3.3 Air Quality

This section summarizes potential air quality impacts resulting from implementation of the Project. This air quality analysis includes a description of existing air quality conditions, an evaluation of potential air quality impacts associated with Project construction and operation, identification of feasible mitigation measures, and discussion of the potential air quality-related cumulative impacts of the Project. The analysis presented in this section is primarily based on the results of an Air Quality Technical Report provided as *Appendix C* to this EIR (Helix, 2023a). An NOP for the Project was released for public review on September 1, 2022 and an EIR Scoping Meeting was held on September 20, 2022. Two comment letters regarding air quality were received. The San Dieguito Community Planning Group (received September 30,2022) requested that the EIR include mitigation measures for potential impacts to air quality due to the Project. Earthjustice noted that the electrification of the proposed Project would reduce air quality impacts.

3.3.1 Existing Conditions

3.3.1.1 Climate and Meteorology

Air quality is affected by the rate and location of pollutant emissions and by meteorological conditions, which influence the movement and dispersal of pollutants. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local topography, provide the link between air pollutant emissions and air quality.

Regional Climate

The Project site is located in the San Diego Air Basin (SDAB), which is contiguous with San Diego County. The climate of San Diego County is characterized by warm, dry summers and mild winters. One of the main determinants of the climatology is a semi-permanent high-pressure area (the Pacific High) in the eastern Pacific Ocean. In the summer, this pressure center is located well to the north, causing storm tracks to be directed north of California. This high-pressure cell maintains clear skies for much of the year. When the Pacific High moves southward during the winter, this pattern changes, and low-pressure storms are brought into the region, causing widespread precipitation. In San Diego County, the months of heaviest precipitation are November through April, averaging about 9 to 14 inches annually. The mean temperature is 62.2 degrees Fahrenheit (°F), and the mean maximum and mean minimum temperatures are 75.7°F and 48.5°F, respectively.

A common atmospheric condition known as a temperature inversion affects air quality in San Diego. During an inversion, air temperatures get warmer rather than cooler with increasing height. Subsidence inversions occur during the warmer months (May through October) as descending air associated with the Pacific high-pressure cell comes into contact with cool marine air. The boundary between the layers of air represents a temperature inversion, which is located approximately 2,000 feet above meal sea level (amsl) during the months of May through October and approximately 3,000 feet amsl during the winter months (November through April). Inversion layers are important determinants of local air quality because they inhibit the dispersion of pollutants, thus resulting in a temporary degradation of air quality.

Local Microclimate

Typically, areas within 30 miles of the coast, including the project site, experience moderate temperatures and comfortable humidity. The average high temperature in the project area is approximately 76° Fahrenheit and the average low temperature is 57° Fahrenheit. Annual precipitation is approximately 16.2 inches, which typically occurs between November and March.

3.3.1.2 Regulatory Setting

Federal and State Air Quality Standards

The Federal Clean Air Act (CAA) requires the adoption of National Ambient Air Quality Standards (NAAQS) to protect the public health, safety, and welfare from the known or anticipated effects of air pollution. The NAAQS are revised when scientific evidence indicates a need. Current primary and secondary standards are set for sulfur dioxide (SO_2), carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), respirable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead (Pb), which are collectively referred to as criteria pollutants. Primary standards are designed to protect human health with an adequate margin of safety, while secondary standards are designed to protect property and the public welfare from air pollutants in the atmosphere. Areas that do not meet the NAAQS or the California Ambient Air Quality Standards (CAAQS) for a particular pollutant are considered to be "nonattainment areas" for that pollutant.

The CAA allows states to adopt ambient air quality standards and other regulations provided they are at least as stringent as federal standards. The California Air Resources Board (CARB), the state regulatory agency of air pollution standards, also established standards for these criteria pollutants and additional pollutants, which are generally more restrictive than the NAAQS. Federal and state standards are shown in Table 3.3-1**,** *California and National Ambient Air Quality Standards.*

Regional Air Quality Standards

In San Diego County, the San Diego Air Pollution Control District (SDAPCD) is the agency responsible for protecting the public health and welfare through the administration of federal and state air quality laws and policies. SDAPCD is responsible for monitoring air pollution, preparing the San Diego County portion of the State Implementation Plan (SIP), and publicizing rules and regulations. The SIP includes strategies and tactics to attain and maintain acceptable air quality in the County. SDAPCD's Regional Air Quality Strategy (RAQS) address State requirements for attainment while the San Diego portion of the California SIP includes strategies to achieve attainment of federal standards. The RAQS rules and regulations include procedures and requirements to control the emission of pollutants and prevent significant adverse impacts.

