4.3 AIR QUALITY

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☒	☐	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable Federal or State ambient air quality standard?	☐	☐	☒	☐
c) Expose Sensitive Receptors to substantial pollutant concentrations?	☐	☒	☐	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

4.3.1 Environmental Setting

The City of Daly City is in San Mateo County, which is within the boundaries of the San Francisco Bay Area Air Basin (SFBAAB) and is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD) and CARB. The Federal Clean Air Act (FCAA) establishes the framework for modern air pollution control. The FCAA, enacted in 1970 and amended in 1990, directs the U.S. Environmental Protection Agency (EPA) to establish ambient air quality standards. These standards are divided into primary and secondary standards. The former are set to protect human health, and the latter are set to protect environmental values such as plant and animal life.

Toxic Air Contaminants

Toxic air contaminants (TACs) are air contaminants not included in the California Ambient Air Quality Standards (CAAQS) but are considered hazardous to human health. TACs are defined by CARB as those pollutants that "may cause or contribute to an increase in deaths or in serious illness, or which may pose a present or potential hazard to human health."

Generally, the health effects associated with TACs are assessed locally rather than regionally. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage; TACs can also cause short-term acute effects such as eye watering, respiratory irritation, running nose, throat pain, and headaches. For evaluation purposes, TACs are separated into carcinogens and non-carcinogens. Carcinogens are assumed to have no safe threshold below which health impacts would not occur, and the cancer risk is expressed as excess cancer cases per one million exposed individuals (typically over a lifetime of exposure).

Diesel Particulate Matter

Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases: gas and particle. The gas phase is composed of many of the urban hazardous air pollutants, such as acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde, and PAHs. The particle phase also has many different types of particles that can be classified by size or composition. The size of diesel particulates that are of greatest health concern are those that are in the categories of fine and ultra-fine particles. The composition of these fine and ultra-fine particles may be composed of elemental carbon with adsorbed compounds such as

organic compounds, sulfate, nitrate, metals, and other trace elements. Diesel exhaust is emitted from a broad range of diesel engines, such as the on-road diesel engines of trucks, buses, and cars, and off-road diesel engines that include locomotives, marine vessels, and heavy-duty equipment (CARB 2019a).

Asbestos

Asbestos is a fibrous mineral that both naturally occurs in ultramafic rock (a rock type commonly found in California) and is used as a processed component of building materials. Because asbestos has been proven to cause a number of disabling and fatal diseases, such as asbestosis and lung cancer, it is strictly regulated either based on its natural widespread occurrence or in its use as a building material. In the initial Asbestos National Emission Standards for Hazardous Air Pollutants rule promulgated in 1973, a distinction was made between building materials that would readily release asbestos fibers when damaged or disturbed (friable) and those materials that were unlikely to result in significant fiber release (non-friable). The EPA has since determined that, when severely damaged, otherwise non-friable materials can release significant amounts of asbestos fibers. Asbestos has been banned from many building materials under the Toxic Substances Control Act, FCAA, and the Consumer Product Safety Act. Naturally occurring asbestos (NOA) is known to occur in many parts of California and is commonly associated with ultramafic or serpentinite rock. According to the U.S. Geological Survey (USGS) Geologic Map, the proposed project is not located in an area known to contain ultramafic or serpentinite rock (USGS 2011).

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, childcare centers, playgrounds, retirement homes, convalescent homes, hospitals, and medical clinics. Existing sensitive receptors in the vicinity of the project site include Bayshore Elementary School, which is located approximately 320 feet north of the northern most portion of the project site, as well as residences west of the project site.

Air Quality Standards

According to CARB, “Federal clean air laws require areas with unhealthy levels of ozone, inhalable particulate matter, carbon monoxide, nitrogen dioxide, and sulfur dioxide to develop plans, known as State Implementation Plans (SIPs). A SIP is a prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain federal standards. The 1990 amendments to FCAA set deadlines for attainment based on the severity of an area's air pollution problem” (CARB 2019b).

The SIP for the State of California is administered by the CARB, which has overall responsibility for statewide air quality maintenance and air pollution prevention. California’s SIP incorporates individual federal attainment plans for each regional air district. SIPs are prepared by the regional air district and sent to CARB to be approved and incorporated into the California SIP. Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms.

The CARB also administers CAAQS for the 10 air pollutants designated in the California Clean Air Act. The 10 state air pollutants are the six federal standards listed above as well as visibility-reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride. The federal ambient air quality standards and CAAQS are summarized in Table 4.3-1.

Table 4.3-1: California and National Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]	National Standards[2]	
		Concentration	Primary[3]	Secondary[4]
Ozone[5]	1 Hour	0.09 ppm (180 µg/m^3)	—	Same as Primary Standard
	8 Hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	
Respirable Particulate Matter[6]	24 Hour	50 µg/m^3	150 µg/m3	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m^3	—	
Fine Particulate Matter[6]	24 Hour	—	35 µg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3	
Carbon Monoxide	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	—
	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	—
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)	—	—
Nitrogen Dioxide	1 Hour	0.18 ppm (339 µg/m^3)	100 ppb (188 µg/m^3)	—
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary Standard
Sulfur Dioxide[7]	1 Hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)	—
	3 Hour	—	—	0.5 ppm (1300 µg/m^3)
	24 Hour	0.04 ppm (105 µg/m^3)	0.14 ppm (for certain areas)	—
	Annual Arithmetic Mean	—	0.030 ppm (for certain areas)	—
Lead[8, 9]	30-Day Average	1.5 µg/m^3	—	—
	Calendar Quarter	—	1.5 µg/m^3	Same as Primary Standard
	Rolling 3-Month Average	—	0.15 µg/m^3	
Visibility-Reducing Particles[10]	8 Hour	See Footnote 1	No National Standards	
Sulfates	24 Hour	25 µg/m^3		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)		
Vinyl Chloride[8]	24 Hour	0.01 ppm (26 µg/m^3)		

Notes:

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
3. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
4. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
5. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
6. On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM_{10} standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
7. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
8. The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
9. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
10. In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

$\mu g/m^3$ = micrograms per cubic meter

CARB = California Air Resources Board

mg/m^3 = milligrams per cubic meter

$PM_{2.5}$ = particulate matter 2.5 microns in diameter or less

PM_{10} = particulate matter 10 microns in diameter or less

ppb = parts per billion

ppm = parts per million

SO_2 = sulfur dioxide

Source: CARB 2019a

As summarized in Table 4.3-2, SFBAAB and San Mateo County are currently designated as nonattainment areas for state ozone, particulate matter 2.5 microns in diameter or less ($PM_{2.5}$), and particulate matter 10 microns in diameter or less (PM_{10}) standards, as well as federal ozone and $PM_{2.5}$ standards, but are listed as unclassified under national PM_{10}. The standards for carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead are being met in the Bay Area. Because SFBAAB is nonattainment for the federal and state ozone standards, BAAQMD has prepared an ozone attainment demonstration plan to satisfy the federal 1-hour zone planning requirement and a clean air plan to satisfy the state's 1-hour ozone planning requirement. The 2017 Clean Air Plan, which was adopted in April 2017, builds from and incorporates components of the 2010 Clean Air Plan and is designed to provide integrated control strategies to reduce ozone, particulate matter (PM), TACs, and GHGs.

