4.2 Air Quality

4.2.1 Introduction

Section 4.2, Air Quality, evaluates the potential significance of air quality impacts related to construction and subsequent operation of the 201 Haskins Way Project (project). This section describes the existing conditions at the project site and the regulatory framework for this analysis. Air quality impacts are presented and mitigation measures are identified as required to mitigate air quality impacts, including cumulatively considerable contributions to significant cumulative impacts. Appendix F discusses the methodologies used to assess the significance level of impacts related to air quality in detail.

4.2.2 Environmental Setting

EXISTING CONDITIONS

The project site is made up of eight parcels, which encompass approximately 18.2 acres. The parcel at 201 Haskins Way had a trucking distribution use that recently relocated out of South San Francisco. Five of the parcels currently have warehouse and distribution uses, one parcel is used for parking, and one parcel has an existing office/research and development (office/R&D) use. Seven of these parcels are currently zoned as mixed industrial and one is zoned as business commercial. There is a one-story, 24,075- gross-square-foot (gsf) former trucking terminal building at the 201 Haskins Way parcel, two three-story office/R&D buildings on the 400-450 East Jamie Court parcel, and one- to two-story light industrial buildings on each of the parcels located at 101 Haskins Way, 151 Haskins Way, 410 East Grand Avenue, 430 East Grand Avenue, and 451 East Jamie Court. Additionally, there is a parking lot on a portion of the 451 East Jamie Court parcel and parcel Assessor's Parcel Number 015-102-240, which has no address.

REGIONAL AIR QUALITY

The current air pollutant emissions within the San Francisco Bay Area Air Basin (SFBAAB) are the result of stationary and mobile source emissions. Stationary sources include both point source and non-point source emissions. Point sources include combustion equipment such as large industrial boilers or engines or stationary process equipment associated with industrial operations. Point source emissions occur at a discrete location, or points. Non-point, or area source emissions, include sources emitting smaller quantities of emissions emanating from wide areas and may include residential or commercial water heaters, painting operations, lawn mowers, landfills, and consumer product use. Mobile source emissions occur from on- or off-road vehicles in the form of tailpipe emissions from fuel combustion or evaporative loss, emissions from vehicle wear-and-tear, and generation of fugitive dust from vehicle travel over paved and unpaved roadways. Pollutants emitted from these sources may impact health and welfare within an urban environment and are referred to as criteria pollutants. Both the California Air Resources Board (CARB) and the U.S. Environmental Protection Agency (U.S. EPA) have established ambient air quality standards called California Ambient Air Quality Standard (CAAQS) and National Ambient Air Quality Standards (NAAQS), respectively, for the following criteria pollutants:

- **Carbon Monoxide (CO)**. CO is a colorless, odorless gas primarily produced by incomplete combustion in stationary and mobile sources.
- **Nitrogen Dioxide (NO_2)**. NO_2 is a compound primarily produced by the combustion of fossil fuels in stationary and mobile sources. Some oxides of nitrogen (NO_x) convert into NO_2 after being emitted, and are thus regulated as precursor pollutants.
- **Ozone**. Ozone is rarely directly emitted to the atmosphere from sources. Rather, ozone is formed by chemical reactions between NO_x and reactive organic gases[1] (ROG) in the presence of sunlight. NO_x and ROG are regulated as precursor pollutants.
- **Respirable Particulate Matter with a diameter less than 10 microns (PM_{10}) and Fine Particulate Matter with a diameter less than 2.5 microns ($PM_{2.5}$)**. PM_{10} and $PM_{2.5}$ are emitted from a variety of sources including agricultural operations, industrial processes, combustion, construction and demolition activities, road dust, windblown dust, and wildfires.
- **Sulfur Dioxide (SO_2)**. SO_2 is a sulfur compound emitted by power plants, industrial facilities, combustion in mobile sources, and natural sources such as volcanoes.

Standards also exist for lead, sulfates, hydrogen sulfide, and vinyl chloride, but these pollutants are generally not relevant to regional air quality or the proposed project.

The Bay Area Air Quality Management District (BAAQMD) maintains an ambient air monitoring network of over 30 stations that collect local air quality data, including concentrations of air pollutants.[2] The meteorological and topographical conditions coupled with relatively high mobile and stationary source emissions of NO_x and ROG in the SFBAAB result in ambient concentrations that represent nonattainment with the NAAQS and CAAQS for ozone. The region is also considered to be in nonattainment with CAAQS for PM_{10} and $PM_{2.5}$. Area sources generate the majority of these airborne particulate emissions. The SFBAAB is considered in attainment or unclassified with respect to the CO, NO_2 and SO_2 NAAQS and CAAQS. **Table 4.2.1: Ambient Air Quality Standards** shows the Ambient Air Quality Standards for criteria pollutants potentially impacted by the project established by CARB and the U.S. EPA along with the San Francisco Bay Area's attainment status.

LOCATIONS OF SENSITIVE RECEPTORS

Sensitive receptors, as defined by the BAAQMD, include places where members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and the infirm, tend to spend a significant amount of time. Examples of sensitive receptors include hospitals, daycare centers, schools, and residences.[3] There is an existing childcare facility approximately 1,800 feet northwest of the proposed project area and there is a plan to construct an additional childcare facility around 1,200 feet

[1] Reactive Organic Gases (ROGs) include surface ozone, carbon monoxide (CO), volatile organic compounds (VOCs), oxidized nitrogen compounds (NO_x and NO_y), and sulfur dioxide (SO_2).

[2] BAAQMD, 2017. Air Quality Standards and Attainment Status. Available online at: http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status. Accessed May 29, 2018

[3] BAAQMD, 2017. *California Environmental Quality Act Air Quality Guidelines*, Updated May 2017, Glossary p. E.-4, (hereafter cited as "BAAQMD CEQA Air Quality Guidelines"). Available online at http://www.baaqmd.gov/~/media/files/planning-and- research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed May 29, 2018.

Table 4.2.1: Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
Ozone	**8-Hour**	**0.070 ppm**	Non-Attainment	0.070 ppm	Non-Attainment
	1-Hour	**0.09 ppm**	Non-Attainment	-	N/A
Carbon Monoxide	**8-Hour**	**9.0 ppm**	Attainment	9.0 ppm	Attainment
	1-Hour	**20.0 ppm**	Attainment	35.0 ppm	Attainment
Nitrogen Dioxide	**1-Hour**	0.18 ppm	Attainment	0.100 ppm	See Footnote #1
	Annual	**0.03 ppm**	Attainment	0.053 ppm	Attainment
Sulfur Dioxide	**24-Hour**	**0.04 ppm**	Attainment	0.14 ppm	Attainment/ Unclassified
	1-Hour	**0.25 ppm**	Attainment	0.075 ppm	Attainment/ Unclassified
	Annual	**-**	N/A	0.030 ppm	Attainment/ Unclassified
Particulates less than 10 microns	**24-Hour**	50 µg/m^3	Non-Attainment	-	N/A
	Annual	20 µg/m^3	Non-Attainment	150 µg/m^3	Unclassified
Particulates less than 2.5 microns	**24-Hour**	12 µg/m^3	Non-Attainment	12 µg/m^3	See Footnote #2
	Annual	**-**	N/A	**35** µg/m^3	Non-Attainment

Concentrations: ppm = parts per million µg/m^3 = micrograms per cubic meter

[1]To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100ppm (effective January 22, 2010). The US Environmental Protection Agency (U.S. EPA) expects to make a designation for the Bay Area by the end of 2017.

