4.3 AIR QUALITY

4.3.1 INTRODUCTION

This section describes and evaluates the effects the Hyatt Place project (project) would have on local and regional air quality, outlines standard conditions of project approval, and proposes mitigation measures to reduce impacts to air quality. The information in this section was obtained from the following sources:

- The Bay Area Air Quality Management District (BAAQMD) *California Environmental Quality Act (CEQA) Guidelines*, 2012
- U.S. Environmental Protection Agency (U.S. EPA)
- California Air Resources Board (CARB)
- *Hyatt Hotel Air Quality, Greenhouse Gas and Energy Assessment* (Illingworth and Rodkin, Inc., 2020), included in this EIR as **Appendix C**.

Project consistency with the 2021 Local Coastal Land Use Plan (LCLUP) is analyzed and included below. The LCLUP was updated and adopted by City Council in October 2020 and certified by the California Coastal Commission (CCC) in April 2021. The updated LCLUP comprises the City's reexamined and updated policy approach for carrying out the Coastal Act in a manner that addresses changed conditions since certification of the 1996 LCLUP.

All documents referenced in the draft EIR are available via CD or weblink upon request. The location of the other reference materials is cited at the end of this section. Hard copies of the draft EIR are located at the City of Half Moon Bay, Planning Division, 501 Main St, Half Moon Bay, CA 94019.

Comments were received in response to the Notice of Preparation for this Environmental Impact Report (EIR), comments were submitted regarding the project's potential impacts to air quality, and impacts on the quality of life to nearby residents. These comments are addressed in this section. Concerns addressed include:

- air pollution resulting from construction emissions
- air pollution resulting from increased automobile use during project operation

4.3.2 EXISTING CONDITIONS

Physical Setting

The potential for high pollutant concentrations developing at a given location depends on the quantity of pollutants emitted into the atmosphere in the surrounding area or upwind, and the ability of the atmosphere to disperse the contaminated air. The atmospheric pollution potential, as the term is used here, is independent of the location of emission sources, and is instead a function of factors such as topography and meteorology.

The San Francisco Area Air Basin (SFAAB) experiences a Mediterranean-type climate characterized by warm, dry summers and mild, wet winters. The climate is determined largely by a high-pressure system that is often present over the eastern Pacific Ocean off the West Coast of North America. In winter, the Pacific high-pressure system shifts southward, allowing storms to pass through the region. During the fall and winter months, the high-pressure condition over the interior regions of the United States (known as the Great Basin High) can produce extended periods of light winds and low-level temperature inversions. This condition is frequently characterized by poor atmospheric mixing resulting in degraded regional air quality. Ozone (O_3) pollution typically occurs with this condition during the warmer months of the year.

The air pollution potential is lowest in regions closest to the San Francisco Bay and on the coast, due largely to good ventilation and less influx of pollutants from upwind sources. Light winds in the evenings and early mornings occasionally result in elevated pollutant levels.

The air flowing from the coast to the Central Valley, called the sea breeze, begins developing at or near ground level along the coast in late morning or early afternoon. The project site is on the western (ocean) side of the San Francisco Bay Peninsula, less than a mile from the Pacific Ocean. Therefore, the local air pollution potential is low in the project vicinity due to the proximity of sea breeze effects.

Regional Air Quality

Both the State and the federal governments have established health-based ambient air quality standards (AAQS) for seven air pollutants. As detailed in **Table 4.3-1**, these pollutants include O_3, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 10 microns in size (PM_{10}) and particulate matter less than 2.5 microns in size ($PM_{2.5}$), and lead. In addition, the State has set standards for sulfates, hydrogen sulfide (H_2S), vinyl chloride, and visibility-reducing particles. These standards are

designed to protect the health and welfare of the population within a reasonable margin of safety.

The SFAAB is considered a non-attainment area for ground-level ozone and $PM_{2.5}$ under both the Federal Clean Air Act (Federal CAA) and the California Clean Air Act (California CAA). The area is also considered nonattainment for PM_{10} under the California CAA, but not the federal act. In the SFAAB, ozone and particulate matter are the pollutants of greatest concern, as measured air pollution levels show high concentrations of these pollutants at times.

Federal and state AAQS have been set to protect public health and the climate. "Attainment" status for a pollutant means that the Bay Area Air Quality Management District (BAAQMD) meets the standard set by the U.S. Environmental Protection Agency (federal) or California Environmental Protection Agency (state). Continuous air monitoring ensures that these standards are met and maintained. **Table 4.3-2** shows the public health effects of the criteria pollutants.

Table 4.3-1 Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)[8]	1-Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM_{10})[9]	24-Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter ($PM_{2.5}$)[9]	24-Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1-Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8-Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1-Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		53 ppb (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1-Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Fluorescence;

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
	3-Hour	—		—	0.5 ppm (1300 µg/m^3)	Spectrophotometry (Pararosaniline Method)
	24-Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12, 13]	30-Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[13]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility-Reducing Particles[14]	8-Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24-Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24-Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Source: CARB. Ambient Air Quality Standards (CARB 2016).

Notes:

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

[2] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once per year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the EPA for further clarification and current national policies.

