

4.2 AIR QUALITY

This chapter describes the existing air quality in the Specific Plan Area and evaluates the potential environmental consequences of future development that could occur by adopting and implementing the proposed Specific Plan. This chapter provides a summary of the relevant regulatory setting necessary to evaluate potential environmental impacts resulting from the proposed Specific Plan, describes potential impacts, and discusses existing and proposed goals, policies, and implementation programs and zoning regulations that would avoid or reduce those potential impacts.

4.2.1 ENVIRONMENTAL SETTING

4.2.1.1 AIR POLLUTANTS OF CONCERN

Criteria Air Pollutants

Pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and State law under the federal Clean Air Act (“National”) and California Clean Air Act, respectively. The pollutants emitted into the ambient air by stationary and mobile sources are categorized as primary and/or secondary pollutants. Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxides (NO_x), sulfur dioxide (SO₂), coarse inhalable particulate matter (PM₁₀), fine inhalable particulate matter (PM_{2.5}), and lead (Pb) are primary air pollutants. Of these, CO, SO₂, NO₂, PM₁₀, and PM_{2.5} are “criteria air pollutants,” which means that ambient air quality standards (AAQS) have been established for them. ROG and NO_x are criteria pollutant precursors that form secondary criteria air pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O₃) and nitrogen dioxide (NO₂) are the principal secondary pollutants. Each of the primary and secondary criteria air pollutants and its known health effects is described here.

- **Carbon Monoxide (CO)** is a colorless, odorless gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces its oxygen-carrying capacity. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia, as well as for fetuses. Even healthy people exposed to high CO concentrations can experience headaches, dizziness, fatigue, unconsciousness, and even death.¹
- **Reactive Organic Gases (ROGs)/Volatile Organic Compounds (VOCs)** are compounds composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of ROGs. Other sources of ROGs include evaporative emissions from paints and solvents, the application of asphalt paving, and the use of household consumer products such as

¹ Bay Area Air Quality Management District, 2017, Revised. California Environmental Quality Act Air Quality Guidelines.

AIR QUALITY

aerosols. Adverse effects on human health are not caused directly by ROG_s, but rather by reactions of ROG_s to form secondary pollutants such as O₃. There are no AAQS established for ROG_s. However, because they contribute to the formation of O₃, the Air District has established a significance threshold for this pollutant.

- **Nitrogen Oxides (NO_x)** are a by-product of fuel combustion and contribute to the formation of O₃, PM₁₀, and PM_{2.5}. The two major components of NO_x are nitric oxide (NO) and NO₂. The principal component of NO_x produced by combustion is NO, but NO reacts with oxygen to form NO₂, creating the mixture of NO and NO₂ commonly called NO_x. NO₂ absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure.⁵ NO₂ acts as an acute irritant and in equal concentrations is more injurious than NO. At atmospheric concentrations, however, NO₂ is only potentially irritating. There is some indication of a relationship between NO₂ and chronic pulmonary fibrosis. Some increase in bronchitis in children (2 and 3 years old) has also been observed at concentrations below 0.3 parts per million (ppm).
- **Sulfur Dioxide (SO₂)** is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and from chemical processes at chemical plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO₂. When SO₂ forms sulfates (SO₄) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_x). Thus, SO₂ is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO₂ may irritate the upper respiratory tract. At lower concentrations and when combined with particulates, SO₂ may do greater harm by injuring lung tissue.²
- **Suspended Particulate Matter (PM₁₀ and PM_{2.5})** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. In the San Francisco Bay Area Air Basin (SFBAAB or Air Basin), most particulate matter is caused by combustion, factories, construction, grading, demolition, agricultural activities, and motor vehicles. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM₁₀, include the particulate matter with an aerodynamic diameter of 10 microns (i.e., 10 millionths of a meter or 0.0004 inch) or less. Inhalable fine particles, or PM_{2.5}, have an aerodynamic diameter of 2.5 microns or less (i.e., 2.5 millionths of a meter or 0.0001 inch). Diesel particulate matter (DPM) is also classified a carcinogen by the Air Resources Board.

Extended exposure to particulate matter can increase the risk of chronic respiratory disease. PM₁₀ bypasses the body's natural filtration system more easily than larger particles and can lodge deep in the lungs. The EPA scientific review concluded that PM_{2.5} penetrates even more deeply into the lungs, and this is more likely to contribute to health effects—at concentrations well below current PM₁₀ standards. These health effects include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms (e.g., irritation of the airways, coughing, or difficulty breathing). Motor vehicles are currently responsible for about half of particulates in the SFBAAB. Wood burning in fireplaces and stoves is another large source of fine particulates.⁷

² Bay Area Air Quality Management District, 2017, Revised. *California Environmental Quality Act Air Quality Guidelines*.

- **Ozone (O₃)** is commonly referred to as “smog” and is a gas that is formed when ROG_s and NO_x, both by-products of internal combustion engine exhaust, undergo photochemical reactions in the presence of sunlight. O₃ is a secondary criteria air pollutant. O₃ concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions to the formation of this pollutant. O₃ poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. O₃ levels usually build up during the day and peak in the afternoon hours. Short-term exposure can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, it can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema. Chronic exposure to high ozone levels can permanently damage lung tissue. O₃ can also damage plants and trees and materials such as rubber and fabrics.³
- **Lead (Pb)** is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phasing out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers. Because emissions of lead are found only in projects that are permitted by the Air District, lead is not an air quality of concern for the proposed Specific Plan.

Toxic Air Contaminants

At the time of the last update to the toxic air contaminants (TAC) list in December 1999, the California Air Resources Board (CARB) had designated 244 compounds as TACs.⁴ Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control measures. The majority of the estimated health risks from TACs can be attributed to relatively few compounds; the most important compounds being particulate matter from diesel-fueled engines.

Diesel Particulate Matter

In 1998, CARB identified DPM as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particles are 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs. According to the Bay Area Air Quality Management District (BAAQMD or Air District), PM emitted from diesel engines contributes to more than 85 percent of the cancer risk within the SFBAAB and cancer risk from TACs is highest near major diesel PM sources.⁵

³ Bay Area Air Quality Management District, 2017, California Environmental Quality Act Air Quality Guidelines. http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf, accessed on July 16, 2018.

⁴ California Air Resources Board, 1999. Final Staff Report: Update to the Toxic Air Contaminant List.

⁵ Bay Area Air Quality Management District, 2014, Improving Air Quality & Health in Bay Area Communities, Community Air Risk Evaluation Program Retrospective & Path Forward (2004-2013), April.

AIR QUALITY

4.2.1.2 REGULATORY FRAMEWORK

Federal, State, and local air districts have passed laws and regulations intended to control and enhance air quality. Land use in the city is subject to the rules and regulations imposed by the United States Environmental Protection Agency (USEPA), CARB, the California Environmental Protection Agency and BAAQMD. The regulatory framework that is potentially applicable to the proposed Specific Plan is also summarized below.

Federal and State Regulations

Ambient air quality standards have been adopted at federal and state levels for criteria air pollutants. In addition, both the federal and State governments regulate the release of TACs. Hayward is in the SFBAAB and is subject to the rules and regulations imposed by the BAAQMD, the national AAQS adopted by the United States Environmental Protection Agency, and the California AAQS adopted by CARB. Federal, State, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed Specific Plan are summarized below.

Ambient Air Quality Standards

The Clean Air Act was passed in 1963 by the United States Congress and has been amended several times. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The Clean Air Act allows states to adopt more stringent standards or to include other pollutants. The California Clean Air Act, signed into law in 1988, requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS.

The National and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect “sensitive receptors” most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed. Both California and the federal government have established health-based AAQS for seven air pollutants, which are shown in Table 4.2-1. These pollutants are ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), coarse inhalable particulate matter (PM₁₀), fine inhalable particulate matter (PM_{2.5}), and lead (Pb). In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

California has also adopted a host of other regulations that reduce criteria pollutant emissions, including:

- Assembly Bill (AB) 1493: Pavley Fuel Efficiency Standards
- Title 20 California Code of Regulations (CCR): Appliance Energy Efficiency Standards
- Title 24, Part 6, CCR: Building Energy Efficiency Standards
- Title 24, Part 11, CCR: Green Building Standards Code

AIR QUALITY

TABLE 4.2-1 AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS

Pollutant	Averaging Time	California Standard ^a	Federal Primary Standard ^b	Major Pollutant Sources
Ozone (O ₃) ^c	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	*	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	0.14 ppm	
Respirable Coarse Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	20 µg/m ³	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m ³	150 µg/m ³	
Respirable Fine Particulate Matter (PM _{2.5}) ^d	Annual Arithmetic Mean	12 µg/m ³	12 µg/m ³	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m ³	
Lead (Pb)	30-Day Average	1.5 µg/m ³	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	*	1.5 µg/m ³	
	Rolling 3-Month Average	*	0.15 µg/m ³	
Sulfates (SO ₄) ^e	24 hours	25 µg/m ³	*	Industrial processes.
Visibility Reducing Particles	8 hours	ExCo =0.23/km visibility of 10≥ miles	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.

AIR QUALITY

TABLE 4.2-1 AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS

Pollutant	Averaging Time	California Standard ^a	Federal Primary Standard ^b	Major Pollutant Sources
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H ₂ S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hour	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Notes: ppm: parts per million; µg/m³: micrograms per cubic meter; *Standard has not been established for this pollutant/duration by this entity.

a. California standards for O₃, CO (except 8-hour Lake Tahoe), SO₂ (1 and 24 hour), NO₂, and particulate matter (PM₁₀, PM_{2.5}, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

b. National standards (other than O₃, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O₃ standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

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

d. On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

e. On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. 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.

Source: California Air Resources Board, 2017, Short-Lived Climate Pollutant Reduction Strategy, https://www.arb.ca.gov/cc/shortlived/meetings/03142017/final_slcp_report.pdf, accessed on October 24, 2018.

Tanner Air Toxics Act and Air Toxics “Hot Spot” Information and Assessment Act

Public exposure to TACs is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. The California Health and Safety Code defines a TAC as “an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health.” A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal Clean Air Act (42 US Code § 7412[b]) is a toxic air contaminant. Under State law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics “Hot Spot” Information and Assessment Act of 1987). The Tanner Air Toxics Act sets up a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an “airborne toxics control measure” for sources that emit designated TACs. If there is a safe threshold for a substance (i.e., a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions. To date, CARB has established formal control measures for 11 TACs that are identified as having no safe threshold.

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

CARB has promulgated the following specific rules to limit TAC emissions:

- 13 CCR Chapter 10, Section 2485, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- 13 CCR Chapter 10, Section 2480, Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- 13 CCR Section 2477 and Article 8, Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate

Regional Regulations

Bay Area Air Quality Management District

The Air District is the agency responsible for assuring that the National and California AAQS are attained and maintained in the Air Basin. Air quality conditions in the Air Basin have improved significantly since the Air District was created in 1955.⁶ The Air District prepares air quality management plans (AQMP) to attain ambient air quality standards in the Air Basin. The Air District prepares ozone attainment plans for the National O₃ standard and clean air plans for the California O₃ standard. The Air District prepares these air quality management plans in coordination with Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC). The Air District adopted the 2017 *Clean Air Plan, Spare the Air, Cool the Climate* (2017 Clean Air Plan) on April 19, 2017, making it the most recent adopted comprehensive plan. The 2017 Clean Air Plan incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools.

⁶ Bay Area Air Quality Management District, 2010 (Revised 2017), Appendix C: Sample Air Quality Setting, in California Environmental Quality Act Air Quality Guidelines.

AIR QUALITY

Bay Area Air Quality Management District 2017 Clean Air Plan

The 2017 Clean Air Plan serves as an update to the adopted Bay Area 2010 Clean Air Plan and continues in providing the framework for SFBAAB to achieve attainment of the California and National AAQS. The 2017 Clean Air Plan updates the Bay Area's ozone plan, which is based on the "all feasible measures" approach to meet the requirements of the California Clean Air Act. Additionally, it sets a goal of reducing health risk impacts to local communities by 20 percent by 2020. Furthermore, the 2017 Clean Air Plan also lays the groundwork for reducing GHG emissions in the Bay Area to meet the state's 2030 GHG reduction target and 2050 GHG reduction goal. It also includes a vision for the Bay Area in a postcarbon year 2050 that encompasses the following:⁷

- Construct buildings that are energy efficient and powered by renewable energy.
- Walk, bicycle, and use public transit for the majority of trips and use electric-powered autonomous public transit fleets.
- Incubate and produce clean energy technologies.
- Live a low-carbon lifestyle by purchasing low-carbon foods and goods in addition to recycling and putting organic waste to productive use.

A comprehensive multipollutant control strategy has been developed to be implemented in the next three to five years to address public health and climate change and to set a pathway to achieve the 2050 vision. The control strategy includes 85 control measures to reduce emissions of ozone, particulate matter, TACs, and GHG from a full range of emission sources. These control measures cover the following sectors: 1) stationary (industrial) sources; 2) transportation; 3) energy; 4) agriculture; 5) natural and working lands; 6) waste management; 7) water; and 8) super-GHG pollutants. Overall, the proposed control strategy is based on the following key priorities:

- Reduce emissions of criteria air pollutants and toxic air contaminants from all key sources.
- Reduce emissions of "super-GHGs" such as methane, black carbon, and fluorinated gases.
- Decrease demand for fossil fuels (gasoline, diesel, and natural gas).
- Increase efficiency of the energy and transportation systems.
- Reduce demand for vehicle travel, and high-carbon goods and services.
- Decarbonize the energy system.
- Make the electricity supply carbon-free.
- Electrify the transportation and building sectors.

⁷ Bay Area Air Quality Management District, 2017, April 19, Final 2017 *Clean Air Plan*, Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area.

AIR QUALITY

odorous compounds. Odors are also regulated under the Air District Regulation 1, Rule 1-301, Public Nuisance, which states that “no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or the public; or which endangers the comfort, repose, health or safety of any such persons or the public, or which causes, or has a natural tendency to cause, injury or damage to business or property.” Under the Air District’s Rule 1-301, a facility that receives three or more violation notices within a 30-day period can be declared a public nuisance.