[2] In December 2012, the U.S. EPA strengthened the annual $PM_{2.5}$ National Ambient Air Quality Standards (NAAQS) from 15.0 to 12.0 micrograms per cubic meter (µg/m3). In December 2014, the U.S. EPA issued final area designations for the 2012 primary annual PM 2.5 NAAQS. 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 was April 15, 2015.

Source: Bay Area Air Quality Management District, Air Quality Standards and Attainment Status. Available online: http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status. Accessed 6/8/2018.

northwest of the project area. However, there are no sensitive receptors in the zone of influence[4] of the project area (defined as within 1,000 feet of the project border).

The proposed project would encompass the construction of an office/R&D park and the rezoning of the project site from Mixed Industrial (MI) and Business Commercial (BC) to Business Technology Park (BTP). No new sensitive receptors would be sited as part of the project.

[4] According to the BAAQMD, *CEQA Air Quality Guidelines*, it is recommended to assess impacts with respect to risks and hazards from project construction and operation within 1,000 feet of a new source fence line (p. 5-2). The Guidelines specify that diesel particulate matter from the operation of off-road construction equipment should be evaluated up to 1,000 feet from the site. The 1,000-foot zone of influence for traffic-related pollutants, which would comprise a majority of project operational emissions, is supported by the research findings in CARB's *Land Use Compatibility Handbook* (2005) and by Health & Safety Code §42301.6 (Notice for Possible Source Near School).

4.2.3 Regulatory Framework

This section provides a summary of the air quality plans and policies of the City of South San Francisco (City), and regional, state, and federal agencies that have policy and regulatory control over the project site.

FEDERAL

Federal Clean Air Act

The Clean Air Act (CAA) is a federal law enacted to control air pollution on a national level.[5] The CAA originated with the Clean Air Act of 1963. Amendments to the CAA in 1970 greatly expanded its scope and required comprehensive regulations for stationary and mobile sources. The U.S. EPA was also established in 1970 in part to help implement the CAA. Significant amendments to the CAA were also made in 1990 to primarily address acid rain, ozone depletion, toxic air pollution, and stationary source major permitting.

Certain types of emission sources remain the exclusive jurisdiction of the U.S. EPA under the CAA, including aircraft, ships, and certain locomotives. The U.S. EPA establishes emissions standards for new motor vehicles. Under federal law, California is allowed to enact stricter emission standards for new motor vehicles under waiver from U.S. EPA.[6] The U.S. EPA has also established regulations for various type of nonroad engines including small spark-ignition engines, heavy equipment with spark-ignition engines, and heavy equipment with compression-ignition (diesel) engines. In particular, the U.S. EPA established four different tiers of emission standards for nonroad diesel engines that apply to manufacturers phased in over time with increasing stringency. To enable emission control technologies sensitive to sulfur for Tier 4 engines, the U.S. EPA mandated reductions in the sulfur content of diesel fuels. The off-road engines that would be used to construct in this project are subject to the U.S. EPA regulatory scheme.

Stationary sources are regulated under the CAA through a system of cooperative federalism between the U.S. EPA and state agencies. Under the CAA, the U.S. EPA is responsible for setting and enforcing the NAAQS. Individual states develop a State Implementation Plan (SIP) for approval by the U.S. EPA that consists of regulations, permitting programs, and other measures used to ensure compliance with the NAAQS. As mentioned on p. 4.2.2, the Bay Area is classified as attainment of all federal NAAQS with the exception of the 8-hour ozone standard and $PM_{2.5}$ (refer to Table 4.2.1 on p. 4.2.3), for which it is considered a marginal nonattainment area.

The U.S. EPA is also granted the authority under the CAA to establish New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) that apply nationwide. Title 40 of the Code of Federal Regulations (40 CFR), Part 60, Subpart IIII, is a NSPS that

[5] U.S. EPA, Overview of the Clean Air Act and Air Pollution. Available online at: https://www.epa.gov/clean-air-act-overview. Accessed May 29, 2018.

[6] U.S. EPA, Vehicle Emissions California Waivers and Authorizations. Available online at: https://www.epa.gov/state-and-local-transportation/vehicle-emissions-california-waivers-and-authorizations. Accessed June 8, 2018.

applies to stationary compression ignition internal combustion engines, and 40 CFR, Part 63, Subpart ZZZZ, is a NESHAP that applies to stationary reciprocating internal combustion engines. Both regulations may apply to the emergency generators installed as part of the proposed project.

STATE

California Air Resources Board

Air pollution control efforts in California date back to the middle of the 20th century due to the state's unique geography and meteorology.[7] In 1959, California enacted legislation empowering the Department of Public Health to set statewide air quality standards for total suspended particulates, photochemical oxidants, sulfur dioxide, nitrogen dioxide, and carbon monoxide that became known as the CAAQS. CARB was created in 1967 and assumed authority over the CAAQS. Regional Air Quality Management Districts were formed in 1976. The California Clean Air Act was enacted in 1988. In addition to the CAAQS, CARB conducts research, provides oversight of local air management programs, prepares the SIP, and sets statewide emission standards for vehicles, equipment, fuels, and consumer products. Currently, ozone, PM_{10}, and $PM_{2.5}$ are considered to be in nonattainment with the CAAQS. All other pollutants are classified as attainment under the CAAQS (refer to Table 4.2.1 on p. 4.2.3).

CARB maintains a fuels program that regulates the formulation of different fuels such as gasoline, diesel, and alternative fuels to reduce emissions of criteria pollutants, toxic air contaminants (TACs), and greenhouse gases (GHGs) from their use.

CARB sets vehicle tailpipe emission standards, under waiver from the federal CAA by the U.S. EPA, through its Low Emission Vehicle (LEV) program. The LEV program sets vehicle emission standards that increase in stringency over time. CARB administers a program for reducing evaporative and refueling emissions from on-road motor vehicles. In addition to on-road motor vehicles, CARB also administers programs aimed at reducing air emissions from off-road and on-road heavy-duty vehicles, cargo handling equipment, commercial harbor craft, ground support equipment, locomotives, commercial marine vessels, and recreational marine vessels.