Table 4.3-2: San Mateo County Area Designations for State and National Ambient Air Quality

Criteria Pollutants	State Designation	National Designation
Ozone	Non-attainment	Non-attainment
PM_{10}	Non-attainment	Unclassified
$PM_{2.5}$	Non-attainment	Non-attainment
Carbon Monoxide	Attainment	Unclassified/Attainment
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified
Sulfates	Attainment	—
Lead	Attainment	Unclassified/Attainment
Hydrogen Sulfide	Unclassified	—
Visibility Reducing Particles	Unclassified	—

Notes:
$PM_{2.5}$ = particulate matter 2.5 microns in diameter or less
PM_{10} = particulate matter 10 microns in diameter or less
Source: CARB 2018a

Nearly all development projects in the Bay Area have the potential to generate air pollutants that may increase the difficultly of attaining federal ambient air quality standards and CAAQS. Therefore, for most projects, evaluation of air quality impacts is required to comply with CEQA. To help public agencies evaluate air quality impacts, BAAQMD has developed the CEQA Air Quality Guidelines. BAAQMD's guide includes recommended thresholds of significance, including mass emission thresholds for construction-related and operational ozone precursors. The BAAQMD's guide also includes screening criteria for localized CO emissions and thresholds for new stationary sources of TACs (BAAQMD 2017).

Table 4.3-3 presents the thresholds of significance for reactive organic gases (ROG), nitrogen oxides (NOX), construction-related particulate matter, operational CO, and carbon dioxide equivalent (CO2e), which are based on substantial evidence, as presented in Appendix D of the BAAQMD's *2017 CEQA Air Quality Guidelines and 2009 Revised Draft Options and Justification Report, CEQA Thresholds of Significance*. The BAAQMD's CEQA Thresholds of Significance were developed as a result of substantial supreme court decisions, such as the Sierra Club v. County of Fresno (226 Cal. App. 4th 704) court case.

Table 4.3-3: 2017 BAAQMD Proposed Project-Level Air Quality CEQA Thresholds of Significance

Criteria Pollutants	Construction-Related	Operational-Related	
Criteria Air Pollutants and Precursors (regional)	**Average Daily Emissions (lbs/day)**	**Average Daily Emissions (lbs/day)**	**Maximum Annual Emissions (tpy)**
ROG	54	54	10
NO_x	54	54	10
PM_{10} (exhaust)	82	82	15
$PM_{2.5}$ (exhaust)	54	54	10
$PM_{10}/PM_{2.5}$ (fugitive dust)	Best Management Practices	None	

Criteria Pollutants	Construction-Related	Operational-Related
Local CO	None	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)
GHGs (projects other than stationary sources)	None	Compliance with Qualified GHG Reduction Strategy OR 1,100 $MTCO_2e$/yr OR 4.6 $MTCO_2e$/SP/yr (residents + employees)

Notes:
CO = carbon monoxide
GHG = greenhouse gas
lbs/day= pounds per day
$MTCO_2e$/yr= metric tons of carbon dioxide equivalent per year
$MTCO_2e$/SP/yr= metric tons of carbon dioxide equivalent per service population per year
NO_X = nitrogen oxide
$PM_{2.5}$ = particulate matter 2.5 microns in diameter or less
PM_{10} = particulate matter 10 microns in diameter or less
ppm = parts per million
ROG = reactive organic gas
tpy= trips per year
Source: BAAQMD 2017

In its June 2009 *Thresholds of Significance Justification Report*, *CEQA Thresholds of Significance,* BAAQMD provides evidence to support the development and applicability of its thresholds of significance for project-generated emissions of criteria pollutants and precursors, which may be used at the discretion of a lead agency overseeing the environmental review of projects located within the San Francisco Bay Area Air Basin. As stated in the BAAQMD Justification Report, the "formulation of a standard of significance requires the lead agency to make a policy judgement about where the line should be drawn to distinguish adverse impacts it considers significant from those that are not deemed significant. This judgment must; however, be based on scientific information and other factual data to the extent possible" (BAAQMD 2009). Notably, CEQA-related air quality thresholds of significance are tied to achieving or maintaining attainment designation with the national air quality standards and state air quality standards, which are scientifically substantiated, numerical concentrations of criteria air pollutants considered to be protective of human health.

BAAQMD has established rules and regulations to attain and maintain federal air quality standards and CAAQS. The rules and regulations that apply to this proposed project include but are not limited to the following (BAAQMD 2019):

Regulation 2, Rule 2

New Source Review. This rule requires any new source resulting in an increase of any criteria pollutant to be evaluated for adherence to best available control technology. For compression internal combustion engines, best available control technology requires that the generator be fired on "California Diesel Fuel" (fuel oil with a sulfur content less than 0.05% by weight and less than 20% by volume of aromatic hydrocarbons). All stationary internal combustion engines larger than 50 horsepower must obtain a Permit to Operate. If the engine is diesel-fueled, then it must also comply with the District-administered Statewide Air Toxics Control Measure for Stationary Diesel Engines.

Regulation 2, Rule 5

New Source Review of Toxic Air Contaminants. This rule applies to preconstruction review of new and modified sources of toxic air contaminants, contains project health risk limits, and requires Toxics Best Available Control Technology.

Regulation 8, Rule 3

Architectural Coatings. This rule governs the manufacture, distribution, and sale of architectural coatings and limits the ROG content in paints and paint solvents. Although this rule does not directly apply to the proposed project, it does dictate the ROG content of paint available for use during the construction.

Regulation 8, Rule 15

Emulsified and Liquid Asphalts. Although this rule does not directly apply to the proposed project, it does dictate the ROG content of asphalt available for use during the construction through regulating the sale and use of asphalt and limits the ROG content in asphalt.

Formaldehyde

The Composite Wood Products Regulation (17 CCR 93120 et seq.) is a CARB regulation that reduces public exposure to formaldehyde through the establishment of strict emission performance standards on particleboard, medium density fiberboard and hardwood plywood (collectively known as composite wood products). The regulation, adopted in 2007, established two phases of emissions standards: an initial Phase I, and later, a more stringent Phase 2 that requires all finished goods, such as flooring, destined for sale or use in California to be made using complying composite wood products. As of January 2014, only Phase 2 products are legal for sale in California.

On December 12, 2016, EPA published in the Federal Register a final rule to reduce exposure to formaldehyde emissions from certain wood products produced domestically or imported into the United States. EPA worked with CARB to help ensure the final national rule was consistent with California's requirements for similar composite wood products.

CALGREEN (CCR Title 24, Part 11) includes mandatory and voluntary measures for building materials, including formaldehyde emissions limits consistent with CARB's Composite Wood Products Regulation. (See CALGREEN Section 5.504.5 in the mandatory requirements for non-residential development).

4.3.2 Previous Environmental Analysis

City of Daly City General Plan EIR Summary

Chapter 3.2 of the General Plan Draft EIR evaluated the potential impacts of future development on ambient air quality and the potential for exposure of people, including sensitive receptors, to unhealthy pollutant concentrations. The General Plan EIR determined implementation of General Plan policies would reduce potential air quality impacts to less than significant levels.

The following General Plan policies would be applicable to the proposed project:

Policy RME-5: Assess projected air emissions from new development and associated construction and demolition activities in conformance with the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines, and relative to state and federal standards.

Policy RME-6: Minimize exposure of residents to objectionable smoke and odors by proactively regulating potential sources.

