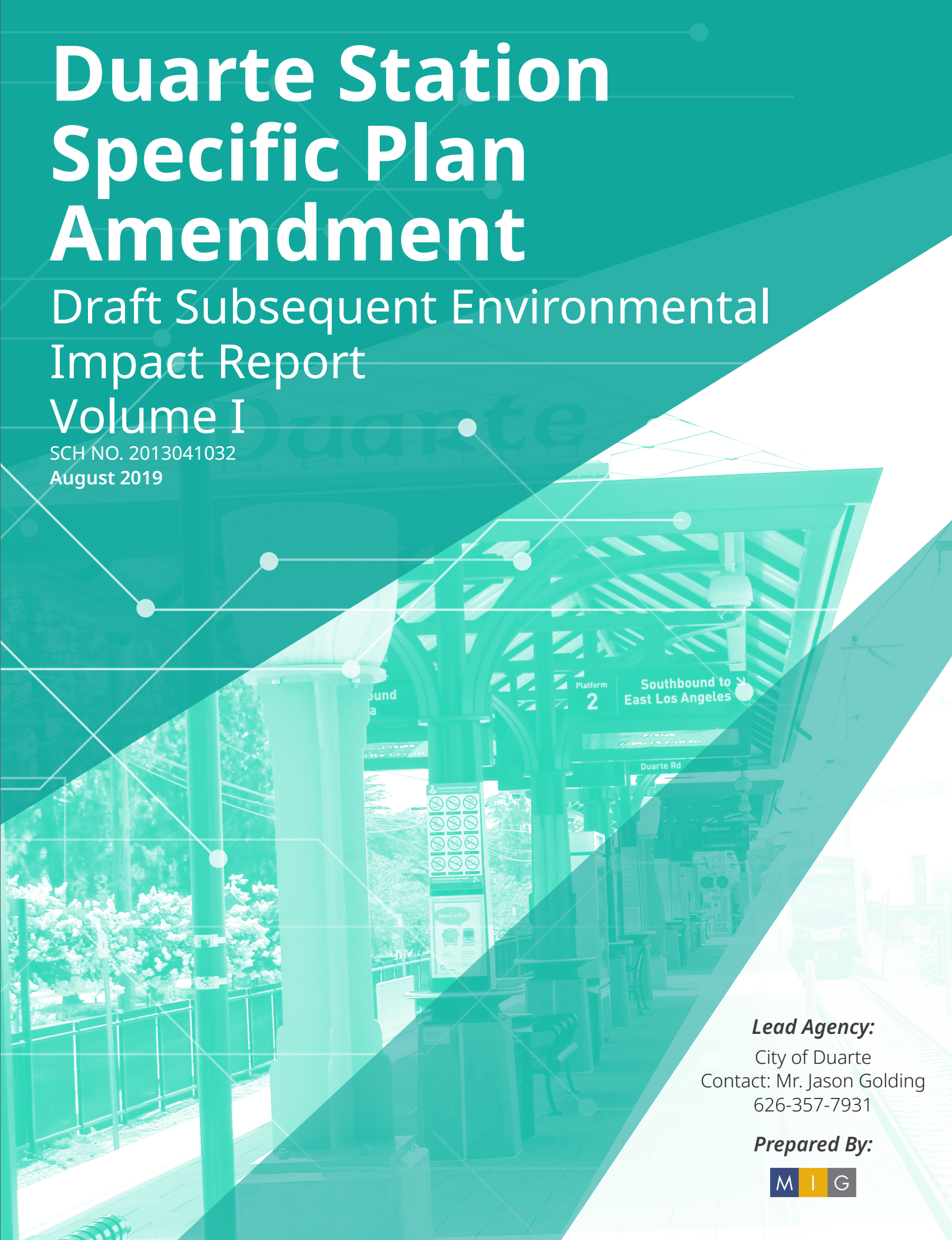
Duarte Station Specific Plan Amendment

Draft Subsequent Environmental Impact Report
Volume I

SCH NO. 2013041032

August 2019



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SUBSEQUENT
ENVIRONMENTAL IMPACT REPORT

DUARTE STATION SPECIFIC PLAN

SCH NO. 2013041032

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August 2019

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1.0 EXECUTIVE SUMMARY

1.1 PROJECT LOCATION

The project site is located in the City of Duarte, in Los Angeles County. The City of Duarte (City or Duarte) is located in the north-central portion of the San Gabriel Valley, approximately 21 miles northeast of downtown Los Angeles. Duarte lies at the base of the San Gabriel Mountains and is bordered by the City of Irwindale to the south, the City of Monrovia to the west, the City of Bradbury and the Angeles National Forest to the north, and the City of Azusa to the east; refer to *Exhibit 3-1*, *Regional Vicinity*, in Section 3.0.

More specifically, the project site is located at the northwest corner of Duarte Road and Highland Avenue. The project site is bounded by Evergreen Street and the Foothill Freeway (Interstate 210) to the north, Highland Avenue to the east, a single-family residential neighborhood to the west, and the Los Angeles County Metropolitan Transportation Authority (Metro)-owned railroad right-of-way and Duarte Road to the south; refer to *Exhibit 3-2*, *Local Vicinity*, in Section 3.0.

1.2 PROJECT SUMMARY

DESCRIPTION OF PROJECT

The current Duarte Station Specific Plan was adopted and the EIR certified by the Duarte City Council on December 10, 2013. This proposed project represents a comprehensive amendment and update to the adopted Specific Plan. The City-initiated Duarte Station Specific Plan (Specific Plan) is intended to establish the general type, parameters, and character of the development desired to create an integrated transit-oriented development (TOD) compatible with the surrounding area. The plan area's proximity to freeways, major streets, and existing rail infrastructure makes the Duarte Station Specific Plan site an ideal location for integrating a mix of uses and transit, along with facilitating economic development in Duarte.

PERMITTED LAND USES

The primary goal of the updated Duarte Station Specific Plan is to provide flexibility for property owners to respond to market conditions by creating a plan that accommodates a mixed-use transit village. The updated plan will facilitate investment and revitalization, ultimately resulting in new uses that complement one another, take advantage of ready Gold Line light rail accessibility, and provide needed housing. While the existing Duarte Station Specific Plan allows residential, office, research and development, hotel, and commercial retail and restaurant use, the proposed amended Duarte Station Specific Plan will more than double the number of new residential units and still accommodate offices, retail spaces, and restaurants. Importantly, the update plan will provide for better integration of uses and connections to the Gold Line station via Highland Avenue.

DEVELOPMENT SCENARIO

For purposes of the environmental analysis, one potential development scenario has been examined that represents a preferred mix of uses under the amended Duarte Station Specific Plan as shown in *Table 1-1*, *Development Scenario*, and compared with the existing land uses and original approved land uses under the existing Duarte Station Specific Plan. The ultimate

land uses on each site would be determined at the time of site plan submittal for a specific parcel. This development buildout scenario was chosen for the analysis not just because it represents the preferred ultimate condition but also because it has the potential to have a high level of impact, thus representing a conservative level of analysis.

Table 1-1
Development Scenario

Land Use	Residential (DU)	Non-Residential (SF)
Existing		
Warehouse/Industrial		313,955
Original Approved Specific Plan		
Retail		12,000
Office		400,000
Hotel		250 rooms
High Density Residential	475	
Proposed		
Retail/Restaurant		12,500
Office		100,000
High Density Residential	1,400	
TOTAL PROPOSED	**1,400**	**112,000**
Abbreviations: DU dwelling units; SF square feet		

The City has received a preliminary application for a development project on parcels 8528-011-025, called The Residences at Duarte Station. The development comprises a two-building residential development with 619 dwelling units, parking structures, and 157,195 square feet of open space.

The City has also received a second preliminary application for the Duarte Intergenerational Housing Project; this project proposes an affordable housing development on parcel 8528-011-906 consisting of a mixed-use building with ground-floor commercial use and up to 80 units of rent-restricted affordable housing.

GROWTH RELATIVE TO EXISTING CONDITIONS

As shown in the *Table 1-2, Growth Relative to Existing Conditions*, the anticipated growth in residential and non-residential uses above 2019 existing conditions is projected to be:

- Addition of 1,400 dwelling units
- Reduction of 313,955 square feet industrial uses
- Addition of 100,000 square feet of non-residential (office) uses

- Addition of 12,500 square feet of retail/restaurant uses

Table 1-2
Growth Relative to Existing Conditions

Land Use	Residential (units)	Non-Residential (square feet)
Existing		
Warehouse/Industrial		313,955
Total		***313,955***
Proposed Specific Plan		
Retail/Restaurant		12,500
Office		100,000
High Density Residential	1,400	
Total	***1,400***	***112,500***
Difference Between Existing Conditions and Specific Plan Assumptions	**+1,400**	**-201,455**

PERMITS AND APPROVALS

The City of Duarte is the Lead Agency for the project and has discretionary authority over the project which includes, but is not limited to, the following:

- Certification of the Final Subsequent EIR
- Adoption of a Mitigation Monitoring and Reporting Program (MMRP)
- Adoption of the amendment to the Duarte Station Specific Plan
- Approval of a Vesting Tentative Tract Map for The Residences at Duarte Station, for condominium purposes
- Adoption of a General Plan Amendment consisting of text changes to the Land Use Element to be consistent with the updated Duarte Station Specific Plan
- Discretionary review as necessary, including any applicable CEQA review, for other current and future individual public and private development proposals in the planning area, such as the Duarte Intergenerational Housing Project

Future individual public and private development proposals in the Specific Plan area would be expected to require review or approvals from other jurisdictional agencies, including, but not limited to:

- California Department of Toxic Substances Control (DTSC)
- California Department of Transportation (Caltrans)
- County of Los Angeles
- Duarte Unified School District
- Los Angeles County Fire Department
- Los Angeles County Sheriff's Department
- County Sanitation Districts of Los Angeles County (LASCD)
- Los Angeles County Metropolitan Transportation Authority (METRO)
- South Coast Air Quality Management District (SCAQMD)
- Los Angeles Regional Water Quality Control Board (RWQCB)
- California Public Utilities Commission (CPUC)

1.3 PROJECT OBJECTIVES

The Duarte Station Specific Plan includes the following goals and objectives to guide development within the Specific Plan area.

1. GOAL: A MIXTURE OF LAND USES

a. *Objective*: Develop a flexible mixed-use land use pattern that incorporates residential opportunities with options for retail, office, research and development, and hospitality, and that will effectively complement each other and provide maximum land use efficiency, while providing economic and social benefits to all users.

b. *Objective*: Program retail uses that are neighborhood and transit station serving.

2. GOAL: AN ECONOMICALLY FEASIBLE DEVELOPMENT

a. *Objective*: Provide opportunities for adaptive reuse of existing buildings, and design new non-residential spaces with flexibility to allow for shifts in market demand and allow options throughout various economic cycles and scenarios.

b. *Objective*: Create a range of residential unit types that will be accessible to residents of all income levels.

c. *Objective*: Provide residential opportunities to assist the City of Duarte in meeting its Regional Housing Needs Allocation (RHNA) objectives.

d. *Objective*: Encourage the development of a hotel to create local jobs, support City of Hope lodging needs, provide community meeting space, and increase tax revenues within the community.

3. GOAL: PEDESTRIAN-ORIENTED DEVELOPMENT

a. *Objective*: Create a development pattern that effectively provides for efficient and comfortable pedestrian movement and connectivity throughout the site.

b. *Objective*: Give precedence to pedestrians and foster multimodal transportation with bicycle, pedestrian, and transit access.

c. *Objective*: Provide supportive commercial uses and an active street frontage on Highland Avenue that facilitates a pedestrian friendly experience and links to other centers in the city.

4. GOAL: SUPERIOR URBAN DESIGN

a. *Objective*: Allow for building types that will achieve desired density ranges to establish a critical mass of residents and employees to support the transit station, maximize transit ridership, and support retail spaces and local employment centers.

b. *Objective*: Minimize setbacks to allow buildings to frame and activate the street.

c. *Objective*: Use trees, shrubs and other landscape and hardscape materials along streets to provide shading, screening, and human scale.

d. *Objective*: Promote high quality architectural design to establish a contemporary design character that creates an identity in the Duarte Station Specific Plan area.

e. *Objective*: Establish context-based standards and guidelines that address specific design concerns while also allowing for creativity and flexibility in development projects.

5. GOAL: OUTDOOR SPACES

a. *Objective*: Provide outdoor spaces—such as an urban green space, public plaza, promenade, or linear park—that provide a transition between the station and the surrounding transit village uses and facilitates pedestrian movement and/or public gathering.

b. *Objective:* Encourage rooftop open space areas to increase the amount and the quality of open space while taking advantage of quality views from the site.

c. *Objective:* Program outdoor space(s) to accommodate the needs of various user groups, such as residents, employees, commuters, and visitors.

6. GOAL: AWARENESS OF SURROUNDING DEVELOPMENT

a. *Objective*: Provide opportunities for new goods and services uses to support surrounding residents, students, and employees within and around the Duarte Station Specific Plan area.

b. *Objective*: Provide for appropriate transitions with adjacent existing lower-intensity residential uses through height limits, articulation and modulation requirements, design guidelines, and landscape requirements.

c. *Objective:* Upgrade the existing streetscape infrastructure and solidify pedestrian connections between the Plan Area, Duarte Station, and critical areas of interest around the site.

d. *Objective*: Consider the future needs of the City of Hope as part of land use planning.

7. GOAL: SUSTAINABLE DEVELOPMENT PRACTICES

a. *Objective:* Encourage transit-oriented development that supports multimodal opportunities and adhere to Levels of Sustainable Development Practices as prescribed in Chapter 19.52 of the City's Development Code.

b. *Objective:* Ensure that construction and demolition waste is disposed of in accordance with all City regulations and standards.

c. *Objective:* Consider building layout, siting, and building design to not preclude alternative energy production on-site.

d. *Objective:* Maximize energy efficiency through local and state standards, indoor environmental quality, energy-efficient lighting, building orientation, shading, and implementation of LEED principles (or similar) and/or attaining LEED Certification.

e. *Objective:* Reduce heat island effect through site planning and selection of landscape and hardscape materials.

f. *Objective:* Incorporate water-efficient design features such as permeable surfaces, collection devices, biofiltration devices, green rooftops, cisterns, berms and swales, and/or green rooftops.

g. *Objective:* Include drought-tolerant and climate-appropriate landscape within the Specific Plan area.

1.4 SUMMARY OF PROJECT ALTERNATIVES

The analysis of alternatives focuses on those capable of eliminating significant adverse environmental effects or reducing them to less than significant levels even if these alternatives would impede, to some degree, the attainment of the project objectives. The alternatives to the proposed project examined in this EIR are:

- Existing Zoning
- All Residential
- Adaptive Reuse

A comparison of the proposed project with the alternatives is provided in *Table 1-3*, C*omparison of Proposed Project and Alternatives*.

Table 1-3
Comparison of Proposed Project and Alternatives

Land Use	Proposed Project Development Scenario	Alternative One: Existing Zoning /No Project	Alternative Two: All Residential	Alternative Three: Adaptive Reuse[1]
Retail/Restaurant (SF)	12,500	12,000		12,500
Office (SF)	100,000	400,000		150,000
High Density Residential (DU)	1,400	475	1,700	700
Warehouse/Industrial (SF)				
Hotel (Rooms)		250		250
TOTAL	**1,400 DU 112,500 SF**	**475 DU 412,000 SF 250 Rooms**	**1,700 DU**	**700 DU 162,500 SF 250 Rooms**

SF = Square Feet; DU = Dwelling Unit
[1]For the purposes of the impact analysis, a total of 162,500 SF would be available for adaptive reuse.