In 1998, CARB identified particulate emissions from diesel-fueled engines (diesel PM) as a TAC and developed diesel risk reduction plans. This led to the creation of Airborne Toxic Control Measures (ATCMs) for stationary and portable diesel engines that apply statewide. CARB maintains a statewide Portable Equipment Registration Program that allows owners and operators to register their equipment (powered by diesel engines rated at 50 brake horse power [bhp] or larger) to operate throughout California without having to obtain individual permits from local air districts.

CARB established the Large Spark-Ignition Engine Fleet Requirements Regulation in 2006 that applies to operators of forklifts, sweeper/scrubbers, industrial tow tractors, and airport ground support equipment to achieve fleet average emission level standards that become more stringent over time.

[7] CARB, History. Available online at: https://ww2.arb.ca.gov/about/history. Accessed May 29, 2018.

CARB adopted exhaust emissions standards in 1990 for small off-road engines (spark-ignition engine rated at or less than 19 kilowatts) such as those used in lawn and garden equipment, outdoor power equipment, and specialty vehicles. Over time, the small off-road engines program has been strengthened for exhaust emission standards and expanded to include evaporative emission requirements.

CARB also adopts regulatory requirements for chemically formulated consumer products, fuel containers, and indoor air cleaning products to reduce volatile organic compounds (VOCs), TACs, and GHGs. The Consumer Products Regulatory Program establishes regulations for chemically formulated consumer products such as detergents, cleaning products, polishes, floor finishes, and aerosol paints.

REGIONAL

Bay Area Air Quality Management District

BAAQMD was created by the California Legislature in 1955.[8] It is tasked with adopting air management policies and regulating certain sources of air pollution in the nine counties that surround the San Francisco Bay. BAAQMD works with local governments, commissions, state agencies, and federal agencies to enact policies aimed at improving air quality in the Bay Area. It is governed by a Board of Directors composed of 22 elected officials from each of the nine counties. BAAQMD develops rules and administers a permitting program for stationary sources, conducts inspections of emission sources, and enforces requirements through orders and fines, if necessary. The emergency generators considered under this project would fall under the purview of BAAQMD for stationary source permitting and regulation.

BAAQMD periodically develops air quality plans that outline the regional strategy to improve air quality and protect the climate. The most recent plan, *2017 Bay Area Clean Air Plan,* includes a wide range of control measures designed to reduce emissions of air pollutants and GHGs, including the following examples that may be relevant to this project:[9] reduce emissions of toxic air contaminants by adopting more stringent limits and methods for evaluating toxic risks; implement pricing measures to reduce travel demand; accelerate the widespread adoption of electric vehicles; promote the use of clean fuels; promote energy efficiency in both new and existing buildings; and promote the switch from natural gas to electricity for space and water heating in Bay Area buildings.

BAAQMD also publishes *CEQA Air Quality Guidelines* to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the Bay Area Air Basin.[10] The Guidelines address evaluating, measuring, and mitigating air quality impacts generated from land development construction and operation activities. The Guidelines focus on criteria air pollutant, GHG, TAC, and odor emissions generated by projects and plans. For projects, the Guidelines provide Thresholds of Significance and Screening Criteria to determine the level of analysis needed, and assessment methods and mitigation measures for operational-related, local community risk and hazards, local CO, odors, and construction-

[8] BAAQMD, About the Air District. Available online: http://www.baaqmd.gov/about-the-air-district. Accessed May 29, 2018.
[9] BAAQMD, 2017. *Final 2017 Clean Air Plan*. Adopted April 19, 2017.
[10] BAAQMD, 2017. *CEQA Air Quality Guidelines.* Updated May 2017. Available on-line at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed May 29,2018

related impacts. The most recent version of the BAAQMD Air Quality Guidelines, published in May 2017, has been used in the evaluation of air quality impacts from the proposed project.

LOCAL

City of South San Francisco General Plan

The *City of South San Francisco General Plan* (General Plan) contains policies designed to protect environmental resources, some of which address air quality and GHG emissions. Policies that pertain to air quality are excerpted below; those that address GHG emissions are presented in Section 4.5, Greenhouse Gas Emissions, in "Regulatory Framework," pp. 4.5.7-4.5.9.

Guiding Policies: Air Quality

7.3-G-1: Continue to work toward improving air quality and meeting all national and State ambient air quality standards and by reducing the generation of air pollutants both from stationary and mobile sources, where feasible.

7.3-G-3: Reduce energy use in the built environment.

7.3-G-4: Encourage land use and transportation strategies that promote use of alternatives to the automobile for transportation, including bicycling, bus transit, and carpooling.

7.3-G-5: Promote clean and alternative fuel combustion in mobile equipment and vehicles.

7.3-G-6: Minimize conflicts between sensitive receptors and emissions generators by distancing them from one another.

Implementing Policies: Air Quality

7.3-I-1: Cooperate with the Bay Area Air Quality Management District to achieve emissions reductions for nonattainment pollutants and their precursors, including carbon monoxide, ozone, and PM_{10}, by implementation of air pollution control measures as required by State and federal statutes.

7.3-I-2: Use the City's development review process and the CEQA regulations to evaluate and mitigate the local and cumulative effects of new development on air quality and GHG emissions.

7.3-I-3: Adopt the standard construction dust abatement measures included in BAAQMD's CEQA Guidelines.

7.3-I-4: Require new residential development and remodeled existing homes to install clean-burning fireplaces and wood stoves.

7.3-I-9: Promote land uses that facilitate alternative transit use, including high-density housing, mixed uses, and affordable housing served by alternative transit infrastructure.

7.3-I-14: Ensure that design guidelines and standards support operation of alternative fuel facilities, vehicles, and equipment.

The City also maintains the *East of 101 Area Plan,* which encompasses the project area and is primarily used as a design policy document with some land use and conservation element policies still in effect.[11] The overall goal of this plan is to regulate development in a manner that protects and enhances the area's

[11] City of South San Francisco, 1994. *East of 101 Area Plan.* Available online at: http://www.ssf.net/departments/economic-community-development/planning-division/planning-documents/approved-policy-documents. Accessed May 29, 2018.

physical, economic, and natural resources. The air quality goals and policies generally follow those in the General Plan; specific refined policies are excerpted below:

- Encourage bicycling and walking as transportation modes in the East of 101 Area.
- The City of South San Francisco shall support transportation demand management (TDM) and transportation system management (TSM) programs in coordination with the Multi City Transportation System Management Agency or any other applicable transportation management agencies.
- Promote water and energy conservation in all new development.

In accordance with these plans and the BAAQMD CEQA Guidelines, the City assesses the air quality impacts of new development projects and requires mitigation of significant air quality impacts if feasible mitigation measures are available.

4.2.4 Impacts and Mitigation Measures

SIGNIFICANCE CRITERIA

CEQA Guidelines Appendix G includes a list of potentially significant project impacts. The proposed project would have a significant air quality impact if it would:

a. conflict with or obstruct the implementation of the applicable air quality plan;
b. violate any air quality standards or contributes to an existing or projected air quality violation;
c. 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);
d. expose sensitive receptors to substantial pollutant concentrations; or
e. create objectionable odors affecting a substantial number of people.