Plan Bay Area EIR Summary

The following summarizes the potential air quality impacts discussed in Chapter 2.2 of the Plan Bay Area EIR and includes the complete text of mitigation measures previously identified by the Plan Bay Area EIR that are applicable to the proposed project.

Impact 2.2-1: Applicable Air Quality Plan. The Plan Bay Area EIR analyzed the potential impact related to conflicting with or obstructing implementation of an applicable air quality plan, which includes the BAAQMD 2017 Clean Air Plan and determined there would be a less than significant impact. No mitigation measures were identified.

Impact 2.2-2: Net Increase in Construction-Related Emissions. The Plan Bay Area EIR analyzed the potential impact related to substantial increase in construction-related emissions and determined with implementation of Plan Bay Area EIR Mitigation Measures 2.2-2, the impact would be less than significant (Refer to Impact AIR-1 in Section 4.4.3, Project-Specific Analysis). Projects using CEQA streamlining provisions of SB 375 must apply Mitigation Measure 2.2-2 to address site-specific conditions.

> ***PBA EIR MM 2.2-2:*** *When screening levels are exceeded (refer to Table 2.2-8 of PBA EIR), implementing agencies and/or project sponsors shall implement measures, where applicable, feasible, and necessary based on project- and site-specific considerations, that include, but are not limited to the following:*
>
> *Construction Best Practices for Exhaust*
>
> - *The applicant/general contractor for the project shall submit a list of all off-road equipment greater than 25 horsepower (hp) that would be operated for more than 20 hours over the entire duration of project construction, including equipment from subcontractors, to BAAQMD for review and certification. The list shall include all information necessary to ensure the equipment meets the following requirement:*
> - *1) Be zero emissions OR 2) have engines that meet or exceed either EPA or ARB Tier 2 off-road emission standards; and 3) have engines that are retrofitted with an ARB Level 3 Verified Diesel Emissions Control Strategy (VDECS), if one is available for the equipment being used. Equipment with engines that meet Tier 4 Interim or Tier 4 Final emission standards automatically meet this requirement; therefore, a VDECS would not be required.*
> - *Idling time of diesel powered construction equipment and trucks shall be limited to no more than two minutes. Clear signage of this idling restriction shall be provided for construction workers at all access points.*
> - *All construction equipment shall be maintained and properly tuned in accordance with the manufacturers' specifications.*
> - *Portable diesel generators shall be prohibited. Grid power electricity should be used to provide power at construction sites; or propane and natural gas generators may be used when grid power electricity is not feasible.*

Construction Best Practices for Dust

- *All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. For projects over five acres in size, soil moisture should be maintained at a minimum of 12 percent. Moisture content can be verified by lab samples or a moisture probe.*
- *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. Dry power sweeping should only be performed in conjunction with thorough watering of the subject roads.*
- *All vehicle speeds on unpaved roads and surfaces shall be limited to 15 mph.*
- *All roadway, driveway, and sidewalk paving shall be completed as soon as possible. Building pads shall be paved as soon as possible after grading.*
- *All construction sites shall provide a posted sign visible to the public with the telephone number and person to contact at the Lead Agency regarding dust complaints. The recommended response time for corrective action shall be within 48 hours. BAAQMD's Complaint Line (1-800-334-6367) shall also be included on posted signs to ensure compliance with applicable regulations.*
- *All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.*
- *Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.*
- *Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.*
- *The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.*
- *All trucks and equipment, including their tires, shall be washed off before leaving the site.*
- *Site accesses to a distance of 100 feet from the paved road shall be treated with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel.*
- *Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.*

These BMPs are consistent with recommendations in BAAQMD's CEQA guidelines and Planning Healthy Places [BAAQMD 2017]. Applicable mitigation measures shall be required at the time grading permits are issued.

Impact 2.2-3: Net Increase in Emissions of Criteria Pollutants. The Plan Bay Area EIR analyzed the potential impacts related to a net increase in emissions of criteria pollutants compared to existing conditions. The Plan Bay

Area EIR determined that implementation of the proposed Plan could result in a net decrease in ROG, NO_x, and CO emissions; however, it could also result in a net increase of PM emissions. The Plan would result in a net increase of criteria pollutants from mobile and area-sources compared to existing conditions. The Plan Bay Area EIR identified Mitigation Measures 2.2-3(a) through 2.2-3(d) to reduce PM emissions from mobile and area-sources. The MTC/ABAG cannot require local implementing agencies to adopt some or all of Mitigation Measures 2.2-3(a) through 2.2-3(d); therefore, for the program-level review, this impact was determined to be significant and unavoidable. Although the proposed project would result in an increase of criteria pollutants, these Mitigation Measures are not applicable to the proposed project, and project-specific mitigation has been included in the impact analysis.

Impact 2.2-4: Cumulative Net Increase in Emissions of Criteria Pollutants. The Plan Bay Area EIR analyzed the localized net increase in TACs or $PM_{2.5}$ concentrations at sensitive receptors and determined that the impact would be less than significant. No mitigation measures were identified.

Impact 2.2-5: Sensitive Receptors Exposure to TACs and $PM_{2.5}$ Concentrations in Transit Priority Areas. The Plan Bay Area EIR analyzed the localized net increase TACs or $PM_{2.5}$ concentrations in transit priority areas that would result in a cancer risk level greater than 100 in a million and determined that, with the implementation of Plan Bay Area Mitigation Measure 2.2-5(a), the impact would be less than significant. According to Figure 2.2-10 in the Plan Bay Area EIR, the proposed project is not located within a TAC risk area. Therefore, Mitigation Measure 2.2-5(a) would not be applicable to the proposed project.

Impact 2.2-6: Increase of TACs and/or $PM_{2.5}$ Emissions in Disproportionally Impacted Communities. Implementation of the Plan Bay Area could result in changes in TAC and/or $PM_{2.5}$ exposure levels that would disproportionally impact minority and low-income communities. These impacts would vary across counties. The Plan Bay Area EIR identified Mitigation Measures 2.2-6(a) through 2.2-6(d); however, the impact would remain significant and unavoidable. These Mitigation Measures are plan-level specific and are not applicable to the proposed project.

Impact 2.2-7: Substantial Odors. As discussed in the Plan Bay Area EIR, objectionable odors associated with construction of the proposed Plan would be regulated through BAAQMD regulations, or would otherwise be temporary and be subject to local zoning ordinances as well as local air district permitting processes. Therefore, the Plan Bay Area EIR determined that impacts would be less than significant. No mitigation measures were identified.

4.3.3 Project-Specific Analysis

As of August 5, 2013, the BAAQMD requires the use of the California Emissions Estimator Model (CalEEMod) for CEQA-related air quality and GHG analyses. To assess potential air quality and GHG emissions generated from the proposed project, CalEEMod was run using estimations of proposed project construction activities and predicted future operational parameters (Appendix D). The model was run using the following assumptions/project details:

- Construction would begin in 2021 and it is estimated that all phases would be completed by 2026 (6-years of construction anticipated). Once constructed, the proposed project would generate approximately 3,106 daily trips.
- Solar thermal or photovoltaic panels would be included as a project design feature. The amount of onsite renewable energy is unknown; therefore, no reductions for onsite renewable energy were quantified. In addition, electricity emissions estimates are only relevant to GHG emissions.
- As a project design feature, the proposed project would be built to achieve energy efficiency improvements that would exceed 2016 Title 24 standards by at least 10 percent.