The SDAPCD rules and regulations that are applicable to the Project are:

- Rule 10 (Permits Required)
- Rule 50 (Visible Emissions)
- Rule 51 (Nuisance)

- Rule 52 (Particulate Matter)
- Rule 54 (Dust and Fumes)
- Rule 55 (Fugitive Dust Control)
- Rule 66.1 (Miscellaneous Surface Coating Operations and Other Processes Emitting
- VOCs)
- Rule 67.0.1 (Architectural Coatings)
- Rule 67.7 (Cutback and Emulsified Asphalts)
- Rule 69.5 (Natural Gas Fired Water Heaters)

3.3.1.3 Existing Air Quality Conditions

Specific geographic areas are classified as either "attainment" or "nonattainment" areas for each pollutant based on the comparison of measured data with federal and state standards. If an area is redesignated from nonattainment to attainment, the CAA requires a revision to the SIP, called a maintenance plan, to demonstrate how the air quality standard will be maintained for at least 10 years.

The SDAB is currently classified as a moderate nonattainment area for the 8-hour NAAQS for ozone and the CAAQS for ozone, PM10, and PM2.5. For all other criteria pollutants under the NAAQS and CAAQS, the SDAB is considered an attainment area or is unclassified.

Ambient air pollutant concentrations in the SDAB are measured at 10 air quality monitoring stations operated by SDAPCD. The closest SDAPCD air quality monitoring station to the Project site is the Kearny Villa Road monitoring station, located at 6125 Kearny Villa Road, approximately 17.5 miles south of the Project site. The Kearny Villa Road station largely represents the existing conditions at the Project site, due to its similar surrounding land uses and meteorological conditions.

Table 3.3-2, *Air Quality Monitoring Data*, presents the most recent available data from the Kearny Villa Road monitoring station as summaries of the exceedances of standards and the highest pollutant levels recorded for years 2018 through 2020. As shown, ambient air concentrations of NO_2, PM_{10}, and $PM_{2.5}$ at the Kearny Villa Road monitoring station have either not exceeded the CAAQS in the past 4 years or there is insufficient data for concentrations. Concentrations of O_3 registered at the monitoring station exceeded the 1-hour CAAQS once, in 2018, and twice in 2020. Concentrations of O_3 registered at the monitoring station exceeded the 8-hour NAAQS and CAAQS once in 2019 and multiple times in 2018 and 2020.

3.3.1.4 Toxic Air Contaminants

The public's exposure to toxic air contaminants (TACs) is a significant public health issue in California. The California Environmental Protection Agency (CalEPA) is authorized to identify a substance as a TAC if it "determines the substance is an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health". In 1998, ARB identified diesel particulate matter (DPM) as a TAC, and it is estimated that approximately 70 percent of total known toxic air-related cancer risks in California is attributable to DPM.

Diesel engines emit a mixture of air pollutants, including solid material known as DPM, and gaseous matter. Sources of DPM emissions include off- road diesel-powered construction equipment for site grading and earthmoving, trenching, asphalt paving, and other construction activities; and from area sources such as industrial parks, warehousing districts, and shipping terminals where there are heavy volumes of diesel-powered trucks on local roads. Most DPM are no larger than 10 microns in diameter, and nearly 90 percent of DPM is less than 2.5 microns in diameter, which can eventually become trapped in various regions of the lung when inhaled.

3.3.2 Analysis of Project Effects and Determinations as to Significance

The Guidelines for the Determination of Significance presented in this section are based on the Final Thresholds of Significance and Analysis Methods document prepared specifically for the Project by the County and subsequent modifications to that document, included as *Appendix N*. In San Diego County, a project would be considered to have a significant adverse effect on air quality if any of the following would occur as a result of a project-related component:

1. Conflict with or obstruct the implementation of the RAQS and/or applicable portions of the SIP; or
2. Result in emissions that would violate any federal or state ambient air quality standards or contribute substantially to an existing or projected air quality violation.
3. Result in a cumulatively considerable increase of emissions of any criteria pollutant for which the project region is in nonattainment under applicable federal or state ambient air quality standards; or
4. Expose sensitive receptors, including, but not limited to, schools, hospitals, residential care facilities, or day care centers, to substantial pollutant concentrations; or
5. Create objectionable odors affecting a substantial number of people.