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

[4] Any equivalent measurement method which can be shown to the satisfaction of CARB to give equivalent results at or near the level of the air quality standard may be used.

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

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

[7] Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.

[8] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[9] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/^{3}, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[10] To attain the 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[11] On June 2, 2010, the 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 1 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. Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[12] The CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[13] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standards are approved.

[14] In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively. °C = degrees Celsius

$\mu g/m^3$ = micrograms per cubic meter CARB = California Air Resources Board

EPA = United States Environmental Protection Agency mg/m^3 = milligrams per cubic meter ppb = parts per billion

ppm = parts per million

Table 4.3-2 Summary of Health Effects of the Major Criteria Air Pollutants

Pollutant	Health Effects	Examples of Sources
Particulate matter ($PM_{2.5}$ and PM_{10}: less than or equal to 2.5 or 10 microns, respectively)	▪ Hospitalizations for worsened heart diseases ▪ Emergency room visits for asthma ▪ Premature death	• Cars and trucks (especially diesels) • Fireplaces, woodstoves, wildfires • Windblown dust from roadways, agriculture, and construction
Ozone (O_3)	▪ Cough, chest tightness ▪ Difficulty taking a deep breath ▪ Worsened asthma symptoms ▪ Lung inflammation	Precursor sources:[1] motor vehicles, industrial emissions, and consumer products
Carbon monoxide (CO)	▪ Chest pain in heart patients2 ▪ Headaches, nausea2 ▪ Reduced mental alertness2 ▪ Death at very high levels2	Any source that burns fuel, such as cars, trucks, construction and farming equipment, and residential heaters and stoves
Nitrogen dioxide (NO_2)	Increased response to allergens	See CO sources

Pollutant	Health Effects	Examples of Sources
Toxic air contaminants	▪ Cancer ▪ Chronic eye, lung, or skin irritation ▪ Neurological and reproductive disorders	▪ Cars and trucks (especially diesels) ▪ Industrial sources, such as chrome platers ▪ Neighborhood businesses, such as dry cleaners and service stations ▪ Building materials and products

Source: CARB Fact Sheet: Air Pollution and Health. Website: https://ww2.arb.ca.gov/resources/health-air-pollution, accessed March 2022.

[1] Ozone is not generated directly by these sources. Rather, chemicals (NO_x, ROG, VOCs, etc.,) emitted by these precursor sources react with sunlight to form ozone in the atmosphere. [2] Health effects from CO exposures occur at levels considerably higher than ambient.

CARB = California Air Resources Board

CO = carbon monoxide

$PM_{2.5}$ = particulate matter less than 2.5 microns in size

PM_{10} = particulate matter less than 10 microns in size

The SFAAB has attained both State and federal ambient air quality standards for CO. As part of an effort to attain and maintain ambient air quality standards for ozone and PM_{10}, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for O_3 precursor pollutants (reactive organic gases and nitrogen oxides), PM_{10}, and $PM_{2.5}$ and apply to both construction period and operational period impacts.

Carbon Monoxide (CO)

CO is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. CO is a colorless, odorless gas that can cause dizziness, fatigue, and impairments to central nervous system functions. The entire Basin is in attainment for the State standards for CO. The SFAAB is designated as an “attainment/maintenance” area under the federal CO standards.

Ground-Level Ozone (O_3)

O_3 (a common pollutant in smog) is formed by photochemical reactions between NO_X and volatile organic compounds (VOCs) rather than being directly emitted. O_3 is a pungent, colorless gas typical of Southern California smog. Elevated O_3 concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors (e.g., the sick, the elderly, and young children). O_3 levels peak during summer and early fall. The entire SFAAB is designated as a nonattainment area for the State 1-hour and 8-hour O_3 standards. The U.S. EPA has officially designated the status for most of the SFAAB regarding the 8-hour O_3 standard as “nonattainment,” which means the nonattainment

areas will have until 2020 to late 2037[1] to meet the health standard, with attainment dates varying based on the O_3 level in the area.

Nitrogen Oxides (NO_X)

NO_2, a reddish brown gas, and nitric oxide (NO), a colorless, odorless gas, are formed from fuel combustion under high temperature or pressure. These compounds are referred to as nitrogen oxides, or NO_X. NO_X is a primary component of the photochemical smog reaction. NO_X also contributes to other pollution problems, including a high concentration of fine particulate matter ($PM_{2.5}$), poor visibility, and acid deposition (i.e., acid rain). NO_X decreases lung function and may reduce resistance to infection. The entire Basin is designated as attainment for the State NO_2 standard and as an "attainment/maintenance" area under the federal NO_2 standard.

Sulfur Dioxide (SO_2)

SO_2 is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight. The entire Basin is in attainment with both federal and State SO_2 standards.