Other Air District Regulations

In addition to the plans and programs described above, Air District administers a number of specific regulations on various sources of pollutant emissions that would apply to individual development projects allowed under the proposed Specific Plan, including:

- Regulation 2, Rule 2, New Source Review
- Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants
- Regulation 6, Rule 1, General Requirements
- Regulation 6, Rule 2, Commercial Cooking Equipment
- Regulation 8, Rule 3, Architectural Coatings
- Regulation 8, Rule 4, General Solvent and Surface Coatings Operations
- Regulation 8, Rule 7, Gasoline Dispensing Facilities
- Regulation 11, Rule 2, Asbestos, Demolition, Renovation and Manufacturing)

Alameda County Transportation Commission

The Alameda County Transportation Commission (Alameda CTC) is the congestion management agency for Alameda County, tasked with developing a comprehensive transportation improvement program among local jurisdictions that will reduce traffic congestion and improve land use decision-making and air quality. Alameda CTC’s latest congestion management program (CMP) is called the 2017 Congestion Management Program. Alameda CTC’s countywide transportation model must be consistent with the regional transportation model developed by the MTC with ABAG data. The countywide transportation model is used to help evaluate cumulative transportation impacts of local land use decisions on the CMP system. In addition, Alameda CTC’s updated CMP includes multimodal performance measures and trip reduction and transportation demand management strategies consistent with the goals of reducing regional vehicle miles traveled (VMT) in accordance with Senate Bill 375 (SB 375). The 2017 CMP update incorporates several actions identified as next steps in the 2015 CMP and closely aligns the CMP with the 2016 Countywide Transportation Plan, the 2040 *Plan Bay Area*, and other related efforts and legislative requirements (e.g., AB 32 and SB 375) to better integrate transportation and land use for achieving GHG reductions.¹¹

¹¹ Alameda County Transportation Commission, 2017, December, Congestion Management Program, https://www.alamedactc.org/files/managed/Document/22576/2017_Alameda_County_CMP.pdf, accessed on October 18, 2018.

Plan Bay Area

Plan Bay Area is the Bay Area's Regional Transportation Plan/Sustainable Community Strategy. The 2040 update to *Plan Bay Area* was adopted jointly by the ABAG and MTC on July 26, 2017. The 2040 *Plan Bay Area* update serves as a limited and focused update to the 2013 *Plan Bay Area*, with updated planning assumptions that incorporate key economic, demographic, and financial trends from the last several years.¹² It lays out a development scenario for the region, which when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding goods movement) beyond the per capita reduction targets identified by the Air Resources Board. *Plan Bay Area* is discussed in greater detail in Chapter 4.6, Greenhouse Gas Emissions, of this Draft EIR.

Local Regulations

Looking Forward Hayward 2040 General Plan

The City of Hayward 2040 General Plan, adopted in July 2014, includes goals, policies, and programs specifically intended to avoid or reduce impacts on air quality in the Natural Resources (NR) element. In addition, the City's Climate Action Plan (CAP) is integrated into the 2040 General Plan. Furthermore, the 2040 General Plan has also integrated a community risk reduction strategy (CRRS) and includes various goals, policies, measures, and best management practices related to reducing risk impacts to sensitive populations in the city. As described in the General Plan EIR, in most cases, no one goal, policy, or implementation program itself is expected to completely avoid or reduce an identified potential environmental impact.¹³ However, the collective, cumulative mitigating benefits of the policies listed below are intended to reduce air quality-related impacts. Specific goals and policies are described in Section 4.2.3, Impact Discussion, to demonstrate how the policy would avoid or reduce the impact.

The following goals and policies are relevant to the analysis of potential air quality impacts within the Specific Plan Area:¹⁴

- **Goal NR-2:** Improve the health and sustainability of the community through continued local efforts to improve regional air quality, reduce greenhouse gas emissions, and reduce community exposure to health risks associated with toxic air contaminants and fine particulate matter.
 - **Policy NR-2.1 Ambient Air Quality Standards:** The City shall work with the California Air Resources Board and the Bay Area Air Quality Management District to meet State and Federal ambient air quality standards in order to protect all residents from the health effects of air pollution.

¹² Metropolitan Transportation Commission and Association of Bay Area Governments, 2017, Plan Bay Area 2040 Final, <http://2040.planbayarea.org/>, accessed on July 18, 2018.

¹³ City of Hayward, 2014, City of Hayward 2040 General Plan certified EIR, State Clearinghouse Number 2013082015.

¹⁴ See Tables 7.3, 7.7, 7.8, and 7.11 of the Hayward 2040 General Plan Draft EIR for a complete list of policies that would contribute in reducing criteria air pollutant emissions and air quality impacts. These tables have been reproduced and included in Appendix C of this Draft EIR.

AIR QUALITY

- **Policy NR-2.2 New Development:** The City shall review proposed development applications to ensure projects incorporate feasible measures that reduce construction and operational emissions for reactive organic gases (ROG), nitrogen oxides (NO_x), and particulate matter (PM₁₀ and PM_{2.5}) through project location and design.
- **Policy NR-2.3 Emissions Reduction:** The City shall require development projects that exceed Bay Area Air Quality Management District reactive organic gas (ROG), nitrogen oxide (NO_x) operational thresholds to incorporate design or operational features that reduce emissions equal to at least 15 percent below the level that would be produced by an unmitigated project.
- **Policy NR-2.4 Community Greenhouse Gas Reduction:** The City shall work with the community to reduce community-based GHG emissions by 20 percent below 2005 baseline levels by 2020, and strive to reduce community emissions by 61.7 percent and 82.5 percent by 2040 and 2050, respectively.
- **Policy NR-2.5 Municipal Greenhouse Gas Reduction:** The City shall reduce municipal greenhouse gas emissions by 20 percent below 2005 baseline level by 2020, and strive to reduce municipal emissions by 61.7 percent and 82.5 percent by 2040 and 2050, respectively.
- **Policy NR-2.6 Greenhouse Gas Reduction in New Development:** The City shall reduce potential greenhouse gas emissions by discouraging new development that is primarily dependent on the private automobile; promoting infill development and/or new development that is compact, mixed use, pedestrian friendly, and transit oriented; promoting energy-efficient building design and site planning; and improving the regional jobs/housing balance ratio.
- **Policy NR-2.7 Coordination with Bay Area Air Quality Management District:** The City shall coordinate with the Bay Area Air Quality Management District to ensure projects incorporate feasible mitigation measures to reduce greenhouse gas emissions and air pollution if not already provided for through project design.
- **Policy NR-2.8 Reduced Emissions for City Operations and Commutes:** The City shall promote reduced idling, trip reduction, routing for efficiency, and the use of public transportation, carpooling, and alternate modes of transportation for operating City departments and City employees.
- **Policy NR-2.9 Fleet Operations:** The City shall continue to purchase low-emission or zero-emission vehicles for the City's fleet and to use available clean fuel sources such as bio-diesel for trucks and heavy equipment.
- **Policy NR-2.10 Zero-Emission and Low-Emission Vehicle Use:** The City shall encourage the use of zero-emission vehicles, low-emission vehicles, bicycles and other non-motorized vehicles, and car-sharing programs by requiring sufficient and convenient infrastructure and parking facilities throughout the City.
- **Policy NR-2.11 Zero-Emission and Low-Emission Vehicle Advocacy:** The City shall collaborate with regional, State, and Federal entities to promote the use of alternative fuels and increased vehicle fuel efficiency standards, and to advocate for higher fuel-economy standards, or contribute to regional and state marketing and outreach efforts.

AIR QUALITY

- **Policy NR-2.12 Preference for Reduced-Emission Equipment:** The City shall give preference to contractors using reduced-emission equipment for City construction projects and contracts for services (e.g., garbage collection), as well as businesses that practice sustainable operations.
- **Policy NR-2.13 Wood Stove and Fireplace Replacement:** The City shall promote the replacement of non-EPA certified fireplaces and woodstoves and encourage city residents to participate in Bay Area Air Quality Management District programs, such as the Wood Stove Rebate Program.
- **Policy NR-2.14 Air Quality Education:** The City shall educate the public about air quality standards, health effects, and efforts they can make to improve air quality and reduce greenhouse gas emissions.
- **Policy NR-2.15 Community Risk Reduction Strategy:** The City shall maintain and implement the General Plan as Hayward’s community risk reduction strategy to reduce health risks associated with toxic air contaminants (TACs) and fine particulate matter (PM_{2.5}) in both existing and new development.
- **Policy NR-2.16 Sensitive Uses:** The City shall minimize exposure of sensitive receptors to toxic air contaminants (TAC), fine particulate matter (PM_{2.5}), and odors to the extent possible, and consider distance, orientation, and wind direction when siting sensitive land uses in proximity to TAC- and PM_{2.5}-emitting sources and odor sources in order to minimize health risk.
- **Policy NR-2.17 Source Reduction Measures:** The City shall coordinate with and support the efforts of the Bay Area Air Quality Management District, the California Air Resources Board, the U.S. Environmental Protection Agency, and other agencies as appropriate to implement source reduction measures and best management practices that address both existing and new sources of toxic air contaminants (TAC), fine particulate matter (PM_{2.5}), and odors.
- **Policy NR-2.18 Exposure Reduction Measures for New Receptors:** The City shall require development projects to implement all applicable best management practices that will reduce exposure of new sensitive receptors (e.g., hospitals, schools, daycare facilities, elderly housing and convalescent facilities) to odors, toxic air contaminants (TAC) and fine particulate matter (PM_{2.5}).
- **Goal NR-4:** Reduce energy consumption through increased production and use of renewable energy, sustainable energy purchasing, and improved energy efficiency.
 - **Policy NR-4.1 Energy Efficiency Measures:** The City shall promote the efficient use of energy in the design, construction, maintenance, and operation of public and private facilities, infrastructure, and equipment.
 - **Policy NR-4.2 Energy Efficiency Collaboration:** The City shall collaborate with partner agencies, utility providers, and the business community to support a range of energy efficiency, conservation, and waste reduction measures, including the development of green buildings and infrastructure, weatherization programs, installation of energy- efficient appliances and equipment in homes and offices, promotion of energy efficiency retrofit programs, use of green power options, and heightened awareness of the benefits of energy efficiency and conservation issues.

AIR QUALITY

- **Policy NR-4.3 Efficient Construction and Development Practices:** The City shall encourage construction and building development practices that maximize the use of renewable resources and minimize the use of non-renewable resources throughout the life-cycle of a structure.
- **Policy NR-4.4 Energy Resource Conservation in Public Buildings:** The City shall continue to require all public facilities and services to incorporate energy and resource conservation standards and practices.
- **Policy NR-4.5 Energy Efficient Contractors:** When soliciting and awarding public contracts, professional service agreements, or grants to businesses or non-profit agencies, the City shall require, as appropriate, proposals or applications to include information about the sustainability practices of the organization.
- **Policy NR-4.11 Green Building Standards:** The City shall require newly constructed or renovated public and private buildings and structures to meet energy efficiency design and operations standards with the intent of meeting or exceeding the State's zero net energy goals by 2020.
- **Policy NR-4.13 Energy Use Data:** The City shall consider requiring disclosure of energy use and/or an energy rating for single family homes, multifamily properties, and commercial buildings at certain points or thresholds. The City shall encourage residents to voluntarily share their energy use data and/or ratings with the City as part of collaborative efficiency efforts.
- **Policy NR-4.14 Energy Efficiency Retrofits:** The City shall collaborate with regional entities and others to promote incentive programs for energy efficiency retrofits such as the Energy Upgrade California program for residential properties.
- **Policy NR-4.15 Energy Efficiency Programs:** The City shall promote the use of the Energy Star Portfolio Manager program and energy benchmarking training programs for nonresidential building owners.
- **Goal HQL-7:** Protect residents from the harmful effects of pollution, toxic substances, and environmental contaminants.
 - **Policy HQL-7.5 Proximity to Pollution Sources:** The City shall avoid locating new sensitive uses such as schools, childcare centers, and senior housing, to the extent feasible, in proximity to sources of pollution, odors, or near existing businesses that handle toxic materials. Where such uses are located in proximity to sources of air pollution, odors, or toxic materials, the City shall encourage building design, construction safeguards, and technological techniques to mitigate the negative impacts of hazardous materials and/or air pollution on indoor air quality.
- **Goal LU-1:** Promote local growth patterns and sustainable development practices that improve quality of life, protect open space and natural resources, and reduce resource consumption, traffic congestion, and related greenhouse gas emissions.
 - **Policy LU-1.3 Growth and Infill Development:** The City shall direct local population and employment growth toward infill development sites within the City, especially the catalyst and opportunity sites identified in the Economic Development Strategic Plan.

- **Policy LU-1.6 Mixed-Use Neighborhoods:** The City shall encourage the integration of a variety of compatible land uses into new and established neighborhoods to provide residents with convenient access to goods, services, parks and recreation, and other community amenities.
- **Goal LU 3:** Create complete neighborhoods that provide a mix of housing options and convenient access to parks, schools, shopping, jobs, and other community amenities.
 - **Policy LU-3.5 Mixed-Density Development Projects:** The City shall encourage infill residential developments that provide a mix of housing types and densities within a single development on multiple parcels. Individual parcels within the development may be developed at higher or lower densities than allowed by the General Plan, provided that the net density of the entire development is within the allowed density range.
- **Goal M-1:** Provide a comprehensive, integrated, and connected network of transportation facilities and services for all modes of travel.
 - **Policy M-1.2 Multimodal Choices:** The City shall promote development of an integrated, multi-modal transportation system that offers desirable choices among modes including pedestrian ways, public transportation, roadways, bikeways, rail, and aviation.
 - **Policy M-1.3 Multimodal Connections:** The City shall implement a multimodal system that connects residents to activity centers throughout the city, such as commercial centers and corridors, employment centers, transit stops/stations, the airport, schools, parks, recreation areas, and other attractions.
 - **Policy M-1.4 Multimodal System Extensions:** The City shall require all new development that proposes or is required to construct or extend streets to develop a transportation network that complements and contributes to the city’s multimodal system, maximizes connections, and minimizes barriers to connectivity.
 - **Policy M-1.5 Flexible Level-of-Service Standards:** The City shall consider flexible level-of-service standards, as part of a multimodal system approach, for projects that increase transit-ridership, biking, and walking in order to reduce air pollution, energy consumption, and greenhouse gas emissions.
 - **Policy M-1.6 Bicycling, Walking, and Transit Amenities:** The City shall encourage the development of facilities and services, (e.g., secure term bicycle parking, street lights, street furniture and trees, transit stop benches and shelters, and street sweeping of bike lanes) that enable bicycling, walking, and transit use to become more widely used modes of transportation and recreation.
 - **Policy M-1.7 Eliminate Gaps:** The City shall strive to create a more comprehensive multimodal transportation system by eliminating “gaps” in roadways, bikeways, and pedestrian networks, increasing transit access in underserved areas, and removing natural and man-made barriers to accessibility and connectivity.
 - **Policy M-1.8 Transportation Choices:** The City shall provide leadership in educating the community about the availability and benefits of using alternative transportation modes.
- **Goal M-3:** Provide complete streets that balance the diverse needs of users of the public right-of-way.