SDAPCD has not established screening level thresholds (SLT) of significance for regional pollutant emissions from development projects. To provide guidance for project analysis under CEQA, the County has established SLT of significance as shown in Table 3.3-3, *Screening-Level Thresholds for Air Quality Impact Analysis,* which are based on the thresholds for requiring an Air Quality Impact Analysis for stationary source permitting. A project with emission rates below these thresholds is considered to have a less-than-significant effect on regional and local air quality throughout the SDAB.

In the event that project emissions exceed these SLT, specific modeling is required for NO_2, SO_2, CO, and Pb to demonstrate that a project's ground-level concentrations, including appropriate background levels, do not exceed the NAAQS and CAAQS. For O_3 precursors (volatile organic compounds [VOC] and NO_X), PM_{10} and $PM_{2.5}$, exceedance of the applicable SLT results in a significant impact due to the nonattainment status of the SDAB for these pollutants. The pounds per day standards apply to the Project since daily SLT are most applicable for construction and operational emissions (County of San Diego 2007c).

3.3.2.1 Project Conformity with the San Diego Regional Air Quality Strategy

Guidelines for the Determination of Significance

A significant air quality impact would occur if implementation of the Project would do the following:

- Conflict with or obstructs implementation of the San Diego RAQS and/or applicable portions of the SIP, which would lead to increases in the frequency or severity of existing air quality violations.

Guideline Source

The RAQS outlines SDAPCD's plans, and control measures designed to attain state air quality standards for ozone. In addition, SDAPCD relies on the SIP, which includes SDAPCD's plans and control measures for attaining the ozone NAAQS. The RAQS relies on information from CARB and San Diego Association of Governments (SANDAG), including projected growth in the County, to project future emissions and identify the strategies necessary for the reduction of stationary source emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County. As such, projects that propose development that is consistent with the growth anticipated by general plans would be consistent with the RAQS.

Analysis

The RAQS was developed pursuant to California CAA requirements and identifies feasible emission control measures to provide expeditious progress in San Diego County toward attaining the state O_3 standard. The pollutants addressed are VOCs and NO_X, precursors to the photochemical formation of O_3, the primary component of smog. The RAQS do not address emissions of CO or particulate matters (SDAPCD 2009); however, the 2007 SIP includes a CO maintenance plan for the region. The RAQS control measures focus on emission sources under the authority of SDAPCD, specifically, stationary emission sources and some areawide sources. The RAQS indicates that areawide sources mostly derive from residences, including from water heaters, furnaces, architectural coatings, and consumer products, but not including fireplaces. Assumptions for land use development used in the RAQS are taken from local and regional planning documents, including general plan land use designations and zoning.

Consistency with the RAQS is determined by analyzing a project with the assumptions in the RAQS. Thus, the emphasis of this criterion is to evaluate if a project's land uses would be consistent with or less than the emission forecasts for the project site contained in the RAQS. Forecasts used in the RAQS are developed by SANDAG and are based on local general plans and other related documents that are used to develop population projections and traffic projections.

The County General Plan includes the San Dieguito Community Plan, which encompasses the Project site and allows for the development of up to 64 residences. The Project includes a proposed Density Bonus Permit and Administrative Permit to allow for the development of 76 single-family residences, a park, open space, and water quality detention basins. The Project would increase the maximum allowable dwelling units from 64 dwelling units to 76 dwelling units and designate seven of these units

as Low-Income Affordable Housing, with the approval of a Density Bonus Permit. The Project would require an Administrative Permit to allow for clustering of development in the northern portion of Project site to protect sensitive habitat in the southwestern portion of the Project site. The proposed unit increase would be consistent with the County's population increase forecast, which predicts an increase of 1,379 single-family dwelling units from 2020 to 2035 and an additional 504 dwelling units from 2035 to 2050. Therefore, the emissions associated with implementation of the Project have been accounted for in the emissions modeling for the current RAQS and will be accounted for in the future RAQS. Accordingly, implementation of the Project would not exceed the assumptions used to develop the current RAQS and SIP and would not obstruct or conflict with SDAPCD's attainment plans; this impact would be less than significant.

3.3.2.2 Conformance to Federal and State Ambient Air Quality Standards

Guideline for the Determination of Significance

A significant air quality impact would occur if a project exceeded the SLT established by the County.