ALTERNATIVE ONE: EXISTING ZONING (NO PROJECT)

Pursuant to CEQA Guidelines Section 15126.6(e)(2), a No Project alternative must be analyzed. The No Project alternative should discuss what would be reasonably expected to occur in the foreseeable future if the proposed project were not approved, based on current plans and consistent with available infrastructure and community services. In the context of this EIR, the Existing Zoning alternative is the No Project alternative in compliance with CEQA Guidelines Section 15126.6(e)(2); this scenario assumes that the amended Duarte Station Specific Plan would not be implemented. Instead, development would be governed by the existing Duarte Station Specific Plan, which allows up to 475 residential units, 400,000 square feet (sf) of office space, 12,000 sf of retail, and a 250-room hotel.

Under this alternative, no current development application would be in place. Existing on-site industrial uses would continue to operate as they do currently until such time as property owners choose to redevelop their properties in conformance with the existing adopted Duarte Station Specific Plan.

ALTERNATIVE TWO: ALL RESIDENTIAL

Alternative Two would include only high-density residential development at a density of up to 90 dwelling units per acre, yielding 1,700 dwelling units. It is assumed that this alternative would have similar acreages for recreation/open space and roads as the proposed project.

ALTERNATIVE THREE: ADAPTIVE REUSE

Alternative Three would involve the adaptive reuse, or repurposing, of a portion (approximately half) of the existing 313,955 square feet of industrial and warehouse space with office and commercial space, along with construction of 700 new residential units and hospitality uses, including a 250-room hotel. It is assumed that building heights would be the same as existing conditions for the adaptive reuse portions of the site (thus lower than the proposed project) but consistent with heights associated with the proposed project for new construction.

1.4.1 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines Section 15126.6 requires that an EIR identify an "environmentally superior" alternative and where the No Project alternative is identified as environmentally superior, the EIR is then required to identify as environmentally superior an alternative from among the others evaluated.

As noted above, the determination of an environmentally superior alternative is based on the consideration of how the alternative fulfills the project objectives and how the alternative either reduces significant, unavoidable impacts or substantially reduces the impacts to the surrounding environment.

ALTERNATIVE ONE: EXISTING ZONING

Compared to the proposed project, the Existing Zoning alternative would result in greater impacts relative to aesthetics, population/housing, air quality, greenhouse gases, and hazards and hazardous materials. No impacts would be reduced. Impacts associated with land use, traffic, noise aesthetics, hydrology/drainage/water quality, and public services/utilities would be equivalent. Significant unavoidable impacts related to traffic, air quality, and noise impacts would also occur with this alternative.

The Existing Zoning would not fully implement the overarching goals of the proposed project to provide a mix of land use, an economically feasible development, traditional pedestrian-oriented street pattern, and awareness of surrounding development. The goals of superior urban design, outdoor spaces, and sustainable development practices could be achieved.

ALTERNATIVE TWO: ALL RESIDENTIAL

Compared to the proposed project, the All Residential alternative would result in greater impacts relative to land use and population/housing. Impacts would be reduced regarding traffic, greenhouse gas emissions, noise, and hazardous materials. Impacts associated with aesthetics, air quality, hydrology/drainage/water quality, and public services/utilities would be equivalent. Significant unavoidable impacts related to traffic, air quality, and noise impacts would also occur with this alternative.

The All Residential alternative meets Goals 4, 5, and 7 and does not fully meet Goals 1, 2, 3, and 6.

ALTERNATIVE THREE: ADAPTIVE REUSE

Compared to the proposed project, the Adaptive Reuse alternative would result in in greater impacts relative to land use, population/housing, traffic, and hazardous materials. Impacts would be reduced regarding greenhouse gas emissions and noise. Impacts associated with aesthetics, air quality, hydrology/drainage/water quality, and public services/utilities would be equivalent. Significant unavoidable impacts related to traffic, air quality, and noise impacts would also occur with this alternative.

The Adaptive Reuse Alternative meets Goals 1, 2, and 5 but does not fully meet Goals 3, 4, 6, and 7.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

As noted above, the determination of an environmentally superior alternative is based on the consideration of how the alternative fulfills the project objectives and how the alternative either reduces significant, unavoidable impacts or substantially reduces the impacts to the surrounding environment. In consideration of these factors, the proposed project can be considered the Environmentally Superior Alternative.

Table 1-4, Comparison of Alternatives, provides an overview of the alternatives analyzed and a comparison of each alternative's impact in relation to the proposed action.

Table 1-4
Comparison of Impact of Alternatives Relative to the Proposed Project

Impact Area	Alterative One: Existing Zoning Alternative	Alternative Two: All Residential Alternative	Alternative Three: Adaptive Reuse Alternative
Land Use	=	○	○
Aesthetics	○	=	=
Population and Housing	○	○	○
`Traffic	=	◆	○
Reduces Significant Unavoidable Impact?	No	Yes	No
Eliminates Significant Unavoidable Impact?	No	No	No
Air Quality	○	=	=
Reduces Significant Unavoidable Impact?	No	No	No
Eliminates Significant Unavoidable Impact?	No	No	No
Greenhouse Gas Emissions	○	◆	◆
Noise	=	◆	◆
Reduces Significant Unavoidable Impact?	No	Yes	Yes
Eliminates Significant Unavoidable Impact?	No	No	No
Hazardous Materials	○	◆	○
Hydrology, Drainage, and Water Quality	=	=	=
Public Services and Utilities	=	=	=

= Indicates an impact that is equal to the proposed project (neither environmentally superior nor inferior).
○ Indicates an impact that is greater than the proposed project over the long term (environmentally inferior).
◆ Indicates an impact that is less than the proposed project over the long term (environmentally superior).

1.5 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Table 1-5
Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Level of Significance
Land Use		
Southern California Association of Governments Implementation of the proposed project could conflict with SCAG's 2016 RTP/ SCS Goals and Adopted Growth Forecasts.	No mitigation measures are required.	Less Than Significant Impact
City of Duarte General Plan Implementation of the proposed project could conflict with a Duarte General Plan Land Use Plan or Policy.	No mitigation measures are required.	Less Than Significant Impact
City of Duarte Development Code Implementation of the proposed project could conflict with the Duarte Municipal Code Standards and Regulations.	No mitigation measures are required.	Less Than Significant Impact
Cumulative Impacts Development associated with implementation of the proposed project and other related cumulative projects could conflict with applicable land use plans, policies, or regulations.	No mitigation measures are required.	Less Than Significant Impact
Aesthetics		
Short-Term Visual Character/Quality Construction activities associated with implementation of the proposed project could result in significant impacts related to temporary degradation of the visual character/quality of the site and its surroundings.	**AES-1** Prior to the issuance of a building permit, each project applicant shall submit a Construction Management Plan for review and approval by the City of Duarte Community Development Director. The Construction Management Plan shall, at a minimum, indicate the equipment and vehicle staging areas, stockpiling of materials, fencing (i.e., temporary fencing with opaque material), and construction haul route(s). Staging areas shall be screened from view from residential properties. Construction worker parking may be located off-site with prior approval by the City; however, on-street parking of construction worker vehicles on residential streets shall be prohibited. Vehicles shall be kept clean and free of mud and dust before leaving the development site. Surrounding streets	Less Than Significant Impact with Mitigation Incorporated

Table 1-5
Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Level of Significance
	shall be swept daily and maintained free of dirt and debris.	
Long-Term Visual Character/Quality Implementation of the proposed project could result in significant impacts related to the long-term degradation of the visual character/quality of the site and its surroundings.	No mitigation measures are required for visual character/quality.	Less Than Significant Impact for Visual Quality/ Character
Light and Glare Implementation of the proposed project could create a new source of light and/or glare, which could affect daytime and/or nighttime views in the area.	**AES-2** Construction equipment staging areas shall use appropriate screening (i.e., temporary fencing with opaque material) to buffer views of construction equipment and material, when feasible. Staging locations shall be indicated on Final Development Plans and Grading Plans. **AES-3** All construction-related lighting shall include shielding to direct lighting down and away from adjacent hotel and residential uses and consist of the minimal wattage necessary to provide safety at the construction site. A construction safety lighting plan shall be submitted to the City for review concurrent with Grading Permit application. **AES-4** As part of Site Plan and Design Review, site access locations shall be reviewed to ensure that vehicle access locations are not sited in a manner that would result in vehicle headlights directly shining onto residential uses. If siting of vehicle access locations would result in headlights directly shining onto residential uses, the project applicant shall implement screening, consistent with the Duarte Station Specific Plan, to reduce lighting impacts.	Less Than Significant Impact with Mitigation Incorporated
Cumulative Impacts Development associated with implementation of the proposed project and other related cumulative projects could result in cumulatively considerable aesthetics impacts.	Refer to Mitigation Measure AES-1 through AES-4. No additional mitigation measures are required.	Less Than Significant Impact with Mitigation Incorporated

Table 1-5
Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Level of Significance
Population and Housing		
Population Growth Implementation of the proposed project could induce substantial population growth in the city.	No mitigation measures are required.	Less Than Significant Impact
Cumulative Impacts Development associated with implementation of the proposed project and other related cumulative projects could induce substantial population and housing growth in the area.	No mitigation measures are required.	Less Than Significant Impact
Traffic		
Existing with Project Conditions Implementation of the proposed project could cause a significant increase in traffic at study intersections under existing plus project conditions when compared to the traffic capacity of the street system.	**TRF-1** All project applicants within the Duarte Station Specific Plan Area shall prepare and submit at their time of their development application to the Community Development Department a traffic study that: 1) documents the project-related trips and provides a comparative review with the analysis in this EIR, and 2) uses the Highway Capacity Manual (HCM) intersection analysis methodology to determine whether the individual project increases the average delay per vehicle intersections having an existing unacceptable level of service without project traffic.	Significant and Unavoidable Impact for Buena Vista Street/Duarte Road Less Than Significant Impact for all other study intersections
Future Year 2025 With Project Conditions Implementation of the proposed project could cause a significant increase in traffic at study intersections under future year 2025 conditions when compared to the traffic capacity of the street system.	Refer to Mitigation Measure TRF-1. In addition, the following mitigation measure shall be required: **TRF-2** Highland Avenue and Huntington Drive – Modify the northbound approach and southbound approach signal on Highland Avenue by adding an overlap phase for both right-turn approaches. This mitigation will require a modification to the lane geometry through the striping of northbound and southbound right-turn lanes. This improvement shall be accomplished prior to the issuance of occupancy permits for the first development within the Specific Plan or as otherwise directed by the City Traffic Engineer. Costs of the improvement may be shared by other projects, as determined by the Community Development Director.	Significant and Unavoidable Impact for Buena Vista Street/Duarte Road Less Than Significant Impact for all other study intersections

Table 1-5
Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Level of Significance
Vehicle Miles Traveled Implementation of the proposed project could result in a significant increase in the amount of vehicle miles traveled.	No mitigation measures are required.	Less Than Significant Impact
Off-Ramp Queuing Implementation of the proposed project could result in a hazardous traffic condition associated with queuing at the freeway study intersection off-ramps.	No mitigation measures are required.	Less Than Significant Impact
Mainline Freeway Segment Analysis Implementation of the proposed project could cause a change in the measure of effectiveness (MOE) on state highway facilities.	No mitigation measures are required.	Less Than Significant Impact.
Hazardous Traffic Conditions Implementation of the proposed project could result in a hazardous traffic condition associated with neighborhood pass-through traffic.	**TRF-3** When deemed necessary by the City Community Development Director and/or City Engineer, the project applicant(s) shall prepare, implement, and fund a Neighborhood Traffic Management Plan (NTMP), which shall include three components: education, enforcement, and enhancement. The educational component of the NTMP shall provide the community with a means of understanding traffic management tools and processes and also increase public awareness of the impact that traffic will have on the neighborhood. Educational efforts that could be implemented as part of the NTMP include, but are not limited to, the following: • Coordination of neighborhood NTMP meetings • Coordination of a speed watch program • Coordination of the placement of temporary NTMP yard signs with volunteers • Design and distribution of NTMP brochures • Coordination of applicant and/or staff presentations to neighborhood groups The enforcement component of the NTMP entails focusing law enforcement	Less Than Significant Impact with Mitigation Incorporated

Table 1-5
Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Level of Significance
	efforts to acknowledge areas of concern. Enforcement efforts that could be implemented as part of the NTMP include, but are not limited to, the following: • Increased enforcement • Real-time speed feedback signs • Signage ("Entering residential neighborhood…") The enhancement component of the NTMP consists of non-physical and physical transportation system improvements. Numerous traffic-calming devices may be selected by a neighborhood for placement on a street. Potential improvements that could be implemented by the applicant and/or City of Duarte as part of the NTMP include, but are not limited to, the following: • Pavement marking/lane narrowing • Temporary speed tables • Neckdowns/bulbouts (extensions of curbs/corner sidewalks at an intersection) • Choker/Chicane (chokers are build-outs added to a road to narrow it, while chicanes are sequences of tight serpentine curves designed to slow roadway traffic) • Turn movement restrictions • Diagonal intersection diverters • Median barrier through intersection • Forced turn island	
Conflict with Policies, Plans, or Programs Implementation of the proposed project could result in a decrease of the performance or safety of public transit, bicycle, or pedestrian facilities as a result of a conflict with adopted policies, plans, or programs.	No mitigation measures are required.	Less Than Significant Impact

Table 1-5
Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Level of Significance
Cumulative Impacts Development associated with implementation of the proposed project and other related cumulative projects could result in cumulatively considerable impacts related to traffic and circulation.	Refer to Mitigation Measures TRF-1 through TRF-3. No additional mitigation measures are required.	Significant and Unavoidable Impact for impacts on Buena Vista Street/Duarte Road All other impacts are Less Than Significant or Less Than Significant with Mitigation Incorporated.
Air Quality		
Consistency with the SCAG AQMP Implementation of the proposed specific plan could conflict with the SCAQMD 2016 Air Quality Management Plan.	**AIR-2A** The City shall require applicants comply with South Coast Air Quality Management District Rule 1113 to reduce VOC emissions from architectural coating applications. Prior to the issuance of a building permit for the Project, the Applicant shall submit, to the satisfaction of the Planning Division, a Coating Restriction Plan (CRP), consistent with South Coast Air Quality Management District (SCAQMD) guidelines. The applicant shall include in any construction contracts and/or subcontracts a requirement that project contractors adhere to the requirements of the CRP. The CRP shall include a requirement that all interior and exterior residential and non-residential architectural coatings used in project construction meet the SCAQMD "super compliant" coating VOC content standard of less than 10 grams of VOC per liter of coating. The CRP shall also specify the use of high-volume, low pressure spray guns during coating applications to reduce coating waste. Requirements and Timing: Applicant shall receive Planning Division approval of a Coating Restriction Plan (CRP) prior to receipt of building permits. Monitoring: City Planning staff shall conduct site inspections to ensure that the CRP is followed during construction. **AIR-2B** The City shall require all apartment buildings in the plan area be constructed such that no more than 60 percent of units in the structure have fireplaces (natural gas or otherwise).	Significant and Unavoidable Impact for plan consistency – exceedance of growth assumptions in the SCAQMD 2016 AQMP All other impacts are Less Than Significant Impact with Mitigation Incorporated.