AIR QUALITY

- **Policy M-3.1 Serving All Users:** The City shall provide safe, comfortable, and convenient travel along and across streets to serve all users, including pedestrians, the disabled, bicyclists, and motorists, movers of commercial goods, and users and operators of public transportation.)
- **Policy M-3.2 Non-Auto Needs:** The City shall consider the needs of transit riders, pedestrians, people in wheelchairs, cyclists, and others in long-range planning and street design.
- **Policy M-3.3 Balancing Needs:** The City shall balance the needs of all travel modes when planning transportation improvements and managing transportation use in the public right-of-way.
- **Policy M-3.4 Routine Practice:** The City shall continue to work towards making complete streets practices (e.g., considering and accommodating all users and all modes within the appropriate context) a routine part of everyday transportation decision-making.
- **Policy M-3.5 All Projects and Phases:** The City shall incorporate appropriate complete streets infrastructure into transportation planning, funding, design, approval, and implementation processes and projects.
- **Policy M-3.6 Context Sensitive:** The City shall consider the land use and urban design context of adjacent properties in both residential and business districts as well as urban, suburban, and rural areas when designing complete streets.
- **Policy M-3.7 Development Review:** The City shall consider the needs of all transportation users in the review of development proposals to ensure on-site and off-site transportation facility improvements complement existing and planned land uses.
- **Policy M-3.8 Connections with New Developments:** The City shall ensure that new commercial and residential development projects provide frequent and direct connections to the nearest bikeways, pedestrian ways, and transit facilities.
- **Policy M-3.9 Private Complete Streets** The City shall encourage large private developments (e.g., office parks, apartment complexes, retail centers) to provide internal complete streets that connect to the existing public roadway system and provide a seamless transition to existing and planned transportation facilities.
- **Policy M-3.10 Motorists, Bicyclists, and Pedestrian Conflicts:** The City shall develop safe and convenient bikeways and pedestrian crossings that reduce conflicts between pedestrians, bicyclists, and motor vehicles on streets, multiuse trails, and sidewalks.
- **Policy M-3.11 Adequate Street Tree Canopy:** The City shall ensure that all new roadway projects and major reconstruction projects provide for the development of an adequate street tree canopy.
- **Policy M-3.12 Americans with Disabilities Act Compliance:** The City shall continue to implement the Americans with Disabilities Act when designing, constructing, or improving transportation facilities.
- **Goal M-5:** Provide a universally accessible, safe, convenient, and integrated pedestrian system that promotes walking.

- **Policy M-5.1 Pedestrian Needs:** The City shall consider pedestrian needs, including appropriate improvements to crosswalks, signal timing, signage, and curb ramps, in long-range planning and street design.
- **Policy M-5.2 Pedestrian System:** The City shall strive to create and maintain a continuous system of connected sidewalks, pedestrian paths, creekside walks, and utility greenways throughout the city that facilitates convenient and safe pedestrian travel, connects neighborhoods and centers, and is free of major impediments and obstacles.
- **Policy M-5.3 Access to Transit:** The City shall enhance and maintain sidewalk and other pedestrian improvements for access to key transit stops and stations for seniors and other persons with special needs.
- **Policy M-5.5 Streetscape Design:** The City shall require that pedestrian-oriented streets be designed and maintained to provide a pleasant environment for walking including shade trees; plantings; well-designed benches, trash receptacles, and other furniture; pedestrian-scaled lighting fixtures; wayfinding signage; integrated transit shelters; public art; and other amenities.
- **Policy M-5.6 Safe Pedestrian Crossings:** The City shall strive to improve pedestrian safety at intersections and mid-block locations by providing safe, well-marked pedestrian crossings, bulb-outs, or median refuges that reduce crossing widths, and/or audio sound warnings.
- **Policy M-5.7 Safe Sidewalks:** The City shall develop safe and convenient pedestrian facilities that are universally accessible, adequately illuminated, and properly designed to reduce conflicts between motor vehicles and pedestrians.
- **Goal M-6:** Create and maintain a safe, comprehensive, and integrated bicycle system and support facilities throughout the city that encourage bicycling that is accessible to all.
 - **Policy M-6.1 Bikeway System:** The City shall maintain and implement the Hayward Bicycle Master Plan.
 - **Policy M-6.2 Encourage Bicycle Use:** The City shall encourage bicycle use in all neighborhoods, especially where short trips are most common.
 - **Policy M-6.3 Appropriate Bikeway Facilities:** The City shall provide bikeway facilities that are appropriate to the street classifications and type, traffic volume, and speed on all right-of-ways.
 - **Policy M-6.4 Bicycle on Transit:** The City shall encourage AC Transit and BART to expand access to cyclists, including providing bike racks on buses and trains and secure bicycle parking at transit stations and stops.
 - **Policy M-6.5 Connections between New Development and Bikeways:** The City shall ensure that new commercial and residential development projects provide frequent and direct connections to the nearest bikeways and do not interfere with existing and proposed bicycle facilities.
 - **Policy M-6.6 Bike Safety for Children:** The City shall support infrastructure and programs that encourage children to bike safely to school.

AIR QUALITY

- **Policy M-6.7 Conversion of Underused Facilities:** The City shall convert underused rights-of-way along travel lanes, drainage canals, and railroad corridors to bikeways wherever desirable and financially feasible.
- **Policy M-6.8 Bicycle Wayfinding:** The City shall encourage bicycling by providing wayfinding and signage that directs bicyclists to bike routes and to civic places, cultural amenities, and visitor and recreational destinations.
- **Goal M-8:** Encourage transportation demand management strategies and programs to reduce vehicular travel, traffic congestion, and parking demand.
 - **Policy M-8.1 Increase Vehicle Occupancy:** The City shall work with a broad range of agencies (e.g., Metropolitan Transportation Commission, BAAQMD, AC Transit, Caltrans) to encourage and support programs that increase vehicle occupancy including the provision of traveler information, shuttles, preferential parking for carpools/vanpools, transit pass subsidies, and other methods.
 - **Policy M-8.2 Citywide TDM Plan:** The City shall maintain and implement a citywide Travel Demand Management Program, which provides a menu of strategies and programs for developers and employers to reduce single-occupant vehicle travel in the city.
 - **Policy M-8.3 Citywide TDM Plan:** The City shall encourage employers to participate in TDM programs (e.g., guaranteed ride home, subsidized transit passes, carpool and vanpool programs) and to participate in or create Transportation Management Associations to reduce parking needs and vehicular travel.
 - **Policy M-8.4 Automobile Commute Trip Reduction:** The City shall encourage employers to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education, and preferential parking for carpools/vanpools.
 - **Policy M-8.5 Commuter Benefits Programs:** The City shall assist businesses in developing and implementing commuter benefits programs (e.g., offers to provide discounted or subsidized transit passes, emergency ride home programs, participation in commuter rideshare programs, parking cash-out or parking pricing programs, or tax credits for bike commuters).
 - **Policy M-8.6 Car/Bike Sharing Programs:** The City shall assist businesses in developing and implementing car and bike sharing programs, and shall encourage large employers (e.g., colleges, Hayward Unified School District (HUSD)) and the BART stations to host car and bike sharing programs available to the public.
 - **Policy M-8.7 Public-Private Transportation Partnerships:** The City shall encourage public-private transportation partnerships (e.g., car sharing companies) to establish programs and operations within the city to reduce single-occupant vehicle use.
 - **Policy M-8.8 Regional TDM Programs:** The City shall implement the Alameda County Transportation Commission Travel Demand Management Element of the Congestion Management Program, which includes a checklist covering specific TDM strategies that the city could employ as part of its own TDM plan (e.g., preferential parking, car/van pools, casual car pools, subsidized transit passes).

- **Policy M-8.9 City Facility Locations:** When making decisions about where to rent or build new City facilities, the City shall give preference to locations that are accessible to an existing public transit line or ensure that public transit links (e.g., bus lines) are extended to the new locations.

4.2.1.3 EXISTING CONDITIONS

San Francisco Bay Area Air Basin Conditions

The Air Basin comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties; the southern portion of Sonoma County; and the southwestern portion of Solano County. Air quality in the SFBAAB is determined by such natural factors as topography, meteorology, and climate, in addition to the presence of existing air pollution sources and ambient conditions.¹⁵ The following are the natural factors in the SFBAAB that affect air pollution:

- **Meteorology:** The SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, which distort normal wind flow patterns. The Coast Range¹⁶ splits in the Bay Area, creating a western coast gap, the Golden Gate, and an eastern coast gap, the Carquinez Strait, which allows air to flow in and out of the Bay Area and the Central Valley. The climate is dominated by the strength and location of a semi-permanent, subtropical high-pressure cell. During the summer, the Pacific high-pressure cell is centered over the northeastern Pacific Ocean, resulting in stable meteorological conditions and a steady northwesterly wind flow. Upwelling of cold ocean water from below the surface because of the northwesterly flow produces a band of cold water off the California coast. The cool and moisture-laden air approaching the coast from the Pacific Ocean is further cooled by the presence of the cold water band, resulting in condensation and the presence of fog and stratus clouds along the Northern California coast. In the winter, the Pacific high-pressure cell weakens and shifts southward, resulting in wind flow offshore, the absence of upwelling, and the occurrence of storms. Weak inversions coupled with moderate winds result in a low air pollution potential.
- **Wind Patterns:** During the summer, winds flowing from the northwest are drawn inland through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately south of Mount Tamalpais in Marin County, the northwesterly winds accelerate considerably and come more directly from the west as they stream through the Golden Gate. This channeling of wind through the Golden Gate produces a jet that sweeps eastward and splits off to the northwest toward Richmond and to the southwest toward San José when it meets the East Bay hills. Wind speeds may be strong locally in areas where air is channeled through a narrow opening, such as the Carquinez Strait, the Golden Gate, or the San Bruno gap.

The air flowing in 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 and the sea breeze deepens and increases in velocity while spreading inland. Under normal atmospheric conditions, the air in the lower atmosphere is warmer than the air above it. In the winter, the SFBAAB frequently experiences stormy conditions with moderate to strong winds, as well as periods of stagnation with very light winds. Winter stagnation episodes (i.e., conditions where there is little mixing, which occurs when

¹⁵ Bay Area Air Quality Management District, 2017, Revised, California Environmental Quality Act Air Quality Guidelines.

¹⁶ The Coast Ranges traverses California's west coast from Humboldt County to Santa Barbara County.

AIR QUALITY

there is a lack of or little wind) are characterized by nighttime drainage flows in coastal valleys. Drainage is a reversal of the usual daytime air-flow patterns; air moves from the Central Valley toward the coast and back down toward the Bay from the smaller valleys within the SFBAAB.

- **Temperature:** Summertime temperatures in the SFBAAB are determined in large part by the effect of differential heating between land and water surfaces. On summer afternoons, the temperatures at the coast can be 35 degrees Fahrenheit cooler than temperatures 15 to 20 miles inland; at night, this contrast usually decreases to less than 10 degrees Fahrenheit. In the winter, the relationship of minimum and maximum temperatures is reversed. During the daytime the temperature contrast between the coast and inland areas is small, whereas at night the variation in temperature is large.
- **Precipitation:** The SFBAAB is characterized by moderately wet winters and dry summers. Winter rains (November through March) account for about 75 percent of the average annual rainfall. The amount of annual precipitation can vary greatly from one part of the SFBAAB to another, even within short distances. In general, total annual rainfall can reach 40 inches in the mountains, but it is often less than 16 inches in sheltered valleys. During rainy periods, ventilation (rapid horizontal movement of air and injection of cleaner air) and vertical mixing (an upward and downward movement of air) are usually high, and thus pollution levels tend to be low (i.e., air pollutants are dispersed more readily into the atmosphere rather than accumulate under stagnant conditions). However, during the winter, frequent dry periods do occur, where mixing and ventilation are low and pollutant levels build up.
- **Wind Circulation:** Low wind speed contributes to the buildup of air pollution because it allows more pollutants to be emitted into the air mass per unit of time. Light winds occur most frequently during periods of low sun (fall and winter, and early morning) and at night. These are also periods when air pollutant emissions from some sources are at their peak, namely, commuter traffic (early morning) and wood-burning appliances (nighttime). The problem can be compounded in valleys, when weak flows carry the pollutants up-valley during the day, and cold air drainage flows move the air mass down-valley at night. Such restricted movement of trapped air provides little opportunity for ventilation and leads to buildup of pollutants to potentially unhealthful levels.
- **Inversions:** An inversion is a layer of warmer air over a layer of cooler air. Inversions affect air quality conditions significantly because they influence the mixing depth (i.e., the vertical depth in the atmosphere available for diluting air contaminants near the ground). There are two types of inversions that occur regularly in the SFBAAB. Elevation inversions¹⁷ are more common in the summer and fall, and radiation inversions¹⁸ are more common during the winter. The highest air pollutant concentrations in the SFBAAB generally occur during inversions.

Attainment Status of the SFBAAB

The AQMP provides the framework for air quality basins to achieve attainment of the State and federal AAQS through the State Implementation Plan. Areas that meet AAQS are classified attainment areas, and

¹⁷ When the air blows over elevated areas, it is heated as it is compressed into the side of the hill/mountain. When that warm air comes over the top, it is warmer than the cooler air of the valley.

¹⁸ During the night, the ground cools off, radiating the heat to the sky.

areas that do not meet these standards are classified nonattainment areas. Severity classifications for O₃ range from marginal, moderate, and serious to severe and extreme.

- **Unclassified:** A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
- **Attainment:** A pollutant is in attainment if the AAQS for that pollutant was not violated at any site in the area during a three-year period.
- **Nonattainment:** A pollutant is in nonattainment if there was at least one violation of an AAQS for that pollutant in the area.
- **Nonattainment/Transitional:** A subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

The attainment status for the SFBAAB is shown in Table 4.2-2. The SFBAAB is currently designated a nonattainment area for California and National O₃, California and National PM_{2.5}, and California PM₁₀ AAQS.

TABLE 4.2-2 ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SAN FRANCISCO BAY AREA AIR BASIN

Pollutant	State	Federal
Ozone – 1-hour	Nonattainment	Classification revoked (2005)
Ozone – 8-hour	Nonattainment (serious)	Nonattainment (marginal) ^a
PM ₁₀ – 24-hour	Nonattainment	Unclassified/ Attainment ^b
PM _{2.5} – 24-hour	Nonattainment	Nonattainment
CO – 8-hour and 1-hour	Attainment	Attainment
NO ₂ – 1-hour	Attainment	Unclassified
SO ₂ – 24-hour and 1-hour	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	Attainment	Unclassified/Attainment
All others	Unclassified/Attainment	Unclassified/Attainment

a. Severity classification current as of February 13, 2017.

b. In December 2014, US EPA issued final area designations for the 2012 primary annual PM_{2.5} National AAQS. Areas designated “unclassifiable/attainment” must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015.