- The proposed project would be required to comply with existing regulations. For instance, compliance with BAAQMD Regulation 6, Rule 3, Wood-burning Devices, would be required by existing regulations.
- Existing land uses occupying the site would be removed as part of the proposed project. Existing land uses, as represented to estimate existing emissions, are described below:
    - The Bayshore Child-Care Center serving 109 students and 150 low-rise apartment units.
- The results of the CalEEMod simulation are enumerated in Tables 4.3-4 and 4.3-5 form the basis for the results analysis.

The 2017 BAAQMD adopted significance thresholds for construction-related and operational ROG, NO_X, PM, CO, and CO_2e, these thresholds are included in Table 4.3-3.

Impact AIR-1 Conflict with or obstruct implementation of the applicable air quality plan?

Impact Analysis

The BAAQMD's 2017 Clean Air Plan is the regional air quality plan (AQP) for SFBAAB. It identifies strategies to bring regional emissions into compliance with federal and state air quality standards. The BAAQMD's Guidance provides two criteria for determining if a plan-level project is consistent with the current AQP control measures. However, the BAAQMD does not provide a threshold of significance for project-level consistency analysis. Therefore, the following criteria will be used for determining a project's consistency with the AQP.

- Criterion 1: Does the project support the primary goals of the AQP?
- Criterion 2: Does the project include applicable control measures from the AQP?
- Criterion 3: Does the project disrupt or hinder implementation of any AQP control measures?

Criterion 1

The primary goals of the 2017 Clean Air Plan, the current AQP to date, are as follows:

- Attain air quality standards.
- Reduce population exposure to unhealthy air and protecting public health in the Bay Area.
- Reduce GHG emissions and protect the climate.

The proposed project supports the primary goals of the AQP by providing a mixed-use, pedestrian-oriented development within an existing urbanized community, adjacent to alternative transit infrastructure, jobs, housing, and community services.

Additionally, the proposed project's air quality modeling indicates that all emissions of criteria pollutants would be below the BAAQMD 2017 significance thresholds as shown in Table 4.3-4 and Table 4.3-5; thus, the proposed project would facilitate achievement of the primary goals of the AQP.

Table 4.3-4: Construction Emissions (Unmitigated Average Daily Rate)

Parameter	Air Pollutants			
	ROG	NO_X	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)
Total Emissions (tons)	7.37	10.25	0.41	0.38
Total Emissions (pounds)	14,740	20,500	820	760
Average Daily Emissions (pounds/day)[1]	18.11	25.18	1.01	0.93
Significance Threshold (pounds/day)	**54**	**54**	**82**	**54**
Exceeds Significance Threshold?	No	No	No	No

Notes:

1. Calculated by dividing the total number of pounds by the total 814 working days of construction for the entire construction period.

Calculations use rounded totals.

lbs = pounds

NO_X = oxides of nitrogen

PM_{10} = particulate matter 10 microns in diameter

$PM_{2.5}$ = particulate matter 2.5 microns in diameter

ROG = reactive organic gases

Source of thresholds: BAAQMD 2017

Source of emissions: CalEEMod Output (see Appendix D).

Table 4.3-5: Annual Operational Emissions (Unmitigated)

Emissions Source	Tons per Year			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Area	4.21	0.06	0.02	0.02
Energy	0.06	0.49	0.04	0.04
Mobile (Motor Vehicles)	0.86	2.39	3.66	1.00
Total Project Annual Emissions	5.12	2.94	3.72	1.06
Existing Emissions	1.11	0.91	1.11	0.32
Net Project Annual Emissions	4.01	2.03	2.61	0.75
Significance Threshold (tons per year)	**10**	**10**	**15**	**10**
Exceeds Significance Threshold?	No	No	No	No

Notes:

NO_X = oxides of nitrogen

$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

PM_{10} = particulate matter 10 microns or less in diameter
ROG = reactive organic gases
Source: CalEEMod output (see Appendix D).

Table 4.3-6: Daily Operational Emissions (Unmitigated)

Emissions Source	Pounds per Day			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Net Project Annual Emissions (tons/year)	4.01	2.03	2.61	0.75
Net Project Annual Emissions (pounds/year)	8,023	4,064	5,226	1,495
Significance Threshold	54	54	82	54
Exceeds Significance Threshold?	No	No	No	No

Notes:
NO_X = oxides of nitrogen
$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter
PM_{10} = particulate matter 10 microns or less in diameter
ROG = reactive organic gases
Source: CalEEMod output (see Appendix D).

Criterion 2

The 2017 Clean Air Plan contains 85 control measures aimed at reducing air pollution in the Bay Area. Along with the traditional stationary, area, mobile source, and transportation control measures, the 2017 Clean Air Plan contains a number of new control measures designed to protect the climate and promote mixed-use, compact development to reduce vehicle emissions and exposure to pollutants from stationary and mobile sources.

The project site is currently served and would continue to be served by MUNI Route 9 with a stop approximately 0.30 mile north of the proposed project; by SamTrans bus service via Routes 24 and 29, with the closest stop located approximately 0.25 mile from the proposed project. The Daly City Bayshore Shuttle operated by SamTrans provides free shuttle service between the Daly City BART station and Bayshore Boulevard/Geneva Avenue, with a connection to the Balboa BART station. The shuttle has a stop immediately fronting the proposed project. The Caltrain station nearest to the project site is the Bayshore Station, which is located approximately 1.5 miles from the project site on Tunnel Avenue at the border of Brisbane and San Francisco. The nearest BART station is the Balboa BART station, located approximately 2.25 miles northwest of the project site. Trains run on approximately 15-minute headways during commute hours. The proposed project would also provide bicycle parking spaces and interior bicycle storage within individual buildings which does not currently exist in the Midway Village area. In accordance with the Daly City General Plan, the proposed project would incorporate strategies and improvements that would commit to using transportation demand management strategies and actions decreasing the dependency on single-occupant automobiles and increase transit use, ridesharing, and walking. The proposed project would also provide bicycle parking spaces and interior bicycle storage within individual buildings which does not currently exist in the Midway Village area. In accordance with the Daly City General Plan, the proposed project would incorporate strategies and

improvements that would commit to using transportation demand management strategies and actions decreasing the dependency on single-occupant automobiles and increase transit use, ridesharing, and walking.

Relative to the energy and climate measures contained in the 2017 Clean Air Plan, the proposed project applicant would be required to conform to the energy efficiency requirements of the California Building Standards Code, also known as Title 24. The Building Efficiency Standards were adopted, in part, to meet an Executive Order in the Green Building Initiative to improve the energy efficiency of nonresidential buildings through aggressive standards. Title 24 has been recently updated, including certain revisions to the energy usage components of the CALGreen Code. The Title 24 standards are updated on an approximately 3-year cycle to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy-efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2019 Standards are 7 percent more efficient than 2016 Standards for residential construction; however, once rooftop solar electricity generation is factored in, 2019 standards will use approximately 53 percent less energy than 2016 standards. Nonresidential buildings will use approximately 30 percent less energy. The proposed project would be required to comply with the then-current version of the CALGreen Code.

In summary, the proposed project would meet all of the energy and climate measures contained in the 2017 Clean Air Plan through project design features and implementation of Mitigation Measure AIR-1 (PBA EIR MM 2.2-2).