Guideline Source

The County of San Diego Planning and Development Services Department (PDS) has established quantitative CEQA screening-level significance thresholds to evaluate the potential significance of air quality impacts. Table 3.3-3 presents the quantitative thresholds for air emissions For CEQA purposes, these trigger levels can be used to demonstrate that a project's construction and operational emissions would not result in a significant impact to air quality.

Analysis

Construction Impacts

Construction emissions associated with development of the Project were quantified using the California Emissions Estimator Model (CalEEMod), Version 2022.1. Construction emissions were modeled using Project-specific information when available. When Project-specific information was not available, default assumptions contained in the CalEEMod were used to estimate construction emissions. The construction emissions analysis assumes a Project development start date in January 2026, and a construction completion date in March 2028.

The CalEEMod analysis assessed maximum daily emissions from five construction activities: site preparation, grading, building construction, paving, and architectural coating. Modeling took into account equipment assumptions based on anticipated construction activities. Additionally, modeling took into account conservative assumptions of best management practices (BMPs), including water application a minimum of twice per day, to reduce emissions.

Emissions related to the construction of the Project would be temporary. As shown in Table 3.3-4, *Estimated Construction Emissions*, with implementation of construction BMPs, emissions of all criteria pollutants and precursors would be below the daily thresholds during construction. Therefore, because the Project's construction emissions (including NO_X, VOCs, PM_{10}, and $PM_{2.5}$) would be below

SLT, which were designed to be protective of human health and welfare (as shown in Table 3.3-4), the Project would not result in a net increase in pollutant concentrations for any criteria pollutant for which the Project region is in non-attainment, and the impact would be less than significant.

Operational Impacts

The operation of the Project would result in emissions from mobile and area sources. The assumptions used to estimate the operational emissions are presented below.

Regional pollutant emissions were quantified using the CalEEMod Model, Version 2022.1. Daily vehicle miles traveled (VMT) was estimated to be 5,129 miles per day for the Project's buildout development in the Project's Traffic Impact Study (*Technical Appendix L1)*. Area sources associated with the Project would include landscaping equipment, the use of consumer products, the reapplication of architectural coatings for maintenance, and hearths. Emissions associated with area sources were estimated using the CalEEMod default values with the exception of hearths because the Project would only include electric fireplaces. Land-use types and amounts were obtained from the Project Description. From these assumptions, area- and mobile-source emissions were estimated using CalEEMod.

As shown in Table 3.3-5, *Estimated Daily Operational Emissions*, Project emissions of criteria pollutants and ozone precursors during operation would not exceed the daily screening thresholds. Therefore, the Project's operational emissions would not result in a violation of the NAAQS or CAAQS and the impact would be less than significant.

3.3.2.3 Exposure of Sensitive Receptors to Substantial Pollutant Concentrations

Guidelines for the Determination of Significance

A significant air quality impact would occur if implementation of a project would do the following:

- Projects that would site sensitive receptors near potential CO hotspots (i.e., exceedance of CO CAAQS or NAAQS) or would contribute vehicle traffic to local intersections where a CO hotspot could occur would be considered as having a potentially significant impact; or
- Projects that would result in exposure to TAC resulting in a maximum incremental cancer risk greater than 1 in 1 million without application of Toxics Best Available Control Technology (T-BACT) or a health hazard index greater than 1 would be considered as having a potentially significant impact.

Guideline Source

Air quality regulators typically define sensitive receptors as schools (preschool to 12th grade), hospitals, residential care facilities, day care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. However, for the purposes of CEQA analysis for County projects, the definition of a sensitive receptor also includes residents. The two primary emissions of concern regarding health effects for land development projects are diesel particulate matter (DPM) and CO.

SDAPCD Rule 1200 establishes acceptable risk levels and emission control requirements for new and modified facilities that may emit additional TACs. Under Rule 1200, permits to operate may not be issued when emissions of TACs result in an incremental cancer risk greater than 1 in 1 million without application of T-BACT, or an incremental cancer risk greater than 10 in 1 million with application of T-BACT, or a health hazard index (chronic and acute) greater than one. The County uses these risk limits to assess human health risk impacts under CEQA. Given the Project's residential land uses, the Project will be evaluated using the threshold of an incremental cancer risk greater than 1 in 1 million without application of T-BACT.