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

Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles (PM_{10}) derive from a variety of sources, including windblown dust and grinding operations. Fuel combustion and resultant exhaust from power plants and diesel buses and trucks are primarily responsible for $PM_{2.5}$ levels. Fine particles ($PM_{2.5}$) can also be formed in the atmosphere through chemical reactions. PM_{10} can accumulate in the respiratory system and aggravate health problems (e.g., asthma). The U.S. EPA's scientific review concluded that $PM_{2.5}$, which penetrates deeply into the lungs, is more likely than PM_{10} to contribute to the health effects listed in a number of recently published community epidemiological studies at concentrations that extend well below those allowed by the current PM_{10} standards. These health effects include premature death and increased hospital admissions and emergency room visits (primarily among the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (children and individuals with cardiopulmonary disease [e.g., asthma]); decreased lung function (particularly in children and individuals with asthma); and alterations in lung tissue and structure and in

[1] A specific attainment date has not been adopted for San Mateo County.

respiratory tract defense mechanisms. The SFAAB is designated nonattainment for the federal and State $PM_{2.5}$ standards and the State PM_{10} standard.

Lead

Lead is found in old paints and coatings, plumbing, and a variety of other materials. Once in the bloodstream, lead can cause damage to the brain, the nervous system, and other body systems. Children are highly susceptible to the effects of lead. The entire SFAAB is in attainment with both federal and State lead standards.

Toxic Air Contaminants

Toxic air contaminants (TAC) are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants. 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., diesel particulate matter [DPM] 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 three-quarters of the cancer risk from TACs (based on the Bay Area 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 as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs.

Sensitive Receptors

Sensitive receptors include individuals and locations with individuals who are particularly susceptible to the adverse effects of air pollution. The CARB has identified sensitive receptors to include children under 14, persons over 65, athletes, and people with cardiovascular and chronic respiratory diseases. Locations that contain a high concentration of these sensitive population groups include residential neighborhoods, hospitals, daycare facilities, elder care facilities, elementary schools, and parks. Both the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards

(NAAQS) were developed with the intent to protect sensitive receptors from the adverse impacts of air pollution.

Sensitive receptors within close proximity to the project site are residents in the neighborhoods across Main Street to the east and across Seymour Street to the north of the project. The nearest residences to the project site are located as close as 50 feet to the east across Main Street. Nearby sensitive receptors also include users of Smith Field Park less than 0.5 miles southwest of the project site along Wavecrest Road, and the Seacrest School located 1,000 feet to the northeast of the project site.

Local Climate and Air Quality

Climate and Meteorology

Local air quality is influenced by climate and local meteorology, especially wind speed and direction and temperature, along with topography, which can limit or facilitate the dispersal of air pollutants. Half Moon Bay is located in the Peninsula Subregion of the air basin, which extends from the area northwest of San Jose to the Golden Gate. The Santa Cruz Mountains extend up the center of the peninsula. The Coastside, located to the west of the mountains, frequently experiences a high incidence of cool, foggy weather in the summer due to coastal ocean upwelling and northwest winds. This climate contrasts to areas east of the mountains, which experience warmer temperatures and few foggy days. Because of a combination of physiographic and climatic factors, the Coastside has a relatively low potential for pollutant buildups compared to the higher potential present east of the mountains.[2]

During the summer daytime, high temperatures near the coast are primarily in the mid-60s, whereas areas farther inland are typically in the high-80s to low-90s. Nighttime low temperatures on average are in the mid-40s along the coast and low- to mid-30s inland.

Air Pollution Potential

The potential for air pollution around the project site is low, given the proximity of the ocean and influence of the offshore winds.

[2] Bay Area Air Quality Management District 2017a. https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

4.3.3 REGULATORY SETTING

Federal

Federal Clean Air Act

The U.S. EPA is responsible for enforcing the Federal CAA. The U.S. EPA is also responsible for establishing the NAAQS. The U.S. EPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. The agency establishes various emission standards, including those for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission standards established by ARB.

Project Consistency

The project would be required to comply with Federal regulations and standards set by the U.S. EPA.

State

California Air Resource Board

CARB, part of the CalEPA, is responsible for meeting the State requirements of the Federal CAA, administering the California CAA, and establishing the CAAQS. The California CAA requires all air districts in the State to endeavor to achieve and maintain CAAQS. CARB regulates mobile air pollution sources, such as motor vehicles, and is responsible for setting emission standards for vehicles sold in California for other emission sources, such as consumer products, and for certain off-road equipment. ARB has established passenger vehicle fuel specifications and oversees the functions of local air pollution control districts and air quality management districts, which in turn prepare air quality attainment plans at the regional level. ARB also conducts or supports research into the effects of air pollution on the public and develops innovative approaches to reduce air pollutant emissions.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways. These regulations include the solid waste collection vehicle (SWCV) rule, in-use public and utility fleets, and the heavy-duty diesel truck and bus regulations. In 2008, CARB approved a new regulation to reduce emissions of DPM and NO_x from existing on-road heavy-duty diesel fueled vehicles. The regulation requires affected vehicles to meet specific performance requirements between 2014 and 2023, with all

affected diesel vehicles required to have 2010 model-year engines or equivalent by 2023. These requirements are phased in over the compliance period and depend on the model year of the vehicle.

CARB Regulations of Construction Vehicles

On July 26, 2007, CARB adopted new regulations intended to reduce emissions of PM_{10} and $PM_{2.5}$ and NO_x from certain diesel-powered vehicles by requiring businesses to retrofit or "turnover" their fleets over time (13 California Code of Regulations [CCR] Section 2449). The regulations apply to any person, business or government agency that owns or operates any diesel-powered off-road vehicle in California with 25 or greater horsepower, including vehicles used in construction (i.e., backhoes, tractors).