Criterion 3

The proposed project would not preclude extension of a transit line or bike path, propose excessive parking beyond parking requirements, or otherwise create an impediment or disruption to implementation of any AQP control measures. Additionally, the project site would include perimeter paths which would residents and visitors to access San Mateo County transit stops adjacent to the site.

Level of Significance Before Mitigation

Potentially Significant Impact.

Mitigation Measures

Mitigation Measure AIR-1 (PBA EIR MM 2.2-2) is required.

Level of Significance After Mitigation

Less Than Significant Impact With Mitigation.

Impact AIR-2 Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable Federal or State ambient air quality standard?

Impact Analysis

A cumulative impact analysis considers a project over time in conjunction with other past, present, and reasonably foreseeable future projects whose impacts might compound those of the project being assessed. Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants, including ozone and PM, is a result of past and present development, and thus, cumulative impacts related to these pollutants could be considered cumulatively significant. Future attainment of standards is a function of successful implementation of BAAQMD attainment plans. Consequently, the BAAQMD's approach to cumulative thresholds of significance is relevant to whether a project's individual emissions would result in a cumulatively considerable contribution to the Bay Area existing cumulative impacts related to air quality conditions. According to the BAAQMD CEQA Guidelines, if a project's emissions would be less than BAAQMD thresholds, the project would not be expected to result in a

cumulatively considerable contribution to a significant cumulative impact. However, exceedance of the project-level thresholds would not necessarily constitute a significant cumulative impact.

As discussed above, the proposed project emissions would be less than the 2017 recommended BAAQMD thresholds. In addition, the proposed project would be required to comply with all applicable BAAQMD rules and regulations. Therefore, the proposed project's individual emissions would not be expected to result in a cumulatively considerable contribution to a significant cumulative impact, and impacts would be considered to be less than significant.

Level of Significance Before Mitigation

Less Than Significant Impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less Than Significant Impact.

Impact AIR-3 Expose sensitive receptors to substantial pollutant concentrations?

Impact Analysis

This discussion addresses whether the proposed project would expose sensitive receptors to construction-generated fugitive dust (PM_{10}), NOA, construction-generated DPM, operational related TACs, or operational CO hotspots. According to BAAQMD, some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, childcare centers, playgrounds, retirement homes, convalescent homes, hospitals, and medical clinics. Existing sensitive receptors in the vicinity of the project site include Bayshore Elementary School, which is located approximately 320 feet north of the northernmost portion of the project site, the existing day care facility, and residences west of the project site. As the proposed project would be built out in phases, the residences that are completed and occupied would also become sensitive receptors.

Fugitive Dust PM_{10}

Fugitive dust (PM_{10}) would be generated from site grading and other earth-moving activities. Most of this fugitive dust would remain localized and would be deposited near the project site. However, the potential for impacts from fugitive dust exists unless control measures are implemented to reduce the emissions from the project site. The project would implement Mitigation Measure AIR-1 (PBA EIR MM 2.2-2) requiring fugitive dust control measures that are consistent with best management practices (BMPs) established by the BAAQMD to reduce the proposed project's construction-generated fugitive dust impacts to a less than significant level.

In addition, due to the potentially contaminated soils on the project site from previous grading and capping activities, it is possible that further contaminated soils could be encountered during demolition and grading activities, particularly in areas that currently have existing structures that would be demolished. Specifically, under Buildings A, A2, and B2, a passive Vapor Barrier would be required to protect against potentially contaminated soils in these areas.

Naturally Occurring Asbestos

Construction in areas of rock formations that contain NOA could release asbestos to the air and pose a health hazard. BAAQMD enforces CARB's air toxic control measures at sites that contain ultramafic rock. The air toxic control measures for construction, grading, quarrying and surface mining operations were signed into state law on July 22, 2002, and became effective in SFBAAB in November 2002. The purpose of this regulation is to reduce public exposure to NOA. A review of the map with areas more likely to have rock formations containing NOA in California indicates that there is no asbestos in the immediate project area (USGS 2011). Therefore, it can be reasonably concluded that the project would not expose sensitive receptors to NOA. Impacts would be less than significant.

Diesel Particulate Matter

A Health Risk Assessment (HRA) was prepared for the project to assess potential criteria pollutant and health impacts that would result from construction of the proposed project, consistent with guidelines and methodologies from BAAQMD, CARB, OEHHA, and EPA (Appendix D). The HRA evaluated the estimated excess lifetime cancer risk and $PM_{2.5}$ concentrations associated with diesel exhaust that would be emitted by onsite construction activities and diesel and gasoline exhaust emitted from vehicles associated with trips generated during construction.

Health risks were estimated for sensitive receptors located with 1,000 feet of the project boundary. A sensitive receptor is defined by the BAAQMD as, "Facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples include schools, hospitals, and residential areas."

The HRA-evaluated DPM (represented as exhaust $PM_{2.5}$) and $PM_{2.5}$ (exhaust $PM_{2.5}$ and fugitive $PM_{2.5}$) emissions generated during construction of the proposed project and the related health risk impacts for sensitive receptors located within 1,000 feet of the project boundary. According to the BAAQMD, a project would result in a significant impact if it would individually expose sensitive receptors to TACs resulting in an increased cancer risk greater than 10.0 in one million, an increased non-cancer risk of greater than 1.0 on the hazard index (chronic or acute), or an annual average ambient $PM_{2.5}$ increase greater than 0.3 micrograms per liter ($\mu g/m^3$).

The project site is located within 1,000 feet of existing and planned sensitive receptors, including existing and planned onsite sensitive receptors, that could be exposed to diesel emission exhaust during the phased construction period. To estimate the potential cancer risk associated with construction of the proposed project from equipment exhaust (including DPM), a dispersion model was used to translate an emission rate from the source location to concentrations at the receptor locations of interest. The impacts were analyzed for seven scenarios based on receptor locations. Scenario 1 analyzed impacts from all phases of construction at existing and planned offsite sensitive receptors within approximately 1,000 feet of the project boundary (Figure 4.3-1). The other six scenarios, which are summarized in Table 4.3-7, analyze the onsite receptors at existing and proposed locations of sensitive receptors.

Table 4.3-7: Summary of Each Scenario Analyzed

Scenario	Description of Scenario
Scenario 1: All Offsite Receptors	All Offsite Receptors: Exposed to Phases 1+2+3+4 Demolition and Phases 1+2+3+4 Construction
Scenario 2: Existing Phase 2 Receptors	Existing Phase 2 Receptors: Exposed to Phase 1 Demolition and Phase 1 Construction

Scenario	Description of Scenario
Scenario 3: Existing Phase 3 Receptors	Existing Phase 3 Receptors: Exposed to Phases 1+2 Demolition and Phases 1+2 Construction
Scenario 4: Existing Phase 4 Receptors	Existing Phase 4 Receptors: Exposed to Phases 1+2+3 Demolition and Phases 1+2+3 Construction
Scenario 5: New Phase 1 Receptors	New Phase 1 Receptors: Exposed to Phases 2+3+4 Demolition and Phases 2+3+4 Construction
Scenario 6: New Phase 2 Receptors	New Phase 2 Receptors: Exposed to Phases 3+4 Demolition and Phases 3+4 Construction
Scenario 7: New Phase 3 Receptors	New Phase 3 Receptors: Exposed to Phases 4 Demolition and Phases 4 Construction

Source: Stantec 2020, Appendix D.