Analysis

Carbon Monoxide

Roadway segments and intersections are rated by a level of service (LOS) standard ranging from LOS A to F depending on the amount of typical traffic flow measured in average daily trips (ADT). The Local Transportation Analysis (*Technical Appendix L2*) evaluated whether there would be a change in the LOS at the intersections affected by the Project. In accordance with the Transportation Project-Level Carbon Monoxide Protocol, CO hot spots are typically evaluated when: (a) the LOS of an intersection decreases to a LOS E or worse because of the project; (b) signalization and/or channelization is added to an intersection; and (c) sensitive receptors such as residences, schools, hospitals, etc., are located in the vicinity of the affected intersection or roadway segment (California Department of Transportation [Caltrans] 1998).

According to the LTA, implementation of the Project would not result in the LOS of any of the analyzed intersections degrading to LOS E or F (CR Associates, 2023b). Therefore, consistent with the CO Protocol, construction and operation of the Project would not result in exposure of sensitive receptors to substantial localized CO concentrations. Therefore, impacts would be less than significant.

Toxic Air Contaminants

Construction of the Project would result in short-term diesel exhaust emissions from on-site heavy-duty equipment, delivery trucks, and construction worker vehicles. Generation of DPM from construction projects typically occurs in a localized area (e.g., near locations with multiple pieces of heavy construction equipment working in close proximity) for a short period of time. Because construction activities and subsequent emissions vary depending on the phase of construction, the construction-related emissions to which nearby receptors are exposed to would also vary throughout the construction period. Concentrations of DPM emissions are typically reduced by 70 percent at approximately 500 feet.

The Project does not generate uses that would result in significant quantities of DPM (i.e., industrial uses or uses that include the use of heavy trucks). Additionally, the nearest sensitive receptors to the site are more than 800 feet (approximately 820 feet) from proposed construction activities on-site. Thus, a Health Risk Assessment was not prepared for the Project. However, information and analysis related to the Project's DPM emissions is included herein.

The dose of TACs to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance in the environment and the extent of exposure a person has with the substance; a longer exposure period to a source of emissions would result in higher health risks. Current models and methodologies for conducting cancer health risk assessments are associated with longer-term exposure periods [typically 30 years for individual residents based on guidance from the California Office of Environmental Health Hazard Assessment (OEHHA)] and are best suited for evaluation of long duration TAC emissions with predictable schedules and locations. These assessment models and methodologies do not correlate well with the temporary and highly variable nature of construction activities. There is considerable uncertainty in trying to evaluate the cancer risk from projects that will only last a small fraction of a lifetime (OEHHA, 2015). Considering this information, the fact that concentrated use of heavy construction equipment would occur at various locations throughout the Project site only for short durations, and the distance from the nearest sensitive receptors (approximately 820 feet) to heavy equipment use, construction of the Project would not expose sensitive receptors to substantial DPM concentrations, and the impact would be less than significant.

Long-term operation of the Project would result in some emissions of DPM from vehicles traveling to and from the Project site. However, the Project would not require the regular use of heavy or medium diesel-powered trucks (other than for occasional deliveries and waste collection) and the mix of vehicles traveling to and from the Project site would primarily be light duty autos and trucks typical of the region. Therefore, the Project would not result in significant localized concentrations of DPM. As a residential development, the Project is not anticipated to generate other long-term operational TACs. Therefore, operation of the Project would not result in the exposure of sensitive receptors to substantial pollutant concentrations, and the impact would be less than significant.

3.3.2.4 Odors

Guidelines for the Determination of Significance

A significant air quality impact would occur if implementation of a project would do the following:

- Either generate objectionable odors or place sensitive receptors next to existing objectionable odors, which would affect a considerable number of persons or the public.

Guideline Source

SDAPCD Rule 51 (Public Nuisance) and California Health & Safety Code Section 41700 prohibit the emission of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of the public. Odor issues are subjective since, by the nature of odors themselves, their measurements are difficult to quantify. As a result, this guideline is qualitative, and evaluation of impact would focus on the existing and potential surrounding uses and locations of sensitive receptors.

Analysis

The Project could produce other odors during proposed construction activities resulting from construction equipment exhaust, application of asphalt, and/or the application of architectural coatings; however, standard construction practices such as the five-minute diesel idling limit and use of low-VOC coatings would minimize odors. Any odors emitted during construction would be temporary, short-term, and intermittent in nature, and would cease upon the completion of each respective phase of construction. Furthermore, because of distance from the nearest sensitive receptors (approximately 820 feet) to Project construction activity, and because typical construction odor emissions disperse rapidly with distance, Project construction odors would not affect a substantial number of people. Therefore, the Project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people, and the impact would be less than significant.