To aid in the evaluation of impacts, BAAQMD has established Thresholds of Significance (thresholds) which can be used to quantitatively assess project potential impacts with respect to the items listed above. The thresholds established by BAAQMD are listed below and shown in Table 1-1 of Appendix F on p. F-4:

- Daily average ROG, NO_x, and $PM_{2.5}$ emissions of greater than 54 pounds per day (lb/day) during project construction or operation;
- Daily average PM_{10} emissions of greater than 82 lb/day during project construction or operation;
- No specific thresholds are established for $PM_{2.5}$ and PM_{10} from construction fugitive dust; however, if best management practices are implemented during construction, then it is assumed that these emissions are below the thresholds.
- Maximum annual ROG, NO_x, and $PM_{2.5}$ emissions of greater than 10 tons per year (tpy) resulting from project operation;
- Maximum annual PM_{10} emissions of greater than 15 tpy resulting from project operation;

- One-hour average ambient CO concentration of greater than 20 parts per million (ppm) or eight-hour average ambient CO concentration of greater than 9.0 ppm;
- Increased cancer risk of greater than 10.0 in a million, increased non-cancer risk of greater than 1.0 Hazard Index, and increased annual average ambient $PM_{2.5}$ concentration greater than 0.3 micrograms per meter cubed within the zone of influence (1,000 feet) resulting from TAC emissions during construction and project operation;
- Increased cancer risk of greater than 100.0 in a million, increased non-cancer risk of greater than 10.0 Hazard Index, and increased annual average ambient $PM_{2.5}$ concentration greater than 0.8 micrograms per meter cubed within the zone of influence (1,000 feet) resulting from TAC emissions during construction and operation of all local sources including the project;
- Storage or use of acutely hazardous materials locating near receptors, or new receptors locating near stored or used acutely hazardous materials; and
- At least 5 confirmed complaints regarding odors per year averaged over 3 years.

To assess project effects on air quality, it is assumed that if the project emissions are below the applicable thresholds established by BAAQMD following the implementation of necessary mitigation, that the impacts would be less than significant with respect to the associated air quality impact. A brief explanation of this approach is presented below.

Clean Air Plan Consistency

The primary goals of the 2017 *Bay Area Clean Air Plan* (BACAP) are to (1) attain air quality standards, (2) protect public health by facilitating the attainment of air quality standards and reducing population exposure to air pollutants in the Bay Area, and (3) to reduce GHG emissions[12] and protect the climate. BAAQMD recommends that consistency with BAAQMD CEQA thresholds be confirmed to assess whether the project would hinder the Bay Area from attaining air quality standards or add to air pollutants. If approval of a project would not result in significant and unavoidable air quality impacts after the application of all feasible mitigation, the project would be considered consistent with the 2010 CAP.[13] In addition, projects are considered consistent with the BACAP if they incorporate all applicable and feasible control measures from the BACAP and would not disrupt or hinder implementation of any BACAP control measures.

Ambient Air Quality Standards

BAAQMD thresholds were determined based on BAAQMD determination of what level of emissions would result in cumulatively considerable impacts on ambient air quality. Therefore, should the project emissions prove to be less than the applicable thresholds after mitigation, then it is assumed the project would not lead to deterioration of ambient air quality in a significant manner.

[12] This aspect of the project's consistency with the *Bay Area Clean Air Plan* is discussed in EIR Chapter 4.5, Greenhouse Gas Emissions, on pp. 4.5.14-4.5.17.

[13] BAAQMD, *CEQA Air Quality Guidelines.* Updated May 2017. Available online: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed May 29, 2018.

Cumulatively Considerable Net Increase of Nonattainment Pollutants

As mentioned, BAAQMD set the thresholds such that no cumulatively considerable contribution to a significant effect on ambient air quality would occur due to project emissions below these levels. Therefore, if project emissions after necessary mitigation of nonattainment criteria pollutants are below the thresholds established by BAAQMD, it is assumed that the impacts of the project with respect to nonattainment pollutants would be less than significant.

Exposure of Sensitive Receptors to Substantial Pollutant Concentrations

Local CO concentrations near congested intersections may adversely affect the local ambient air quality and expose sensitive receptors to unacceptable levels of CO. BAAQMD has established a threshold for local CO concentrations based on the 1-hour and 8-hour CAAQS. Additionally, BAAQMD has established screening criteria to assess the impact of local CO from a project based on the anticipated traffic volumes at intersections located near the project area. If the screening criteria are met, then the impact of local CO on sensitive receptors would be considered less than significant.

BAAQMD has established thresholds for individual project and cumulative cancer risk, non-cancer health index, and $PM_{2.5}$ concentration. BAAQMD recommends that concentrations of TACs at sensitive receptors within the 1,000-foot zone-of-influence of the project be used to assess the risks and health impacts of project construction and operation. Should concentrations of TACs resulting from the project or the project's contributions to significant cumulative impacts from past, present, and foreseeable probable future sources be less than BAAQMD thresholds, the project will be considered less than significant regarding impact on sensitive receptor risks and hazards. The risks and hazards assessment should also be completed if the project would site a new sensitive receptor within 1,000 feet of off-site TAC emission sources.

Exposure of sensitive receptors to substantial pollutant concentrations may also occur due to accidental release of acutely hazardous air pollutants (AHAPs). If the project is below the threshold for accidental release of AHAPs, the project impacts will be considered less than significant regarding exposure of sensitive receptors to substantial pollutant concentrations due to accidental release of AHAPs.

Objectionable Odors

The BAAQMD-established threshold for odor impacts is based on complaints received during the course of project operation. Should five confirmed complaints per year averaged over 3 years be received regarding project operation, the project would be determined to have a significant impact with respect to objectionable odors. BAAQMD has not established a significance threshold for odor impacts from construction. Refer to the "Approach to Analysis" section on p. 4.2.13 for discussion of how construction-related odor impacts were assessed for the project.

APPROACH TO ANALYSIS

The proposed project would rezone all eight existing parcels to a BTP district and allow construction of BTP office/R&D facilities and associated parking. The proposed development of the rezoned area would be built out in two phases, as described below.

During Phase 1, Alexandria Real Estate Equities (ARE) would construct 336,368 gsf of new BTP office use on 201 Haskins Way and 400-450 East Jamie Court. The Phase 1 project would demolish a 24,075-gsf building at 201 Haskins Way that previously contained a light industrial trucking use, and construct a new 311,368-gsf office/R&D building (201 Haskins Way Building) with a 63-foot-tall, three-story wing and a 95-foot-tall, five-story wing; a 720-stall, five-level parking structure (up to 48 feet in height); and 183 surface parking spaces. At 400-450 East Jamie Court, ARE would construct an approximately 25,000-gsf, two-story addition to the existing western building.