Source: California Air Resources Board, 2017, Area Designations Maps: State and National, <http://www.arb.ca.gov/desig/adm/adm.htm>, accessed on October 24, 2018; Bay Area Air Quality Management District. 2017. Air Quality Standards and Attainment Status. <http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status#thirteen>, accessed on October 22, 2018.

Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of the Specific

AIR QUALITY

Plan Area have been documented and measured by the BAAQMD. BAAQMD has 24 permanent monitoring stations located around the Bay Area. The nearest station is the Hayward-La Mesa Monitoring Station. Data from this station is summarized in Table 4.2-3. The data show regular violations of the State and federal O₃ standards and federal PM_{2.5} standard.

TABLE 4.2-3 AMBIENT AIR QUALITY MONITORING SUMMARY

Pollutant/Standard	Number of Days Threshold Were Exceeded and Maximum Levels During Such Violations				
	2013	2014	2015	2016	2017
Ozone (O₃)^a					
State 1-Hour ≥ 0.09 ppm	0	1	2	0	2
State 8-hour ≥ 0.07 ppm	1	4	2	0	4
Federal 8-Hour > 0.075 ppm ^c	0	0	2	0	2
Maximum 1-Hour Conc. (ppm)	0.085	0.096	0.103	0.083	0.139
Maximum 8-Hour Conc. (ppm)	0.075	0.075	0.084	0.064	0.110
Carbon Monoxide (CO)					
State 8-Hour > 9.0 ppm	*	*	*	*	*
Federal 8-Hour ≥ 9.0 ppm	*	*	*	*	*
Maximum 8-Hour Conc. (ppm)	*	*	*	*	*
Nitrogen Dioxide (NO₂)^b					
State 1-Hour ≥ 0.18 (ppm)	0	0	0	0	0
Maximum 1-Hour Conc. (ppb)	0.0603	0.0821	0.0480	0.0592	0.0649
Sulfur Dioxide (SO₂)					
State 1-Hour ≥ 0.04 ppm	*	*	*	*	*
Max. 1-Hour Conc. (ppm)	*	*	*	*	*
Coarse Particulates (PM₁₀)					
State 24-Hour > 50 µg/m ³	*	*	*	*	*
Federal 24-Hour > 150 µg/m ³	*	*	*	*	*
Maximum 24-Hour Conc. (µg/ m ³)	*	*	*	*	*
Fine Particulates (PM_{2.5})^b					
Federal 24-Hour > 35 µg/m ³	2	1	1	0	7
Maximum 24-Hour Conc. (µg/m ³)	37.9	37.6	44.7	15.5	70.2

Notes: ppm = parts per million; ppb = parts per billion; µg/m³ = micrograms per cubic meter; * = insufficient data; NA = Not Available

a. Data from the Hayward-La Mesa Monitoring Station.

b. Data from the Oakland-9925 International Boulevard Monitoring Station.

Source: California Air Resources Board, 2018, Air Pollution Data Monitoring Cards (2013, 2014, 2015, 2016, and 2017), <http://www.arb.ca.gov/adam/index.html>, accessed on October 18, 2018.

Existing Emissions

The Specific Plan Area consists of commercial, institutional, public, and retail uses in addition to single- and multifamily residences. These uses currently generate criteria air pollutant emissions from natural gas use for energy, heating and cooking, vehicle trips associated with each land use, and area sources such as landscaping equipment and consumer cleaning products. Table 4.2-4 shows the annual and average daily emissions inventory currently associated with the Specific Plan Area.

AIR QUALITY

TABLE 4.2-4 EXISTING HAYWARD DOWNTOWN SPECIFIC PLAN EMISSIONS INVENTORY

Source ^a	Criteria Air Pollutants (Tons/Year)			
	VOC	NO _x	Exhaust PM ₁₀	Exhaust PM _{2.5}
Area	20	<1	<1	<1
Energy	<1	4	<1	<1
Mobile	12	106	1	1
Total	33	110	1	1
Average Daily (Pounds/Day) ^b				
Area	112	1	<1	<1
Energy	2	21	2	2
Mobile	68	582	3	3
Total	182	604	5	5

Note: Totals may not add up to 100 percent due to rounding.

a. An “area source” represents the emission generated from a variety of smaller sources that are not considered point sources (e.g., consumer household cleaning products, paints, landscaping equipment, fireplaces, etc.). The energy category represents air pollutant emissions associated with natural gas use. The mobile category represents emissions generated from motor vehicles.

b. Average daily emissions are derived from the annual emissions and an assumed 365 days per year to estimate average daily emissions (vs. peak daily emissions reported by Summer and Winter rates in CalEEMod).

Source: CalEEMod, Version 2016.3.2.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. Residential areas are also considered sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Other sensitive receptors include retirement facilities, hospitals, and schools. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, since the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the population. Sensitive receptors within the Specific Plan Area include the various residential land uses situated in its eastern, western, and southern portions. Sensitive receptors outside of the Specific Plan Area include the various surrounding residential land uses in addition to students at nearby schools (e.g., All Saints School) and daycares.

AIR QUALITY

4.2.2 STANDARDS OF SIGNIFICANCE

4.2.2.2 CEQA GUIDELINES APPENDIX G

Implementation of the proposed project would result in a potentially significant air quality impact if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
3. 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors).
4. Expose sensitive receptors to substantial pollutant concentrations.
5. Create objectionable odors affecting a substantial number of people.

4.2.2.3 BAY AREA AIR QUALITY MANAGEMENT DISTRICT THRESHOLDS

The BAAQMD CEQA Air Quality Guidelines were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, mitigation measures, and background air quality information. They also include recommended assessment methodologies for air toxics, odors, and greenhouse gas emissions. In June 2010, the BAAQMD's Board of Directors adopted CEQA thresholds of significance and an update of the CEQA Guidelines. These thresholds are designed to establish the level at which the District believed air pollution emissions would cause significant environmental impacts under CEQA.

In May 2011, the updated BAAQMD CEQA Air Quality Guidelines were amended to include a risk and hazards threshold for new receptors and modified procedures for assessing impacts related to risk and hazard impacts; however, this later amendment regarding risk and hazards was the subject of the December 17, 2015, California Supreme Court decision (*California Building Industry Association v BAAQMD*), which clarified that CEQA does not require an evaluation of impacts of the environment on a project.¹⁹ The Supreme Court also found that CEQA requires the analysis of exposing people to

¹⁹ On March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the thresholds of significance in the BAAQMD CEQA Air Quality Guidelines. The court did not rule on the merits of the thresholds of significance, but found that the adoption of the thresholds was a project under CEQA. The court issued a writ of mandate ordering the BAAQMD to set aside the thresholds and cease dissemination of them until the BAAQMD complied with CEQA. Following the court's order, the BAAQMD released revised CEQA Air Quality Guidelines in May of 2012 that include guidance on calculating air pollution emissions, obtaining information regarding the health impacts of air pollutants, and identifying potential mitigation measures, and which set aside the significance thresholds. The Alameda County Superior Court, in ordering BAAQMD to set aside the thresholds, did not address the merits of the science or evidence supporting the thresholds, and in light of the subsequent case history discussed below, the science and reasoning contained in the BAAQMD 2017 CEQA Air

environmental hazards in specific circumstances, including the location of development near airports, schools near sources of toxic contamination, and certain exemptions for infill and workforce housing. The Supreme Court also held that public agencies remain free to conduct this analysis regardless of whether it is required by CEQA. To account for these updates, BAAQMD published a new version of the Guidelines dated May 2017, which includes revisions made to address the Supreme Court’s opinion. This latest version of the BAAQMD CEQA Guidelines was used to prepare the analysis in this EIR.

Criteria Air Pollutant Emissions and Precursors

Regional Significance Criteria

The BAAQMD’s criteria for regional significance for projects that exceed the screening thresholds are shown in Table 4.2-5. Criteria for both the construction and operational phases of the project are shown.

TABLE 4.2-5 BAAQMD REGIONAL (MASS EMISSIONS) CRITERIA AIR POLLUTANT SIGNIFICANCE THRESHOLDS

Pollutant	Construction Phase	Operational Phase	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (Tons/year)
ROG	54	54	10
NO _x	54	54	10
PM ₁₀	82 (Exhaust)	82	15
PM _{2.5}	54 (Exhaust)	54	10
PM ₁₀ and PM _{2.5} Fugitive Dust	Best Management Practices	None	None

Source: Bay Area Air Quality Management District, 2017, CEQA Guidelines May 2017.

CO Hotspots

Congested intersections have the potential to create elevated concentrations of CO, referred to as CO hotspots. The significance criteria for CO hotspots are based on the California AAQS for CO, which are 9.0 ppm (8-hour average) and 20.0 ppm (1-hour average). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology, the SFBAAB is in attainment of the California and National AAQS, and CO concentrations in the SFBAAB have steadily declined. Because CO concentrations have improved, the BAAQMD does not require a CO hotspot analysis if the following criteria are met:

- The project is consistent with an applicable congestion management program established by the County Congestion Management Agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans.

Quality Guidelines provide the latest state-of-the-art guidance available. On August 13, 2013, the First District Court of Appeal ordered the trial court to reverse the judgment and upheld the BAAQMD’s CEQA Guidelines. (California Building Industry Association versus BAAQMD, Case Nos. A135335 and A136212 (Court of Appeal, First District, August 13, 2013)).

AIR QUALITY

- The project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project traffic would not increase traffic volumes at affected intersection to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

Community Risk and Hazards

The BAAQMD's significance thresholds for local community risk and hazard impacts apply to both the siting of a new source and to the siting of a new receptor. Local community risk and hazard impacts are associated with TACs and PM_{2.5} because emissions of these pollutants can have significant health impacts at the local level. The proposed Specific Plan would generate TACs and PM_{2.5} during construction activities that could elevate concentrations of air pollutants at the nearby residential sensitive receptors. The thresholds for construction-related local community risk and hazard impacts are the same as for project operations. The BAAQMD has adopted screening tables for air toxics evaluation during construction.²⁰ Construction-related TAC and PM_{2.5} impacts should be addressed on a case-by-case basis, taking into consideration the specific construction-related characteristics of each project and proximity to off-site receptors, as applicable.²¹

Community Risk and Hazards: Project

Project-level emissions of TACs or PM_{2.5} from individual sources that exceed any of the thresholds listed below are considered a potentially significant community health risk:

- An excess cancer risk level of more than 10 in one million, or a noncancer (i.e., chronic or acute) hazard index greater than 1.0 would be a significant project contribution.
- An incremental increase of greater than 0.3 micrograms per cubic meter (µg/m³) annual average PM_{2.5} from a single source would be a significant project contribution.²²

Community Risk and Hazards: Cumulative

Cumulative sources represent the combined total risk values of each of the individual sources within the 1,000-foot evaluation zone. A project would have a cumulative considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius from the fence line of a source or location of a receptor, plus the contribution from the project, exceeds any of the following:

- An excess cancer risk level of more than 100 in one million or a chronic noncancer hazard index (from all local sources) greater than 10.0.

²⁰ Bay Area Air Quality Management District, 2010, Screening Tables for Air Toxics Evaluations during Construction.

²¹ Bay Area Air Quality Management District, 2017, Revised, California Environmental Quality Act Air Quality Guidelines, http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf, accessed on October 25, 2018.

²² Bay Area Air Quality Management District, 2017, Revised, California Environmental Quality Act Air Quality Guidelines, http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf, accessed on October 25, 2018.

- 0.8 µg/m³ annual average PM_{2.5}.²³

In February 2015, Office of Environmental Health Hazard Assessment (OEHHA) adopted new health risk assessment guidance that includes several efforts to be more protective of children's health. These updated procedures include the use of age sensitivity factors to account for the higher sensitivity of infants and young children to cancer causing chemicals, and age-specific breathing rate.²⁴

Odors

BAAQMD's thresholds for odors are qualitative based on BAAQMD's Regulation 7, Odorous Substances. This rule places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance, which states that no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public; or which endangers the comfort, repose, health, or safety of any such persons or the public, or which cause, or has a natural tendency to cause, injury, or damage to business or property. Under BAAQMD's Rule 1-301. BAAQMD has established odor screening thresholds for land uses that have the potential to generate substantial odor complaints, including wastewater treatment plants, landfills or transfer stations, composting facilities, confined animal facilities, food manufacturing, and chemical plants.²⁵ For a plan-level analysis, BAAQMD requires:

- Identification of potential existing and planned location of odors sources.
- Policies to reduce odors.

4.2.3 IMPACT DISCUSSION

4.2.3.2 METHODOLOGY

This air quality evaluation was prepared in accordance with the requirements of CEQA to determine if significant air quality impacts are likely to occur in conjunction with future development that would be accommodated by the proposed Specific Plan. The Air District has published the CEQA Air Quality Guidelines that provides local governments with guidance for analyzing and mitigating air quality impacts and was used in this analysis. The Specific Plan Area criteria air pollutant emissions inventory includes the following sectors:

- **Transportation.** Based on the trip generation and VMT data provided by Kittelson Associates, Inc. (see Appendix E of this Draft EIR). An average trip distance of 8.14 and 8.75 miles per trip are utilized for

²³ Bay Area Air Quality Management District, 2017, Revised, California Environmental Quality Act Air Quality Guidelines. http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf, accessed on October 25, 2018.

²⁴ Office of Environmental Health Hazard Assessment, 2015, February, Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments.

²⁵ Bay Area Air Quality Management District, 2017, May, California Environmental Quality Act Air Quality Guidelines. http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf, accessed on October 25, 2018.

AIR QUALITY

the existing and project buildout scenarios, respectively. Based on the estimated 30,743 average daily trips (ADT) generated under existing conditions and the 64,925 ADTs generated under full buildout conditions, approximately 250,361 vehicle miles per day are generated currently and 567,945 vehicle miles per day would be generated under full buildout conditions.