The emission requirements are intended to require fleets to apply exhaust retrofits that capture pollutants before they are emitted, and to accelerate turnover of fleets to newer, less-polluting engines. “Turnover” means retrofitting an engine to capture pollutants, replacing a dirty engine with a clean engine, retiring a dirty vehicle, replacing a vehicle with a new or used piece, or re-designating a vehicle as “low-use.” Low-use vehicles (which operate for less than 100 hours per year) are exempt from emission requirements, but still must be properly labeled and reported to CARB.

The requirements and deadlines for compliance vary depending on fleet size. As of December 2011, the Office of Administrative Law approved an amendment that delayed the initial compliance date for all fleets by four years. For small fleets, which include small businesses or municipalities with a combined horsepower of 2,500 or less, implementation began in 2019. Medium fleets, with 2,501 to 5,000 horsepower, had until 2017, while large fleets, with over 5,000 horsepower, began in 2014. State and Federally owned fleets are considered "large fleets" without regard to total horsepower. Affected vehicles include bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulations also include standards regarding the use of gasoline-powered vehicles to replace diesel vehicles (see **Appendix C**).

CARB expects the regulations will result in a 92 percent reduction of diesel PM and a 32 percent reduction of NO_x from 2000 emissions between 2020 and 2027. Other CARB regulations and amendments to existing regulations include:

- Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling (12 CCR, Section 2485): reduces public exposure to diesel particulate matter and other air contaminants by establishing idling restrictions, emission standards, and other requirements for heavy duty

diesel engines and alternative idle reduction technologies to limit the idling of diesel-fueled commercial motor vehicles.

- Final Regulation Order requirements to reduce idling emissions from new and in-use trucks, beginning in 2008, which includes amendments and updates to the following sections of 13 CCR: Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Year Heavy-Duty Engines and Vehicles (§ 1956.8); Emission Control Labels and Consumer Information – 1995 and Later Small Off-Road Engines (§ 2404); Emission Control Labels – 1996 and Later Off-Road Compression-Ignition Engines (§ 2424); Defects Warranty Requirements for 1996 and Later Off-Road Compression-Ignition Engines (§ 2425); Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling (§ 2485).
- Final Regulation Order for In-Use Off-Road Diesel Vehicles which adds Section 2449 General Requirements for In-Use Off-Road Diesel-Fueled Fleets, 2449.1 NO_x Performance Requirements, 2449.2 PM Performance Requirements, 2449.3 Surplus Off-Road Opt-In for NO_x (SOON) Program 2008 California Statewide Truck and Bus Rule: requires all heavy-duty diesel trucks and buses that operate in California to retrofit or replace engines in order to reduce diesel emissions.
- Heavy-Duty Omnibus Regulation: CARB's proposed Heavy-Duty Omnibus Regulation would dramatically reduce NO_x emissions by comprehensively overhauling exhaust emission standards, test procedures and other emissions-related requirements for 2024 and subsequent model year California-certified heavy-duty engines. The Low NOx Heavy-Duty Omnibus Regulation was adopted by CARB at its August 27, 2020, hearing. Key portions of the regulation include:
    - Lower NO_x and PM emission standards on existing regulatory cycles as well as a new NO_x standard on a new low load certification cycle. The NO_x standards would be cut to about 75 percent below current standards beginning in 2024 and 90 percent below current standards in 2027.
    - A revamping of the heavy-duty in-use testing program;
    - Warranty, Useful Life, and Emissions Warranty Information and Reporting improvements;
    - Strengthening the heavy-duty durability demonstration program;
    - Emissions averaging, banking, and trading program improvements; and

- Powertrain certification test procedures for heavy-duty hybrid vehicles.[3]

Project Consistency

The project would be required to comply with State regulations pertaining to emissions of air pollutant during construction and operation of the project.

California Air Resources Board Handbook

Project Consistency

The project would be required to comply with State regulations pertaining to emissions of air pollutant during construction and operation of the project and, therefore, is consistent with the CARB Handbook.

Local

Bay Area Air Quality Management District

BAAQMD is primarily responsible for assuring that the national and State ambient air quality standards are attained and maintained in the Bay Area. BAAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, conducting public education campaigns, as well as many other activities. BAAQMD has jurisdiction over much of the nine-county Bay Area counties, including the County.

To achieve the CAAQS, BAAQMD develops air quality plans addressing the California CAA and updates them approximately every three years. The most recent air quality plan was adopted on April 19, 2017, entitled *Spare the Air, Cool the Climate*[4]. The plan includes 85 distinct control measures to help reduce air pollutants and has a long-term strategic vision, which forecasts what a clean air Bay Area will look like in the year 2050.

[3] Source: CARB Facts about the Low NOx Heavy-Duty Omnibus Regulation https://ww2.arb.ca.gov/sites/default/files/classic//msprog/hdlownox/files/HD_NOx_Omnibus_Fact_Sheet.pdf

[4] Bay Area Air Quality Management District, 2017. California Environmental Quality Act Air Quality Guidelines (May 2017). Available: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed January 2022.