During Phase 2, development of two additional parcels along Haskins Way, two additional parcels along East Jamie Court, two parcels along East Grand Avenue, and additional development on the 400-450 East Jamie Court parcel (also in the Phase 1 area) would occur. Though this phase of the project is still conceptual, the tentative development plan discussed in the Notice of Preparation (NOP) and reasonable assumptions regarding the construction equipment and schedule from the Phase 1 project plans were used to assess air quality impacts from this phase of development. The conceptual Phase 2 development plan is based on the maximum square footage of development allowable to obtain a floor area ratio of 1.0. This would necessitate demolition of 157,995 gsf of existing light industrial buildings and associated parking lots on five existing parcels and allow a total of 341,232 gsf of new BTP use within the Phase 2 area. Specifically, it is assumed that the conceptual Phase 2 area development plan that would include construction of a new 256,232-gsf 3- and 5-story office building (East Grand Building) up to 95 feet in height, a parking garage expansion of the Phase 1 parking garage to two parcels to the east at 451 East Jamie Court (APN 015-102-240 and APN 015-102-290) to accommodate a total of 1,060 stalls (340 additional stalls), and a total of 243 additional surface parking stalls. At 400-450 East Jamie Court, it is anticipated that ARE would construct an additional 85,000 gsf of office/R&D space. To provide a conservative analysis of construction impacts in the EIR, it is assumed that the construction of Phase 2 would occur immediately upon completion of the Phase 1 development.

In order to be conservative about project impacts, existing operational emission levels from the mixed industrial activities on the project site have not been subtracted from the calculated operational emission levels from the proposed project to determine impacts.

As mentioned on pp. 4.2.8-4.2.10, each CEQA air quality impact was assessed based on comparison of pollutant emissions, concentrations, or quantifiable risk with the applicable threshold established by BAAQMD.

To determine project impacts resulting from criteria pollutant emissions, the construction and operation emissions were quantified and compared with BAAQMD's established thresholds of significance. The size of the construction and operating area would be greater than the screening level sizes established by BAAQMD to evaluate criteria air pollutant impacts, so the project would exceed the screening criteria

established by BAAQMD and must assess impacts through comparison against thresholds of significance for each criteria pollutant. All construction and operation emissions except for stationary source emergency generator emissions project were quantified using California Emissions Estimator Model Version 2016.3.2 (CalEEMod).[14] To be conservative, emissions from the new office building diesel-powered emergency generator engines were quantified using the engine specifications and the U.S. EPA's Tier 2 exhaust emission standards for nonroad compression-ignition engines.

Local CO concentrations were compared against the BAAQMD's established screening criteria. According to the BAAQMD CEQA Guidelines, if the preliminary screening procedure for a pollutant impact is followed and all screening criteria are met, the proposed project is assumed to result in a less-than-significant impact on air quality for the pollutant being screened. The screening criteria for local CO concentration are based on traffic volumes at nearby intersections, which were quantified as part of the traffic analysis conducted for the proposed project, the results of which are included as an attachment to Appendix F of this EIR.

BAAQMD CEQA Guidelines recommend assessment of risks and hazards on receptors within 1,000 feet. Since there are no sensitive receptors located within a 1,000-foot radius of the site, a Health Risk Assessment (HRA) to assess the project's impact on increased cancer risk, non-cancer hazard index, and ambient $PM_{2.5}$ concentrations at sensitive receptor locations was not conducted. A cumulative HRA was also not conducted due to lack of sensitive receptors within the zone of influence. It can be reasonably assumed that no significant impact on sensitive receptors would occur based solely on the proposed project location.

The project would not site new sensitive receptors near stored or used hazardous materials. In addition, though the operation of the project may involve the use of regulated hazardous materials related to biomedical research and development and common commercial products used for cleaning and maintenance purposes, all transport and disposal procedures for the handling of waste must meet the applicable legal requirements discussed in Section 4.11.4, Hazards and Hazardous Materials, of Section 4.11, Less-than-Significant Impacts, on pp. 4.11.26 – 4.11.38. The project would not store sufficient quantities of acutely hazardous materials that could become airborne and result in acutely hazardous air emissions that could affect the nearest sensitive receptor to a degree that all individuals could be exposed for up to 1 hour and experience or develop irreversible or other serious health effects or symptoms which could impair ability to take protective action.[15] Therefore, due to the nature of the project, it can be reasonably assumed that there would be no significant air quality impact with regard to accidental release of acutely hazardous air emissions, and no in-depth analysis of accidental release of acutely hazardous air pollutants was conducted.

[14] California Emissions Estimator Model. Developed for the California Air Pollution Control Officers Association (CAPCOA) in Collaboration with California Air Districts. The model can be downloaded from: http://caleemod.com/. Accessed May 29, 2018.

[15] BAAQMD *CEQA Air Quality Guidelines* currently recommend that the lead agency evaluate potential impacts on any receptors being within the Emergency Response Planning Guidelines (ERPG) exposure level 2 (Appendix D, p. D-42). Should a sensitive receptor be within the ERPG exposure level 2, the project is considered to have significant air quality impact. The proposed project is not close enough to a sensitive receptor and does not house a sufficiently large quantity of acutely hazardous materials to subject any receptor to ERPG exposure level 2 conditions.

To evaluate potential odor impacts, a qualitative evaluation was conducted taking into account the nature of the project construction and operation. Typically, odor impact evaluations are more applicable to land uses with associated manufacturing, refining, painting/coating, food processing, or waste treatment activities, which, due to the nature of the operations, are large point-sources of odor emissions. There are no large odor point sources associated with the proposed office and R&D uses, so odor complaints by nearby receptors are unlikely. In addition, no sensitive receptors are located in the vicinity of the project site. It is evident through qualitative analysis that during construction and operation, substantial numbers of people would not be adversely impacted by objectionable odors and thus odor impacts associated with this project would be less than significant. However, a qualitative discussion assessing potential odor impacts is included in the impacts discussion.

IMPACT EVALUATION

Ambient Air Quality Standards

Impact AQ-1: The proposed project would violate air quality standards or contribute substantially to an existing or projected air quality violation. ***(Less than Significant with Mitigation)***

The impacts of the project with respect to ambient air quality standards are assessed based on the comparison of project-generated criteria air pollutant and precursor emissions to the applicable thresholds for criteria air pollutants and precursors established by BAAQMD. The project construction for both Phases 1 and 2 would have a significant impact on ambient air quality because NO_x emissions would be above the threshold of significance without mitigation. However, after mitigation measures are applied, the project construction impacts would be less than significant. Project operation for Phase 1, Phase 2, and project buildout would not require mitigation, as both the average daily and maximum annual criteria pollutant emissions were determined to be below the thresholds. Therefore, project operation would have a less-than-significant impact without any mitigation applied. Traffic volumes at local intersections are not expected to exceed the screening criteria levels used by BAAQMD to assess local CO impacts. Therefore, impacts on local CO concentrations are expected to be less than significant.