According to the CARB Air Quality and Land Use Handbook, land uses associated with odor complaints include 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 (CARB, 2005). The Project, involving a residential development, would not include any of these uses nor are there any of these land uses in the Project vicinity. Therefore, operation of the Project would not produce odors that would adversely affect a substantial number of people, and the impact would be less than significant.

3.3.3 Cumulative Impact Analysis

3.3.3.1 Cumulatively Considerable Net Increase of Criteria Pollutants

Guidelines for the Determination of Significance

A significant air quality impact would occur if implementation of a project would do the following:

- Result in a cumulatively considerable increase of emissions of any criteria pollutant for which the project region is in nonattainment under applicable federal or state ambient air quality standards.

Guideline Source

In analyzing cumulative impacts from a project, the analysis must specifically look at the project's contribution to the cumulative increase in pollutants for which the SDAB is listed as "non-attainment" for the NAAQS and CAAQS. Of the seven federal criteria pollutants, only O_3 occurs in concentrations high enough to violate federal standards in San Diego County. Of the seven criteria pollutants for California that have a federal counterpart, O_3, PM_{10}, and $PM_{2.5}$ occur in concentrations high enough to violate state standards in the County.

Analysis

Construction Impacts

As shown in Table 3.3-4, construction-related emissions of NO_X, PM_{10}, VOCs, and $PM_{2.5}$ would be lower than the County's daily SLT for construction. Therefore, cumulatively considerable primary

pollutant emissions (i.e., PM_{10} and $PM_{2.5}$) from construction activities may occur if construction of the Project and other projects in the surrounding area were to occur simultaneously and in proximity to the same sensitive receptors, resulting in localized concentrations in excess of the relevant NAAQS and CAAQS. NO_X and VOCs are precursors which combine to form O_3 through a complex photochemical reaction typically after significant distance and time from the emission source. Therefore, emissions of NO_X and VOCs only have potential cumulative air quality impacts (and resulting potential adverse human health effects) on a regional scale. With respect to local concentrations of PM_{10} and $PM_{2.5}$, there are no current or future projects in the vicinity of the Project where major construction involving demolition activities, cut-and-fill operations, or soil import/export, would occur concurrently with the Project construction activities. In addition, all construction activities in the SDAB are required to implement fugitive dust control measures to comply with the SDAPCD's regulations that limit particulate matter dispersion from any project site. Therefore, the Project would not result in a cumulatively considerable net increase for any criteria pollutant. Thus, cumulative impacts would be less than significant.

Operational Impacts

As shown in Table 3.3-5, operation-related emissions of CO, SO_2, NO_X, PM_{10}, VOCs, and $PM_{2.5}$ would be lower the County's daily SLT for operations. Therefore, the Project's operational emissions would not violate the NAAQS or CAAQS and would not contribute to a cumulatively considerable increase in operational emissions. Thus, cumulative impacts would be less than significant.

3.3.3.2 Cumulative Impacts of Local Pollutants (CO and TACs) and Odors on Sensitive Receptors

Localized pollutant impacts (i.e., CO and TAC emissions) and odors are described in Sections 2.1.2.3 and 2.1.2.4. Because there is no local CO and TAC guidance within the RAQS, guidance from CARB was used to evaluate cumulative impacts to sensitive receptors.

Analysis

Carbon Monoxide

The Project's traffic volumes would not result in exposure of sensitive receptors to substantial localized CO concentrations. Construction and operation of the Project, when considered with construction and operation of all other anticipated projects within the Project area (refer to Table 1.3, *Cumulative Projects*, in Section 1.0 of this EIR), would not result in the LOS of any of the analyzed intersections degrading to LOS E or F (CR Associates, 2023b). Therefore, the cumulative impact of construction and operation of the Project would not expose sensitive receptors to substantially high concentrations of CO or contribute traffic volumes to intersections that would exceed the CO ambient air quality standards (NAAQS or CAAQS); and this impact would be less than cumulatively considerable.

TACs

Construction Impacts

As detailed above in Subsection 3.3.2.3, *Exposure of Sensitive Receptors to Substantial Pollutant Concentrations*, construction of the Project would result in less than significant TAC exposures. Due to the size of the Project and the lack of large construction projects anticipated in the Project's cumulative study area, it is unlikely that combined emissions would result in an impact from TACs that would exceed 1 in 1 million excess cancer risk. Therefore, this impact would be less than cumulatively considerable.