Table 1-5
Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Level of Significance
	This requirement shall be included in all engineering diagrams and any construction contracts and/or subcontracts. The City Building Department shall review all plans sets to ensure all apartment structures are designed to this specification. Requirements and Timing: The Building Department shall review and approve all plan sets prior to receipt of building permits. Monitoring: City Planning staff shall conduct site inspections to ensure apartment structures are being built to this mitigation requirement	
Cumulatively Considerable Increase in Non-Attainment Pollutants Implementation of the proposed specific plan could result in a cumulatively considerable increase in non-attainment criteria air pollutants.	Refer to Mitigation Measures AIR-2A and AIR-2B. No additional mitigation measures are required.	Less Than Significant Impact with Mitigation Incorporated
Expose Sensitive Receptors to Substantial Pollutant Concentrations Implementation of the proposed project would not expose receptors to substantial pollutant concentrations.	**AIR-3** For all new residential units in the project area, the developer shall install, and owner maintain, HVAC systems with air filters that meet or exceed a Minimum Efficiency Rating Value (MERV) of 13 as determined by ASHRAE Standard 52.2 (a Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size). The owner and/or occupant or other designated representative of the residential unit shall maintain and replace air filters according to the manufacturer's specifications. Requirements and Timing: This measure shall be printed on construction drawings and included as a requirement of the construction contract for new residential buildings. This measure shall also be recorded in a Notice to Property Owner for the Duarte Station Specific Plan units and for each new residential property within the Project area. Monitoring: City Planning staff shall confirm that HVAC units and MERV-13 filters (or better) are installed in accordance with this measure prior to final sign off on construction for all new residential units. City Planning staff shall also review and approve of the Notice to	Less Than Significant Impact with Mitigation Incorporated

Table 1-5
Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Level of Significance
	Property Owner language and ensure recordation prior to final sign-off on construction of new residential units in the project area	
Odors Implementation of the proposed project could result in emissions (such as those leading to odor) adversely affecting a substantial number of people.	No mitigation measures are required.	Less Than Significant Impact
Cumulative Impacts: Short-Term Construction Air Emissions Short-term construction activities associated with implementation of the proposed project and other related cumulative projects could result in air pollutant emission impacts or expose sensitive receptors to substantial pollutant concentrations.	Refer to Mitigation Measure AIR-2A. No additional mitigation measures are required.	Less Than Significant Impact with Mitigation Incorporated
Cumulative Impacts: Long-Term Operational Air Emissions Implementation of the proposed project and other related cumulative projects could result in significant impacts pertaining to operational air emissions.	Refer to Mitigation Measure AIR-2B. No additional mitigation measures are required.	Less Than Significant Impact with Mitigation Incorporated
Greenhouse Gas Emissions		
Greenhouse Gas Emissions Greenhouse gas emissions generated by development associated with implementation of the proposed project could have a significant impact on global climate change.	No mitigation measures are required.	Less Than Significant Impact
Consistency with Applicable GHG Plans, Policies, or Regulations Implementation of the proposed project could conflict with an applicable greenhouse gas reduction plan, policy, or regulation.	No mitigation measures are required.	Less Than Significant Impact
Energy Consumption Development facilitated under implementation of the proposed project could use energy in a wasteful, inefficient, or necessary way.	No mitigation measures are required.	Less Than Significant Impact
Consistency with Applicable Energy Efficiency And Renewable Energy Plans Or Regulations Implementation of the specific plan could conflict or obstruct a State or	No mitigation measures are required.	Less Than Significant Impact

Table 1-5
Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Level of Significance
local plan for renewable energy or energy efficiency.		
Cumulative Impact Greenhouse gas emissions generated by implementation of the proposed project and other related cumulative projects could have a significant impact on global climate change.	No mitigation measures are required.	Less Than Significant Impact
Cumulative Impact Energy consumed by the implementation of the proposed project could be wasteful, inefficient, or unnecessary.	No mitigation measures are required.	Less Than Significant Impact
Noise		
Short-Term Construction Noise Impacts Grading and construction associated with implementation of the proposed project could result in significant temporary noise impacts to nearby noise sensitive receivers.	**N-1** Individual project applicants shall prepare a construction noise management plan that identifies measures to be taken to minimize construction noise on surrounding sensitive receptors (e.g., residential uses and schools) and includes specific noise management measures to be included into project plans and specifications subject to review and approval by the City. These measures shall include, but not be limited to the following: • All construction equipment shall All construction equipment shall be equipped with mufflers and sound control devices (e.g., intake silencers and noise shrouds) no less effective than those provided on the original equipment and no equipment shall have an un-muffled exhaust. • The City shall require that the contractor maintain and tune-up all construction equipment to minimize noise emissions. • Stationary equipment shall be placed to maintain the greatest possible distance to the sensitive receptors. • All equipment servicing shall be performed to maintain the greatest possible distance to the sensitive receptors. • During construction, electrical hook-ups shall be provided in work areas to avoid the use of stationary, diesel-	Significant Unavoidable Impact

Table 1-5
Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Level of Significance
	or other alternatively fueled power generators • Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electronically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible. • Select demolition methods to minimize vibration, where possible (e.g., sawing masonry into sections rather than demolishing it by pavement breakers). • Construction truck traffic, including soil hauling, equipment deliveries, potential concrete deliveries, and other vendor deliveries shall follow designated delivery routes prepared for the project, which are anticipated to include Duarte Road and Highland Avenue. The use of Evergreen Avenue and Business Center Drive for deliveries shall be avoided when feasible. • Construction activities shall not take place outside of the allowable hours specified by the City's Municipal Code Section 9.68.120 (7:00 AM and 10:00 PM). • Each project applicant shall provide, to the satisfaction of the City of Duarte Planning Department, a qualified "Noise Disturbance Coordinator." The Disturbance Coordinator shall be responsible for responding to any local complaints about construction noise. When a complaint is received, the	

Table 1-5
Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Level of Significance
	Disturbance Coordinator shall notify the City within 24 hours of the complaint and determine the cause of the noise complaint (e.g., starting too early, malfunctioning muffler, etc.) and shall implement reasonable measures to resolve the compliant, as deemed acceptable by the Duarte Planning Department. Notices shall be sent to residential units immediately surrounding the construction site. The notices that are sent and the signs posted at the construction site shall include the contact name and the telephone number for the Noise Disturbance Coordinator.	
Long-Term Noise Exposure Impacts The proposed project could result in land uses that may be incompatible with the project area's existing ambient noise environment.	**N-2** Prior to the issuance of a building permit for any development in the project area, the City shall review and approve an acoustical analysis, prepared by or on behalf of the project applicant, and based on the final project design, that: 1) Identifies the exterior noise levels at: a) Exterior building facades that face Evergreen Street/I-210, Highland Avenue, and Duarte Road/the Metro Gold Line ROW; and b) Exterior recreation areas, including patios, that face and have a line of sight to Evergreen Street/I-210, Highland Avenue, and Duarte Road/the Metro Gold Line ROW. 2) Identifies the final site and building design features that would: a) Attenuate exterior building façade noise levels to interior levels that do not exceed 45 CNEL in habitat rooms and 50 dBA Leq (1-hour) in other occupied rooms. Potential noise insulation site and building design features capable of achieving this requirement may include, but are not limited to: 1) Sound barriers 2) Enhanced exterior wall construction/noise insulation design 3) Use of enhanced window, door, and roof assemblies with above	Less Than Significant Impact

Table 1-5
Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Level of Significance
	average sound transmission class or outdoor/indoor transmission class values 4) Use of mechanical, forced air ventilation systems to permit a window closed condition in residential units	
Long-Term Mobile Noise Impacts Traffic generated by the proposed project could significantly contribute to existing traffic noise in the area or exceed the city's established standards.	No mitigation measures are required.	Less Than Significant Impact
Long-Term Stationary Noise Impacts Implementation of the proposed project could result in a significant increase in long-term stationary ambient noise levels.	**N-3** Prior to issuance of building permits, a noise assessment shall be prepared for residential, office, commercial, and enclosed parking garage uses to ensure that any loading dock and/or outdoor mechanical equipment (e.g., heating, ventilation, and air conditioning equipment, dock material lifts, garage fresh air supply and exhaust fans, etc.) woul not exceed the City's noise limits identified in Municipal Code Section 9.68.050. The noise assessment shall identify any noise control measures necessary to comply with the Municipal Code Noise Regulations. Individual project applicants shall implement all noise control measures identified in the assessment. **N-4** Prior to site plan approval, the Community Development Director shall confirm that all applicable building plans and specifications include a closed design (i.e., a solid wall) for the walls of parking structures that are within 75 feet of residences. The closed design is only required for walls that face residences.	Less Than Significant Impact with Mitigation Incorporated
Long-Term Vibration Impacts from Metro Gold Line Operations Implementation of the proposed project could exacerbate exposure of on-site receptors to excessive ground-borne vibration from metro gold line operations.	No mitigation measures are required.	Less Than Significant Impact

Table 1-5
Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Level of Significance
Cumulative Impact: Short-Term Construction Noise Impacts Development associated with implementation of the proposed project and other related cumulative projects could result in significant short-term noise impacts to nearby noise sensitive receivers.	Refer to Mitigation Measure N-1. No additional mitigation measures are required.	Less Than Significant Impact with Mitigation Incorporated
Cumulative Impact: Long-Term Cumulative Noise Impacts Development associated with implementation of the proposed project and other related cumulative projects could result in cumulatively considerable long-term noise impacts.	No mitigation measures are required.	Less Than Significant Impact
Hazards and Hazardous Materials		
Construction-Related Accidental Release of Hazardous Materials Short-term construction activities associated with implementation of the proposed project could create a significant hazard to the public or environment through accident conditions involving the release of hazardous materials.	**HAZ-1** Prior to demolition activities, an asbestos survey shall be conducted by an Asbestos Hazard Emergency Response Act (AHERA) and Cal OSHA certified building inspector to determine the presence or absence of asbestos containing-materials (ACMs). If ACMs are located, abatement of asbestos shall be completed before any activities that would disturb ACMs or create an airborne asbestos hazard. Asbestos removal shall be performed by a State certified asbestos containment contractor in accordance with the South Coast Air Quality Management District (SCAQMD) Rule 1403. **HAZ-2** If paint is separated from building materials, chemically or physically, during demolition of the structures, the paint waste shall be evaluated independently from the building material by a qualified environmental professional. If lead-based paint is found, abatement shall be completed by a qualified lead specialist before any activities that would create lead dust or fume hazard. Lead-based paint removal and disposal shall be performed in accordance with California Code of Regulation Title 8, Section 1532.1, which specifies exposure limits, exposure monitoring	Less Than Significant with Mitigation Incorporated

Table 1-5
Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Level of Significance
	and respiratory protection, and mandates good worker practices by workers exposed to lead. Contractors performing lead-based paint removal shall provide evidence of abatement activities to the City's Building Department. **HAZ-3** An environmental professional with Phase II/site characterization experience shall conduct an inspection of existing on-site structures before building renovation/ demolition activities. The inspection shall determine whether or not testing is required to confirm the presence or absence of hazardous substances in building materials (i.e., sinks, drains, piping, flooring, walls, ceiling tiles, etc.). Should testing be required and results determine that hazardous substances are present in on-site building materials, the Phase II/site characterization specialist shall determine appropriate prevention/remediation measures that are required and/or the methods for proper disposal of hazardous waste at an approved landfill facility, if required. **HAZ-4** As applicable, each project applicant shall obtain appropriate permits from the Los Angeles County Fire Department Health Hazard Management Division (HHMD), before removing any existing USTs, per the Underground Storage Tank Program. The applicant shall conduct soil/groundwater testing, as requested by the HHMD. Should contamination be present above regulatory thresholds, then the project applicant shall remediate appropriately, as required by the HHMD. Should the HHMD refer the case to any other regulatory agency (e.g., the Department of Toxic Substances Control, or Regional Water Quality Control Board, etc.), then the applicant shall comply with that agency's requirements as well.	

Table 1-5
Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Level of Significance
	HAZ-5 Prior to issuance of a grading permit, soil sampling shall occur within the portions of the project site that have historically been utilized for agricultural purposes and may contain pesticide residues in the soil, as determined by a qualified Phase II/site characterization specialist. The sampling shall determine if pesticide concentrations exceed established regulatory requirements and shall identify further site characterization and remedial activities, if necessary. Should further site characterization/remedial activities be required, these activities shall be conducted per the applicable regulatory agency requirements, as directed by the Los Angeles County Fire Department Health Hazard Management Division (HHMD). **HAZ-6** Prior to issuance of a grading permit, an environmental consultant with Phase II/site characterization experience shall conduct sampling to confirm whether or not contaminated soil/soil vapor/groundwater underlies the project site. Should contamination above established regulatory levels be identified, the environmental consultant shall recommend remedial activities appropriate for the proposed future development at the site, in consultation with the Los Angeles County Fire Department Health Hazard Management Division (HHMD) and/or other applicable agencies. **HAZ-7** Prior to issuance of a grading permit, a Phase II/site characterization specialist shall conduct appropriate sampling along the southern boundary of the project site (Parcel 1) in order to determine whether or not contaminated soil is present. Should contaminated soil be present, the Phase II/site characterization specialist shall recommend appropriate remediation/safety measures in order to ensure worker safety during	

Table 1-5
Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Level of Significance
	construction and public health during proposed project operations. **HAZ-8** Prior to issuance of a grading permit, the project applicant shall submit a Worker Safety Plan for site disturbance/construction activities, in consultation with California Division of Occupational Safety and Health (Cal/OSHA) and Los Angeles County Fire Department Health Hazard Management Division (HHMD). The Worker Safety Plan shall include safety precautions (e.g., personal protective equipment or other precautions to be taken to minimize exposure to hazardous materials) to be taken by personnel when encountering potential hazardous materials, including potential contaminated groundwater. **HAZ-9** If unknown wastes or suspect materials are discovered during construction by the contractor that are believed to involve hazardous waste or materials, the contractor shall comply with the following: ▪ Immediately cease work in the vicinity of the suspected contaminant, and remove workers and the public from the area; ▪ Notify the City Engineer of the City of Duarte; ▪ Secure the area as directed by the City Engineer; and ▪ Notify the Los Angeles County Fire Department Health Hazard Management Division's (HHMD) Hazardous Waste/Materials Coordinator (or another appropriate agency specified by the City Engineer). The Hazardous Waste/Materials Coordinator shall advise the responsible party of further actions that shall be taken, if required.	
Operational-Related Impacts Implementation of the proposed project could create a significant hazard during use operations to the public or	**HAZ-10** Prior to issuance of building permits, vapor intrusion investigations shall be conducted by a qualified Environmental Professional, in	Less Than Significant with Mitigation Incorporated

Table 1-5
Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Level of Significance
environment through the handling, storage, and/or use of hazardous materials, as well as accident conditions involving the release of hazardous materials.	consultation with the Los Angeles County Fire Department Health Hazard Management Division (HHMD). Should the environmental professional determine that proposed buildings could be impacted by vapor intrusion, the environmental professional, in consultation with the HHMD and/or other applicable regulatory agencies, shall recommend specific design measures to be incorporated into the buildings' design that would reduce these indoor air quality concentrations to below regulatory thresholds.	
Hazardous Materials Sites Development associated with implementation of the proposed project site could be located on a hazardous materials site per Government Code Section 65962.5 and could create a significant hazard to the public or the environment.	No mitigation measures are required.	No Impact
Cumulative Impacts Development associated with implementation of the proposed project and other related cumulative projects could increase the exposure of hazardous substances to the public or the environment.	Refer to Mitigation Measures HAZ-4, HAZ-6, and HAZ-10. No additional mitigation measures are required.	Less Than Significant with Mitigation Incorporated
Hydrology, Drainage, and Water Quality		
Water Quality – Short-Term Impacts Grading, excavation, and construction activities associated with implementation of the proposed project could significantly impact water quality.	No mitigation is required with application of standard regulatory requirements.	Less Than Significant Impact
Long-Term Operational Impacts Implementation of the proposed project could result in significant impacts related to increased run-off amounts and degraded water quality.	**HYD-1** Concurrent with Site Plan Review or issuance of a grading permit, whichever comes first, a hydrology review shall be conducted by a Registered Civil Engineer for each development phase to ensure that runoff values for each phase remain at or below existing runoff values in compliance with current State law or other applicable statutes.	Less Than Significant Impact with Mitigation Incorporated
Flooding and Other Hydrologic Hazards Implementation of the proposed project could result in:	No mitigation measures are required.	Less Than Significant Impact