Project Construction Emissions

Construction of Phase 1 and Phase 2 would result in the release of criteria pollutants and precursors in the form of ROG, NO_x, CO, exhaust emissions of PM_{10} and $PM_{2.5,}$ and fugitive dust emissions of PM_{10} and $PM_{2.5}$. These pollutant emissions were compared to the applicable thresholds to determine if air quality impacts would be significant.[16] Construction emissions were quantified using CalEEMod separately for both Phase 1 and Phase 2. The maximum average daily emissions for each criteria pollutant and precursor during construction are shown in **Table 4.2.2: Construction-Related Criteria Air Pollutant and Precursor Emissions – Unmitigated (maximum average daily emissions in pounds during entire construction period)**, which displays results prior to the application of mitigation measures. Though construction of each phase would occur at different times, both phases would be similar in terms of the

[16] The thresholds of significance in Table 2-1 of the BAAQMD *CEQA Air Quality Guidelines* May 2017 does not include a threshold for construction-related CO (p. 2-2, see also Table 2-4, Thresholds of Significance for Construction-Related Criteria Air Pollutants and Precursors, on p. 2-6). Therefore, construction-related CO emissions are not presented in Tables 4.2.2 or 4.2.3 for construction-related emissions of criteria pollutants.

source and quantity of construction emissions and type of mitigation required, so the air quality effects are discussed generally below along with mitigation measures applied.

Both Phase 1 and Phase 2 of project construction would result in emissions of ROG, NO_x, CO, Exhaust PM_{10}, and Exhaust $PM_{2.5}$ emissions from diesel powered off-road equipment during onsite construction activities. Fugitive dust from demolition, site grading, bulldozing, and truck loading/unloading would also result in emissions of PM_{10} and $PM_{2.5}$. Additional criteria pollutant and precursor emissions would result from vehicles associated with construction worker, vendor, and hauler trips to and from the construction site. These on-road vehicle emissions include ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$ from vehicle exhaust and wear-and-tear, and PM_{10} and $PM_{2.5}$ fugitive dust emissions from vehicles travelling over paved roads. Additional construction emissions of ROG occur during on-site architectural coating and asphalt paving activities.

Table 4.2.2: Construction-Related Criteria Air Pollutant and Precursor Emissions – Unmitigated (maximum average daily emissions in pounds during entire construction period)

Construction Phase	ROG (lb/day)	NO_x (lb/day)	Exhaust PM_{10} (lb/day)	Exhaust $PM_{2.5}$ (lb/day)	Fugitive Dust PM_{10} (lb/day)	Fugitive Dust $PM_{2.5}$ (lb/day)
Phase 1	43.00	118.86	5.37	4.98	4.47	0.93
Phase 2	39.57	108.65	4.31	3.99	3.62	0.78
BAAQMD threshold	54	54	82	54	Best Management Practices[1]	Best Management Practices[1]
Exceeded threshold Phase 1?	**No**	**Yes**	**No**	**No**	**No**	**No**
Exceeded threshold Phase 2?	**No**	**Yes**	**No**	**No**	**No**	**No**

[1] Best management practices (BMPs) in the form of BAAQMD-specified Basic Construction Mitigation Measures (see Mitigation Measure AQ-1b on p. 4.2.15) must be implemented for any construction project in order to control fugitive dust emissions. If a project implements these BMPs, then project fugitive dust impacts are considered by the BAAQMD to be less than significant.

Source: CalEEMod version 2016.3.2. See Appendix F for emission model outputs.

As shown in Table 4.2.2, all emissions of criteria pollutants and precursors would be below the thresholds established by BAAQMD prior to mitigation except for NO_x. NO_x emissions above the 54 lb/day threshold would be primarily due to the operation of off-road construction equipment. Therefore, Mitigation Measure MM-AQ-1a: Off-road Equipment Standards and Construction Emissions Minimization Plan is identified.

Mitigation Measure MM-AQ-1a: Off-road Equipment Standards and Construction Emissions Minimization Plan

Off-road equipment greater than 25 horsepower used during construction shall meet the Tier 4 Final off-road emission standards. Should the utilization of equipment meeting this standard prove to be technically infeasible, the construction contractor will select the lowest-emitting off-road equipment available. The construction contractor shall develop a Construction Emissions Minimization Plan (CEMP) which establishes the process used to select the lowest-emitting off-road equipment, specify the steps that will be taken to reduce emissions of criteria air pollutants

and precursors, and provide analysis showing that NO_x emissions for the applicable construction phase would remain below 54 lb/day, where feasible. The CEMP will be submitted to the City's Planning Division and approved prior to utilizing off-road equipment greater than 25 horsepower that does not meet Tier 4 Final off-road emission standards.

Additionally, BAAQMD recommends that for all construction projects, BAAQMD Basic Construction Mitigation Measures be implemented to reduce emissions regardless of whether impacts would exceed a threshold. The Basic Construction Mitigation Measures establish best practices during construction and implementation of these measures is considered in determining whether fugitive dust emissions from construction meet the thresholds. Mitigation Measure MM-AQ-1b: Implement BAAQMD Basic Construction Mitigation Measures presents a list of these measures.

Mitigation Measure MM-AQ-1b: Implement BAAQMD Basic Construction Mitigation Measures

BAAQMD Basic Construction Mitigation Measures are as follows:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Table 4.2.3: Construction-Related Criteria Air Pollutant and Precursor Emissions – Mitigated (maximum average daily emissions in pounds during entire construction period) lists the average daily criteria pollutant and precursor emissions from Phase 1 and Phase 2 construction after the application of Mitigation Measures MM-AQ-1a and MM-AQ-1b. With mitigation, impacts of criteria pollutant and precursor emissions from construction would be less than significant.

Table 4.2.3: Construction-Related Criteria Air Pollutant and Precursor Emissions – Mitigated (maximum average daily emissions in pounds during entire construction period)

Construction Phase	ROG (lb/day)	NO_x (lb/day)	Exhaust PM_{10} (lb/day)	Exhaust $PM_{2.5}$ (lb/day)	Fugitive Dust PM_{10} (lb/day)	Fugitive Dust $PM_{2.5}$ (lb/day)
Phase 1	33.34	39.55[1]	0.42	0.42	3.32	0.75
Phase 2	32.41	40.51[1]	0.32	0.32	2.69	0.64
BAAQMD threshold	54	54	82	54	BMPs[2]	BMPs[2]
Exceeded threshold Phase 1?	**No**	**No**	**No**	**No**	**No**	**No**
Exceeded threshold Phase 2?	**No**	**No**	**No**	**No**	**No**	**No**

[1] The mitigated NO_x emissions are based on the assumption that all construction equipment greater than 25 hp meets Tier 4 Final diesel engine standards. MM-AQ-1a allows the City to approve the use of non-Tier 4 Final engines in construction equipment if it is infeasible to obtain equipment with Tier 4 Final engines, but requires the applicant to show that NO_x emissions would remain below 54 lbs/day before the City authorizes the use of non-Final Tier 4 equipment, where feasible.