- **Area Sources.** Area sources generated from use of consumer products and cleaning supplies are based on CalEEMod default emission rates and on the assume building square footages. For fireplaces, it is assumed that condominiums, townhomes, and single-family are equipped with gas fireplaces. In addition, it is assumed that apartment units do not and would not have fireplaces.
- **Energy.** Criteria air pollutant emissions from energy use (natural gas used for cooking, heating, etc.) are based on the CalEEMod defaults for natural gas usage by residential and nonresidential land uses. New buildings are assumed to comply with the 2016 Building Energy Efficiency Standards, which are 28 percent more energy efficient for residential buildings and 5 percent more energy efficient for nonresidential buildings and residential buildings of four stories or more than the 2013 Building Energy Efficiency Standards while existing buildings are assumed to comply with the 2005 Building Energy Efficiency Standards. The default CalEEMod historical energy rates are utilized for the existing uses. These rates are based on the 2005 Building Energy Efficiency Standards.
- **Construction.** It is assumed that implementation of the proposed Specific Plan would generally commence beginning of 2019. The construction phasing utilizes the CalEEMod default schedule based on the anticipated new land uses and the duration of each activity is normalized to a 22-year building period (2019 to 2040). In addition, while the specific timeline in how the land uses accommodated in the proposed Specific Plan would be developed is unknown, this analysis assumes that the various construction activities (e.g., site preparation, demolition, building construction) would overlap. Furthermore, some of the existing residential and non-residential land uses in the Specific Plan Area would be demolished (see Appendix C for further details). Construction assumptions were based on CalEEMod defaults such as construction equipment mix and worker, vendor, and haul trips. Table 4.2-6 shows the assumed construction activities, the start and end dates (based on 22-year buildout), and equipment mix for each of the activities.

TABLE 4.2-6 CONSTRUCTION ACTIVITIES, PHASING, AND EQUIPMENT

Activities ^a	Start/End Dates ^a	Equipment ^b
Demolition	1/1/2019 – 1/19/2020	1 concrete/industrial saw; 3 excavators; 2 rubber tired dozers; 1 water truck
Site Preparation	1/1/2019 – 8/18/2019	3 rubber tired dozers; 4 tractors/loaders/backhoes; 1 water truck
Grading	1/1/2019 – 8/18/2020	2 excavators; 1 grader; 1 rubber tired dozer; 2 scrapers; 2 tractors/loaders/backhoes; 1 water truck
Building Construction	1/1/2019 – 5/16/2035	1 crane; 3 forklifts; 1 generator set; 3 tractors/loaders/backhoes; 1 welder
Asphalt Paving	1/1/2019 – 2/27/2019	2 pavers; 2 paving equipment; 2 rollers
Architectural Coating	1/1/2019 – 5/27/2024	1 air compressor

a. Based on CalEEMod defaults and normalized to a 22-year buildout duration. Start/end dates represent the total number of workdays per activity condensed to begin on January 1, 2019, since actual dates of construction activities are unknown.

b. Based on CalEEMod defaults. <http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status#thirteen>.

Source: CalEEMod 2016.3.2.

AQ-1 Implementation of the proposed project would not conflict with or obstruct implementation of the applicable air quality plan.

A consistency determination plays an important role in local agency project review by linking local planning and individual projects to the 2017 Clean Air Plan. It fulfills the CEQA goal of informing decision makers of the environmental efforts of the project under consideration at an early enough stage to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to clean air goals in the Bay Area.

As described in Section 4.2.2, Standards of Significance, BAAQMD requires a consistency evaluation of a plan with its current AQMP measures. BAAQMD considers project consistency with the AQMP in accordance with the following:

- Does the project support the primary goals of the AQMP?
- Does the project include applicable control measures from the AQMP?
- Does the project disrupt or hinder implementation of any AQMP control measures?
- A comparison that the project VMT or vehicle trip increase is less than or equal to the projected population increase.

Bay Area Air Quality Management District 2017 Clean Air Plan Goals

The primary goals of the 2017 Clean Air Plan are to attain the State and federal AAQS, reduce population exposure and protect public health in the Bay Area, and reduce GHG emissions and protect the climate. Furthermore, the 2017 Clean Air Plan also lays the groundwork for reducing GHG emissions in the Bay Area to meet the state’s 2030 GHG reduction target and 2050 GHG reduction goal.

Attain Air Quality Standards

BAAQMDs 2017 Clean Air Plan strategy is based on regional population and employment projections in the Bay Area compiled by ABAG, which are based in part on cities’ general plan land use designations. These demographic projections are incorporated into *Plan Bay Area*. Demographic trends incorporated into *Plan Bay Area* determine VMT in the Bay Area, which BAAQMD uses to forecast future air quality trends. The SFBAAB is currently designated a nonattainment area for O₃, PM_{2.5}, and PM₁₀ (State AAQS only).

Future growth associated with the proposed Specific Plan would occur incrementally throughout the proposed Specific Plan’s 2040 buildout horizon. The anticipated growth from the proposed Specific Plan is within the population and employment projections identified by ABAG for the City, as discussed further in Chapter 4.11, Population and Housing, of this Draft EIR. Because population and employment projections of the proposed Specific Plan are consistent with regional projections, BAAQMD emissions forecasts consider the additional growth and associated emissions from the proposed Specific Plan. Thus, emissions resulting from potential future development associated with the proposed Specific Plan are included in BAAQMD projections, and future development accommodated under the proposed Specific Plan would

AIR QUALITY

not hinder BAAQMDs ability to attain the California or National AAQS. Accordingly, impacts would be *less than significant*.

Reduce Population Exposure and Protect Public Health

The City's 2040 General Plan has an integrated community risk reduction strategy to minimize community health risks from TACs and PM_{2.5} for both existing and new developments. Various CRRS-related goals and policies are contained throughout the document. Additionally, the 2040 General Plan also contains specific CRRS-related measures and best management practices (BMP) to reduce emissions at the source and to reduce exposure levels at the receptor locations.²⁶

Buildout of the proposed Specific Plan would not result in development of light industrial and warehousing land uses as these types of uses would not be permitted. Commercial developments accommodated under the proposed Specific Plan could result in smaller stationary sources (e.g., dry cleaners, restaurants with charbroilers, emergency generators and boilers. However, adherence to BAAQMD permitting regulations would ensure that new stationary sources of TACs do not expose populations to significant health risk. In addition, the CRRS goals, policies, measures, and BMPs related to reducing emissions at the source would also contribute in minimizing health risk impacts. Thus, implementation of the proposed Specific Plan would not result in introducing new sources of TACs that on a cumulative basis, could expose sensitive populations to significant health risk. Therefore, impacts would be *less than significant*.

Reduce GHG Emissions and Protect the Climate

Consistency of the proposed Specific Plan with State, regional, and local plans adopted for the purpose of reducing GHG emissions are discussed under Impact GHG-2 in Chapter 4.6, *Greenhouse Gas Emissions*, of this Draft EIR. Future development allowed by the proposed Specific Plan would be required to adhere to statewide measures that have been adopted to achieve the GHG reduction targets of AB 32 and Senate Bill 32. The proposed Specific Plan is consistent with regional strategies for infill development identified in *Plan Bay Area*. Furthermore, the proposed Specific Plan would also be consistent with the City's CAP. While Impact GHG-1 identifies that the proposed Specific Plan would generate a substantial increase in emissions, GHG-2 identifies that the Specific Plan is consistent with state, regional and local plans to reduce GHG emissions. Therefore, the proposed Specific Plan is consistent with the goal of the 2017 Clean Air Plan to reduce GHG emissions and protect the climate, and the impact would be *less than significant*.

2017 Clean Air Plan Control Measures

Table 4.2-7 identifies the control measures included in the 2017 Clean Air Plan that are required by BAAQMD to reduce emissions for a wide range of both stationary and mobile sources. As shown in Table 4.2-7, the proposed Specific Plan would not conflict with the 2017 Clean Air Plan and would not hinder

²⁶ Comprehensive lists of the CRRS-related goals and policies and measures and best management practices are provided in Table 7.8, Table 7.9, and Table 7.10 of the Hayward 2040 General Plan Draft EIR. These lists have been included in Appendix C of this Draft EIR.

BAAQMD from implementing the control measures in the 2017 Clean Air Plan. Accordingly, impacts would be *less than significant*.

TABLE 4.2-7 CONTROL MEASURES FROM THE BAAQMD 2017 CLEAN AIR PLAN

Type	Measure Number / Title	Consistency
Stationary Source Control Measures	<ul style="list-style-type: none"> ▪ SS 1 – Fluid Catalytic Cracking in Refineries ▪ SS 2 – Equipment Leaks ▪ SS 3 – Cooling Towers ▪ SS 4 – Refinery Flares ▪ SS 5 – Sulfur Recovery Units ▪ SS 6 – Refinery Fuel Gas ▪ SS 7 – Sulfuric Acid Plants ▪ SS 8 – Sulfur Dioxide from Coke Calcining ▪ SS 9 – Enhanced NSR Enforcement for Changes in Crude Slate ▪ SS 10 – Petroleum Refining Emissions Tracking ▪ SS 11 – Petroleum Refining Facility-Wide Emission Limits ▪ SS 12 – Petroleum Refining Climate Impacts Limit ▪ SS 13 – Oil and Gas Production, Processing and Storage ▪ SS 14 – Methane from Capped Wells ▪ SS 15 – Natural Gas Processing and Distribution ▪ SS 16 – Basin-Wide Methane Strategy ▪ SS 17 – GHG BACT Threshold ▪ SS 18 – Basin-Wide Combustion Strategy ▪ SS 19 – Portland Cement ▪ SS 20 – Air Toxics Risk Cap and Reduction from Existing Facilities ▪ SS 21 – New Source Review for Toxics ▪ SS 22 – Stationary Gas Turbines ▪ SS 23 – Biogas Flares ▪ SS 24 – Sulfur Content Limits of Liquid Fuels ▪ SS 25 – Coatings, Solvents, Lubricants, Sealants and Adhesives ▪ SS 26 – Surface Prep and Cleaning Solvent ▪ SS 27 – Digital Printing ▪ SS 28 – LPG, Propane, Butane ▪ SS 29 – Asphaltic Concrete ▪ SS 30 – Residential Fan Type Furnaces ▪ SS 31 – General Particulate Matter Emission Limitation ▪ SS 32 – Emergency Backup Generators ▪ SS 33 – Commercial Cooking Equipment ▪ SS 34 – Wood Smoke ▪ SS 35 – PM from Bulk Material Storage, Handling and Transport, Including Coke and Coal 	<p>Stationary and area sources are regulated directly by BAAQMD; therefore, as the implementing agency, new stationary and area sources within the Specific Plan Area would be required to comply with BAAQMDs regulations. BAAQMD routinely adopts/revises rules or regulations to implement the stationary source (SS) control measures to reduce stationary source emissions. Based on the type of the proposed land uses (primarily residential and commercial) under the proposed Specific Plan, implementation of the proposed Specific Plan would not hinder the ability of BAAQMD to implement these SS control measures. Implementation of the proposed Specific Plan would not result in any new major stationary source emissions or toxic air contaminants, which are more commonly associated with industrial manufacturing or warehousing. However, the City has existing regulations in place to ensure potential future development under the proposed Specific Plan would not conflict with the applicable SS control measures. For example, General Plan Policy NR-2.2 requires the City to review all new development projects to ensure that all feasible measures to reduce VOC, NO_x, PM₁₀ and PM_{2.5} are incorporated. Non-residential land uses may generate small quantities of stationary source emissions during project operation (e.g., emergency generators, dry cleaners, and gasoline dispensing facilities); however, these small-quantity generators would require review by BAAQMD for permitted sources of air toxics, which would ensure consistency with the 2017 Clean Air Plan.</p>

AIR QUALITY

TABLE 4.2-7 CONTROL MEASURES FROM THE BAAQMD 2017 CLEAN AIR PLAN

Type	Measure Number / Title	Consistency
	<ul style="list-style-type: none"> ▪ SS 36 – PM from Trackout ▪ SS 37 – PM from Asphalt Operations ▪ SS 38 – Fugitive Dust ▪ SS 39 – Enhanced Air Quality Monitoring ▪ SS 40 – Odors 	
Transportation Control Measures	<ul style="list-style-type: none"> ▪ TR 1 – Clean Air Teleworking Initiative ▪ TR 2 – Trip Reduction Programs ▪ TR 3 – Local and Regional Bus Service ▪ TR 4 – Local and Regional Rail Service ▪ TR 5 – Transit Efficiency and Use ▪ TR 6 – Freeway and Arterial Operations ▪ TR 7 – Safe Routes to Schools and Safe Routes to Transit ▪ TR 8 – Ridesharing, Last-Mile Connection ▪ TR 9 – Bicycle and Pedestrian Access and Facilities ▪ TR 10 – Land Use Strategies ▪ TR 11 – Value Pricing ▪ TR 12 – Smart Driving ▪ TR 13 – Parking Policies ▪ TR 14 – Cars and Light Trucks ▪ TR 15 – Public Outreach and Education ▪ TR 16 – Indirect Source Review ▪ TR 17 – Planes ▪ TR 18 – Goods Movement ▪ TR 19 – Medium and Heavy Duty Trucks ▪ TR 20 – Ocean Going Vessels ▪ TR 21 – Commercial Harbor Craft ▪ TR 22 – Construction, Freight and Farming Equipment ▪ TR 23 – Lawn and Garden Equipment 	Transportation (TR) control measures are strategies to reduce vehicle trips, vehicle use, VMT, vehicle idling, and traffic congestion for the purpose of reducing motor vehicle emissions. Although most of the TR control measures are implemented at the regional level—that is, by MTC or Caltrans—the 2017 Clean Air Plan relies on local communities to assist with implementation of some measures. The proposed Specific Plan would apply roadway diets for certain segments of A Street, B Street, 2nd Street, Main Street, and Foothill Boulevard which would accommodate additional bicycle paths and pedestrian right-of-ways. Furthermore, the proposed Specific Plan includes travel demand management strategies under Goal 5. The policies and programs under this goal would support the reduction in single-occupancy vehicle use and increase in alternative forms of transit.
Energy and Climate Control Measures	<ul style="list-style-type: none"> ▪ EN 1 – Decarbonize Electricity Production ▪ EN 2 – Renewable Energy Decrease Electricity Demand 	The energy and climate (EN) control measures are intended to reduce energy use as a means to reducing adverse air quality emissions. The proposed Specific Plan includes various policies and measures to promote an increase in renewable energy sources. Policy 5 of Goal 7 calls for establishing a pathway to derive 50 percent of the electricity in Downtown from renewable sources. Program 17 of Goal 7 calls for incentivizing sustainable development to encourage the installation of renewable energy projects. Furthermore, new developments accommodated under the proposed Specific Plan would be built to comply with the latest Building Energy Efficiency Standards and CALGreen standards. Therefore, implementation of the proposed Specific Plan would not conflict with these EN control measures.
Buildings Control Measures	<ul style="list-style-type: none"> ▪ BL 1 – Green Buildings ▪ BL 2 – Decarbonize Buildings ▪ BL 3 – Market-Based Solutions ▪ BL 4 – Urban Heat Island Mitigation 	The buildings (BL) control measures focus on working with local governments to facilitate adoption of best GHG emissions control practices and policies. The proposed Specific Plan includes Program 18 of Goal 7. This program calls for continuing to improve the energy