Table 1-5
Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Level of Significance
• Placement of housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map; • Placement of structures within a 100-year flood hazard area which would impede or redirect flood flows; and/or • Exposure of people or structures to a significant risk of loss, injury or death involving flooding including flooding as a result of the failure of a levee or dam; or • Exposure of people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow.		
Cumulative Impacts Implementation of the proposed project along with other related cumulative projects could result in cumulatively considerable impacts related to increased runoff and degraded water quality.	Refer to Mitigation Measure HYD-1. No additional mitigation measures are required.	Less Than Significant Impact
Fire Protection		
Fire Services Implementation of the proposed project could result in impacts to fire services.	**FP-1** Adequate access to all buildings on the project site shall be provided and properly maintained for emergency vehicles during the building construction process to the satisfaction of the Los Angeles County Fire Department. **FP-2** Adequate water availability shall be provided to service construction activities. **FP-3** Prior to issuance of building permits, a will-serve letter from the California American Water Company shall be obtained by the project applicant, which states that the Water Company can adequately meet water flow requirements. **FP-4** The Los Angeles County Fire Department shall review and comment on each individual site plan submitted, prior to approval by the City of Duarte. Any conditions required by the Los	Less Than Significant Impact with Mitigation Incorporated

Table 1-5
Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Level of Significance
	Angeles County Fire Department shall be complied with by the project applicant. **FP5** Prior to the issuance of building permits, the project applicant shall provide verification that the project complies with all fire prevention provisions required by the Los Angeles County Fire Department. **FP-6** All new structures shall have automatic fire sprinkler systems. **FP-7** A supervised fire alarm system that meets requirements of the California Fire Code shall be placed in an accessible location with an annunciator. **FP-8** Access to and around structures shall meet Los Angeles County Fire Department and California Fire Code requirements. **FP-9** A water supply system shall be in place to supply fire hydrants and automatic fire sprinkler systems. **FS-10** All traffic signals on public access ways shall include the installation of optical preemption devices. **FP-11** All electric gates within the project shall install emergency opening devices approved by the Los Angeles County Fire Department.	
Cumulative Impacts Development associated with implementation of the proposed project and other related cumulative projects could result in cumulatively considerable impacts to fire services.	Refer to Mitigation Measures FP-1 through FP-11. No additional mitigation measures are required.	Less Than Significant Impact with Mitigation Incorporated
Police Protection		
Police Services Implementation of the proposed project could result in impacts to police services.	No mitigation measures are required.	Less Than Significant Impact
Cumulative Impacts Development associated with implementation of the proposed project	No mitigation measures are required.	Less Than Significant Impact

Table 1-5
Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Level of Significance
and other related cumulative projects could result in cumulatively considerable impacts to police services.		
Schools		
Schools Implementation of the proposed project could result in impacts to existing school facilities within the Duarte Unified School District.	**SCH-1** Individual project applicants shall pay all applicable Development Impact Fees to the Duarte Unified School District prior to issuance of building permits. Proof of fee payment shall be provided to the City of Duarte.	Less Than Significant Impact with Mitigation Incorporated
Cumulative Impacts Development associated with implementation of the proposed project and other related cumulative projects could result in cumulatively considerable impacts to school facilities within the Duarte Unified School District.	Refer to Mitigation Measure SCH-1. No additional mitigation measures are required.	Less Than Significant Impact with Mitigation Incorporated
Parks		
Parks and Recreation Facilities Implementation of the proposed project could increase the use of existing parks and recreational facilities creating the potential for physical deterioration of facilities.	No mitigation measures are required.	Less Than Significant Impact
Cumulative Impacts Development associated with implementation of the proposed project and other related cumulative projects could result in cumulatively considerable impacts to parks and recreation facilities in the City.	No mitigation measures are required.	Less Than Significant Impact
Water		
Water Facilities Implementation of the proposed project could require or result in construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	**WAT-1** Prior to approval of building permits, individual project applicants shall conduct a hydraulic analysis in coordination with CAW to determine flow capacity, pumping, and storage requirements to provide water service to the proposed development. The project applicant shall implement the improvements or pay their fair share of an in-lieu fee for those improvements in accordance with CAW requirements, prior to final inspection. **WAT-2** Prior to approval of building permits, individual project applicants shall submit site plans to the Los Angeles County Fire Department to	Less Than Significant Impact with Mitigation Incorporated

Table 1-5
Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Level of Significance
	obtain fire flow and storage volume requirements for the proposed development. The project applicant shall submit the fire flow and storage volume requirements to the CAW to determine if adequate fire flow and storage capacity exists to serve the proposed development. If fire flow and storage capacity is found to be inadequate, the project applicant shall design and bond for necessary improvements prior to the issuance of building permits and complete all necessary improvements prior to final inspection or pay their fair share of an in-lieu fee for those improvements prior to final inspection. **WAT-3** Prior to final inspection, individual project applicants shall pay their fair share of an in-lieu fee by CAW to implement water supply infrastructure improvements determined to be necessary in a capacity study for projected buildout within CAW's Duarte water service area	
Water Supplies Implementation of the proposed project could create demand for water that exceeds available water supplies from existing entitlements and resources, could substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin, or Conflict with or obstruct implementation of a sustainable groundwater management plan	No mitigation measures are required.	Less Than Significant Impact
Cumulative Impacts Development associated with the proposed project and other related cumulative projects could result in cumulatively considerable impacts to water supplies and facilities.	Refer to Mitigation Measures WAT-1 WAT-2, and WAT-3. No additional mitigation measures are required.	Less Than Significant Impact with Mitigation Incorporated
Wastewater		
Wastewater Conveyance and Treatment Facilities Implementation of the proposed project could generate wastewater that	**WW-1** Each development project shall conduct a sewer flow monitoring study and submit to the City Engineer for review and approval prior to	Less Than Significant Impact with Mitigation Incorporated

Table 1-5
Summary of Environmental Impacts and Mitigation Measures

Impacts	Mitigation Measures	Level of Significance
exceeds the capacity of conveyance and treatment facilities serving the project area	approval of building permits. The study shall review flows at selected off-site manholes, both upstream and downstream of the point of connection, to determine the capacity of the local and regional system to accept project-related flows. The project applicant shall be responsible to implement the recommendations in the study to ensure that off-site systems operate in accordance with the Los Angeles County Department of Public Works and County Sanitation Districts of Los Angeles County standards. **WW-2** Each development project shall design and construct on-site and off-site sewer lines in compliance with the Los Angeles County Public Works Department and County Sanitation Districts of Los Angeles County standards	
Cumulative Impacts Development associated with implementation of the proposed project and other related cumulative projects could result in cumulatively considerable impacts to wastewater conveyance and treatment facilities.	No mitigation measures are required.	Less Than Significant Impact
Solid Waste		
Solid Waste Implementation of the proposed project would generate solid waste that could incrementally decrease the capacity and lifespan of landfills.	No mitigation measures are required.	Less Than Significant Impact
Cumulative Impacts Development associated with implementation of the proposed project and other related cumulative development could result in cumulatively considerable impacts related to solid waste disposal services and landfill capacity.	No mitigation measures are required.	Less Than Significant Impact

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2.0 INTRODUCTION AND PURPOSE

2.1 PURPOSE

The City of Duarte (City) is the lead agency under the *California Environmental Quality Act* (*CEQA*) and has determined that a Subsequent Environmental Impact Report (SEIR) is required for an original certified EIR (State Clearinghouse No. 2013041032) for an amendment to the Duarte Station Specific Plan that was approved by the City Council in 2013. This SEIR has been prepared in conformance with *CEQA* (*California Public Resources Code* [*PRC*] Section 21000 et seq.); *CEQA Guidelines* (*California Code of Regulations* [*CCR*], *Title 14*, Section 15000 et seq.); and the rules, regulations, and procedures for implementation of CEQA, as adopted by the City of Duarte. The principal *CEQA Guidelines* sections governing content of this document are Section 15378 (Definition of a Project), Sections 15120 through 15132 (Contents of Environmental Impact Reports), and Section 15162 (Subsequent EIRs and Negative Declarations).

PURPOSE OF THIS SUBSEQUENT EIR

The purpose of this SEIR is to review the existing conditions, analyze potential environmental impacts, and identify feasible mitigation measures to avoid or lessen potentially significant effects of the proposed updated Duarte Station Specific Plan (proposed project, proposed Specific Plan, proposed Specific Plan Amendment).

In accordance with *CEQA Guidelines* Sections 15121 and 15160, the main purposes of this SEIR are to:

- Provide decision-makers and the public with specific information regarding the new environmental effects associated with the revised Duarte Station Specific Plan;
- Identify ways to minimize the new significant effects of the project; and
- Describe reasonable alternatives to the project.

Pursuant to CEQA Guidelines Section 15162, a Subsequent EIR must be prepared when an EIR or Negative Declaration has already been adopted for project that has undergone one or more of the following events or changes:

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or ND due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or ND due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the ND was adopted, shows any of the following:

(4) The project will have one or more significant effects not discussed in the previous EIR or ND;

(5) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(6) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(7) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Furthermore, *CEQA Guidelines* Sections 15162 (b-c) state:

> *If changes to a project or its circumstances occur, or new information becomes available after adoption of a ND, the lead agency shall prepare a subsequent EIR if required under [14 CCR Section 15162(a)]. Otherwise, the lead agency shall determine whether to prepare a subsequent negative declaration or an addendum, or no further documentation.*
>
> *A subsequent EIR or subsequent ND shall be given the same notice and public review as required under CEQA Guidelines Section 15072 or Section 15087. A subsequent EIR or ND shall state where the previous documents are available and may be reviewed.*

Mitigation measures are carried forward from the original certified EIR for the Duarte Station Specific Plan that may have been revised based upon the new impact analyses in this Subsequent EIR. In addition, new mitigation measures may have been recommended to address new significant impacts. These mitigation measures may be adopted as conditions of approval to avoid or minimize the significance of impacts resulting from the project. In addition, this EIR is the primary reference document in the formulation and implementation of a final mitigation monitoring program for the proposed Duarte Station Specific Plan.

The City of Duarte (which has the principal responsibility of processing and approving the project) and other public (i.e., responsible and trustee) agencies that may use this SEIR in the decision-making or permit process will consider the information in this SEIR, along with other information that may be presented during the CEQA process. Environmental impacts are not always able to be mitigated to a level considered less than significant; in those cases, impacts are considered significant unavoidable impacts. In accordance with *CEQA Guidelines* Section 15093(b), if a public agency approves a project that has significant impacts that are not substantially mitigated (i.e., significant unavoidable impacts), the agency shall state in writing the specific reasons for approving the project, based on the Final EIR and any other information in the public record for the project. This is termed per *CEQA Guidelines* Section 15093, a "statement of overriding considerations."

This document analyzes the environmental effects of the project to the degree of specificity appropriate to the current proposed actions, as required by *CEQA Guidelines* Section 15146. The analysis considers the activities associated with the project to determine the short-term and

long-term effects associated with its implementation. This SEIR discusses both the direct and indirect impacts of this project, as well as the cumulative impacts associated with other past, present, and reasonably foreseeable future projects.

PROGRAM EIR

This SEIR continues to be prepared as a Program EIR in accordance with *CEQA Guidelines* Section 15168, which states the following:

> *(a) General. A Program EIR is an EIR, which may be prepared on a series of actions that can be characterized as one large project and are related either:*
>
> *(1) Geographically,*
> *(2) As logical parts in the chain of contemplated actions,*
> *(3) In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or*
> *(4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.*
>
> *(b) Advantages. Use of a Program EIR can provide the following advantages. The Program EIR can:*
>
> *(1) Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action,*
> *(2) Ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis,*
> *(3) Avoid duplicative reconsideration of basic policy considerations,*
> *(4) Allow the Lead Agency to consider broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts, and*
> *(5) Allow reduction in paperwork.*
>
> *(c) Use with Later Activities. Subsequent activities in the program must be examined in the light of the Program EIR to determine whether an additional environmental document must be prepared.*
>
> *(1) If a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration.*
> *(2) If the agency finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required.*
> *(3) An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into subsequent actions in the program.*
> *(4) Where the subsequent activities involve site-specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.*

> *(5) A program EIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed analysis of the program, many subsequent activities could be found to be within the scope of the project described in the program EIR, and no further environmental documents would be required.*

CEQA Guidelines Section 15168 describes the proper process for Program EIRs, as follows (emphasis added):

> *Use of the Program EIR also enables the Lead Agency to characterize the overall program as the project being approved at that time. Following this approach when individual activities within the program are proposed, the agency would be required to examine the individual activities within the program to determine whether their effects were fully analyzed in the Program EIR. If the activities would have no effects beyond those analyzed in the Program EIR, the agency could assert that the activities are merely part of the program, which had been approved earlier, and no further CEQA compliance would be required. This approach offers many possibilities for agencies to reduce their costs of CEQA compliance and still achieve high levels of environmental protection.*

2.2 COMPLIANCE WITH CEQA

2.2.1 EIR SCOPING PROCESS

In compliance with *CEQA* and the *CEQA Guidelines*, the City of Duarte has provided opportunities for various agencies and the public to participate in the environmental review process. During preparation of the Draft SEIR, efforts were made to contact various Federal, State, regional, and local government agencies and other interested parties to solicit comments on the proposed project. This included the distribution of a Notice of Preparation (NOP) to various responsible agencies, trustee agencies, and interested parties, in addition to a public scoping meeting held on Monday, March 25, 2019 at the Duarte Community Center located at 1600 Huntington Drive in Duarte. The meeting was held with the specific intent of affording interested individuals, groups, and public agencies a forum in which to provide input pertaining to the environmental effects of the proposed project in an effort to assist in further refining the intended scope and focus of the EIR, as described in the NOP.

Pursuant to *CEQA Guidelines* Section 15082, the City of Duarte circulated an NOP directly to public agencies (including the Office of Planning and Research's State Clearinghouse), special districts, and members of the public who had requested such notice. The NOP and Initial Study were distributed on March 18, 2019, with the 30-day public review period concluding on April 16, 2019.

The purpose of the NOP was to formally announce the preparation of a Draft SEIR for the proposed project, and as the Lead Agency, the City solicited input regarding the scope and content of the environmental information to be included in the SEIR. The NOP provided preliminary information regarding the anticipated range of impacts to be analyzed within the EIR. The NOP is provided as Appendix A, Notice of Preparation, of this EIR, and NOP comments are provided as Appendix B, Notice of Preparation Comments.

The City of Duarte received nine comment letters from State, regional, and local public agencies and the public:

- State of California, Department of Transportation (Caltrans)
- Gabrieleno Band of Mission Indians - Kizh Nation
- Los Angeles County Metropolitan Transportation Authority (Metro)
- South Coast Air Quality Management District
- Southern California Association of Governments
- County of Los Angeles Fire Department
- County Sanitation Districts of Los Angeles County

The following environmental concerns were raised in response to the NOP (the numerical reference in parenthesis is the EIR section in which the analysis is provided) or the public scoping meeting. The NOP comments are contained in Appendix B. The topics raised during the NOP and scoping meeting process include the following issues.

The NOP comments included, but were not limited to, the following issues of controversy/issues to be resolved:

WRITTEN RESPONSES TO NOTICE OF PREPARATION

County of Los Angeles Fire Department

PLANNING DIVISION

- The Planning Division will reserve comments for the draft SEIR.

LAND DEVELOPMENT UNIT

- The development of this project must comply with all applicable code and ordinance requirements for construction, access, water mains, fire flows, and fire hydrants. These requirements are listed in Appendix B.

FORESTRY DIVISION

- Address potential impacts regarding erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones, archeological and cultural resources, and the County Oak Tree Ordinance.
- If Oak trees are known to exist in the proposed project area, further field studies should be conducted to determine the presence of the species on the project site.

County Sanitation District of Los Angeles County

- The wastewater flow from the proposed project will discharge to a local sewer line, not maintained by the Districts, for conveyance to the Districts' Buena Vista Trunk Sewer, located in Three Ranch Road west of Ducannon Avenue. The Districts' 12-inch diameter trunk sewer has a capacity of 1.7 million gallons per day (mgd) and conveyed a peak flow of 0.6 mgd when last measured in 2015.

- The wastewater generated by the proposed project will be treated at San Jose Creek Water Reclamation Plan (WRP) located adjacent to the city of Industry, which has a capacity of 100 mgd and currently processes an average flow of 63.9 mgd. All biosolids and wastewater flows that exceed the capacity of the San Jose Creek WRP are diverted to and treated at the Joint Water Pollution Control Plan in the City of Carson.