[2] Best management practices (BMPs) in the form of BAAQMD-specified Basic Construction Mitigation Measures (see Mitigation Measure MM-AQ-1b items on p. 4.2.15) must be implemented for any construction project in order to control fugitive dust emissions. If a project implements these BMPs, then project fugitive dust impacts are considered to be less than significant. Source: CalEEMod version 2016.3.2. See Appendix F for emission model outputs.

Project Operational Emissions

Operational impacts of the proposed new buildings constructed under the new zoning in both Phase 1, Phase 2, and project buildout were found to be less than significant with respect to criteria pollutant and precursor emissions (see the discussion under Impact AQ-2 for operational CO emissions). Average daily and maximum annual operational emissions of criteria pollutants other than local CO from project operations are shown in **Table 4.2.4: Operation-Related Criteria Air Pollutant and Precursor Emissions – Unmitigated (maximum average daily emissions in pounds during Phase 1, Phase 2, and buildout [Phase 1 + Phase 2])** and **Table 4.2.5: Operation-Related Criteria Air Pollutant and Precursor Emissions – Unmitigated (maximum annual emissions in tons during Phase 1, Phase 2, and buildout [Phase 1 + Phase 2])**, respectively. No mitigation is necessary.

Table 4.2.4: Operation-Related Criteria Air Pollutant and Precursor Emissions – Unmitigated (maximum average daily emissions in pounds during Phase 1, Phase 2, and buildout [Phase 1 + Phase 2])

Operation Phase	ROG (lb/day)	NO_x (lb/day)	Exhaust PM_{10} (lb/day)	Exhaust $PM_{2.5}$ (lb/day)	Fugitive Dust PM_{10} (lb/day)	Fugitive Dust $PM_{2.5}$ (lb/day)
Phase 1	10.86	15.45	0.63	0.60	3.68	0.98
Phase 2	10.69	13.44	0.53	0.51	3.73	1.00
Combined	21.55	28.89	1.16	1.11	7.41	1.98
BAAQMD threshold	54	54	82	54	None	None
Exceeded threshold Phase 1?	**No**	**No**	**No**	**No**	**No**	**No**
Exceeded threshold Phase 2?	**No**	**No**	**No**	**No**	**No**	**No**
Exceeded threshold for Combined Operation?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2016.3.2 and emergency generator specifications. See **Appendix F** for emission model outputs and emergency generator calculations.

Table 4.2.5: Operation-Related Criteria Air Pollutant and Precursor Emissions – Unmitigated (maximum annual emissions in tons during Phase 1, Phase 2, and buildout [Phase 1 + Phase 2])

Operation Phase	ROG (ton/yr)	NO_x (ton/yr)	Exhaust PM_{10} (ton/yr)	Exhaust $PM_{2.5}$ (ton/yr)	Fugitive Dust PM_{10} (ton/yr)	Fugitive Dust $PM_{2.5}$ (ton/yr)
Phase 1	1.81	1.47	0.06	0.06	0.48	0.13
Phase 2	1.80	1.37	0.06	0.05	0.00	0.13
Combined (buildout)	3.61	2.84	0.12	0.12	0.48	0.26
BAAQMD threshold	10	10	15	10	None	None
Exceeded threshold Phase 1?	**No**	**No**	**No**	**No**	**No**	**No**
Exceeded threshold Phase 2?	**No**	**No**	**No**	**No**	**No**	**No**
Exceeded threshold for Combined Operation?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2016.3.2. See **Appendix F** for emission model outputs.

Exposure of Sensitive Receptors to Substantial Pollutant Concentrations

Impact AQ-2: The proposed project would not expose sensitive receptors to substantial pollutant concentrations. ***(Less than Significant with Mitigation)***

Project Construction and Operation: Local CO

There are no thresholds of significance associated with CO concentrations with respect to construction. For project operations, the project was found to have a less-than-significant impact with regard to local CO concentrations. The BAAQMD threshold for local CO is based on 1- and 8-hour CAAQS for CO concentrations for project operations. The impacts assessment for local CO concentrations used the screening criteria established in the BAAQMD CEQA guidelines. If a project meets the following screening criteria, then detailed calculations are not necessary and the impacts from local CO concentrations are considered less than significant:

- The project is consistent with an applicable congestion management program established by the county's congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans;
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and
- The project traffic would not increase traffic volumes at affected intersections 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).

The San Mateo County Congestion Management program (CMP), discussed in EIR Chapter 4.9, Transportation and Circulation, requires a project-level analysis when a project adds more than 100 peak hour vehicle trips. Based on the project-level traffic analysis in Chapter 4.9, the project would have a significant impact on CMP roadway segments, but with inclusion of Mitigation Measure MM-TR-9: Implement Transportation Demand Management measures listed in San Mateo County Congestion Management Program Appendix I, the project's impacts would be less than significant and consistent

with the CMP. In addition, transportation demand management is required by South San Francisco Municipal Code Chapter 20.400. Neither Phase 1, Phase 2, nor buildout of the project would cause traffic volumes to exceed the volumes specified in the screening criteria for CO for any nearby intersection according to the analysis of traffic volumes at affected intersections conducted for this project presented in Appendix F, Table 2-5. Therefore, with transportation mitigation, operation of the project would meet the screening criteria and would not lead to a significant impact on sensitive receptors due to local CO concentrations.

Project Construction and Operation: TAC Emissions

TAC emissions in the form of $PM_{2.5}$ and diesel particulate matter generated during construction and operation were quantified using CalEEMod and emergency generator specifications.[17] However, because there are no sensitive receptors within 1,000 feet of the project fence line and the project would not result in the siting of a new receptor, the acute health risks to sensitive receptors are assumed to be below the thresholds for individual project increases in cancer risk, non-cancer health index, and $PM_{2.5}$ concentrations. Because no sensitive receptors exist within the screening radius, the project would not result in a significant adverse health impact from toxic air contaminants on nearby sensitive receptors.

Accidental Release of Acutely Hazardous Air Pollutants

The threshold for assessing the significance of risk from accidental release of AHAPs is based on whether the project would store or use acutely hazardous materials and would be located near a sensitive receptor or whether the project would result in a new sensitive receptor sited near stored or used acutely hazardous materials. The project may involve the storage and use of regulated hazardous materials related to biomedical research and development, and common commercial products used for cleaning and maintenance purposes. However, all transport and disposal procedures for the handling of waste must comply with applicable state and federal requirements relating to waste handling, storage, and disposal. The project would not store or use sufficient quantities of acutely hazardous materials to create potentially hazardous conditions at the nearest sensitive receptor, which is greater than 1,000 feet away from the project fence line, nor would the project result in the siting of a new sensitive receptor. Therefore, the impact on sensitive receptors would be less than significant. No mitigation is required.