Project Consistency

This EIR evaluates potential project construction impacts and mitigates where necessary to achieve the BAAQMD thresholds of significance for criteria air pollutants. Additionally, project construction and operation would be required to comply with the control measures identified in the BAAQMD 2017 Clean Air Plan (CAP).

BAAQMD CARE Program

The Community Air Risk Evaluation (CARE) Program addresses areas of concentrated air pollution and related public heal effects in the Bay Area. Communities near freeways, busy distribution centers, and large industrial facilities are at greater risk to health impacts linked to local air quality. The goals of the CARE Program are to identify areas where air pollution contributes more to health impacts, identify where populations are most vulnerable to air pollution, apply scientific methods and strategies to reduce health impacts in these areas, and to engage community groups and other agencies to develop additional actions to reduce local health impacts.

Based on the CARE Program's Impacted Communities map, San Mateo County does not contain any Cumulative Impact Areas[5].

Half Moon Bay General Plan

Half Moon Bay's first General Plan adopted elements for Noise, Safety, Parks and Recreation, Circulation, and Housing from the year 1991 to 2023. There is no element addressing air quality, and no policies that apply to this topic.

Half Moon Bay – Local Coastal Program and Land Use Plan

The Local Coastal Program (LCP) is Half Moon Bay's adopted land use plan. The LCLUP, which is the policy component of the LCP, and the Local Coastal Implementation Plan (LCIP) together constitute the LCP for the city. The LCLUP does not contain policies regarding air quality or pollutant emissions.

[5]BAAQMD, 2014. Available: http://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program, Accessed January 2022

4.3.4 IMPACTS AND MITIGATION MEASURES

Thresholds of Significance

The following thresholds of significance for air quality were derived from the *Environmental Checklist in the California Environmental Quality Act (CEQA) Guidelines Appendix G*. These thresholds of significance have been amended or supplemented, as appropriate, to address lead agency requirements and the full range of potential impacts related to this project.

An impact of the project would be considered significant and would require mitigation if it would meet one of the following thresholds of significance:

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

AQ 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;

AQ c) Expose sensitive receptors to substantial pollutant concentrations;

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

BAAQMD CEQA Air Quality Guidelines

BAAQMD has adopted thresholds of significance to assist in the review of projects under CEQA. These thresholds are designed to establish the level at which BAAQMD has determined that air pollution emissions would cause significant environmental impacts under CEQA. The most recent version are posted on BAAQMD's website and included in the Air District's updated CEQA Guidelines (updated May 2017). The significance thresholds identified by BAAQMD and used in this analysis are summarized in **Table 4.3-3**.

Methodology

Evaluation of air quality impacts associated with a proposed project includes the following:

- Determining the short-term construction air quality impacts based on BAAQMD emissions thresholds;
- Determining the long-term operational impacts, including vehicular traffic, based on BAAQMD emissions thresholds; and
- Determining the required mitigation measure to reduce both short- and long-term air quality impacts.

A number of modeling tools are available to assess air quality impacts of project. In addition, certain air districts, such as BAAQMD, have created guidelines and requirements for conducting air quality analysis. BAAQMD's current guidelines, *2017 CEQA Air Quality Guidelines,* were used in this assessment of air quality impacts for the project. The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from construction and operation of the site assuming full build-out of the project. The project land use types and size, and anticipated construction schedule were input to CalEEMod. The full output of the CalEEMod runs are included *Attachment 2* to **Appendix C**.

Table 4.3-3 BAAQMD Air Quality Significance Thresholds

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
Criteria Air Pollutants			
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82	82	15
$PM_{2.5}$	54	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards for New Sources (Single Sources within 1,000 foot zone of influence)			
Excess Cancer Risk	>10 per one million		
Chronic or Acute Hazard Index	>1.0		
Incremental annual average $PM_{2.5}$	>0.3 µg/m^3		
Health Risks and Hazards for Sensitive Receptors (Cumulative from all sources within 1,000 foot zone of influence) and Cumulative Thresholds for New Sources			
Excess Cancer Risk	>100 per one million		
Chronic Hazard Index	>10.0		

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
Annual Average $PM_{2.5}$	>0.8 µg/m^3		
Greenhouse Gas Emissions			
GHG Annual Emissions	Compliance with a Qualified GHG Reduction Strategy OR 1,100 metric tons or 4.6 metric tons per capita		

Source: *BAAQMD CEQA May 2017 Guidelines.*

Note: ROG = reactive organic gases, NOx = nitrogen oxides, PM_{10} = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, $PM_{2.5}$ = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less; and GHG = greenhouse gas.

The net increase in pollutant emission determines the significance and impact on regional air quality as a result of the project. The results also allow the local government to determine whether the project could deter the region from achieving the goal of reducing pollutants in accordance with the Air Quality Management Plan in order to comply with both federal and State AAQS.

Construction Period Emissions

Construction of the project is estimated to begin in 2023 and last 15 months, with an estimated 566 construction workdays. Construction emissions were modeled as occurring daily from 7 a.m. to 4 p.m., when most of the construction activity involving equipment usage would occur, per the City's construction noise ordinance. CalEEMod provided annual emissions estimates for construction and for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic.