- The expected increase in average wastewater flow from the project, described in the notice as 1,400 residential apartments and 112,500 square feet of commercial and office space, is 236,679 gallons per day, after the structure on the project site is demolished.

- The Districts are empowered by the California Health and Safety Code to charge a fee for the privilege of connecting (directly or indirectly) to the Districts' Sewerage System for increasing the strength or quantity of wastewater discharged form connected facilities. Payment of a connection fee will be required before a permit to connect to the sewer is issued. Additional information is provided in Appendix B.

- The Districts intend to provide wastewater service up to the levels that are legally permitted.

Gabrieleno Band of Mission Indians – Kizh Nation

- Requested AB 52 consultation.

Los Angeles County Metropolitan Transportation Authority (Metro)

- Include language that requires future development to inform Metro of projects in close proximity to bus stops or other bus facilities that could impact operations. Design outside right lines to be 12 feet wide (or at minimum 11 feet wide) for bus travel.

- Include a provision to require a recorded Noise Easement Deed in favor of Metro prior to completion and/or occupancy of new development along the Gold Line.

- Include a provision to grant Metro review of demolition, development, and construction projects within 100 feet of Metro Gold Line ROW.

- Encourages the City or provide the Metro Adjacent Development Handbook to all development projects adjacent to Metro ROW.

- Use the Transit-Supportive Planning Toolkit as a planning resource.

- Encourages the City to be mindful of the Duarte and City of Hope Station within the plan area and include strategies to orient pedestrian pathways towards the station.

- The Plan should include policies and design standards to accommodate transfer activity between bus and rail customers that will occur along sidewalks and public spaces.

- Encourages installation of wide sidewalks, pedestrian lighting, a continuous canopy of shade trees, enhanced crosswalks with ADA-compliant curb ramps, and other amenities

along all public street frontages of the site. Consider requiring the installation of such amenities as part of the conditions of approval of projects within the Plan area.

- Address first-last mile connections to transit, encouraging development that with transit accessible with bicycle and pedestrian-oriented street design connecting transportation with housing and employment centers.

- Consider wayfinding signage as part of the Plan. Any temporary or permanent wayfinding signage with content referencing Metro services or feature the Metro brand and/or associate graphics requires review and approval by Metro Art & Design.

- Metro will need to review any proposals for public art and/or place making facing Metro ROW.

- Encourages analysis of impacts on non-motorized transportation modes and consideration of improved non-motorized access to the Plan area and nearby transit services.

- Incorporate transit-oriented, pedestrian-oriented parking provision strategies.

South Coast Air Quality Management District

- Send SCAQMD a copy of the Draft Subsequent EIR along with all relevant appendices or technical documents upon completion. Additional details are included in Appendix B.

- Recommends using the CEQA Air Quality Handbook as guidance for preparing air quality analysis.

- Recommends that the Lead Agency use the CalEEMod land use emissions software.

- Requests that the Lead Agency quantify pollutant emissions and compare the results to SCAQMD's CEQA regional pollutant emissions significance thresholds to determine air quality impacts.

- Recommends calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs).

- Recommends the Lead Agency perform a localized analysis by either using the LSTs developed by SCAQMD staff or performing dispersion modeling as necessary.

- Identify any potential adverse air quality impacts that could occur from all phases of the proposed project and all air pollutant sources related to the proposed project. Air quality impacts from both construction (including demolition) and operations should be calculated. Air quality impacts from indirect sources should be included in the analysis.

- Recommends, prior to project approval, the Lead Agency consider the impacts of air pollutants on people who will live in a new project and provide mitigation where necessary.

- When specific development is reasonably foreseeable as result of the goals, policies, and guidelines in the Proposed Project, the Lead Agency should identify any potential adverse health risk impacts using its best efforts to find out and a good-faith effort at full disclosure in the CEQA document.

- Because of the proximity to the existing I-210 and a potential source of air pollution, residents at the Proposed Project would be exposed to diesel particulate matter (DPM). Therefore, SCAQMD recommends the Lead Agency conduct a health risk assessment (HRA) to disclose the potential health risks to the residents in the Draft Subsequent EIR.

- Recommends review of the SCAQMD Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning when making local planning and land use decisions.

- In the event that the Proposed Project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize these impacts. Any impacts resulting from mitigation measures must also be discussed.

- Recommends building filtration systems as a strategy to reduce exposure. Details about building filtration systems are provided in Appendix B.

- Lists information that should be included, at a minimum, in the Draft Subsequent EIR, provided in Appendix B.

- CEQA requires consideration and discussion of alternatives to the project or its location which are capable of avoiding or substantially lessening any of the significant effects of the project. The Draft Subsequent EIR shall include sufficient information about each alternative, pursuant to CEQA Guidelines Section 15126.6(d).

- In the event that the proposed project requires a permit from SCAQMD, SCAQMD should be identified as a responsible agency for the proposed project.

- SCAQMD provides information and staff to work with the Lead Agency to ensure that project air quality impacts are accurately evaluated, and any significant impacts are mitigated where feasible.

Southern California Association of Governments

- Encourages the use of side-by-side comparison of SCAG goals with discussions of the consistency, non-consistency or non-applicability of the goals and supportive analysis in a table format. SCAG goals are provided in Appendix B.

- Recommends reviewing the Final Program Environmental Impact Report (Final PEIR) for the 2016 RTP/SCS for guidance, as appropriate. Additional information about the Final PEIR is included in Appendix B.

State of California, Department of Transportation (Caltrans)

- Requested confirmation of the State Clearinghouse number.

- Senate Bill 743 (2013) has mandated that CEQA review of transportation impacts of proposed development be modified by using Vehicle Miles Traveled (VMT) as the primary metric in identifying transportation impacts for all future development projects.

- Encouraged the Lead Agency to evaluate the potential of Transportation Demand Management (TDM) strategies and Intelligent Transportation System (ITS) applications.

- Expressed concern about potential traffic conflict at the nearest off-ramps and the weaving areas on I-210 and I-604 in the project vicinity. Traffic analysis should include queuing analysis and weaving analysis.

- When traffic impacts are identified, the Lead Agency may participate in the City of Irwindale traffic impact fee program to mitigate traffic impact on the State facilities.

- Include a discussion of mitigation measures appropriate to alleviate anticipated traffic impacts. Any mitigation involving transit or TDM is encouraged and should be justified to reduce VMT and greenhouse gas emissions.

WRITTEN OR VERBAL COMMENTS FROM SCOPING MEETING

- No written comments were received during the scoping meeting. There were no specific comments about the scope or content of the Draft Subsequent EIR or specific issues that should be included. Most of the discussion and comments from the public centered around the proposed Specific Plan Amendment and the land uses that would be supported by the proposed amendment.

2.2.2 PUBLIC REVIEW OF DRAFT EIR

This Draft EIR is subject to a 45-day review period by responsible and trustee agencies, the public and any interested parties. *CEQA Guidelines* Section 15087 lists optional procedures for noticing, including publication in a newspaper, posting on-site, or mailing to owners of a property or properties contiguous to the site. In accordance with the provisions of *CEQA Guidelines* Sections 15085(a) and 15087(a)(1), the City of Duarte, serving as the Lead Agency shall (1) publish a Notice of Availability (NOA) of a Draft EIR and (2) prepare and transmit a Notice of Completion (NOC) to the State Clearinghouse. Proof of publication is available at the offices of the Lead Agency. Further, an electronic copy of the Draft EIR is available for review on the City's official website (www.accessduarte.com), and printed copies of the Draft EIR are available for review at Duarte City Hall, 1600 Huntington Drive.

Any public agency or members of the public desiring to comment on the Draft EIR must submit their comments in writing to the lead agency indicated on the document's NOC/NOA prior to the end of the public review period. The Lead Agency will evaluate and prepare responses to all relevant written comments received from both citizens and public agencies during the public review period.

2.2.3 FINAL EIR

The Final EIR will consist of the Draft EIR, revisions to the Draft EIR (if any), responses to all written comments, and the mitigation monitoring and reporting program. At least 10 days prior

to the certification hearing, responses to the comments made by public agencies on the Draft EIR will be provided to the commenting agencies.

2.3 FORMAT OF THE EIR

The Draft EIR is organized into the following sections and appendices:

- Section 1.0, Executive Summary, provides a brief project description and summary of the environmental impacts and mitigation measures.
- Section 2.0, Introduction and Purpose, provides CEQA compliance information.
- Section 3.0, Project Description, provides a detailed project description indicating project location, background, and history; project characteristics, phasing, and objectives; as well as associated discretionary actions required.
- Section 4.0, Basis for the Cumulative Analysis, describes the approach and methodology for the cumulative analysis.
- Section 5.0, Environmental Analysis, contains a detailed environmental analysis of the existing conditions, potential project impacts, recommended mitigation measures, and possible unavoidable adverse impacts for a number of environmental topic areas.
- Section 6.0, Alternatives to the Proposed Action, describes a reasonable range of alternatives to the project or to the location of the project that could avoid or substantially lessen the significant impact of the project and still feasibly attain the basic project objectives.
- Section 7.0, Other CEQA Considerations, discusses growth-inducing impacts associated with the proposed project; significant environmental changes that would be involved with the proposed project, should it be implemented; significant irreversible environmental changes that would be involved with the proposed project, should it be implemented; and energy efficiency pursuant to CEQA Guidelines Appendix F.
- Section 8.0, Effects Found Not to Be Significant, provides an explanation of potential impacts that have been determined not to be significant.
- Section 9.0, Significant Environmental Effects Which Cannot Be Avoided if the Proposed Action Is Implemented, describes those impacts that remain significant and unavoidable following mitigation.
- Section 10.0, References, identifies the Lead Agency and preparers of the EIR, as well as organizations and individuals consulted.

The following appendices contain technical documentation of the analysis:

A: Notice of Preparation
B: Notice of Preparation Comments
C: Utilities Documentation and Water Supply Assessment
D: Traffic Impact Analysis

E: Air Quality/Greenhouse Gas Emissions Data
F: Noise Data
G: Hazardous Materials Documentation
H. Hydrology and Water Quality
I. Cultural Resources Data
J. Plan Set for The Residences at Duarte Station
K. Conceptual Drawings for the Duarte Intergenerational Housing Project

2.4 RESPONSIBLE AND TRUSTEE AGENCIES

Certain projects or actions undertaken by a Lead Agency require subsequent oversight, approvals, or permits from other public agencies in order to be implemented. Such other agencies are referred to as Responsible Agencies and Trustee Agencies, defined the *CEQA Guidelines* Sections 15381 and 15386.

Responsible and Trustee Agencies that may use this EIR in their decision-making process include, but may not be limited to, the following:

- California Department of Toxic Substances Control (DTSC)
- California Department of Transportation (Caltrans)
- County of Los Angeles
- Duarte Unified School District
- Los Angeles County Fire Department
- Los Angeles County Sheriff's Department
- County Sanitation Districts of Los Angeles County (LACSD)
- Los Angeles County Metropolitan Transportation Authority (METRO)
- South Coast Air Quality Management District (SCAQMD)
- Los Angeles Regional Water Quality Control Board (RWQCB)
- California Public Utilities Commission (CPUC)

2.5 INCORPORATION BY REFERENCE

Pertinent documents relating to this EIR have been cited in accordance with *CEQA Guidelines* Section 15150, which encourages incorporation by reference as a means of reducing redundancy and length of environmental reports. The following documents are hereby incorporated by reference into this EIR. Information contained within these documents has been utilized for each section of this EIR. These documents are available for review at the City of Duarte Community Development Department, located at 1600 Community Drive, Duarte, California 91010.

- *City of Duarte Comprehensive General Plan 2005-2020* (*General Plan*), August 14, 2007. The Duarte General Plan assesses and plans future uses for all property within the planning area. The General Plan establishes what the residents and businesses of Duarte want to preserve and achieve. The General Plan includes the following elements:

  - Safety
  - Open Space and Conservation
  - Noise
  - Land Use

- Housing (included the 2008-2014 Housing Element)
- Historic Preservation
- Economic Development
- Circulation

- *Duarte General Plan Update EIR* (*General Plan EIR*), August 2007. The EIR for the 2005-2020 General Plan analyzed potential environmental impacts associated with buildout of the City in accordance with the General Plan. The General Plan EIR assumes growth in residential, retail, office, and research and development uses over 2005/2006 conditions, as follows:

  - 726 residential dwelling units
  - 248,744 square feet of retail uses
  - 50,000 square feet of office uses
  - 360,000 square feet of research and development uses

  The General Plan EIR concluded that the following impacts could not be feasibly mitigated and would result in a significant unavoidable impact associated with implementation of the General Plan Update:

  Air Quality
  - Mobile and Stationary Source Emissions (Reactive Organic Gases)
  - Short-Term Cumulative Impacts
  - General Plan Buildout Cumulative Impacts

  The City Council adopted a Statement of Overriding Considerations for these impacts on August 14, 2007. Both the Statement of Overriding Considerations and the Statement of Facts and Findings are referenced in Resolution No. 07-22.

- *City of Duarte Municipal Code* (current through Ordinance 891, passed May 14, 2019) (*Municipal Code*). The Municipal Code consists of regulatory, penal, and administrative ordinances of the City. It is the method the City uses to implement control of land uses, in accordance with General Plan goals and policies. The Development Code (Title 19 of the Municipal Code) identifies land uses permitted and prohibited according to the zoning category of particular parcels and establishes the development standards and regulations for each zone. The Building Laws (Title 16 of the Municipal Code) specify rules and regulations for construction, alteration, and building for uses of human habitation.

- *Housing Element Update 2014-2021*. The City of Duarte *Housing Element Update 2014-2021* was adopted in February 2014. Every jurisdiction in California is required to adopt a long-range General Plan to guide its physical development; the Housing Element is one of the seven mandated elements of the General Plan. Housing Element law mandates that local governments adequately plan to meet the existing and projected housing needs of all economic segments of the community. Duarte's *2014-2021 Housing Element* identifies strategies and programs that focus on:

  - Preserving and improving housing and neighborhoods;
  - Removing governmental and other constraints to housing investment;
  - Promoting fair and equal housing opportunities;

- Assisting in the provision of affordable housing; and
- Providing adequate housing sites.

- *Original Duarte Station Specific Plan EIR* amending the General Plan, November 2013. The EIR assumed the following development in the Specific Plan Area:

  - 12.06 acres Mixed Use
  - 0.81 acre Station Plaza Mixed Use
  - 2.55 acres High Density Residential
  - 0.80 acre Roads
  - 2.86 acres Recreation/Open Space

  With a proposed development scenario of:

  - 475 residential dwelling units
  - 400,000 square feet of retail uses
  - 12,000 square feet of office uses
  - 250-room hotel

  The EIR concluded that the following impacts could not be feasibly mitigated and would result in a significant unavoidable impact:

  Aesthetics
  - Long-term visual character/quality

  Traffic
  - Project-specific and cumulative impacts on Intersections by the year 2020

  Air Quality
  - Long-term operational emissions due to Reactive Organic Gases (ROGs)
  - Consistency with applicable Air Quality Plan for ROGs
  - General Plan Buildout Cumulative Impacts for ROGs

  Noise
  - Short-term construction impacts

  The City Council adopted a Statement of Overriding Considerations for these impacts on December 10, 2013.

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3.0 PROJECT DESCRIPTION

The current Duarte Station Specific Plan was adopted and the EIR certified by the City on December 10, 2013. This proposed project represents a comprehensive amendment and update to the adopted Specific Plan. This chapter describes the proposed Duarte Station Specific Plan Update components and actions addressed throughout the EIR. As explained by CEQA Guidelines Section 15124 (Project Description), the project description that follows has been detailed to the extent needed for adequate evaluation of potential environmental impacts.

3.1 PROJECT LOCATION

Regionally, the project site is located in the City of Duarte (City or Duarte) in Los Angeles County. Duarte is located in the northcentral portion of the San Gabriel Valley, approximately 21 miles northeast of the City of Los Angeles. Duarte is situated at the base of the San Gabriel Mountains and is bordered by the City of Irwindale to the south, the City of Monrovia to the west, the City of Bradbury and the Angeles National Forest to the north, and the City of Azusa to the east; refer to *Exhibit 3-1*, *Regional Vicinity*.