TABLE 4.2-7 CONTROL MEASURES FROM THE BAAQMD 2017 CLEAN AIR PLAN

Type	Measure Number / Title	Consistency
		<p>efficiency of building stock and infrastructure of Downtown through the implementation of the Municipal Green Building Ordinance, efficiency retrofit improvements, equipment upgrades, and installation of clean, renewable energy systems. In addition, as stated, new developments accommodate under the proposed Specific Plan would be built to comply with the latest Building Energy Efficiency Standards and CALGreen standards. Thus, the proposed Specific Plan would not conflict with these BL control measures.</p>
Agriculture Control Measures	<ul style="list-style-type: none"> ▪ AG 1 – Agricultural Guidance and Leadership ▪ AG 2 – Dairy Digesters ▪ AG 3 – Enteric Fermentation ▪ AG 4 – Livestock Waste 	<p>Agricultural practices in the Bay Area accounts for a small portion, roughly 1.5 percent, of the Bay Area GHG emissions inventory. The GHGs from agriculture include methane and nitrous oxide, in addition to carbon dioxide. While the Agriculture (AG) control measures target larger scale farming practices that are not proposed under the project, the type of urban farming (i.e., community gardens) associated with the proposed Specific Plan would support reduced GHG emission by increasing the amount of food grown and consumed locally. Therefore, implementation of the proposed Specific Plan would not conflict with these AG control measures.</p>
Natural and Working Lands Control Measures	<ul style="list-style-type: none"> ▪ NW 1 -- Carbon Sequestration in Rangelands ▪ NW 2 – Urban Tree Planting ▪ NW 3 – Carbon Sequestration in Wetlands 	<p>The control measures for the natural and working lands sector focus on increasing carbon sequestration on rangelands and wetlands. The proposed Specific Plan promotes the planting of street and shade trees in public spaces and along rights-of-ways. The Infrastructure and Public Facilities of the proposed Specific Plan includes Program IPF 13, which encourages Encourage new development to implement sustainable site design measures such as reducing impervious surfaces, directing impervious areas to pervious surfaces, planting interceptor trees, and designing for rainwater harvesting and reuse.</p>
Waste Management Control Measures	<ul style="list-style-type: none"> ▪ WA 1 – Landfills ▪ WA 2 – Composting and Anaerobic Digesters ▪ WA 3 – Green Waste Diversion ▪ WA 4 – Recycling and Waste Reduction 	<p>The waste management (WA) control measures include strategies to increase waste diversion rates through efforts to reduce, reuse and recycle. As discussed in Chapter 4.14, Utilities and Service Systems, in Section 4.14.3, Solid Waste, the City has existing regulations that covers construction and demolition debris waste diversion and recycling in addition to requiring retail food vendors to recyclable and compostable food service ware. In addition, the proposed Specific Plan includes several policies related to waste diversion and recycling. For example, under Policy PFS-7.12, the City would require major new development projects to salvage or recycle asphalt and concrete. Furthermore, under Policy PFS-7.20, the City would mandate recycling for commercial and multifamily uses. Implementation of the ongoing City regulations and proposed policies to reduce waste would ensure implementation of the proposed Specific Plan would not conflict with these WA</p>

AIR QUALITY

TABLE 4.2-7 CONTROL MEASURES FROM THE BAAQMD 2017 CLEAN AIR PLAN

Type	Measure Number / Title	Consistency
Water Control Measures	<ul style="list-style-type: none"> ▪ WR 1 – Limit GHGs from publicly owned treatment works (POTWs) ▪ WR 2 – Support Water Conservation 	<p>control measures.</p> <p>The 2017 Clean Air Plan includes measures to reduce water use. As discussed in Chapter 4.14, Utilities and Services Systems, ongoing compliance with the City's current water conservation and management plans and regulations in addition to General Plan goals and policies would ensure the proposed Specific Plan would not conflict with the WR control measures. Chapter 10, Article 23 of the City's Municipal Code mandates installation of water-conserving fixtures for new construction and remodeling projects.</p> <p>In addition, the proposed Specific Plan includes several policies related to water conservation. For example, Policy NR-6.12 encourages installation and use of dual plumbing systems in new buildings to recycle greywater while Policies NR-6.14, NR-6.15, NR-6.16, and PFS-3.17 conserve water through water efficient landscaping techniques such as the use of appropriate plants and water efficient irrigation systems.</p>
Super-GHG Control Measures	<ul style="list-style-type: none"> ▪ SL 1 – Short-Lived Climate Pollutants ▪ SL 2 – Guidance for Local Planners ▪ SL 3 – GHG Monitoring and Emissions Measurements Network 	<p>Super-GHGs include methane, black carbon and fluorinated gases. The compounds are sometimes referred to as short-lived climate pollutants because their lifetime in the atmosphere is generally fairly short. Measures to reduce super GHGs are addressed on a sector-by-sector basis in the 2017 Clean Air Plan. Through ongoing implementation of the City's CAP, the City will continue to reduce local GHG emissions, meet State, regional, and local reduction targets, which would ensure implementation of the proposed Specific Plan would not conflict with these SL control measures. Furthermore, the proposed Specific Plan includes programs related to increasing the installation or development of renewable energy projects and systems such as Program 17 under Goal 7.</p>
Further Study Control Measures	<ul style="list-style-type: none"> ▪ FSM SS 1 – Internal Combustion Engines ▪ FSM SS 2 – Boilers, Steam Generator and Process Heaters ▪ FSM SS 3 – GHG Reductions from Non Cap-and Trade Sources ▪ FSM SS 4 – Methane Exemptions from Wastewater Regulation ▪ FSM SS 5 – Controlling start-up, shutdown, maintenance, and malfunction (SSMM) Emissions ▪ FSM SS 6 – Carbon Pollution Fee ▪ FSM SS 7 – Vanishing Oils and Rust Inhibitors ▪ FSM SS 8 – Dryers, Ovens and Kilns ▪ FSM SS 9 – Omnibus Rulemaking to Achieve Continuous Improvement ▪ FSM BL 1 – Space Heating ▪ FSM AG 1 – Wineries 	<p>The majority of the further study control measures apply to sources regulated directly by BAAQMD. Because BAAQMD is the implementing agency, new and existing sources of stationary and area sources in the project area would be required to comply with these additional further study control measures in the 2017 Clean Air Plan.</p>

TABLE 4.2-7 CONTROL MEASURES FROM THE BAAQMD 2017 CLEAN AIR PLAN

Type	Measure Number / Title	Consistency
------	------------------------	-------------

Source: Bay Area Air Quality Management District, 2017 Revised, *California Environmental Quality Act Air Quality Guidelines*.

Regional Growth Projections for VMT and Population

Future potential development allowed by the proposed Specific Plan would result in additional sources of criteria air pollutants. Growth accommodated by the proposed Specific Plan could occur throughout the 2040 buildout horizon. BAAQMDs approach to evaluating impacts from criteria air pollutants generated by a plan’s long-term growth is done by comparing population estimates to the VMT estimates. This is because BAAQMDs AQMP plans for growth in the SFBAAB are based on regional population projections identified by ABAG and growth in VMT identified by Alameda CTC. Changes in regional, community-wide emissions in the Specific Plan Area could affect the ability of BAAQMD to achieve the air quality goals in the AQMP. Therefore, air quality impacts for a plan-level analysis are based on consistency with the regional growth projections. As stated, BAAQMD’s AQMP requires that the VMT increase by less than or equal to the projected population increase from the proposed Plan (e.g., generate the same or less VMT per population). However, because the proposed Specific Plan accommodates both residential and non-residential growth, a better indicator of how efficiently the city is growing can be made by comparing the increase in VMT to the increase in service population (e.g., generate the same or less VMT per service population). This approach is similar to the efficiency metrics for GHG emissions, which consider the total service population when calculating project efficiency. In addition, because the 2017 Clean Air Plan utilized growth projections based, in part, on cities’ general plan land use designations, the growth rate in VMT compared to service population is evaluated between buildout under the proposed Specific Plan and buildout under the currently allowed under the General Plan.

VMT estimates based on data provided by Kittelson Associates, Inc., were calculated for the proposed Specific Plan. Table 4.2-8 compares the projected increase in population with the projected increases in total VMT. As shown in this table, implementation of the proposed Specific Plan would increase daily VMT by 323,036 vehicle miles per day, or about 127 percent, when compared to existing conditions. As shown in Table 4.2-8, implementation of the Specific Plan would result in lower VMT per capita than under existing conditions (10 percent lower), but higher VMT per service population than under existing conditions (5 percent higher). However, compared to the demographic and VMT growth projections of the 2040 Without Project conditions (i.e., growth that would occur as currently allowed and projected under the General Plan), the 2040 With Project conditions would decrease the VMT/SP by approximately 14 percent. This indicates that buildout conditions under the proposed Specific Plan would be more efficient in reducing VMT on a per service population basis. Thus, the proposed Specific Plan would be more consistent with the goals of the 2017 Clean Air Plan. Therefore, impacts would be *less than significant*.

AIR QUALITY

TABLE 4.2-8 COMPARISON OF THE CHANGE IN POPULATION AND VMT IN THE SPECIFIC PLAN AREA

Category	Baseline	2040 With Project	Net Change from Baseline	Percent Increase from Baseline	2040 Without Project	Net Change Between With and Without Project	Percent Change Between With and Without Project
Population ^a	4,968	12,496	7,528	152%	12,059	437	4%
Employment	6,308 ^b	11,894 ^{b,c}	5,585	86%	7,129	4,765	67%
Service Population (SP)	11,276	24,390	13,114	116%	19,188	5,202	27%
VMT per Day ^c	250,361	567,945	323,036	127%	519,192	48,753	9%
VMT/person	50.4	45.5	-4.9	-10%	43.1	2	6%
VMT/SP	22.2	23.3	1.1	5%	27.1	-4	-14%

a. Applies 3.5 persons per household (pph) for single-family units and 2.2 pph per multifamily units pursuant to Association of Bay Area Government's population generation rates applied in the traffic impact analysis for the proposed Specific Plan (see Appendix E of this Draft EIR).

b. For existing conditions, applies 350 square feet per job for other and retail land use categories; 150 square feet per job for financial and professional services land uses; and, 500 square feet per job for health, education, and recreation land uses.

c. Applies 300 square feet per job for all new non-residential land use in the Specific Plan Area under the proposed Specific Plan.

d. Based on VMT data provided by Kittelson & Associates, Inc.

Source: PlaceWorks 2018.

Summary

In summary, implementation of the proposed Specific Plan would not conflict with the 2017 Clean Air Plan and impacts would be *less than significant*.

Significance without Mitigation: Less than Significant.

AQ-2 Implementation of the proposed project would generate short- and long-term criteria air pollutant emissions that could violate air quality standards or contribute substantially to an existing or projected air quality violation.

BAAQMD has identified thresholds of significance for criteria pollutant emissions and criteria air pollutant precursors, including ROG, NO, PM₁₀, and PM_{2.5}. Development projects below the significance thresholds are not expected to generate sufficient criteria pollutant emissions to violate any air quality standard or contribute substantially to an existing or projected air quality violation. According to the BAAQMD CEQA Guidelines, long-range plans, such as the proposed Specific Plan, present unique challenges for assessing

impacts.²⁷ Due to the SFBAABs nonattainment status for ozone and PM and the cumulative impacts of growth on air quality, these plans almost always have significant, unavoidable adverse air quality impacts.

Construction Emissions

Construction emissions from buildout of future projects in the Specific Plan Area would primarily be 1) exhaust emissions from off-road diesel-powered construction equipment; 2) dust generated by demolition, grading, earthmoving, and other construction activities; 3) exhaust emissions from on-road vehicles; and 4) off-gas emissions of ROG from application of asphalt, paints, and coatings. Air pollutant emissions from construction activities on site would vary daily as construction activity levels change.

Buildout of the Specific Plan Area would occur over a period of approximately 22 years or longer. However, there is no proposed development under the proposed Specific Plan at this time. Because the details regarding future construction activities are not known at this time—including phasing of future individual projects, construction duration and phasing, and preliminary construction equipment—construction emissions are estimated based on the programmatic information available based on CalEEMod defaults and a 22-year development timeline as shown in Table 4.2-9. Future development proposals under the proposed Specific Plan would be subject to separate environmental review pursuant to CEQA in order to identify and mitigate potential air quality impacts. Subsequent environmental review of development projects would be required to assess potential impacts under BAAQMDs project-level thresholds based on site-specific construction phasing and buildout characteristics.

TABLE 4.2-9 ESTIMATE OF CONSTRUCTION EMISSIONS ASSOCIATED WITH THE PROPOSED SPECIFIC PLAN

Category	Criteria Air Pollutants (Average Pounds/Day)			
	ROG	NO _x	Exhaust PM ₁₀	Exhaust PM _{2.5}
Average Daily Construction Emissions – All Phases	27	86	1	1
BAAQMD Average Daily Project-Level Threshold	54	54	82	54
Exceeds Average Daily Threshold	No	Yes	No	No

Note: Emissions may not total to 100 percent due to rounding.

Source: CalEEMod 2016.3.2. Construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by South Coast Air Quality Management District of construction equipment and phasing for comparable projects.

Existing federal, State, and local regulations, and policies and strategies of the proposed Specific Plan described throughout this section protect local and regional air quality. Continued compliance with these regulations would reduce construction-related impacts. In addition, General Plan Policy NR-2.2 would require the City to review all new development projects and require incorporation of measures to reduce construction-related VOC, NO_x, PM₁₀, and PM_{2.5} emissions. Furthermore, under General Plan Policy NR-

²⁷ Bay Area Air Quality Management District, 2017, May, California Environmental Quality Act Air Quality Guidelines. http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf, accessed on October 25, 2018.

AIR QUALITY

2.12, preference would be given to construction contractors that use reduced-emissions equipment for City-related projects. Program 9 under Goal 7 of the proposed Specific Plan would also require developers and builders to take actions to reduce construction-related emissions. Lastly, the CRRS includes measures and BMPs related to reducing construction exhaust emissions from off-road equipment and construction-related fugitive dust. Examples of these measures and BMPs include watering disturbed areas every three hours, applying dust suppressants for disturbed areas, installing wind breaks, and ensuring that off-road equipment are maintained and tuned.²⁸ These measures and BMPs would be applied as conditions of approval for future individual projects. While these existing regulations, policies, measures, and BMPs would contribute in reducing emissions, development of future development projects accommodated under the proposed Specific Plan could still exceed the BAAQMD significance thresholds for construction. Therefore, implementation of the proposed Specific Plan could result in *significant* construction-related regional air impacts.

Impact AQ-2.1: Construction activities associated with implementation of the proposed Specific Plan could potentially violate an air quality standard or contribute substantially to an existing or projected air quality violation.