The on-road emissions are a result of haul truck travel during demolition and grading activities, worker travel, and vendor deliveries during construction. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction site. Details of the CalEEMod inputs can be found in **Appendix C**.

Operational Emissions

Operational emissions include emissions generated from vehicle travel to and from the hotel and evaporative emissions resulting from maintenance activities (such as paint and cleaning products). Because vehicle emission control technology requirements are phased-in over time, emissions associated with vehicle travel depend on the year of analysis. Therefore, the

earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. Over time, vehicle emissions will decline as a result of increased use of higher efficiency/low emission vehicles, thus lowering the emission rates. Based on construction schedule assumptions, the earliest the project could be constructed and begin operating would be 2024; however, the year 2022 is used for vehicle emissions analysis. Emissions were analyzed based on a 2022 start year, which would have resulted in greater emissions. This analysis serves as a conservative estimate due to the likelihood that emissions rates generated would likely be lower as the years go on, given the increased use of higher efficiency/low emission vehicles.

Community Risk Evaluation

Project impacts related to increased community risk can occur either by introducing a new sensitive receptor, such as a residential use, in proximity to an existing source of TACs or by introducing a new source of TACs with the potential to adversely affect existing sensitive receptors in the project vicinity. The project would introduce a 300-kilowatt emergency generator that is powered by a natural gas engine to the area. The CalEEMod modeling assumed operation of the emergency generator would include up to 50 hours of annual operation for testing and maintenance purposes per year. Temporary project construction activity would generate dust and equipment exhaust on a temporary basis that could affect nearby sensitive receptors. Community risk impacts were evaluated by predicting lifetime cancer risk changes, the increase in annual $PM_{2.5}$ concentrations, and computing the Hazard Index (HI) for non-cancer health risks. The detailed methodology for computing community risks impacts is contained in **Appendix C**.

Cancer Risks and Non-Cancer Risks

Community risk impacts were addressed by predicting lifetime cancer risk, the increase in annual $PM_{2.5}$ concentrations, and computing the Hazard Index (HI) for non-cancer health risks. The methodology for computing community risks impacts is contained in *Attachment 1* of **Appendix C**.

Discussion of Impacts

The following impact discussion is derived from the air quality assessment included as **Appendix C** of the EIR.

AQ a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant. The most recent clean air plan is the 2017 CAP that BAAQMD adopted in April 2017. The project would not conflict with the 2017 CAP because the project would comply with applicable land use

designations, would result in emissions below BAAQMD thresholds (see **Table 4.3-4**) and, as discussed below, would not contribute to considerable emissions of a pollutant in non-attainment. Because the project does not exceed BAAQMD pollutant significance thresholds, it would not be required to incorporate project-specific transportation control measures listed in the 2017 CAP. This impact would be less than significant.

AQ 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?

Construction

Impact AQ-1. The project would result in a cumulatively considerable net increase of criteria pollutants.

Less than Significant with Standard Condition. Table 4.3-3 shows the BAAQMD thresholds for average daily construction emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction of a project. As indicated in **Table 4.3-4**, the predicted construction period emissions for the project would not exceed the BAAQMD significance thresholds.

Table 4.3-4 Construction Period Emissions

Scenario	ROG	NO_X	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Total construction emissions (tons)	0.9 tons	3.5 tons	0.17 tons	0.16 tons
Average daily emissions (pounds)[1]	3.0 lbs./day	12.2 lbs./day	0.6 lbs./day	0.6 lbs./day
BAAQMD Thresholds (pounds per day)	*54 lbs./day*	*54 lbs./day*	*82 lbs./day*	*54 lbs./day*
Exceed Threshold?	**No**	**No**	**No**	**No**

Note: [1]The CalEEMod assumes 566 workdays

Source: Illingworth & Rodkin, 2019. Hyatt Hotel Air Quality, Greenhouse Gas & Energy Assessment. (Calculates made using CalEEMod, 2019.)

Construction activities, especially during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. As shown in **Table 4.3-4**, particulate matter emissions are well below the BAAQMD thresholds. The CalEEMod model applies emissions suppression assumptions that would result in

substantial decreases in particulate matter. These suppression methods re listed below in **Standard Condition AQ-1,** which would be required to be implemented by the project and would ensure that the project's construction emissions remain below applicable significance levels.

Standard Condition AQ-1: Include measures to control dust and exhaust during construction as required by BAAQMD.

During any construction period ground disturbance, the applicant shall ensure that the project contractor implements measures to control dust and exhaust. Implementation of the measures as specified in the BAAQMD Basic Construction Mitigation Measures, would reduce the air quality impacts associated with grading and new construction to a less-than-significant level. Additional measures specified by BAAQMD are identified to reduce construction equipment exhaust emissions. The contractor shall implement the following best management practices that are required of all projects:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Significance with Standard Condition. With the implementation of **Standard Condition AQ-1**, as required by BAAQMD regulations and implemented through the City Coastal Development Permit, project construction would not 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. This impact is less than significant.