Locally, the project site is located at the northwest corner of Duarte Road and Highland Avenue. The project site is bounded by Evergreen Street and the Foothill Freeway (Interstate 210) to the north, Highland Avenue to the east, a single-family residential neighborhood to the west, and the Los Angeles County Metropolitan Transportation Authority (Metro)-owned railroad right-of-way (ROW) and Duarte Road to the south; refer to *Exhibit 3-2*, *Local Vicinity*.

3.2 ENVIRONMENTAL SETTING

EXISTING LAND USES

The approximately 19.08-acre site comprises four parcels under separate ownerships (refer to *Exhibit 3-3*, *Specific Plan Area*). The parcels are developed with a mix of industrial uses totaling approximately 313,955 square feet.

- Parcel 1 (Assessor Identification Number [AIN] 8528-011-023), at 1801 Highland Avenue, which abuts the Metro Gold Line station, is approximately 6.60 acres in size and includes a 128,466-square-foot warehouse building occupied by multiple tenants.
- Parcel 2 (AIN 8528-011-025), at 1700 Business Center Drive, located in the center of the plan area, is approximately 7.75 acres in size and includes a 114,599-square-foot industrial building currently occupied by Woodward-Duarte. Parcel 2 under the original Duarte Station Specific Plan and EIR was subsequently split into what are now referred to as Parcels 2 and 4 since approval of the original Specific Plan.
- Parcel 4 (AIN 852-8011-906), located at 1789 Business Center Drive, in the center of the plan area and accessible from Highland Avenue, is approximately 1.41 acres in size and is currently a Metro Gold Line parking lot. The site is vacant.
- Parcel 3 (AIN 8528-011-024), at 1716 Evergreen Street, located in the northern portion of the plan area, is approximately 3.32 acres in size and includes a 70,890-square-foot warehouse building occupied by multiple tenants.

Figure 3-1 Regional Vicinity Map

Duarte Station Specific Plan Subsequent EIR

MIG

Duarte City Limits

Duarte Station Area Specific Plan

Duarte Station Area Specific Plan Boundary

Duarte / Irwindale City Limits

LA Metro: Gold Line

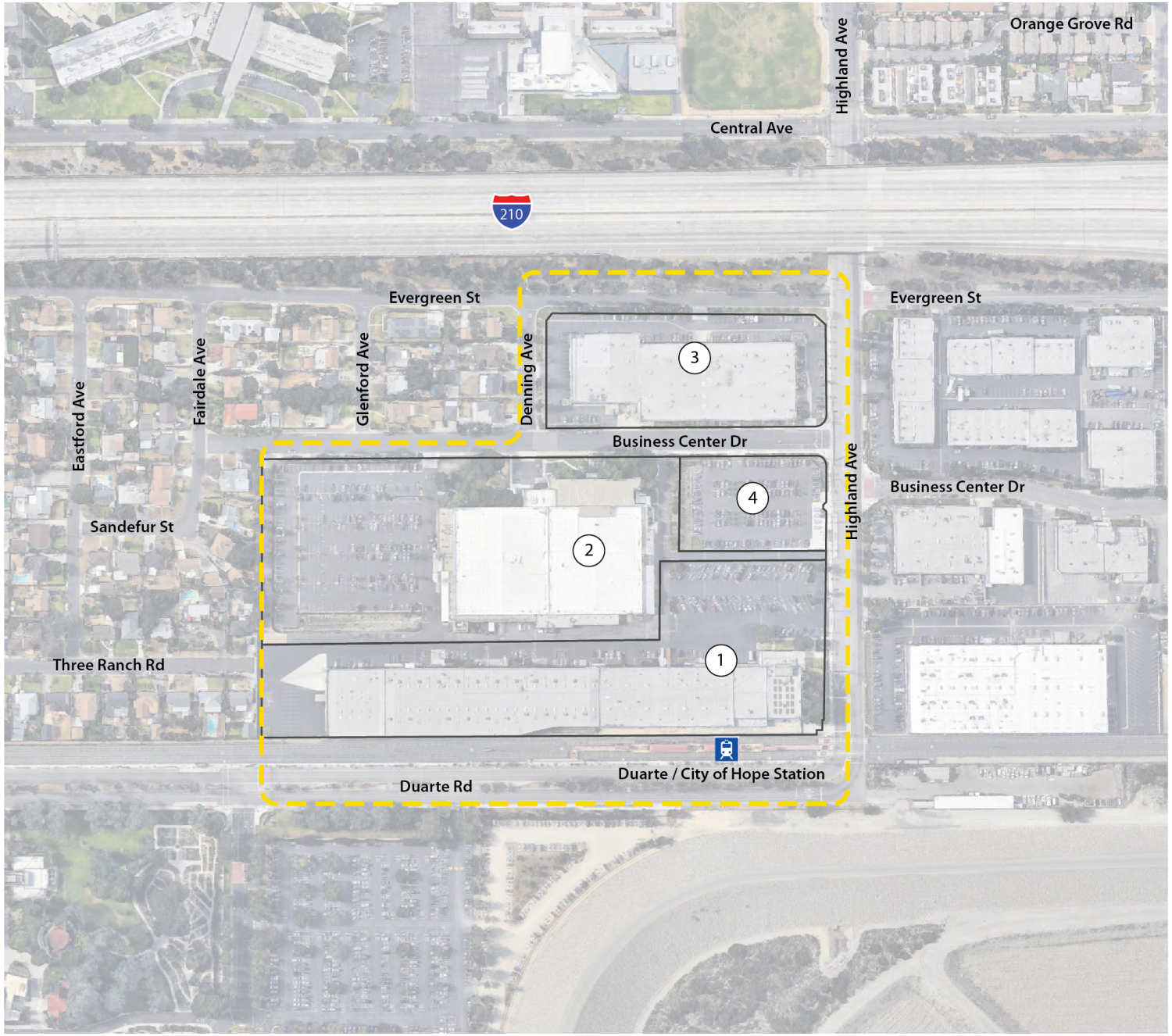
0 feet 500 feet 1000 feet

N

Figure 3-2 Local Vicinity Map

Duarte Station Specific Plan Subsequent EIR

MIG



1 **Parcel 1**
6.60 acres
AIN: 8528-011-023

2 **Parcel 2**
7.75 acres
AIN: 8528-011-025

3 **Parcel 3**
3.32 acres
AIN: 8528-011-024

4 **Parcel 4**
1.41 acres
AIN: 8528-011-906

Total = 19.08 acres

0 feet — 250 feet

N

Source:
LA County Assessor. July 22, 2019
Property Assesment Information System.
(maps.assessor.lacounty.gov)

Figure 3-3 Specific Plan Area

Duarte Station Specific Plan Subsequent EIR

MIG

SURROUNDING LAND USES

The project site is surrounded by the following uses:

- North: Evergreen Street and Interstate 210 immediately bound the site to the north, with single-family residential uses located to the north across Business Center Drive.
- West: An approximately 204-unit single-family residential neighborhood is located south of Evergreen Street, east of Buena Vista Street, north of Duarte Road, and west of the project site.
- South: The Metro-owned railroad right-of-way is directly adjacent to the project site. The City of Hope medical research campus and the Santa Fe Dam Recreational Area, owned by the U.S. Army Corps of Engineers and operated by Los Angeles County Department of Parks and Recreation, are located in the City of Irwindale to the south, across Duarte Road.
- East: The Duarte/Lewis Business Center occupies approximately 40 acres to the east, across Highland Avenue, south of Interstate 210, and west of the San Gabriel Freeway (Interstate 605).

3.3 EXISTING GENERAL PLAN AND ZONING DESIGNATIONS

The Duarte General Plan designates the project site as the Duarte Station Specific Plan (formerly the Gold Line Station Area Development Specific Plan). The zoning map designates the project site as Specific Plan #18. The current Duarte Station Specific Plan is consistent with the General Plan and allows the following uses (see *Table 3-1*):

Table 3-1: Existing Specific Plan - Master Land Use Plan

Land Use Category	Density/Intensity	Acres
Station Plaza Mixed Use	--	0.81
Mixed Use (non-residential) Mixed Use (residential)	2.0 FAR Max 70 du/ac Min 40 du/ac	12.06
High Density Residential	Max 70 du/ac Min 40 du/ac	2.55
Open Space	--	0.80
Roads(A)	--	2.87
	Total Acreage	**19.09(A)**
Notes: **(A) The original EIR for the Duarte Station Specific Plan assumes that roads comprise 2.86 acres for a total of 19.08 acres.**		

This project will revise the existing Duarte Station Specific Plan Master Land Use Plan and allowable development; the project also includes amendments to the General Plan to achieve consistency in the text description of the Specific Plan.

The following text from the 2013 amended *General Plan* Land Use Element describes the intent of the original Duarte Station Specific Plan (referred to as the DSSP).

> *"The City's 2007 General Plan designated the 19.08-acre parcels (3) as the Gold Line Station Area Development Specific Plan land use designation. The DSSP project required that General Plan Amendment 13-1 be adopted to reflect the community's commitment to a vibrant, mixed-use transit village near the light rail station. General Plan Amendment 13-1 amended the land use designation from Gold Line Station Area Development Specific Plan to Duarte Station Specific Plan for the three parcels identified in the Plan Area. The DSSP would permit the maximum development potential of up to 475 high-density residential uses, 250 hotel rooms, 400,000 square feet of office, and 12,000 square feet of commercial uses."*

Development Code Section 19.22.010 describes the Specific Plan zone (SP zone) as a zone that provides for flexibility, innovative use of land resources and development, a variety of housing and other development types, and an effective and safe method of pedestrian and vehicular circulation.

GENERAL PLAN LAND USE ELEMENT

Land Use Element Table LU-4 includes the original planned land use and/or development densities/intensities for the Duarte Station Specific Plan area. As indicated in Table LU-4, the current General Plan projects 475 dwelling units, 400,000 square feet (sf) of retail, 12,000 sf of office space, and a 250-room hotel. Table LU-4 projects an anticipated density of 40 to 70 dwelling units per acre (DU/acre) and stipulates a maximum Floor Area Ratio (FAR) per acre of 2.0. The current General Plan projects a population of 1,430 in the Duarte Station Specific Plan area. These projected General Plan land use and/or development densities will be amended concurrently with the Specific Plan Amendment to address buildout consistent with the updated Specific Plan and development scenario presented in this Chapter.

GENERAL PLAN HOUSING ELEMENT

The 2014-2021 Housing Element identifies the Duarte Station Specific Plan as a key component of the sites inventory, with the ability to provide up to 475 housing units. The Housing Element includes the following objective related to the Specific Plan:

> *Program 15: Provide zoning and development standards to facilitate residential and mixed-use development within the Duarte Station TOD, including incentives for the inclusion of affordable units.*

3.4 PROJECT OBJECTIVES

The proposed updated Duarte Station Specific Plan looks to achieve the following goals and objectives consistent with General Plan land use policy direction:

1. **GOAL: A MIXTURE OF LAND USES**

    a. *Objective*: Develop a flexible mixed-use land use pattern that incorporates residential opportunities with options for retail, office, research and development, and hospitality,

and that will effectively complement each other and provide maximum land use efficiency, while providing economic and social benefits to all users.

b. *Objective*: Program retail uses that are neighborhood and transit station serving.

2. GOAL: AN ECONOMICALLY FEASIBLE DEVELOPMENT

a. *Objective*: Provide opportunities for adaptive reuse of existing buildings, and design new non-residential spaces with flexibility to allow for shifts in market demand and allow options throughout various economic cycles and scenarios.

b. *Objective*: Create a range of residential unit types that will be accessible to residents of all income levels.

c. *Objective*: Provide residential opportunities to assist the City of Duarte in meeting its Regional Housing Needs Allocation (RHNA) objectives.

d. *Objective*: Encourage the development of a hotel to create local jobs, support City of Hope lodging needs, provide community meeting space, and increase tax revenues within the community.

3. GOAL: PEDESTRIAN-ORIENTED DEVELOPMENT

a. *Objective*: Create a development pattern that effectively provides for efficient and comfortable pedestrian movement and connectivity throughout the site.

b. *Objective*: Give precedence to pedestrians and foster multimodal transportation with bicycle, pedestrian, and transit access.

c. *Objective*: Provide supportive commercial uses and an active street frontage on Highland Avenue that facilitates a pedestrian friendly experience and links to other centers in the city.

4. GOAL: SUPERIOR URBAN DESIGN

a. *Objective*: Allow for building types that will achieve desired density ranges to establish a critical mass of residents and employees to support the transit station, maximize transit ridership, and support retail spaces and local employment centers.

b. *Objective*: Minimize setbacks to allow buildings to frame and activate the street.

c. *Objective*: Use trees, shrubs and other landscape and hardscape materials along streets to provide shading, screening, and human scale.

d. *Objective*: Promote high quality architectural design to establish a contemporary design character that creates an identity in the Duarte Station Specific Plan area.

e. *Objective*: Establish context-based standards and guidelines that address specific design concerns while also allowing for creativity and flexibility in development projects.

5. GOAL: OUTDOOR SPACES

a. *Objective*: Provide outdoor spaces—such as an urban green space, public plaza, promenade, or linear park—that provide a transition between the station and the surrounding transit village uses and facilitates pedestrian movement and/or public gathering.

b. *Objective:* Encourage rooftop open space areas to increase the amount and the quality of open space while taking advantage of quality views from the site.

c. *Objective:* Program outdoor space(s) to accommodate the needs of various user groups, such as residents, employees, commuters, and visitors.

6. GOAL: AWARENESS OF SURROUNDING DEVELOPMENT

a. *Objective*: Provide opportunities for new goods and services uses to support surrounding residents, students, and employees within and around the Duarte Station Specific Plan area.

b. *Objective*: Provide for appropriate transitions with adjacent existing lower-intensity residential uses through height limits, articulation and modulation requirements, design guidelines, and landscape requirements.

c. *Objective:* Upgrade the existing streetscape infrastructure and solidify pedestrian connections between the Plan Area, Duarte Station, and critical areas of interest around the site.

d. *Objective*: Consider the future needs of the City of Hope as part of land use planning.

7. GOAL: SUSTAINABLE DEVELOPMENT PRACTICES

a. *Objective:* Encourage transit-oriented development that supports multimodal opportunities and adhere to Levels of Sustainable Development Practices as prescribed in Chapter 19.52 of the City's Development Code.

b. *Objective:* Ensure that construction and demolition waste is disposed of in accordance with all City regulations and standards.

c. *Objective:* Consider building layout, siting, and building design to not preclude alternative energy production on-site.

d. *Objective:* Maximize energy efficiency through local and state standards, indoor environmental quality, energy-efficient lighting, building orientation, shading, and implementation of LEED principles (or similar) and/or attaining LEED Certification.

e. *Objective:* Reduce heat island effect through site planning and selection of landscape and hardscape materials.

f. *Objective:* Incorporate water-efficient design features such as permeable surfaces, collection devices, biofiltration devices, green rooftops, cisterns, berms and swales, and/or green rooftops.

g. *Objective:* Include drought-tolerant and climate-appropriate landscape within the Specific Plan area.

3.5 PROJECT CHARACTERISTICS

BACKGROUND

Beginning in 2005, the Metro Gold Line Foothill Extension Construction Authority (Authority) began working with the City of Duarte to review the preliminary construction plans for light rail transit (LRT). At that time, the Authority introduced the idea of Transit Oriented Development (TOD) to cities along the LRT corridor and the benefits it may present to communities. The idea of TOD resonated with the City Council, and the City began to contemplate the integration of TOD into the City's land use documents. In August 2007, the City Council adopted a comprehensively updated General Plan that included the re-designation of the approximately 19 acres of industrial land uses near the future Gold Line Station into the Gold Line Station Area Development Specific Plan designation. In 2007 and 2008, the City participated in a Caltrans Community Based Transportation Grant. The grant was sponsored by the San Gabriel Valley Council of Governments and produced a TOD visioning study for the project site based upon significant public outreach, a joint City Council and Planning Commission workshop with over 150 residents in attendance, and a summary presentation before the City Council in April 2008. All of these efforts have served as a catalyst for both the City Council and the community to realize a TOD development at the project site.