The construction DPM emissions were assumed to be generated within the project area being constructed in each phase. Because the demolition and construction phasing areas differ, emissions from demolition activities were assumed to be generated with the demolition phasing areas. The demolition phasing areas are shown in Figure 2.3-4, while the construction phasing areas are shown in Figure 2.3-5. Construction was assumed to occur on a schedule of 8 hours per day and 5 days per week.

Table 4.3-8 presents a summary of the project's construction cancer risk, chronic non-cancer hazard, and $PM_{2.5}$ concentration impacts at the Maximum Impacted Receptor (MIR) prior to the application of any equipment mitigation for each scenario analyzed. Annual $PM_{2.5}$ emissions were estimated assuming implementation of Mitigation Measure AIR-1 (PBA EIR 2.2-2).

Table 4.3-8: Estimated Health Risks and Hazards during Project Construction—Unmitigated

Scenario	Cancer Risk (risk per million)	Chronic Non-Cancer Hazard Index[2]	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Scenario 1: All Offsite Receptors			
Risks and Hazards at the MIR: Infant[1]	62.10	0.07791	0.5506
Risks and Hazards at the MIR: Child[1]	31.24	0.07791	0.5506
Risks and Hazards at the MIR: Adult[1]	3.47	0.07791	0.5506
Scenario 2: Existing Phase 2 Receptors			
Risks and Hazards at the MIR: Infant[1]	49.65	0.09340	0.5911
Risks and Hazards at the MIR: Child[1]	11.21	0.09340	0.5911
Risks and Hazards at the MIR: Adult[1]	1.25	0.09340	0.5911

Scenario	Cancer Risk (risk per million)	Chronic Non-Cancer Hazard Index[2]	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Scenario 3: Existing Phase 3 Receptors			
Risks and Hazards at the MIR: Infant[1]	54.35	0.06819	0.8452
Risks and Hazards at the MIR: Child[1]	27.34	0.06819	0.8452
Risks and Hazards at the MIR: Adult[1]	3.04	0.06819	0.8452
Scenario 4: Existing Phase 4 Receptors			
Risks and Hazards at the MIR: Infant[1]	91.57	0.11489	0.4904
Risks and Hazards at the MIR: Child[1]	46.07	0.11489	0.4904
Risks and Hazards at the MIR: Adult[1]	5.11	0.11489	0.4904
Scenario 5: New Phase 1 Receptors			
Risks and Hazards at the MIR: Infant[1]	106.28	0.09522	0.6683
Risks and Hazards at the MIR: Child[1]	26.75	0.09522	0.6683
Risks and Hazards at the MIR: Adult[1]	2.97	0.09522	0.6683
Scenario 6: New Phase 2 Receptors			
Risks and Hazards at the MIR: Infant[1]	73.53	0.08857	0.7229
Risks and Hazards at the MIR: Child[1]	13.49	0.08857	0.7229
Risks and Hazards at the MIR: Adult[1]	1.50	0.08857	0.7229
Scenario 7: New Phase 3 Receptors			
Risks and Hazards at the MIR: Infant[1]	30.12	0.03628	0.2328
Risks and Hazards at the MIR: Child[1]	5.43	0.03628	0.2328
Risks and Hazards at the MIR: Adult[1]	0.61	0.03628	0.2328
Highest From Any Scenario			
Risks and Hazards at the MIR	106.28	0.11489	0.8452
BAAQMD Thresholds of Significance	**10**	**1**	**0.30**
Exceeds Individual Source Threshold?	Yes	No	Yes

Notes:
$\mu g/m^3$ = micrograms per liter
BAAQMD = Bay Area Air Quality Management District
MIR = Maximum Impacted Receptor
$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter
1. The MIR for each scenario analyzed is shown in Table 4.3-8.

Scenario	Cancer Risk (risk per million)	Chronic Non-Cancer Hazard Index[2]	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)

2. Chronic non-cancer hazard index was estimated by dividing the annual DPM concentration (as $PM_{2.5}$ exhaust) by the REL of 5 $\mu g/m^3$.

Source: Stantec 2020, Appendix D.

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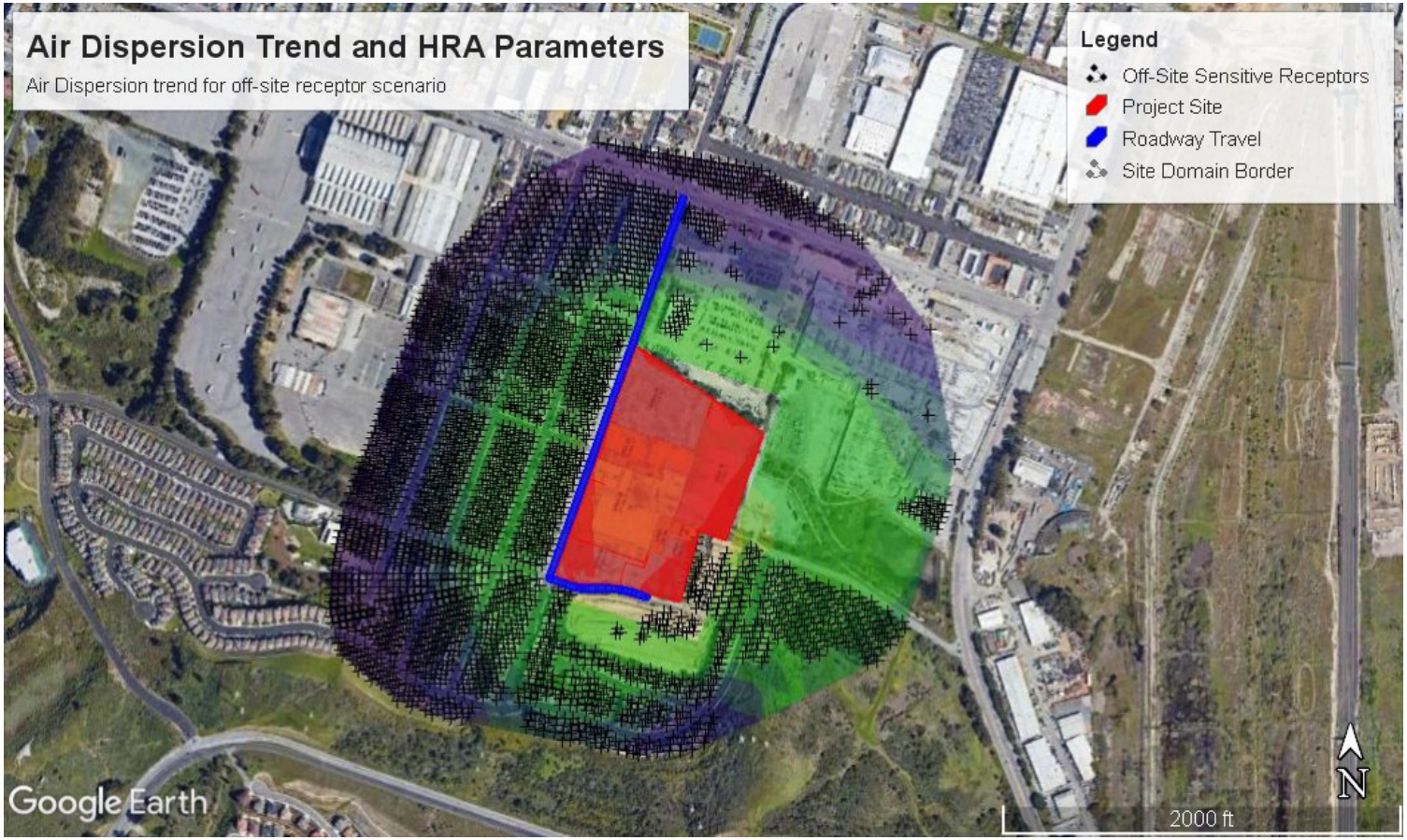