Operational Impacts

Operation of the Project would result in less than significant TAC emissions. No land uses exist or are planned in the Project's cumulative study area that would generate high levels of TAC emissions, such as would occur from distribution centers or roadways with high proportions of diesel vehicles. Therefore, TAC exposure to on- and off-site sensitive receptors would be less than cumulatively considerable.

Odors

Construction Impacts

As discussed in Section 3.3.2.4, it is not anticipated that the Project's construction operations would cause significant direct odor impacts. Construction emissions would cease following completion of the Project and therefore would not be long-term and would not contribute to the local long-term odor profile. In addition, there are no large odor sources in proximity of the Project that in combination with construction odor emissions would cause a cumulative odor impact. Therefore, the Project would result in a less than cumulatively considerable impact from odors during construction.

Operational Impacts

As discussed above in Section 3.3.2.4, operation of the Project does not include any significant odor-generating land uses such as landfills, wastewater treatment plants, agricultural or confined animal feeding operations, rendering plants, or commercial grills or smokers. Therefore, the Project would not result in significant cumulatively considerable operational impacts from odor emissions.

3.3.4 Significance of Impacts Prior to Mitigation

As discussed above, implementation of the Project would not result in any significant Project or cumulative air quality impacts.

3.3.5 Mitigation

Because less-than-significant impacts have been identified with respect to air quality, no mitigation is required.

3.3.6 Conclusion

As discussed above, implementation of the Project would not result in a net increase of criteria pollutants and would be in conformance with Federal and State ambient air quality standards. Thus, impacts related to air quality are considered less than significant.

Table 3.3-1 California and National Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	Federal Standards Primary[a]	Federal Standards Secondary[b]
O_3	1 Hour	0.09 ppm (180 µg/m^3)	–	–
	8 Hour	0.070 ppm (137 µg/m^3)	0.070 ppm (147 µg/m^3)	Same as Primary
PM_{10}	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary
	AAM	20 µg/m^3	–	Same as Primary
$PM_{2.5}$	24 Hour	–	35 µg/m^3	Same as Primary
	AAM	12 µg/m^3	12.0 µg/m^3	Same as Primary
CO	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)	–	–
NO_2	AAM	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary
	1 Hour	0.18 ppm (339 µg/m^3)	0.100 ppm (188 µg/m^3)	–
SO_2	24 Hour	0.04 ppm (105 µg/m^3)	–	–
	3 Hour	–	–	0.5 ppm (1,300 µg/m^3)
	1 Hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3)	–
Lead	30-day Avg.	1.5 µg/m^3	–	–
	Calendar Quarter	–	1.5 µg/m^3	Same as Primary
	Rolling 3-month Avg.	–	0.15 µg/m^3	Same as Primary
Visibility Reducing Particles	8 hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles (0.07 per km – ≥30 miles for Lake Tahoe)	No Federal Standards	No Federal Standards
Sulfates	24 Hour	25 µg/m^3	No Federal Standards	No Federal Standards
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	No Federal Standards	No Federal Standards
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m^3)	No Federal Standards	No Federal Standards

Note: More detailed information in the data presented in this table can be found at the CARB website (www.arb.ca.gov).

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

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

O_3: ozone; ppm: parts per million; µg/m^3: micrograms per cubic meter; PM_{10}: large particulate matter; AAM: Annual Arithmetic Mean; $PM_{2.5}$: fine particulate matter; CO: carbon monoxide; mg/m^3: milligrams per cubic meter; NO_2 nitrogen dioxide; SO_2: sulfur dioxide; km: kilometer; –: No Standard.

(Helix, 2023a)