Operation

Less than Significant. Operational air emissions from the project would be generated primarily from vehicles driven by guests and employees. Evaporative emissions from architectural coatings and maintenance products (classified as consumer products, such as paint, resin, etc.) are also typical emissions. Operational emissions, shown in **Table 4.3-5**, were estimated assuming full build-out of the hotel. During the drafting of the EIR, the operation date had changed from 2022 to 2024. However, similar to construction, modeled results for project operation are anticipated to be lower than the emissions discussed in **Table 4.3-5**.

Table 4.3-5 Operational Emissions

Scenario	ROG	NO_X	PM_{10}	$PM_{2.5}$
2021 Project Operational Emissions *(tons/year)*	0.74 tons	0.42 tons	0.40 tons	0.12 tons
BAAQMD Thresholds (tons/year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Threshold?	No	No	No	No
2021 Project Operational Emissions *(pounds/day)*[1]	4.1 lbs	2.3 lbs.	2.2 lbs.	0.7 lbs.
BAAQMD Thresholds (pounds per day)	*54 lbs.*	*54 lbs*	*82 lbs*	*54 lbs*
Exceed Threshold?	No	No	No	No

Notes: [1]Assumes a 365-day operation
Source: Calculations done by Illingworth & Rodkin using CalEEMod, 2019.

As shown in **Table 4.3-5**, operational emissions would not exceed the BAAQMD significance thresholds. This impact would be less than significant.

AQ c) Would the project expose sensitive receptors to substantial pollutant concentrations?

The closest sensitive receptors to the project site are located at a multi-family residence 50 feet east of the project site, across Main Street. There are additional residences at farther distances from the project site.

Construction

Impact AQ-2. The project would expose sensitive receptors to substantial pollutant concentrations.

Less than Significant with Mitigation. Temporary project construction activity would generate dust and equipment exhaust (known as toxic air contaminants or TAC) on a temporary basis that could affect nearby sensitive receptors. Although these exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations, construction exhaust emissions may still pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects of sensitive receptors at these nearby residences from construction emissions of diesel particulate matter or DPM[6] and $PM_{2.5}$. Dispersion modeling using CalEEmod was conducted to predict the off-site concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

The total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and on-road vehicles is 0.1686 tons (337 pounds) for the entire construction period. The on-road emissions are a result of haul truck travel during demolition and grading activities, worker travel, and vendor deliveries during construction. Fugitive $PM_{2.5}$ dust emissions were calculated as 0.0449 tons (89 pounds) for the overall construction period.

The maximum excess residential cancer risks at the closest sensitive receptor location (the multi-family residence east of the project site across Main Street) would be greater than the BAAQMD single-source threshold of 10 in one million. This would be a significant impact. **Table 4.3-6** summarizes

[6] Diesel particulate matter is identified by California as a toxic air contaminant due to the potential to cause cancer.

the maximum cancer risks, $PM_{2.5}$ concentrations, and health hazard indexes for project related construction activities affecting the closest sensitive receptor before and after the implementation of required TAC reduction strategies to meet EPA and CARB Hazard Index levels and BAAQMD Thresholds. **Mitigation Measure AQ-2** is described below, and its efficacy is shown in **Table 4.3-6** as calculated in the AERMOD Model.

Table 4.3-6 Construction Risk Impacts to the Nearest Sensitive Receptor

Source		Maximum Cancer Risk (per million)	$PM_{2.5}$ concentration ($\mu g/m^3$)	Hazard Index
Project Construction	Unmitigated	41.7 (infant)	0.17	0.03
	Mitigated	5.3 (infant)	0.03	<0.01
BAAQMD Single-Source Threshold		*>10.0*	*>0.3*	*>1.0*
	Significant?			
	Unmitigated	***Yes***	*No*	*No*
	Mitigated	*No*	*No*	*No*

Source: Calculations done by Illingworth & Rodkin using AERMOD and health risk spreadsheets in Attachment 4, 2019.

Mitigation Measure AQ-2: Selection of equipment during construction to minimize emissions. Such equipment selection would include the following:

The project shall develop a plan demonstrating that the off-road equipment used on-site to construct the project would achieve a fleet-wide average 80-percent reduction in DPM exhaust emissions or greater. One feasible plan to achieve this reduction would include the following:

1. All diesel-powered off-road equipment, larger than 25 horsepower, operating on the site for more than two days continuously shall, at a minimum, meet U.S. EPA particulate matter emissions standards for Tier 3 engines and this equipment shall include CARB-certified Level 3 Diesel Particulate Filters[7] or equivalent. Equipment that meets U.S. EPA Tier 4 interim standards or use of equipment that is electrically powered or uses non-diesel fuels would also meet this requirement.

[7] See http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm

2. Per the construction sheet provided by the applicant, line power shall be used to electrify generators used during construction.

Significance after Mitigation. With the required implementation of **Mitigation Measure AQ-2**, the maximum excess residential cancer risk would be below BAAQMD single-source threshold of 10 in one million and would not expose sensitive receptors to substantial pollutant concentrations, thereby maintaining this impact at less than significant

Operation

Less than Significant. When operating, the project would generate automobile traffic and infrequent truck traffic; however, these emissions are anticipated to result in low impacts in terms of TAC or $PM_{2.5}$ exposure due to the fact that the vehicle mix for tourist traffic typically does not use diesel fuel, the main source of TACs and $PM_{2.5}$.