Mitigation Measure AQ-2.1a: As part of the City's development approval process, the City shall require applicants for future development projects to comply with the current Bay Area Air Quality Management District's basic control measures for fugitive dust control, including:

- Water all active construction areas at least twice daily, or as often as needed to control dust emissions. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever possible.
- Pave, apply water twice daily or as often as necessary to control dust, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).
- Sweep daily (with water sweepers using reclaimed water if possible) or as often as needed all paved access roads, parking areas and staging areas at the construction site to control dust.
- Sweep public streets daily (with water sweepers using reclaimed water if possible) in the vicinity of the project site, or as often as needed, to keep streets free of visible soil material.
- Hydroseed or apply non-toxic soil stabilizers to inactive construction areas.
- Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.).
- Limit vehicle traffic speeds on unpaved roads to 15 miles per hour.
- Replant vegetation in disturbed areas as quickly as possible.

Mitigation Measure AQ-2.1b: Applicants for new development projects within the Specific Plan Area shall require the construction contractor to use equipment that meets the United States

²⁸ See Table 7.9 of the Hayward 2040 General Plan Draft EIR for further details. This table is included in Appendix C of this Draft EIR.

Environmental Protection Agency (USEPA) Tier 4 emissions standards for off-road diesel-powered construction equipment with more than 50 horsepower, unless it can be demonstrated to the City of Hayward that such equipment is not available. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 4 diesel emissions control strategy for a similarly sized engine, as defined by the California Air Resources Board's regulations.

- Prior to construction, the project engineer shall ensure that all demolition and grading plans clearly show the requirement for USEPA Tier 4 or higher emissions standards for construction equipment over 50 horsepower.
- During construction, the construction contractor shall maintain a list of all operating equipment in use on the construction site for verification by the City of Hayward.
- The construction equipment list shall state the makes, models, and numbers of construction equipment onsite.
- Equipment shall be properly serviced and maintained in accordance with the manufacturer's recommendations.
- Construction contractors shall also ensure that all nonessential idling of construction equipment is restricted to five minutes or less in compliance with Section 2449 of the California Code of Regulations, Title 13, Article 4.8, Chapter 9.

Significance with Mitigation: Significant and unavoidable. While Mitigation Measure AQ-2.1a would require adherence to the current BAAQMD basic control measures for reducing fugitive dust and reduce fugitive emissions to less-than-significant levels and Mitigation Measure AQ-2.1b would contribute in reducing NO_x emissions, future development in the Specific Plan Area could still generate construction exhaust emissions in excess of the BAAQMD significance thresholds. An analysis of emissions generated from the construction of specific future projects under the proposed Specific Plan would be required to evaluate emissions compared to BAAQMDs project-level significance thresholds during individual environmental review. The identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent projects that comply with BAAQMD screening criteria or meet applicable thresholds of significance. However, due to the programmatic nature of the proposed Specific Plan, no additional mitigation measures are available and the impact is considered *significant and unavoidable*.

Operational Emissions

BAAQMD has identified thresholds of significance for criteria pollutant emissions and criteria air pollutant precursors, including VOC, NO, PM₁₀ and PM_{2.5}. Development projects below the significance thresholds are not expected to generate sufficient criteria pollutant emissions to violate any air quality standard or contribute substantially to an existing or projected air quality violation. According to BAAQMD's CEQA Guidelines, long-range plans, such as the proposed Specific Plan, present unique challenges for assessing impacts. Due to the SFBAAB's nonattainment status for ozone and PM and the cumulative impacts of growth on air quality, these plans almost always have significant, unavoidable adverse air quality impacts.

Implementation and adoption of the proposed Specific Plan would result in an increase in development intensity in the Specific Plan Area. Buildout of the proposed Specific Plan would result in direct and indirect criteria air pollutant emissions from transportation, energy (e.g., natural gas use), and area

AIR QUALITY

sources (e.g., aerosols and landscaping equipment). Although BAAQMD’s CEQA Air Quality Guidelines only require an emissions inventory of criteria air pollutants for project-level analyses, enough information regarding the buildout of the proposed Specific Plan is available; thus, an inventory of criteria air pollutants was generated to identify the magnitude of emissions from buildout of the proposed Specific Plan. Table 4.2-10 identifies the emissions associated with buildout of the proposed Specific Plan. Subsequent environmental review of development projects would be required to assess potential impacts under BAAQMD’s project-level thresholds.

TABLE 4.2-10 CRITERIA AIR POLLUTANT EMISSIONS FORECAST FOR THE PROPOSED SPECIFIC PLAN

Category	Criteria Air Pollutants (Average Pounds/Day)			
	VOC	NO _x	PM ₁₀	PM _{2.5}
Existing				
Area	111	1	1	1
Energy	2	21	2	2
Mobile	24	281	186	50
Total Average Daily (pounds/day)	137	303	188	52
Proposed Plan				
Area	239	3	1	1
Energy	4	38	3	3
Mobile	52	607	422	114
Total Average Daily (pounds/day)	295	647	427	118
Change from Existing Land Uses	158	345	238	66
BAAQMD Average Daily Project-Level Threshold	54	54	82	54
Exceeds Average Daily Threshold	Yes	Yes	Yes	Yes
Scenario	Tons Per Year			
Existing	25	55	34	10
Proposed Specific Plan	54	118	79	22
Change from Existing Land Uses	29	63	44	12
BAAQMD Annual Project-Level Threshold	10	10	15	10
Exceeds Annual Threshold	Yes	Yes	Yes	Yes

Note: Emissions may not total to 100 percent due to rounding.
Source: CalEEMod 2016.3.2. Based on 2040 emission rates.

Proposed Specific Plan

The primary goals of the proposed Specific Plan is to improve the multimodal circulation network within the Specific Plan Area to promote walking, biking, and transit use, provide a mixture of land uses through infill and redevelopment, and make improvements to public and open spaces. The Specific Plan objectives

emphasize development of mixed-use areas and improvements to active and public transit facilities that would contribute to reducing vehicle trips and VMT. Additionally, the proposed Specific Plan includes several goals, policies, and programs to guide both the construction phase and the operational phase of potential future development. The Specific Plan goals, policies, and programs relevant to short- and long-term criteria air pollutants are listed below:

- **Goal 4 Circulation (C):** The public right-of-way is recognized as the backbone of the public realm and Downtown streets are comfortable for people walking and bicycling, efficient and convenient for people taking transit, and accommodating to people driving automobiles at a posted speed limits.
- **Policy C 9 Vehicle-Miles Travelled:** Use vehicle-miles travelled per capita as the primary metric to evaluate transportation impacts of development projects within the Plan Area.
 - **Program C 1:** Support safer routes to schools and parks by providing increased signage, lighting, landscaping, and pedestrian connections around schools and parks.
 - **Program C 4:** Reduce motor vehicle travel lanes on the following roadways to reallocate space for other uses, including sidewalks, bikeways, and transit lanes. 1. A Street (between Grand Street and 3rd Street); 2. B Street (between Grand Street and Watkins Street); 3. Main Street (between Warren Street/McKeever Avenue and Foothill Boulevard); and 4. Foothill Boulevard (between Hazel Avenue and Watkins Street). (Circulation Program 16)
 - **Program C 5:** Install sharrows and other devices that indicate class III bicycle routes, where bicycle traffic is shared with pedestrian or vehicle traffic, on streets not appropriate for protected bikeways or where bikeways are already planned.
 - **Program C 8:** Work with BART, MTC, ACTC to prioritize active “first-last mile” transportation investments adjacent to BART to improve non-auto access to and from the station.
 - **Program C 9:** Work with adjacent jurisdictions, regional agencies, and Bike East Bay to help complete the East Bay Greenway bicycle trail to run under BART right-of-way from Lake Merritt to South Hayward BART stations.
 - **Program C 10:** Continue to work with ACTC and AC Transit to implement the following measures to improve bus access to BART as identified in the concept for Opportunity Site 5: 1. Integrating bus stops on existing streets adjacent to the station, where feasible, to avoid the delays and congestion of using a bus intermodal; 2. Relocating bus bays to the west side of the BART station to improve pedestrian access to Downtown; 3. Designating bus, shuttle, and passenger pickup/drop-off on both sides of the BART station and both sides of the nearby streets; and 4. Maintaining adequate designated curb space for nontransit passenger loading (e.g., for taxis, ride hailing services, and kiss-and-ride).
 - **Program C 14:** Continue to work with private developers to provide private shuttle service that implements recommendations from the City’s shuttle feasibility study.
 - **Program C 15:** Work with regional transportation agencies (MTC and Alameda County Transportation Commission) and AC Transit to explore the feasibility of providing additional transit service to the Plan Area.

AIR QUALITY

- **Program C 12:** Invest in traffic signal synchronization and traffic management strategies to improve traffic flow on roadways. (Circulation Program 14)
- **Goal 5 Traffic Demand Management (TDM) and Parking (TP):** Public transportation, walking, biking and shared rides are the preferred means of travel for most trips in Downtown thereby reducing cut-through traffic and the need for parking while also supporting economic development and sustainability initiatives.
 - **Policy TP 2 Manage and Market TDM:** Manage and market transportation demand Management (TDM) programs to provide employers, employees, and residents with transportation alternatives to single-occupancy vehicle use and to reduce parking demand.
 - **Policy TP 4 Shift to Non-Personal Vehicle Modes:** Accommodate future new person trips through modes other than personal vehicles (such as public transit, rideshare, and cycling) to help achieve a more balanced circulation network and reduce vehicle miles traveled.
 - **Policy TP 5 Carsharing and Bikesharing:** Facilitate the establishment of carsharing and bikesharing services within the Plan Area.
 - **Program TP 6:** Partner with carsharing operators to establish a carsharing service with shared vehicle “pods” strategically located within the Plan Area with the following requirements: 1. Require that large development projects offer carsharing operators a limited number of parking spaces free of charge; 2. Require new development projects to pay into a carshare startup fund. (TDM and Parking Program 4)
 - **Program TP 7:** Partner with bikesharing operators to establish a network of shared bike stations strategically located within the Plan Area and require new projects to pay into a bikeshare startup fund. (TDM and Parking Program 6)
 - **Program TP 9:** Establish a Downtown TDM program supportive of alternate commute options that includes an employer-provided, tax-free Commuter Benefits Program ,the Regional TDM Program, and TDM checklist. (TDM and Parking Program 2)
 - **Program TP 12:** Establish a Transportation Management Association or similar entity responsible for the management and promotion of transportation programs for employers and residents, funded through a combination of parking revenues and/or other dues, fees, assessments, grants, and public transportation funds. (TDM and Parking Program 1)
 - **Program TP 13:** Require City-owned parking lots and garages be operated as an enterprise operation that pays for itself solely through user fees with adjustable rates.
 - **Program TP 17:** Require all new and existing employers that provide subsidized employee parking to offer their employees the option to cash out their parking subsidy.
 - **Program TP 19:** Encourage new residential and commercial development projects with common parking areas to unbundle the full cost of parking from the cost of the property itself.
 1. *Residential:* For rental and for-sale housing, unbundle the full cost of parking from housing cost and create a separate parking charge.

2. *Commercial Leases*: Unbundle parking costs from commercial space cost by identifying parking costs as a separate line item in the lease and allow tenants to lease as few parking spaces as they wish.
- **Goal 7 Infrastructure and Public Facilities (IPF)**: Public services, community facilities, and utility systems are well maintained, implement Citywide climate change policies, and meet the needs of current and future Downtown residents, businesses, and visitors.
 - **Policy IPF 5 Renewable Energy**: Work with East Bay Community Energy to establish a pathway to derive 50 percent of the electricity in Downtown from renewable sources by 2025 and strive to derive 75 percent of the electricity used in Downtown from renewable sources by 2030.
 - **Policy IPF 6 Landfill Diversion**: Encourage innovative expansion of recycling and waste diversion.
 - **Program IPF 1**: Require new projects to provide water quality treatment for stormwater runoff by incorporating site design measures, source control measures, and low impact development (LID) measures that are hydraulically sized as specified in the C.3 Technical Guidance Manual from the Alameda County Clean Water Program.
 - **Program IPF 14**: Require developers and builders to take actions to reduce the combustion emissions and release of suspended and inhalable particulate matter during construction and demolition phases of development projects, and to use CEQA where applicable.
 - **Program IPF 9**: Partner with PG&E and other utility providers to evaluate future demand and to fund utility improvements in advance of construction.
 - **Program IPF 15**: Partner with PG&E and other utility providers to offer incentives, such as expedited permitting or reduced development fees when new building construction complies with LEED programming or the California Green Building Code.
 - **Program IPF 17**: Work with East Bay Community Energy to incentivize development to encourage the installation of renewable energy projects.
 - **Program IPF 18**: Continue to improve the energy efficiency of the building stock and infrastructure Downtown through the implementation of the Municipal Green Building Ordinance, efficiency retrofit improvements, equipment upgrades, and installation of clean, renewable energy systems.
 - **Program IPF 4**: Accelerate the decarbonization of the electricity grid by incorporating greenhouse gas reduction targets in the Hayward Climate Action Plan.
 - **Program IPF 8**: Develop systems and infrastructure to better allow Downtown residents and businesses to recycle specialty waste streams, particularly electronic waste and mattress.

The compact and mixed-use nature of the Specific Plan Area lends itself to this kind of “park once” policy, in which motorists can park just once and complete multiple daily tasks on foot before returning to their vehicles. Overall, these aforementioned components of the proposed Specific Plan would contribute in reducing vehicle trips and VMT.

AIR QUALITY

Conclusion

As shown in Table 4.2-10, buildout of the proposed Specific Plan would generate a substantial increase in criteria air pollutant emissions that exceeds the BAAQMD regional significance thresholds for VOC, NOX, PM₁₀, and PM_{2.5}. Compliance with applicable General Plan policies would contribute in minimizing long-term emissions. General Plan Policy NR-2.2 requires the City to review future developments in the Specific Plan Area as they come online to ensure that feasible measures that reduce operation-related VOC, NOX, PM₁₀, and PM_{2.5} emissions are incorporated as necessary. While these existing regulations and policies and Specific Plan Programs would contribute in reducing emissions, development of future development projects accommodated under the proposed Specific Plan could still exceed the BAAQMD significance thresholds for operation. Therefore, implementation of the proposed Specific Plan could result in *significant* long-term regional air quality impacts.

Impact AQ-2.2: Operation of development projects accommodated under the proposed Specific Plan could contribute to an existing or projected air quality violation.