Table 3.3-2 Air Quality Monitoring Data

Air Pollutant	2018	2019	2020
Ozone (O_3)			
Max 1-hour (ppm)	0.102	0.083	0.123
Days > CAAQS (0.09 ppm)	1	0	2
Max 8-hour (ppm)	0.77	0.075	0.102
Days > NAAQS (0.070 ppm)	5	1	10
Days > CAAQS (0.070 ppm)	5	1	12
Particulate Matter (PM_{10})			
Max Daily ($\mu g/m^3$)	38.0	*	*
Days > NAAQS (150 $\mu g/m^3$)	0	-	-
Days > CAAQS (50 $\mu g/m^3$)	0	-	-
Annual Average ($\mu g/m^3$)	18.4	*	*
Exceed CAAQS (20 $\mu g/m^3$)	No	-	-
Particulate Matter ($PM_{2.5}$)			
Max Daily ($\mu g/m^3$)	32.2	16.2	47.5
Days > NAAQS (35 $\mu g/m^3$)	0	0	2
Annual Average ($\mu g/m^3$)	8.3	7.0	8.7
Exceed NAAQS (15 $\mu g/m^3$)	No	No	No
Exceed CAAQS (12 $\mu g/m^3$)	No	No	No
Nitrogen Dioxide (NO_2)			
Max 1-hour (ppm)	0.045	0.046	0.052
Days > NAAQS (0.10 ppm)	0	0	0
Days > CAAQS (0.18 ppm)	0	0	0

Data collected at the San Diego-Kearny Villa Road Monitoring Station.
> = exceeding; ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter;
* = Insufficient data available to determine the value.
(Helix, 2023a)

Table 3.3-3 Screening-Level Thresholds for Air Quality Impact Analysis

Pollutant	Total Emissions		
Construction Emissions (pounds per day)			
Respirable Particulate Matter (PM_{10})	100		
Fine Particulate Matter ($PM_{2.5}$)	55		
Oxides of Nitrogen (NO_X)	250		
Oxides of Sulfur (SO_X)	250		
Carbon Monoxide (CO)	550		
Volatile Organic Compounds (VOCs)	75		
Operational Emissions			
	Pounds per Hour	Pounds per Day	Tons per Year
Respirable Particulate Matter (PM_{10})	---	100	15
Fine Particulate Matter ($PM_{2.5}$)	---	55	10
Oxides of Nitrogen (NO_X)	25	250	40
Oxides of Sulfur (SO_X)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	---	3.2	0.6
Volatile Organic Compounds (VOCs)	---	75	13.7
Toxic Air Contaminant Emissions			
Excess Cancer Risk	1 in 1 million 10 in 1 million with T-BACT		
Non-Cancer Hazard	1.0		

T-BACT = Toxics Best Available Control Technology

(Helix, 2023a)

Table 3.3-4 Estimated Construction Emissions

Year	VOC (lbs/day)	NO_X (lbs/day)	CO (lbs/day)	SO_2 (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
2026	4	54	120	3	19	6
2027	1	10	14	<0.5	1	<0.5
2028	29	9	14	<0.5	1	<0.5
MAXIMUM DAILY EMISSIONS[1]	**29**	**54**	**120**	**3**	**19**	**6**
Screening-Level Thresholds	*75*	*250*	*550*	*250*	*100*	*55*
Exceedance?	***No***	***No***	***No***	***No***	***No***	***No***

Note: The total presented is the sum of the unrounded values; as such, totals may not add up exactly due to rounding. The CalEEMod model outputs are presented in Appendix A and the blasting emissions calculation sheets are presented in Appendix B.

[1] Fugitive dust measures (watering twice daily and limiting vehicle speeds to 25 mph on unpaved roads) were applied to control PM_{10} and $PM_{2.5}$ dust emissions. Low VOC architectural coatings were included.

[2] Maximum daily emissions from Grading and Blasting Emissions could occur on the same day and are summed in this table.

VOC = volatile organic compound; NO_X = nitrogen oxides; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter
lbs/day = pounds per day
(Helix, 2023a)

Table 3.3-5 Estimated Daily Operational Emissions

Source	VOC (lbs/day)	NO_X (lbs/day)	CO (lbs/day)	SO_2 (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Area	3.8	<0.1	4.3	<0.1	0.1	<0.1
Energy	<0.1	0.6	0.2	<0.1	0.04	<0.1
Mobile	3.0	1.6	16.9	<0.1	1.4	0.3
TOTAL DAILY EMISSIONS[1]	**6.8**	**2.1**	**21.5**	**<0.1**	**1.5**	**0.3**
Screening-Level Thresholds	*75*	*250*	*550*	*250*	*100*	*55*
Exceedance?	***No***	***No***	***No***	***No***	***No***	***No***

Note: The total presented is the sum of the unrounded values; as such, totals may not add up exactly due to rounding. The CalEEMod model outputs are presented in Appendix A.
VOC = volatile organic compound; NO_X = nitrogen oxides; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter
lbs/day = pounds per day
(Helix, 2023a)