An emergency generator is a proposed part of the project, but it would be powered by natural gas and would have a much smaller impact compared to a diesel generator. The emergency generator would only be used during emergencies in addition to intermittent routine testing and maintenance (approximately 50 hours of annual operation for testing and maintenance per year). In an emergency, this generator would emit TACs in low amounts that would not contribute to any health risk impacts. The hotel use would not introduce new sensitive receptors to the area because the individuals would be temporary occupants, would not be exposed to TACs and/or $PM_{2.5}$ for extended periods that would lead to significant impacts. Additionally, workers would not be subjected to impacts associated with harmful levels of TACs or $PM_{2.5}$ exposure because the vehicle mix for tourist traffic typically does not use diesel fuel, the main source of TACs and $PM_{2.5.}$ Operation of the project is not expected to cause any localized emissions that would expose sensitive receptors to unhealthy air pollutant levels. This impact is less than significant.

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

Less than Significant. As discussed in **Section 4.3.4a** and **Section 4.3.4b** above, the project would not generate emissions that exceed the BAAQMD thresholds after mitigation measures are implemented. The *BAAQMD CEQA Air Quality Guidelines* have not established a threshold of significance for construction-related activities in terms of odors.

The project would be a source of air pollutant emissions during construction, with the main source being diesel-fueled on-and off-road construction vehicle equipment. These construction exhaust emissions emit DPM, which is a TAC, and are a source of $PM_{2.5}$, a criteria health pollutant. Diesel exhaust generated during project construction may be occasionally odorous.

However, such odors would be temporary, localized, and unlikely to affect a substantial number of people in the project vicinity. In addition, odors would be subject to fairly rapid dissipation due to the air movement along the coast. Therefore, such odors are not anticipated to result in odor complaints. Upon operation, the hotel would not produce odors or other emissions likely to affect a substantial number of people. This impact would be less than significant.

4.3.5 CUMULATIVE IMPACTS

See **Chapter 4.0, Setting, Impacts, and Mitigation Measures**, for the full list of cumulative projects within Half Moon Bay.

Air quality analysis is inherently cumulatively because the impacts are modeled by using the background data for the SFAAB. Therefore, the preceding analysis takes into account the regional background information and the emissions contributions of the project to the SFAAB. The analysis shows that construction impacts are less than significant with **Standard Condition AQ-1**. Impacts from the hotel operation are less than significant.

Cumulative community risk impacts were addressed through an evaluation of TAC sources located within 1,000 feet of the nearest sensitive receptor. These sources include freeways, highways, busy surface streets, and stationary sources identified by BAAQMD. SR-1 (i.e., Cabrillo Highway, shown in **Figure 3-1,** is a busy roadway that is considered a TAC source. According to the BAAQMD map tool, there are no stationary sources within the 1,000-foot influence area. Community risk impacts from these combined sources on the nearest sensitive receptor are reported in **Table 4.3-7**.

Construction Health Risk Impacts

As shown in **Table 4.3-7,** neither the project nor the cumulative cancer risk and $PM_{2.5}$ concentration would exceed the cumulative source thresholds.

Table 4.3-7 Impacts from Combined Sources at the Nearest Sensitive Receptor

Source	Maximum Cancer Risk (per million)	$PM_{2.5}$ concentration ($\mu g/m^3$)	Hazard Index
Project Construction			
Unmitigated	41.7 (infant)	0.17	0.03
Mitigated	5.3 (infant)	0.03	<0.01

Source	Maximum Cancer Risk (per million)	$PM_{2.5}$ concentration ($\mu g/m^3$)	Hazard Index
SR-1 with project 400 feet each (BAAQMD Highway Screening Tool)	1.1	0.01	<0.01
Combined Unmitigated	42.8 (infant)	0.18	<0.04
Combined Mitigated	6.4 (infant)	0.04	<0.02
BAAQMD Cumulative Source Threshold	***>100***	***>0.8***	***>10.0***
Significant?			
Unmitigated	*No*	*No*	*No*
Mitigated	*No*	*No*	*No*

Source: Calculations done by Illingworth & Rodkin using AERMOD, Health Risk Calculations, and BAAQMD Highway Screening tool, 2019.

As shown in **Table 4.3-7**, these impacts would be less than significant because $PM_{2.5}$ emissions do not exceed the cumulative source thresholds. Therefore, the project would not contribute to a cumulatively considerable impact.

4.3.6 REFERENCES

Bay Area Air Quality Management District, 2017. California Environmental Quality Act Air Quality Guidelines (May 2017). Available: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed January 2022.

California Air Resources Board (CARB). 2016. Ambient Air Quality Standards. Available: https://ww3.arb.ca.gov/research/aaqs/aaqs2.pdf?_ga=2.27954492.1475841261.1564002284-305304568.1551730049. Accessed January 2022.

Illingworth and Rodkin, Inc. 2019 and 2020. *Hyatt Hotel Air Quality, Greenhouse Gas and Energy Assessment*. Accessed July 2019 and 2020.