Mitigation Measure AQ-2.2a: Prior to the issuance of building permits for new residential development project in the Specific Plan Area, future project applicants shall implement the Tier 1/Tier 2 standards identified in the California Green Building Standards Code where 17 or more multifamily dwelling units are constructed on a building site, 5 percent of the total number of parking spaces provided for all types of parking facilities, but in no case less than one, shall be electric vehicle charging spaces (EV spaces) capable of supporting future Electric Vehicle Supply Equipment. The proper installation of these features shall be verified by the City of Hayward Building Division prior to the issuance of a Certificate of Occupancy.

Mitigation Measure AQ-2.2b: Prior to the issuance of building permits for new non-residential development project in the Specific Plan Area, future project applicants shall implement the Tier 2 standards identified in Table A5.106.5.3.2 of the California Green Building Standards Code or the equivalent as standards may be updated overtime. The proper installation of these features shall be verified by the City of Hayward Building Division prior to the issuance of a Certificate of Occupancy.

Mitigation Measure AQ-2.2c: Prior to the issuance of building permits for new non-residential development project in the Specific Plan Area, future project applicants shall implement the Tier 1 standards identified in the California Green Building Standards Code to provide 10 percent of total designated parking spaces for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as identified in Table A5.106.5.1.1 (Tier 1). The proper installation of these features shall be verified by the City of Hayward Building Division prior to the issuance of a Certificate of Occupancy.

Mitigation Measure AQ-2.2d: Prior to the issuance of building permits for nonresidential development projects in the Specific Plan Area, future project applicants shall indicate on the building plans for buildings with more than ten tenant-occupants that changing/shower facilities shall be provided based on the guidelines specified in Table A5.106.4.3 (Nonresidential Voluntary Measures) of the California Green Building Standards Code have been incorporated into the design of the building(s). The proper installation of these features shall be verified by the City of Hayward Building Division prior to the issuance of a Certificate of Occupancy.

Significance with Mitigation: Significant and unavoidable. Future development under the proposed Specific Plan would result in a substantial long-term increase in criteria air pollutants over the 2040 buildout horizon or longer time frame. The proposed improvements, goals, policies, and programs related to land use, circulation, transit, and travel demand management would reduce criteria air pollutants, to the extent feasible, as part of this programmatic review of air quality impacts. Mitigation Measures AQ-2.2a through AQ-2.2d would contribute in further reducing mobile-source criteria air pollutant emissions to the extent feasible. However, there are no additional measures available to mitigate this impact due to the level of growth forecast in the proposed Specific Plan. Operational emissions from future development would be determined during project-level CEQA review. The total criteria air pollutant emissions from operation of future development projects under the proposed Specific Plan would be substantial and would contribute to increases in concentrations of air pollutants, which could contribute to ongoing violations of air quality standards. The identification of this Plan-level impact does not preclude the finding of less-than-significant impacts for subsequent projects that comply with BAAQMD screening criteria or meet applicable thresholds of significance. However, due to the programmatic nature of the proposed Specific Plan, no additional mitigating policies are available, and the impact is considered to be *significant and unavoidable*.

AQ-3 Implementation of the proposed project would 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors).

This section analyzes potential impacts related to air quality that could occur from the buildout associated with the proposed Specific Plan in combination with the regional growth in the air basin. The SFBAAB is currently designated a nonattainment area for California and National O₃, California and National PM_{2.5}, and California PM₁₀ AAQS. At a plan level, air quality impacts are measured by the potential for a project to exceed BAAQMDs significance criteria and contribute to the State and federal nonattainment designations in the SFBAAB. Any project that produces a significant regional air quality impact in an area that is in nonattainment adds to the cumulative impact. The proposed Specific Plan's contribution to cumulative air quality impacts is identified under impact discussions AQ-1 and AQ-2. The analyses in these sections identify whether the proposed Specific Plan would conflict with the 2017 Clean Air Plan (impact discussion AQ-1) or generate a substantial increase in criteria air pollutants (impact discussion AQ-2). As described in impact discussion AQ-1, the proposed Specific Plan would be consistent with the 2017 Clean Air Plan. However, as described under impact discussion AQ-2, the proposed Specific Plan could generate a substantial increase in criteria air pollutant emissions from construction and operational activities that could exceed the BAAQMD regional significance thresholds. Therefore, cumulative regional air quality impacts are also *significant*.

Impact AQ-3: Future potential development projects associated with the proposed Specific Plan could cumulatively contribute to the non-attainment designations of the SFBAAB.

Mitigation Measure AQ-3: Implement Mitigation Measures AQ-2.1, AQ-2.2a, and AQ-2.2b.

AIR QUALITY

Significance with Mitigation: *Significant and unavoidable.* Compliance with the policies in the General Plan and the proposed Specific Plan in addition to implementation of Mitigation Measure AQ-3 would reduce impacts to the maximum extent feasible. However, because the emissions are unknown at this time, regional and localized operational emissions could exceed the BAAQMD significance thresholds. Consequently, implementation of the proposed Specific Plan could cumulatively contribute to the nonattainment designations of the SFBAAB and impacts would be considered *significant and unavoidable*. As stated under impact discussion AQ-2, the identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent projects that comply with BAAQMD screening criteria or meet applicable thresholds of significance.

AQ-4	Construction activities associated with the development of new land uses accommodated under the proposed Specific Plan could expose sensitive receptors to substantial toxic air contaminant concentrations.
-------------	---

If implementation of the proposed Specific Plan would cause or contribute significantly to elevated pollutant concentration levels it could expose sensitive receptors to elevated pollutant concentrations. Unlike regional emissions, localized emissions are typically evaluated in terms of air concentration rather than mass so they can be more readily correlated to potential health effects.

Construction Community Risk and Hazards

Future construction under the proposed Specific Plan would temporarily elevate concentrations of TACs and diesel-PM_{2.5} in the vicinity of sensitive land uses during construction activities. Because the details regarding future construction activities are not known at this time—including phasing of future individual projects, construction duration and phasing, and preliminary construction equipment—construction emissions are evaluated qualitatively in accordance with BAAQMDs plan-level guidance. Subsequent environmental review of future development projects would be required to assess potential impacts under BAAQMDs project-level thresholds. Furthermore, future projects would be subject to the CRRS measures and BMPs related to reducing off-road construction equipment exhaust emissions. Specific actions include requiring off-road construction equipment to install diesel particulate filters, using of electric-powered equipment, and restricting idling of equipment to two minutes. However, construction emissions associated with the proposed Specific Plan could exceed BAAQMD’s project level and cumulative significance thresholds for community risk and hazards. Therefore, construction-related health risk impacts associated with the proposed Specific Plan is considered *significant*.

Impact AQ-4.1: Construction activities associated with potential future development projects accommodated under the proposed Specific Plan could expose nearby receptors to substantial concentrations of TACs.

Mitigation Measure AQ-4.1a: Applicants for construction within 1,000 feet of residential and other sensitive land use projects (e.g., hospitals, nursing homes, day care centers) in the City of Hayward, as measured from the property line of the project to the property line of the source/edge of the nearest travel lane, shall submit a health risk assessment (HRA) to the City of Hayward prior to future discretionary project approval. The HRA shall be prepared in accordance with policies and procedures

of the Office of Environmental Health Hazard Assessment (OEHHA) and the Bay Area Air Quality Management District. The latest OEHHA guidelines shall be used for the analysis, including age sensitivity factors, breathing rates, and body weights appropriate for children ages 0 to 16 years. If the HRA shows that the incremental cancer risk exceeds ten in one million (10E-06), PM_{2.5} concentrations exceed 0.3 µg/m³, or the appropriate noncancer hazard index exceeds 1.0, the applicant will be required to identify and demonstrate that mitigation measures are capable of reducing potential cancer and non-cancer risks to an acceptable level (i.e., below ten in one million or a hazard index of 1.0), including appropriate enforcement mechanisms. Measures to reduce risk may include, but are not limited to²⁹:

- During construction, use of construction equipment fitted with Level 3 Diesel Particulate Filters (DPF) for all equipment of 50 horsepower or more.
- Equipment shall be properly serviced and maintained in accordance with manufacturer recommendations.
- The construction contractor shall ensure that all non-essential idling of construction equipment is restricted to five minutes or less in compliance with Section 2449 of the California Code of Regulations, Title 13, Article 4.8, Chapter 9.

Measures identified in the HRA shall be included in the environmental document and/or incorporated into the site development plan as a component of the proposed Specific Plan. Prior to issuance of any construction permit, the construction contractor shall ensure that all construction plans submitted to the City of Hayward Planning Division and/or Building Division clearly show incorporation of all applicable mitigation measures.

Mitigation Measure AQ-4.1b: Implement Mitigation Measure AQ-2.1b.

Significance with Mitigation: Significant and unavoidable. Implementation of Mitigation Measures AQ-4.1a and AQ-4.1b would reduce construction-related health risk impacts to the extent feasible. However, despite implementation of mitigation, construction-related health risk impacts may still exceed the applicable thresholds due to future project specific circumstances. Therefore, this impact remains *significant and unavoidable*.

Operational Phase Community Risk and Hazards

Types of land uses that typically generate substantial quantities of criteria air pollutants and TACs include industrial (stationary sources), manufacturing, and warehousing (truck idling) land uses. These types of major air pollutant emissions sources are not permitted under the proposed Specific Plan. Thus, implementation of the proposed Specific Plan would not result in creation of land uses that would generate substantial concentrations of TACs.

²⁹ See Table 7.9 of the Hayward 2040 General Plan Draft EIR for further details. This table has been included in Appendix C of this Draft EIR.

AIR QUALITY

Development of the commercial land uses that are allowed under the Specific Plan may result in stationary sources of TACs emissions—e.g., dry cleaners, restaurants with charbroilers, or buildings with emergency generators and boilers. However, these sources are not considered to be large emitters. In addition, emissions of TACs generated by these types of smaller sources would be controlled by BAAQMD through permitting and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits. The permitting process ensures that stationary source emissions would be below the BAAQMD significance thresholds of 10 in a million cancer risk and 1 for acute risk at the maximally exposed individual. Therefore, overall, impacts related to TACs are considered *less than significant*.

Significance without Mitigation: Less than Significant.

CO Hotspots

Areas of vehicle congestion have the potential to create pockets of CO, called hotspots. These pockets have the potential to exceed the State 1-hour standard of 20 parts per million (ppm) or the 8-hour standard of 9.0 ppm. Because CO is produced in the greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to AAQS is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds.

Alameda CTC's CMP must be consistent with *Plan Bay Area*, and an overarching goal of the regional plan is to concentrate development in areas where there are existing services and infrastructure rather than allocate new growth in outlying areas where substantial transportation investments would be necessary to achieve the per capita passenger vehicle VMT and associated GHG emissions reductions. As discussed under subheading, "Operational Emissions", of Impact AQ-2, the proposed Specific Plan emphasizes development of mixed-use areas and improvements to the multimodal infrastructure. It also includes policies and programs related to travel demand management such as the following:

- **Goal 5 Travel Demand Management and Parking (TP):** Public transportation, walking, biking, and shared rides are the preferred means of travel for most trips in Downtown thereby reducing cut-through traffic and the need for parking while also supporting economic development and sustainability initiatives.
 - **Policy TP 2 Manage and Market TDM:** Manage and market transportation demand Management (TDM) programs to provide employers, employees, and residents with transportation alternatives to single-occupancy vehicle use and to reduce parking demand
 - **Policy TP 4 Shift to Non-Personal Vehicle Modes:** Accommodate future new person trips through modes other than personal vehicles (such as public transit, rideshare, and cycling) to help achieve a more balanced circulation network and reduce vehicle miles traveled.
 - **Policy TP 5 Carsharing and Bikesharing:** Facilitate the establishment of carsharing and bikesharing services within the Plan Area.
 - **Program TP 12:** Establish a Transportation Management Association or similar entity responsible for the management and promotion of transportation programs for employers

and residents, funded through a combination of parking revenues and/or other dues, fees, assessments, grants and public transportation funds.

- **Program TP 6:** Partner with carsharing operators to establish a carsharing service with shared vehicle “pods” strategically located within the Plan Area with the following requirements:
 1. Require that large development projects offer carsharing operators a limited number of parking spaces free of charge;
 2. Require new development projects to pay into a carshare startup fund.
- **Program TP 9:** Establish a Downtown TDM program supportive of alternate commute options that includes an employer-provided, tax-free Commuter Benefits Program, the Regional TDM Program, and TDM checklist.

Overall, these components of the proposed Specific Plan would be consistent with the overall goals of the *Plan Bay Area*. Additionally, the proposed Specific Plan would not hinder the capital improvements outlined in the CMP. Thus, the proposed Specific Plan would not conflict with Alameda CTC’s CMP. Furthermore, under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited—in order to generate a significant CO impact.³⁰ Based on the traffic analysis conducted as part of this environmental analysis, the proposed Specific Plan would generate a total of about 18,050 daily peak hour trips and not increase traffic volumes at affected intersections by more than BAAQMD screening criteria of 44,000 vehicles per hour or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited.³¹ Therefore, overall, the proposed Specific Plan would not have the potential to substantially increase CO hotspots at intersections in the Specific Plan Area and vicinity. Localized air quality impacts related to mobile-source emissions would therefore be *less than significant*.

Significance without Mitigation: Less than Significant.

AQ-5 Implementation of the proposed project would not create objectionable odors affecting a substantial number of people.

The proposed Specific Plan would accommodate future residential, retail, and commercial development. Construction and operation of residential developments, retail, and restaurants would not generate substantial odors or be subject to odors that would affect a substantial number of people. The type of facilities that are considered to have objectionable odors include wastewater treatments plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities.

³⁰ Bay Area Air Quality Management District, 2017 (Revised). *CEQA Air Quality Guidelines*.

³¹ Based on information provided by Kittelson Associates, Inc.

AIR QUALITY

During operation, residences and restaurants could generate odors from cooking. However, odors from cooking are not substantial enough to be considered nuisance odors that would affect a substantial number of people. Furthermore, nuisance odors are regulated under BAAQMD Regulation 7, Odorous Substances, which requires abatement of any nuisance generating an odor complaint. BAAQMD's Regulation 7, Odorous Substances, places general limitations on odorous substances and specific emission limitations on certain odorous compounds.³² In addition, odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance.

During construction activities of future developments in the Specific Plan Area, construction equipment exhaust and application of asphalt and architectural coatings would temporarily generate odors. Any construction-related odor emissions would be temporary and intermittent. Additionally, noxious odors would be confined to the immediate vicinity of the construction equipment. By the time such emissions reach any sensitive receptor sites, they would be diluted to well below any level of air quality concern. Impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

³² It should be noted that while restaurants can generate odors, these sources are not identified by BAAQMD as nuisance odors since they typically do not generate significant odors that affect a substantial number of people. Larger restaurants that employ five or more people are subject to BAAQMD Regulation 7, Odorous Substances.