Since 2008, the City has entertained multiple development teams that have shown interest in initiating a TOD development at the project site. The City had received a preliminary application for a development project, and because the Duarte City Council is committed to the realization of development in the area, it supported City Staff in submitting a Metro TOD Planning Grant. The City was awarded the grant which led to efforts to create the original Duarte Station Specific Plan to replace the Gold Line Station Specific Plan. The existing Duarte Station Specific Plan was adopted and the EIR certified by the City Council on December 10, 2013.

This proposed project represents a comprehensive amendment and update to the adopted Duarte Station Specific Plan. The City has also received a new preliminary application for a development within the amended Duarte Station Specific Plan area, The Residences at Duarte Station, on parcels 8528-011-025 and 8528-011-906. This development is described in greater detail below.

DESCRIPTION OF PROJECT

The project is the adoption and long-term implementation of the update Duarte Station Specific Plan. The updated Duarte Station Specific Plan identifies the long-term vision and objectives for private development and public improvements within the plan area. The Specific Plan update establishes the general type, parameters, and character of the development aimed at creating an integrated, vibrant, mixed-use transit village that allows for residential uses, office, hospitality uses, supporting commercial uses (such as retail and services), and urban open spaces. The Metro Gold Line transit station on the project's southern edge acts as the gateway to the area. A

strong emphasis is placed on walkability through a pleasant sidewalk environment where buildings frame the street.

The Duarte Station Specific Plan allows for a flexible mix of uses near transit, facilitating economic development in Duarte. A major goal of the planning effort is to achieve a coordinated, cohesive environment and character in the plan area using form-based code approaches and recommended streetscape design improvements.

Additionally, the updated Specific Plan reorganizes the existing Specific Plan to structure its provisions in a way that can be more effectively communicated by City staff and accessible to a wider audience. This reorganization consists of consolidating *Section 3 - Land Use and Development Standards* and *Section 5 - Design Guidelines* into one section and replacing existing Section 3, thus moving *Infrastructure and Services* to Section 4 of the Specific Plan.

The updated Duarte Station Area Specific Plan is organized as follows:

Section 1 – Introduction

Section 2 – Development Plan

Section 3 – Development Standards and Design Guidelines

Section 4 – Infrastructure and Services

Section 5 – Administration

Section 6 – Appendices

As used in this EIR, the terms "Duarte Station Specific Plan," "Specific Plan," “Plan” (when specifically distinguished from another plan), and "project" are synonymous and refer to all aspects of the Duarte Station Specific Plan update.

DEVELOPMENT PLAN

Form-Based Code and Frontage Standards

The amended Specific Plan uses a form-based code approach to govern the design of building form and elements within the planning area. This form-based approach is an effective way to realize the project objectives and place-making goals, as it focuses on creating an enhanced streetscape experience, land use flexibility, and attractive building and amenities design site-wide.

The provisions and standards of the form-based code are structured by two general levels of applicability: General Development Standards and Frontage Type (refer to *Exhibit 3-4, Frontage Types).* General development standards govern building massing and form requirements such as height and floor area ratio and, to an extent, land uses. Frontage Type standards are based on the location and visibility of each project’s frontage and are structured to allow for certain building forms, designs, and elements that are optimized based on streetscape context and to provide design flexibility. Tables, exhibits, and maps outlining the provisions of General Development and Frontage standards are set forth in Section 3 – Development Standards and Design Guidelines of the amended Specific Plan.

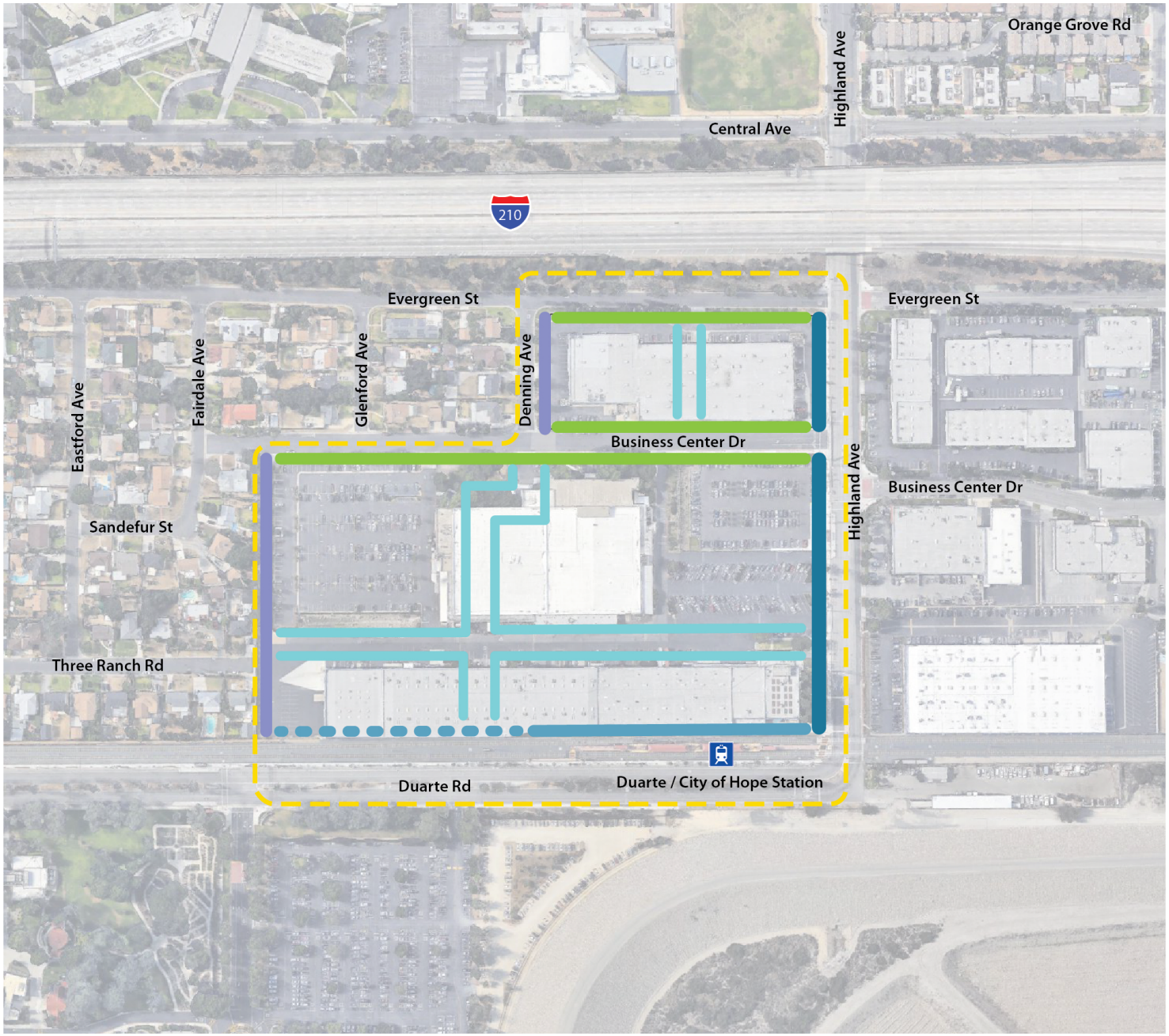


Figure 3-4 Frontage Types

Duarte Station Specific Plan Subsequent EIR

MIG

Proposed Development Project Located within the Specific Plan Area

The Residences at Duarte Station

The City has received a preliminary application for a development project on parcels 8528-011-025, called The Residences at Duarte Station. The development comprises a two-building residential development on parcel 8528-011-025 consisting of 619 dwelling units, 1,082 parking spaces (located in two parking structures), and 157,195 square feet of open space, much of which is in the form of a linear park that doubles as a north-south pedestrian connector. The total proposed net square footage of the project is 454,148 square feet and the proposed maximum building height is 66 feet. Height to top of parking structures is 74 feet; height to top of roof deck amenity parapets, including the clubhouse and fitness spaces, is 86 feet. On-site amenities are to include the linear park, pocket parks, adventure play areas, fitness and pool facilities, and rooftop decks.

The western edge of the project site is buffered from existing single-family residential uses with a driveway fire lane/buffer indicated on the plans. Landscaping throughout the site is demonstrated in the landscaping plan and includes lawn courts for community gathering and trees within courtyards and along frontages. The leasing office and primary access would occur via an entry court located on Business Center Drive.

Circulation within the site is through a network of pedestrian paths. Parking is centralized within two large parking structures that are wrapped by five-story residential structures. Several access drives and the fire lane/buffer connect the parking structures to Business Center Drive. A private drive is proposed to encircle the project site, with both ends linking with Business Center Drive.

The plan set for this development are shown in Appendix J.

Duarte Intergenerational Housing Project on Parcel 8528-011-906

The City has also received a second preliminary application for the Duarte Intergenerational Housing Project to build an affordable housing development on parcel 8528-011-906 that would comprise a mixed-use building, with ground-floor commercial use and up to 80 units of rent-restricted affordable housing. Conceptual plans for this development are shown in Appendix K.

GROWTH OVER EXISTING CONDITIONS

As shown in *Table 3-2, Growth Relative to Existing Conditions*, the anticipated growth in residential and non-residential uses beyond existing year 2019 conditions within the plan area is:

- Addition of 1,400 dwelling units
- Reduction of 313,955 square feet industrial uses
- Addition of 100,000 square feet of nonresidential (office) uses
- Addition of 12,500 square feet of retail/restaurant uses

Table 3-2
Growth Relative to Existing Conditions

Land Use	Residential (units)	Non-Residential (square feet)
Existing		
Warehouse/Industrial		313,955
Total		***313,955***
Proposed Specific Plan		
Retail/Restaurant		12,500
Office		100,000
High Density Residential	1,400	
Total	***1,400***	***112,500***
Difference Between Existing Conditions and Specific Plan Assumptions	**+1,400**	**-201,455**

GENERAL PLAN AMENDMENT

The project will include a General Plan Amendment to revise the text of the current General Plan to match anticipated buildout consistent with the amended Duarte Station Specific Plan.

3.6 PROJECT PHASING

To address development interest and market conditions, an amended phasing approach is presented in Section 2 – Development Plan of the Specific Plan. This updated approach adjusts the scope, scale, and area of Phase I and combines the remaining phases outlined in the existing plan into a single Future Phase. This amendment also necessitates amendments to Section 5 – Administration (formerly Section 6), where the existing phasing strategy is presented in a matrix.

3.7 PERMITS AND APPROVALS

The City of Duarte is the Lead Agency for the project and has discretionary authority over the project which includes, but is not limited to, the following:

- Certification of the Final EIR;
- Adoption of a Mitigation Monitoring and Reporting Program (MMRP);
- Adoption of the amendment to the Duarte Station Specific Plan;
- Approval of a Vesting Tentative Tract Map for The Residences at Duarte Station, for condominium purposes;
- Adoption of a General Plan Amendment consisting of text changes to the Land Use Element to be consistent with the updated Duarte Station Specific Plan;
- Discretionary review as necessary, including any applicable CEQA review, for other current and future individual public and private development proposals in the planning area, such as the Duarte Intergenerational Housing Project.

Future individual public and private development proposals in the Specific Plan area would be expected to also require review or approvals from other jurisdictional agencies, including, but not limited to:

- California Department of Toxic Substances Control (DTSC)
- California Department of Transportation (Caltrans)
- County of Los Angeles
- Duarte Unified School District
- Los Angeles County Fire Department
- Los Angeles County Sheriff's Department
- County Sanitation Districts of Los Angeles County (LASCD)
- Los Angeles County Metropolitan Transportation Authority (METRO)
- South Coast Air Quality Management District (SCAQMD)
- Los Angeles Regional Water Quality Control Board (RWQCB)
- California Public Utilities Commission (CPUC)

3.8 AVOIDANCE AND MINIMIZATION MEASURES

In compliance with Assembly Bill (AB) 52 as well as Senate Bill (SB) 18, on May 13, 2019, the City sent out notification of the project and the preparation of a SEIR. The City received one request back from the Kizh Nation of the San Gabrieleno Band of Mission Indians to consult

with the City on the project. As a result of consultation conducted between the City of Duarte and the Kizh Nation of the San Gabrieleno Band of Mission Indians, the City proposes to implement the following measures to avoid and minimize potential impacts to Tribal Cultural Resources (TCRs) in the event of the unanticipated discovery of archaeological or cultural resources during earthmoving operations conducted under the Specific Plan.

CULT-1: **Conduct Archaeological Sensitivity Training for Construction Personnel.** The applicant shall retain a qualified professional archaeologist who meets U.S. Secretary of the Interior's Professional Qualifications and Standards to conduct an archaeological sensitivity training for construction personnel prior to commencement of excavation activities. The training session shall be carried out by a cultural resource professional with expertise in archaeology, who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards. The training session will include a handout and will focus on how to identify archaeological resources that may be encountered during earthmoving activities and the procedures to be followed in such an event, the duties of archaeological monitors, and the general steps a qualified professional archaeologist would follow in conducting a salvage investigation, if one is necessary.

CULT-2: **Conduct Periodic Archaeological Resources Spot Checks during Grading and Earth-moving Activities in Younger Alluvial Sediments.** The applicant shall retain a qualified professional archaeologist, who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards to conduct periodic Archaeological Spot Checks beginning at depths below two (2) feet to determine if construction excavations have exposed or have a high probability of exposing archaeological resources. After the initial Archaeological Spot Check, further periodic checks will be conducted at the discretion of the qualified archaeologist. If the qualified archaeologist determines that construction excavations have exposed or have a high probability of exposing archaeological artifacts, construction monitoring for archaeological resources will be required. The applicant shall retain a qualified archaeological monitor, who will work under the guidance and direction of a professional archaeologist, who meets the

qualifications set forth by the U.S. Secretary of the Interior's Professional Qualifications and Standards. The archaeological monitor shall be present during all construction excavations (e.g., grading, trenching, or clearing/grubbing) into non-fill younger Pleistocene alluvial sediments. Multiple earth-moving construction activities may require multiple archaeological monitors. The frequency of monitoring shall be based on the rate of excavation and grading activities, proximity to known archaeological resources, the materials being excavated (native versus artificial fill soils), the depth of excavation, and if found, the abundance and type of archaeological resources encountered. Full-time monitoring can be reduced to part-time inspections if determined adequate by the project archaeologist.

CULT-3: **Prepare Report Upon Completion of Monitoring Services.** The archaeological monitor, under the direction of a qualified professional archaeologist who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards, shall prepare a final report at the conclusion of archaeological monitoring (if required). The report shall be submitted to the applicant, the South Central Coastal Information Center, the City, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the project and required mitigation measures. The report shall include a description of resources unearthed, if any, evaluation of the resources with respect to the California Register and CEQA, and treatment of the resources.

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4.0 BASIS OF CUMULATIVE ANALYSIS

4.1 INTRODUCTION

CEQA Guidelines Section 15355 provides the following definition of cumulative impacts:

> *"Cumulative impacts" refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.*

Pursuant to *CEQA Guidelines* Section 15130(a), cumulative impacts of a project shall be discussed when they are "cumulatively considerable," as defined in *CEQA Guidelines* Section 15065(a)(3). Section 5.0, Environmental Analysis, of this EIR assesses cumulative impacts for each applicable environmental issue and does so to a degree that reflects each impact's severity and likelihood of occurrence.