Stantec

Figure No.
4.3-1

Title
Modeling Parameters (Off-site Sensitive Receptors Scenario)

Client/Project
City of Daly City
Midway Village Redevelopment Project

Project Location
Daly City, CA

185704589

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As shown above in Table 4.3-8, the project construction DPM emissions would not exceed the BAAQMD's chronic non-cancer hazard index threshold of significance at the MIR in any scenario; however, the project construction DPM emissions would exceed the BAAQMD's cancer risk threshold of significance, and the proposed project's $PM_{2.5}$ emissions would exceed the BAAQMD's annual $PM_{2.5}$ threshold of significance in at least one scenario. Therefore, Mitigation Measure AIR-2, which requires all construction equipment greater than 50 hp to meet the Tier 4 Interim emissions standards, would be necessary to reduce potentially significant impacts from construction of the proposed project.

Table 4.3-9 presents a summary of the proposed project's construction cancer risk, chronic non-cancer hazard, and $PM_{2.5}$ concentration impacts at the MIR after implementation of Mitigation Measure AIR-2.

Table 4.3-9: Estimated Health Risks and Hazards during Project Construction—Mitigated

Scenario	Cancer Risk (risk per million)	Chronic Non-Cancer Hazard Index[2]	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Scenario 1: All Offsite Receptors			
Risks and Hazards at the MIR: Infant[1]	5.96	0.00747	0.01975
Risks and Hazards at the MIR: Child[1]	3.00	0.00747	0.01975
Risks and Hazards at the MIR: Adult[1]	0.33	0.00747	0.01975
Scenario 2: Existing Phase 2 Receptors			
Risks and Hazards at the MIR: Infant[1]	3.36	0.00632	0.1557
Risks and Hazards at the MIR: Child[1]	0.76	0.00632	0.1557
Risks and Hazards at the MIR: Adult[1]	0.084	0.00632	0.1557
Scenario 3: Existing Phase 3 Receptors			
Risks and Hazards at the MIR: Infant[1]	5.13	0.02127	0.2758
Risks and Hazards at the MIR: Child[1]	2.58	0.02127	0.2758
Risks and Hazards at the MIR: Adult[1]	0.287	0.02127	0.2758
Scenario 4: Existing Phase 4 Receptors			
Risks and Hazards at the MIR: Infant[1]	5.92	0.00743	0.2138
Risks and Hazards at the MIR: Child[1]	2.98	0.00743	0.2138
Risks and Hazards at the MIR: Adult[1]	0.331	0.00743	0.2138
Scenario 5: New Phase 1 Receptors			
Risks and Hazards at the MIR: Infant[1]	14.89	0.01334	0.2748
Risks and Hazards at the MIR: Child[1]	3.75	0.01334	0.2748
Risks and Hazards at the MIR: Adult[1]	0.416	0.01334	0.2748

Scenario	Cancer Risk (risk per million)	Chronic Non-Cancer Hazard Index[2]	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Scenario 6: New Phase 2 Receptors			
Risks and Hazards at the MIR: Infant[1]	7.13	0.00859	0.3273
Risks and Hazards at the MIR: Child[1]	1.31	0.00859	0.3273
Risks and Hazards at the MIR: Adult[1]	0.145	0.00859	0.3273
Scenario 7: New Phase 3 Receptors			
Risks and Hazards at the MIR: Infant[1]	2.61	0.00314	0.0671
Risks and Hazards at the MIR: Child[1]	0.48	0.00314	0.0671
Risks and Hazards at the MIR: Adult[1]	0.05	0.00314	0.0671
Highest From Any Scenario			
Maximum Risks and Hazards	14.89	0.02127	0.3273
BAAQMD Thresholds of Significance	**10**	**1**	**0.30**
Exceeds Individual Source Threshold?	Yes	No	Yes

Notes:

$\mu g/m^3$ = micrograms per liter

BAAQMD = Bay Area Air Quality Management District

MIR = Maximum Impacted Receptor

$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

[1] The MIR for each scenario analyzed is shown in 4.3-8

[2] Chronic non-cancer hazard index was estimated by dividing the annual DPM concentration (as $PM_{2.5}$ exhaust) by the REL of 5 $\mu g/m^3$.

Source: Stantec 2020, Appendix D.

As noted in Table 4.3-9, the proposed project would not exceed any applicable significance threshold after application of Mitigation Measure AIR-2 in Scenarios 1-4 or in Scenarios 7; however, the proposed project would exceed an applicable threshold in both Scenarios 5 and 6. Specifically, the cancer risk in Scenario 5 would exceed the BAAQMD's threshold of 10 in million for the cancer risk health impact, and the applicable $PM_{2.5}$ concentration threshold would be exceeded in Scenario 6. As noted in Table 4.3-7, Scenario 5 analyzes the health impacts of the sensitive receptors that would occupy Phase 1 of the proposed project and would be exposed to emissions from demolition and construction activities associated with Phases 2 through 4 of the proposed project. Scenario 6 analyzes the health impacts of the sensitive receptors that would occupy Phase 2 of the proposed project and could be exposed to emissions from demolition and construction activities associated with Phases 3 and 4 of the proposed project. Because Scenarios 5 and 6 are the only scenarios in which an applicable health risk threshold was exceeded, and because Scenarios 5 and 6 include residential development contemplated by the proposed project, additional mitigation is available to further reduce the potential impact.

Mitigation Measure AIR-3, which requires the installation of MERV 13 filters in proposed residences included in Phases 1 and 2 of the proposed project would be implemented to reduce this impact to less than significant. MERV 13 filters would trap particles at an efficiency rate of 60 percent. After the installation and maintenance of an air

filtration system rated at MERV 13 per Mitigation Measure AIR-3, the cancer risk from project construction at the MIR (a residence in Phase 1 of the proposed project) would be reduced to approximately 6 in a million and the $PM_{2.5}$ concentrations at the MIR (a sensitive receptor in Phase 2 of the proposed project) would be reduced to approximately 0.13 µg/m^3. As shown in Table 4.3-10 the health risk impacts to the future residents would be less than the BAAQMD recommended significance thresholds of 10 in a million and 0.3 µg/m^3, respectively. Therefore, construction of the proposed project would not expose sensitive receptors to substantial pollutant concentrations after the implementation of additional mitigation.