Objectionable Odors

Impact AQ-3: The proposed project buildout would not create objectionable odors affecting a substantial number of people. ***(Less than Significant)***

There are no quantitative thresholds established to assess construction project odor impacts. Project construction would involve the operation of mobile sources of air quality emissions including off-road construction equipment and on-road mobile sources resulting from worker and vendor trips, both of which may emit objectionable odors due to the combustion of diesel fuel. Additionally, architectural

[17] The air quality modeling is based on approximately 1,046 days of construction for Phase 1 and approximately 942 days of construction for Phase 2. Information about the off-road equipment is in Table 2-2 of Appendix F. CalEEMod defaults for horsepower (hp), load factor (LF), and individual pollutant grams per horsepower-hour (g/hp-hr) were used to calculate emissions. The formula for how emissions were calculated for each piece of equipment is stated on page F-10 of Appendix F.

coatings would be applied during project construction which may also create temporary objectionable odors. However, the odor impacts during periods of construction would be intermittent and temporary, and thus unlikely to expose a substantial number of people to objectionable odors. The proposed office use and R&D operations within the project are unlikely to contribute to ambient odors affecting a substantial number of people to the degree that the BAAQMD CEQA threshold for operational odor impacts would be exceeded (i.e., that the project's operation would result in greater than five confirmed complaints per year averaged over three years) in light of the project's location near other office/R&D operations. Therefore, odor impacts would be less than significant. No mitigation is required.

Clean Air Plan Consistency

Impact AQ-4: The proposed project would conflict with the BAAQMD's 2017 *Clean Air Plan*. *(Less than Significant with Mitigation)*

As stated on p. 4.2.9 and as recommended in the BAAQMD *CEQA Air Quality Guidelines*, conformance with the 2017 BACAP is assessed by comparing air quality impacts from the project against the applicable thresholds established by BAAQMD. Multiple criteria and their respective thresholds were compared, and all air quality effects resulting from the project construction and operation were found to be less than significant or less than significant with mitigation applied as described in more detail in the discussion of air quality Impacts AQ-1 through AQ-3 and Mitigation Measures MM-AQ-1a and MM-AQ-1b. In addition, the project would incorporate applicable control measures during construction, as specified in Mitigation Measure MM-AQ-1b. The project would not disrupt or hinder implementation of any BACAP control measures, which are measures designed to reduce air emissions by discouraging single-occupancy vehicle trips. The project's TDM program, discussed in Chapter 4.9, Transportation and Circulation, is consistent with the goals of the BACAP because it would reduce the project's vehicle trips.

The project would also demonstrate consistency with the BACAP by meeting the BAAQMD's GHG emission threshold. However, this is addressed separately in the discussion of cumulative climate change impacts in Chapter 4.5, Greenhouse Gas.

CUMULATIVE IMPACTS

Ambient Air Quality Standards

Impact C-AQ-1: The proposed project would make a cumulatively considerable contribution to significant cumulative impacts with respect to nonattainment pollutants, including ozone precursors impacts. *(Less than Significant with Mitigation)*

The nonattainment pollutant emission levels of PM_{10}, $PM_{2.5}$, and the ozone precursors NO_x and ROG from construction and operation of the project are shown in Tables 4.2.2 through 4.2.5. The San Francisco Bay Area Air Basin is currently designated as nonattainment for ozone, PM_{10}, and $PM_{2.5}$, as discussed on p. 4.2.2. As discussed on pp. 4.2.13-17 regarding Impact AQ-1, all criteria air pollutant and precursor emissions would be below the thresholds once Mitigation Measures MM-AQ-1a and MM-AQ-1b are applied. If pollutant emissions are below the threshold level, the impacts from an air contaminant are not considered to be cumulatively considerable. Therefore, with mitigation, the proposed project would make

a less than cumulatively considerable contribution to significant cumulative air quality impacts from nonattainment pollutants.

Exposure of Sensitive Receptors to Pollutant Concentrations

Impact C-AQ-2: The proposed project would not make a cumulatively considerable contribution to significant cumulative impacts from pollutant concentrations exposure to sensitive receptors. ***(Less than Significant)***

As mentioned in the discussion of Impact AQ-2, there are currently no sensitive receptors within 1,000 feet of the project fence line and the project would not result in the siting of a new sensitive receptor. Therefore, long-term health risks to sensitive receptors would not reach the thresholds for individual project increases in cancer risk, non-cancer health index, and $PM_{2.5}$ concentrations. Additionally, based on a CEQAnet[18] database query and review of new applications submitted to the City, no projects potentially siting new sensitive receptors have been proposed within 1,000 feet of the Haskins Way project property line. Thus, the project would not make a cumulatively considerable contribution to a significant cumulative impact on sensitive receptors from exposure to substantial pollution concentrations, because no sensitive receptors are present or are expected to be present in the reasonably foreseeable future within the zone of influence. No mitigation is required.

Objectionable Odors

Impact C-AQ-3: The proposed project operations would not make a cumulatively considerable contribution to significant cumulative worsening of ambient odor impacts, nor affect a substantial number of people. ***(Less than Significant)***

Any increased traffic, maintenance equipment operation, or reapplication of architectural coatings associated with the long-term operations of land uses allowed in the proposed BTP zoning district, such as the project, are unlikely to create objectionable odors to the extent that more than five confirmed complaints per year averaged over three years would be received. Since this is the standard used by BAAQMD and adopted by the City to determine cumulatively considerable odor impact from a project's operation, the project would result in a less than cumulatively considerable contribution to significant cumulative odor impacts. No mitigation is required.

Clean Air Plan Consistency

Impact C-AQ-4: The proposed project would make a cumulatively considerable contribution to cumulative impacts to long term air pollution reduction goals of the BAAQMD's 2017 ***Clean Air Plan*****.** ***(Less than Significant with Mitigation)***

Air pollution is largely a cumulative impact; emissions from past, present, and future projects contribute to the region's air quality on a cumulative basis. However, no individual project by itself would be of sufficient size to cause a regional non-attainment of ambient air quality standards. All potential impacts of the project were assessed using the BAAQMD's established thresholds. BAAQMD set each threshold at a

[18] California Governor's Office of Planning and Research provides access to the CEQAnet Database. Available online at: http://www.ceqanet.ca.gov/. Accessed June 8, 2018.

level such that projects meeting the thresholds would not lead to cumulatively considerable impacts. As addressed in the discussion of air quality Impacts AQ-1 through AQ-3 and Mitigation Measures MM-AQ-1a and MM-AQ-1b, project emissions would not exceed the thresholds of significance with mitigation. Therefore, emissions associated with the project would not make a cumulatively considerable contribution to significant cumulative air quality impacts with mitigation applied.

Impacts resulting from project GHG emissions are discussed further in Chapter 4.5, Greenhouse Gas Emissions.

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