed-Use Project (EIR)
- New Dana Strand Phase IV (MND)
- Abode Rolland Curtis Apartments (MND)
- Fallbrook Village (MND)
- Blake Street Riverfront Small Lot Subdivision (MND)
- 4000 Chevy Chase Small Lot Subdivision (MND)
- Topaz at 550 Main Street (MND)
- Olympic and Hill Mixed-Use Project (MND)
- Onyx Mixed-Use Project (MND)
- G12 Mixed-Use Project (MND)
- 801 S. Olive Street (MND)
- Olympic & Olive Mixed-Use Project (MND)
- 1,000 Grand Mixed-Use Project (MND)
- Olympic & Olive Mixed-Use Project (MND)
- Glass Tower/11th and Grand (MND)
- 8th and Grand Mixed-Use Project (MND)
- 1133 S. Hope Street (MND)
- Park 5th Project (Subsequent EIR)
- 9th and Hill Mixed-Use Project (MND)
- 8th and Spring Mixed Use Project (MND)
- Hollywood & Western Mixed-Use (MND)
- Valencia Project Mixed Use (MND)
- Wilshire Center Mixed Use Project

Historic/Cultural

- 504 Paseo del Mar EIR
- Getty Villa Master Plan EIR
- Coronel Apartment Project (EIR)
- Sapphire Mixed Use Project (EIR)
- 9th & Hill (Alexan) Mixed Use Project (MND) • Los Angeles Sports Arena Redevelopment EIR
- Los Angeles Memorial Coliseum Redevelopment EIR

PARKER
ENVIRONMENTAL CONSULTANTS

STAFF RESUMES

ELISE LORENZANA, SENIOR ENVIRONMENTAL PLANNER

Ms. Lorenzana is a Senior Environmental Planner with a demonstrated experience in all aspects of the preparation of environmental documents pursuant to the California Environmental Quality Act (CEQA), with a focus on preparing air quality and greenhouse gas emission modeling and community-based noise and vibration impact assessments. Ms. Lorenzana has prepared numerous air quality and noise technical reports in compliance of CEQA. Ms. Lorenzana has been conducting air quality modeling pursuant to the SCAQMD's Air Quality Handbook (1993) and is experienced in utilizing CARB's CalEEMod air quality modeling platform for quantifying air quality emissions for development projects. She also possesses in-depth knowledge of quantifying and modeling noise and vibration impacts from project operation, construction, vibration, and traffic noise; in conformance with the Federal Transit Administration and California Department of Transportation guidance and procedures. Ms. Lorenzana provides field support for community-based ambient noise measurements manages noise calculations data worksheets for quantification of noise impacts. She regularly conducts land use and analytical research assignments in support of a wide array of environmental issues including but not limited to land use/zoning, aesthetics/views, population and housing, traffic and circulation, community based noise impact assessments, public services, public utilities, air quality modeling and greenhouse gas emissions inventories. Ms. Lorenzana also assists in document production and quality control/quality assurance protocols.

EDUCATIONAL BACKGROUND AND PROFESSIONAL AFFILIATIONS

- B.S. in Atmospheric, Oceanic & Environmental Sciences, University of California - Los Angeles, CA
- A.S. in Water Systems Technology - College of the Canyons, CA
- Certified California Water Distribution Operator, Grade D2
- Member of the Association of Environmental Professionals (2016 - Present)

PROFESSIONAL EXPERIENCE

- 2015-Present: Parker Environmental Consultants, Senior Environmental Planner
- 2014: National Aeronautics and Space Administration (NASA), Project Consultant
- 2013: USDA Forest Service, Riverside CA, Weather Observer
- 2012: PACE LA, Weatherization Intern
- 2010: CALPIRG, Environmental and Renewable Energy Policy Advocate

PROJECT EXPERIENCE

- SB Omega Project
- Hill Street Lofts Project
- Broadway Lofts Project
- Burbank 14-Unit Apt. Project
- 6477 Foothill Blvd. Carwash Project
- 940 Hill Street Project
- 2130 Violet Street Project
- Schrader Hotel Project
- Olympic and Hill Project
- 4th and Spring Hotel Project
- PATH Villas Hollywood Project
- 5950 Jefferson Blvd Project
- 6711 Sepulveda Residential Project

PARKER
ENVIRONMENTAL CONSULTANTS

STAFF RESUMES

ADRIANNA GJONAJ

Assistant Planner

Ms. Gjonaj has a Bachelor of Liberal Arts in Economics and Urban Studies from Loyola Marymount University. Ms. Gjonaj has prior experience with the Los Angeles Economic Development Corporation in assisting the Director of Innovation with projects relating to entrepreneurial developments in Los Angeles such as research on Incubators and Accelerators. She also organized the initial steps for Innovate LA 2017 – a two week long event showcasing the entrepreneurs and innovators in Los Angeles. Prior to her work with the LAEDC, she completed an internship with CURes (Center for Urban Resilience) and worked on a social science research study in which urban ecology is explored through sustainable development efforts. She completed a project for the city of Colton that analyzes the conditions of city owned trees and their productivity in regards to lowering energy costs and completed a Baldwin Hills study on efficiency of park developments. As part of Parker Environmental Consultants team, Adrianna assists in research and data collection, graphics, including site photos, noise monitoring and general document review and quality control. Ms. Gjonaj is also responsible for filing and recording various legal public notices with the Los Angeles County Clerk/Registrar's Office including NOPs and NOC/NOAs and NODs.

EDUCATIONAL BACKGROUND AND PROFESSIONAL AFFILIATIONS

- Bachelor of Liberal Arts in Economics and Urban Studies, Loyola Marymount University, CA
- Association of Environmental Professionals (AEP)
- Economics Society (LMU), member.

PROFESSIONAL EXPERIENCE

- Present: Assistant Planner, Parker Environmental Consultants
- 1/2017-5/2017: LAEDC (Los Angeles Economic Development Corporation)
- 10/2016 – 05/2017: CURes (Center for Urban Resilience)
- 2/2016-8/2016: Enrou Inc.
- 9/2013-05/2017: Academic Affairs Budget Office; LMU

PROJECT EXPERIENCE

- Sunset and Gordon Supplemental EIR
- Kaiser Watts Learning Center Mitigation Monitoring and Reporting Program
- Olympic and Hill Mixed-Use Project (MND)
- Hope Street Tower Mixed-Use Project (MND)
- 2800 Casitas Avenue Lofts EIR
- Kaiser Mental Health Campus EIR
- Deluxe Hollywood Mixed-Use Project (SCEA)
- 3555 Figueroa Mixed-Use Project (Categorical Exemption)
- 13716 Victory Boulevard (Cat-Ex)
- 714-760 Grand View St (Cat-Ex)
- South Park Tower (SCEA)
- TopGolf Ontario Noise Monitoring