Table 4.3-10: Estimated Health Risks and Hazards during Project Construction—Additional Mitigation

Scenario	Cancer Risk (risk per million)	Chronic Non-Cancer Hazard Index[2]	Annual $PM_{2.5}$ Concentration (µg/m^3)
Scenario 1: All Offsite Receptors			
Risks and Hazards at the MIR: Infant[1]	5.96	0.00747	0.01975
Risks and Hazards at the MIR: Child[1]	3.00	0.00747	0.01975
Risks and Hazards at the MIR: Adult[1]	0.33	0.00747	0.01975
Scenario 2: Existing Phase 2 Receptors			
Risks and Hazards at the MIR: Infant[1]	3.36	0.00632	0.1557
Risks and Hazards at the MIR: Child[1]	0.76	0.00632	0.1557
Risks and Hazards at the MIR: Adult[1]	0.084	0.00632	0.1557
Scenario 3: Existing Phase 3 Receptors			
Risks and Hazards at the MIR: Infant[1]	5.13	0.02127	0.2758
Risks and Hazards at the MIR: Child[1]	2.58	0.02127	0.2758
Risks and Hazards at the MIR: Adult[1]	0.287	0.02127	0.2758
Scenario 4: Existing Phase 4 Receptors			
Risks and Hazards at the MIR: Infant[1]	5.92	0.00743	0.2138
Risks and Hazards at the MIR: Child[1]	2.98	0.00743	0.2138
Risks and Hazards at the MIR: Adult[1]	0.331	0.00743	0.2138
Scenario 5: New Phase 1 Receptors			
Risks and Hazards at the MIR: Infant[1]	5.96	0.00534	0.1099
Risks and Hazards at the MIR: Child[1]	1.50	0.00534	0.1099

Scenario	Cancer Risk (risk per million)	Chronic Non-Cancer Hazard Index[2]	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Risks and Hazards at the MIR: Adult[1]	0.17	0.00534	0.1099
Scenario 6: New Phase 2 Receptors			
Risks and Hazards at the MIR: Infant[1]	2.85	0.00344	0.1309
Risks and Hazards at the MIR: Child[1]	0.52	0.00344	0.1309
Risks and Hazards at the MIR: Adult[1]	0.058	0.00344	0.1309
Scenario 7: New Phase 3 Receptors			
Risks and Hazards at the MIR: Infant[1]	2.61	0.00314	0.0671
Risks and Hazards at the MIR: Child[1]	0.48	0.00314	0.0671
Risks and Hazards at the MIR: Adult[1]	0.05	0.00314	0.0671
Highest From Any Scenario			
Maximum Risks and Hazards	**5.96**	**0.00747**	**0.2758**
BAAQMD Thresholds of Significance	**10**	**1**	**0.30**
Exceeds Individual Source Threshold?	No	No	No

Notes:

$\mu g/m^3$ = micrograms per liter

BAAQMD = Bay Area Air Quality Management District

MIR = Maximum Impacted Receptor

$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

[1] The MIR for each scenario analyzed is shown in 4.3-8

[2] Chronic non-cancer hazard index was estimated by dividing the annual DPM concentration (as $PM_{2.5}$ exhaust) by the REL of 5 $\mu g/m^3$.

Source: Stantec 2020, Appendix D.

Localized CO Emissions

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. Implementation of the proposed project would increase traffic volumes on streets near the project site; therefore, the proposed project would be expected to increase local CO concentrations. Concentrations of CO approaching the ambient air quality standards are only expected where background levels, traffic volumes, and congestion levels are high. The BAAQMD's preliminary screening methodology for localized CO emissions provides a conservative indication of whether project-generated vehicle trips would result in the generation of CO emissions that contribute to an exceedance of the applicable threshold of significance. According to the BAAQMD CEQA Guidelines, the

proposed project would result in a less than significant impact to localized CO concentrations if the following screening 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, a 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.
- 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).

According to the Final Transportation Impact Study prepared for the proposed project by Hexagon Transportation Consultants, Inc., the proposed project would not generate traffic that would result in deterioration of an intersection from acceptable Level of Service (LOS) (LOS A through D) to LOS E or F under existing plus project conditions. As provided in the Existing Plus Project scenario in the Traffic Impact Study, the proposed project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour. Areas where vertical and/or horizontal mixing is substantially limited include areas such as tunnels, parking garages, bridge underpasses, natural or urban street canyons, and below-grade roadways. The proposed project would not be affecting roadways in areas where vertical and/or horizontal mixing is substantially limited; the proposed project would not increase traffic volumes to more than 24,000 vehicles per hour in an area where vertical and/or horizontal mixing is substantially limited. Therefore, in accordance with BAAQMD's second tier screening criteria, the proposed project would not be expected to result in the generation of localized CO emissions in excess of the applicable threshold of significance.

As discussed above, the proposed project would not cause or be exposed to substantial pollutant concentrations, including localized CO or TAC emissions, such as DPM and NOA. Therefore, exposure of sensitive receptors to substantial pollutant concentrations would not occur, and the impact is less than significant.

Level of Significance Before Mitigation

Potentially Significant Impact.

Mitigation Measures

Mitigation Measure AIR-1 (PBA EIR MM 2.2-2), Mitigation Measure AIR-2, and Mitigation AIR-3 are required.

MM AIR-2: **Tier 4 Interim Engine Requirements –** Prior to the issuance of any demolition, grading, or building permits (whichever occurs earliest), the project applicant and/or construction contractor shall prepare a construction operations plan that, during construction activities, requires all off-road equipment with engines greater than 50 horsepower to meet particulate matter emissions standards for Tier 4 Interim engines. The construction contractor shall maintain records documenting its efforts to comply with this requirement, including equipment lists. Off-road equipment descriptions and information shall include but are not limited to equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, and engine serial number. The project applicant and/or construction contractor shall submit the construction operations plan and records of compliance to the City.

MM AIR-3: **Installation of MERV 13 Filters for Phase 1 and Phase 2 –** The applicant shall install high efficiency MERV filters with a rating of 13 in the intake of the residential ventilation systems in all

residential units that would be included in Phases 1 and Phase 2 of the project. To ensure maintenance and replacement of the MERV filters in the individual units, the owner/property manager shall commit to maintaining and replacing the MERV 13 filters in accordance with the manufacturer's recommendations lasting through the end of all construction associated with the proposed project. A signed commitment letter from the owner/property manager shall be submitted to City prior to the first occupancy of Phase 1 of the project.

Level of Significance After Mitigation

Less Than Significant Impact With Mitigation.

Impact AIR-4 Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Impact Analysis

Odors are generally regarded as an annoyance rather than a health hazard. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative methodologies to determine the presence of a significant odor impact do not exist. According to the CARB's Handbook, some of the most common sources of odor complaints received by local air districts are sewage treatment plants, landfills, recycling facilities, waste transfer stations, petroleum refineries, biomass operations, autobody shops, coating operations, fiberglass manufacturing, foundries, rendering plants, and livestock operations. The project site is not located near any such land uses, and the proposed project would not introduce any such land uses.

Residential, retail, or office land uses are not typically associated with the creation of substantial objectionable odors. Diesel fumes from construction equipment are often found to be objectionable; however, construction is temporary, and associated diesel emissions would be regulated per federal, state, and local regulations, including compliance with all applicable BAAQMD rules and regulations, which would help to control construction-related odorous emissions. Therefore, construction of the proposed project would not be expected to create objectionable odors affecting a substantial number of people.

For the aforementioned reasons, construction and operation of the proposed project would not create objectionable odors, nor would the project site be affected by any existing sources of substantial objectionable odors, and a less than significant impact related to objectionable odors would result.

Level of Significance Before Mitigation

Less Than Significant Impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less Than Significant Impact.