As indicated above, a cumulative impact involves two or more individual effects. Per *CEQA Guidelines* Section 15130(b), the discussion of cumulative impacts shall be guided by the standards of practicality and reasonableness, and should include the following elements:

1. *Either:*

   A. *A list of past, present and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the Agency, or*

   B. *A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projects may be supplemented with additional information such as a regional modeling program. Any such document shall be referenced and made available to the public at a location specified by the lead agency.*

2. *When utilizing a list, as suggested in paragraph (1) of subdivision (b), factors to consider when determining whether to include a related project should include the nature of each environmental resource being examined, the location of the project and its type. Location may be important, for example, when water quality impacts are at issue since projects outside the watershed would probably not contribute to a cumulative effect. Project type may be important, for example, when the impact is specialized, such as a particular air pollutant or mode of traffic.*

3. *Lead agencies should define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used.*

4. *A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and*

5. *A reasonable analysis of the cumulative impacts of the relevant projects, including examination of reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.*

4.2 CUMULATIVE ANALYSIS IN THIS EIR

Table 4-1, *Cumulative Projects List*, identifies the related projects and other possible development in the area determined as having the potential to interact with the proposed project to the extent that a significant cumulative effect may occur. This list of projects was determined based on the scope of the proposed project as well as the anticipated area in which the project could contribute to an incremental increase in cumulatively considerable impacts (as discussed throughout Section 5.0). The implementation of each project represented in *Table 4-1* was determined to be reasonably foreseeable by the City.

Table 4-1
Cumulative Projects

Location	Land Use	Size			
		Square Feet	Dwelling Units	Hotel Rooms	Other
1634 Third St. and 1101 Oak Ave	Apartments		18		
	Townhomes		2		
	Third Street Park (Existing)	15,681			
1122 Huntington Drive	Fast Food Restaurant with drive-thru	5,175			
	Fast Food Restaurant with drive-thru (Existing)	3,825			
2632 Royal Oaks Drive [a]	Religious Institution	3,683			
946-962 Huntington Drive	Townhomes		25		
1405-37 Huntington Drive	Mid-Rise Apartments		161		
	Commercial	3,500			
	Live/Work Space	2,100			
1200 Huntington Drive	Apartments		800		
	Commercial	703,000			
	Hotel[b]			450	
City of Hope Specific Plan	Hospital[c]				2,945
1193 Huntington Drive	Gym	15,862			
1525 Huntington Drive	Restaurant	6,702			
928 Huntington Drive	Apartments		22		
Total		**759,528**	**1,028**	**450**	**2,945**

[a] Square footage of the project site estimated based on project aerial view through google imagery.
[b] Units are number of rooms
[c] Units are number of patients

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5.0 ENVIRONMENTAL ANALYSIS

The next subsections of this Subsequent EIR contain describe existing conditions, analyze project impacts (including direct and indirect, short-term and long-term, and cumulative), recommend mitigation measures, and identify unavoidable significant impacts. This EIR analyzes those environmental issue areas as stated in the Notice of Preparation (Appendix A, Notice of Preparation) where potentially significant impacts may result from project implementation. This Subsequent EIR examines the following issues:

5.1 Land Use
5.2 Aesthetics
5.3 Population and Housing
5.4 Traffic
5.5 Air Quality
5.6 Greenhouse Gas Emissions and Energy
5.7 Noise
5.8 Hazards and Hazardous Materials
5.9 Hydrology, Drainage, and Water Quality
5.10 Fire Protection
5.11 Police Protection
5.12 Schools
5.13 Parks
5.14 Water
5.15 Wastewater
5.16 Solid Waste

Each environmental issue is addressed in a separate section, with each subsection and organized as follows:

- Regulatory Setting
- Environmental Setting
- Significance Threshold Criteria
- Project Impacts and Mitigation Measures
- Cumulative Impacts and Mitigation Measures
- Significant Unavoidable Impacts
- Sources Cited

“Regulatory Setting” describes existing regulations applicable to the project.

“Environmental Setting” describes the physical conditions that exist at the time of release of the Notice of Preparation and that may influence or affect the issue under investigation.

“Significance Threshold Criteria” provides the thresholds that are the basis of conclusions of significance, which are primarily the criteria in the *CEQA Guidelines* Appendix G, Environmental Checklist.

Major sources used in crafting criteria include the *CEQA Guidelines*; local, State, Federal, or other standards applicable to an impact category; and officially established significance thresholds. “…*An ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting.”* (*CEQA Guidelines* Section 15064[b]).

Principally, *"…a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance"* constitutes a significant impact (*CEQA Guidelines* Section 15382).

"Project Impacts and Mitigation Measures"

- Project impacts are the potential environmental changes to the existing physical conditions that may occur if the proposed project is implemented. Evidence, based on factual and scientific data, is presented to show the cause and effect relationship between the proposed project and the potential changes in the environment. The exact magnitude, duration, extent, frequency, range, or other parameters of a potential impact are ascertained, to the extent possible, to determine whether impacts may be significant. All potential direct and reasonably foreseeable indirect effects are considered.

- Mitigation measures are those project-specific measures that would be required of the project to avoid a significant adverse impact, to minimize a significant adverse impact, to rectify a significant adverse impact by restoration, to reduce or eliminate a significant adverse impact over time by preservation and maintenance operations, or to compensate for the impact by replacing or providing substitute resources or environment.

- The "Level of Significance" identifies the impacts that will remain after the application of mitigation measures, if applicable, and whether the remaining impacts are or are not considered significant. When these impacts, even with the inclusion of mitigation measures, cannot be mitigated to a level considered less than significant, they are identified as "unavoidable significant impacts."

"Cumulative Impacts and Mitigation Measures" describes potential environmental changes to the existing physical conditions that may occur with the proposed project together with all other reasonably foreseeable, planned, and approved future projects, as listed in *Table 4-1*.

"Significant Unavoidable Impacts" describes impacts that would be significant but cannot be feasibly mitigated to less than significant, so would be unavoidable. To approve a project with unavoidable significant impacts, the lead agency must adopt a Statement of Overriding Considerations. In adopting such a statement, the lead agency is required to balance the benefits of a project against its unavoidable environmental impacts in determining whether to approve the project. If the benefits of a project are found to outweigh the unavoidable adverse environmental effects, the adverse effects may be considered "acceptable" and the project approved (*CEQA Guidelines* Section 15093[a]).

"Sources Cited" identifies the sources utilized in the section.

5.1 LAND USE

This section identifies existing land conditions and evaluates consistency with relevant planning policies. This section identifies on-site and surrounding land use conditions and land use policy requirements set forth by the City of Duarte or other agencies. Information is based upon the *Duarte General Plan* and the *Duarte Development Code*.

5.1.1 REGULATORY SETTING

REGIONAL PLANS AND POLICIES

Regional plans/policies created by planning agencies such as the Southern California Association of Governments (SCAG) and the South Coast Air Quality Management District (SCAQMD) influence land use planning in the City of Duarte.

Southern California Association of Governments

SCAG functions as the Metropolitan Planning Organization (MPO) for six counties: Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. The region encompasses a population exceeding 19 million persons in an area of more than 38,000 square miles. As the designated MPO, SCAG is mandated by the Federal government to research and draw up plans for transportation, growth management, hazardous waste management, and air quality. Additional mandates exist at the State level. SCAG is responsible for the maintenance of a continuous, comprehensive, and coordinated planning process. SCAG is also responsible for the development of demographic projections, as well as integrated land use, housing, employment, transportation programs, measures, and strategies for portions of the SCAQMD's *2016 Air Quality Management Plan for the South Coast Air Basin* (*2012 AQMP*).

Duarte is a member agency of the San Gabriel Valley Association of Governments (SGVCOG), one of 14 subregional organizations that make up SCAG. The SGVCOG is a joint powers authority of 31 cities (inclusive of Duarte), the three Supervisorial Districts representing the unincorporated areas in the San Gabriel Valley, and the Valley's three water agencies (San Gabriel Valley Municipal Water District, Three Valleys Municipal Water District, and Upper San Gabriel Valley Water District).

Regional Comprehensive Plan

The *2008 Regional Comprehensive Plan: Helping Communities Achieve a Sustainable Future* (*RCP*) was prepared in response to SCAG's Regional Council directive in the 2002 Strategic Plan to develop a holistic, strategic plan for defining and solving the region's inter-related housing, traffic, water, air quality, and other regional challenges. The *RCP* serves as an advisory document to local agencies in the Southern California region for their information and voluntary use for preparing local plans and handling local issues of regional significance. The *RCP* is a collaborative effort that addresses the region's challenges and sets a path forward in two key ways: 1) it ties together SCAG's role in transportation, land use, and air quality planning and demonstrates why further action is needed; and 2) it recommends key roles and responsibilities for public and private sector stakeholders and invites them to implement reasonable policies that are within their control.

Compass Blueprint Growth Visioning Program

In 2001, SCAG started a regional visioning process (i.e., Southern California Compass) to develop a strategy for regional growth that would accommodate growth while providing for livability, mobility, prosperity, and sustainability. The Compass Blueprint Growth Vision is a response, supported by a regional consensus, to the land use and transportation challenges facing southern California now and in the coming years. The Growth Vision is driven by four key principles:

- *Mobility*. Getting where we want to go;
- *Livability*. Creating positive communities;
- *Prosperity*. Long-term health for the region; and
- *Sustainability*. Promoting efficient use of natural resources.

To realize these principles on the ground, the Growth Vision encourages:

- Focusing growth in existing and emerging centers and along major transportation corridors
- Creating significant areas of mixed-use development and walkable communities
- Targeting growth around existing and planned transit stations
- Preserving existing open space and stable residential areas

The *Growth Vision Report* (*GVR*) presents the comprehensive Growth Vision for the six-county SCAG region as well as the achievements of the Compass process. The *GVR* details the evolution of the vision and concludes with a series of implementation steps, including tools for each guiding principle and overarching implementation strategies that will guide Southern California toward its envisioned future.

The Compass Blueprint 2 Percent Strategy is a guideline for how and where the Growth Vision can be implemented. The 2 Percent Strategy calls for modest changes to current land use and transportation trends on only 2.0 percent of the land area of the region - the "2% Strategy Opportunity Areas." Investing planning efforts and resources according to the 2 Percent Strategy is anticipated to yield the greatest progress toward improving measures of mobility, livability, prosperity, and sustainability for local neighborhoods and their residents. The 2% Strategy Opportunity Areas are made up of the following:

- *Metro Centers*. Local areas of regional significance that are currently, or are projected to be, major employment and residential centers, attracting large numbers of work commuters and well-accessible by both highway and transit.

- *City Centers*. Local areas of subregional significance that are currently, or are projected to be, employment and residential centers, providing regional benefits as their share of jobs and housing units increase.

- *Rail Transit Stops*. Areas that have an existing or planned light rail, subway, commuter rail, Amtrak, and/or Maglev station stop.

- *Airports, Ports, and Industrial Centers*. Areas that have an existing or planned airport, seaport, inland port, international border crossing, or major regional industrial center that are significant in the region's economy.

- *Priority Residential Infill Areas*. Areas that have the potential to absorb a fair share of projected regional residential growth and to provide regional and subregional transportation benefits.

- *Compass Blueprint Priority Communities (or Compass Principles Priority Areas)*. These cities are not within the boundaries of the mapped 2% Strategy Opportunity Areas but are encouraged to take local actions consistent with the Compass Blueprint principles and are eligible to receive Compass Blueprint planning services.

According to the San Gabriel Valley Association of Governments Opportunity Area Map, the project site is located within a 2% Strategy Opportunity Area.[1]

2016-2040 Regional Transportation Plan/Sustainable Communities Strategy: Towards A Sustainable Future

On April 7, 2016, SCAG's Regional Council adopted the *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)* (SCAG 2016) with the primary goal of increasing mobility for the region's residents and visitors, while also emphasizing sustainability and integrated planning. The goals of the RTP/SCS are as follows:

1. Align the plan investments and policies with improving regional economic development and competitiveness.
2. Maximize mobility and accessibility for all people and goods in the region.
3. Ensure travel safety and reliability for all people and goods in the region.
4. Preserve and ensure a sustainable regional transportation system.
5. Maximize the productivity of our transportation system.
6. Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking).
7. Actively encourage and create incentives for energy efficiency, where possible.
8. Encourage land use and growth patterns that facilitate transit and active transportation.
9. Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.

The vision of the *RTP/SCS* encompasses three principles that collectively work as the key to the region's future: mobility; economy; and sustainability. The *2016–2040 RTP/SCS* includes a strong commitment to reduce emissions from transportation sources to comply with Senate Bill 375, improve public health, and meet the National Ambient Air Quality Standards as set forth by the Federal Clean Air Act. As such, the *2016-2040 RTP/SCS* contains a regional commitment for the broad deployment of zero- and near-zero emission transportation technologies. The *2012-2035 RTP/SCS* also contains a host of improvements to the region's multimodal transportation system and a financial plan that identifies how much money is available to support the region's transportation investments.

Within the RTP, the SCS demonstrates the region's ability to attain and exceed the greenhouse gas (GHG) emission reduction targets set forth by the California Air Resources Board (CARB). The SCS outlines a plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing

[1] Southern California Association of Governments, *Compass Blueprint Opportunity Areas Maps, San Gabriel Valley*, http://www.compassblueprint.org/opportunityareas, accessed May 15, 2013.

demographics, and transportation demands. The SCS focuses the majority of new housing and job growth in high-quality transit areas and other opportunity areas in existing main streets, downtowns, and commercial corridors, resulting in an improved jobs-housing balance and more opportunity for transit-oriented development. This overall land use development pattern supports and complements the proposed transportation network.

INTERGOVERNMENTAL REVIEW

SCAG's Intergovernmental Review (IGR) section is responsible for performing consistency review of regionally significant local plans, projects, and programs with SCAG's adopted regional plans. The criteria for projects of regional significance are outlined in *CEQA Guidelines* Sections 15125 and 15206 and include projects that directly relate to the policies and strategies contained in the *RCP* and the *RTP*. There are two sets of minimum criteria for classification of projects as regionally significant: Criteria 1 through 12 are recommended for use by *CEQA Guidelines* Section 15206; Criteria 13 through 22 reflect SCAG's mandates and regionally significant projects that directly relate to policies and strategies contained in the RTP/SCS.

A proposed plan, project, or program is directed to demonstrate how it is consistent with the 2016-2040 RTP/SCS, which is established through consistency with *2016-2040 RTP/SCS* Goals and Adopted Growth Forecasts. SCAG encourages the use of the SCAG List of Mitigation Measures extracted from the *2016-2040 RTP/SCS Program Environmental Impact Report* to aid with demonstrating consistency with regional plans and policies.

South Coast Air Quality Management Plan

The South Coast Air Quality Management District (SCAQMD) is one of 35 air quality management districts that periodically prepare an update to the Air Quality Management Plan (AQMP) to meet Federal requirements and/or to incorporate the latest technical planning information. The most current plan, the *2016 AQMP,* was adopted by the AQMD Governing Board on March 3, 2017. The 2016 AQMP provides new and revised demonstration's for how the SCAQMD, in coordination with Federal, State, regional, and local governments will bring the South Coast Air Basin (SCAB) back into attainment for the following Federal standards:

- 2008 8-hour Ozone
- 2012 Annual PM2.5
- 2006 24-hour PM2.5[2]
- 1997 8-hour Ozone
- 1997 1-hour Ozone

To achieve the reductions necessary to bring ambient air quality back into attainment, the SCAQMD has identified seven primary objectives for the AQMP:

[2] Although the 2006 24-hour $PM_{2.5}$ standard was focused on in the 2012 AQMP, it has since been determined, primarily due to unexpected drought conditions, that it is impractical to meet the standard by the original attainment year. Since adoption of the 2012 AQMP, the U.S. EPA approved a re-classification to "serious" non-attainment for the standard, which requires a new attainment demonstration and deadline.

1. Eliminating reliance on unknown future technology measures to demonstrate future attainment of air quality standards.
2. Calculating and accounting for co-benefits associated with measures identified in other, approved planning efforts (e.g., SCAG's RTP/SCS).
3. Developing a strategy with fair-share emission reductions at the Federal, State, and local levels.
4. Investing in strategies and technologies that meet multiple objectives regarding air quality, climate change, air toxic exposure, energy, and transportation – especially in disadvantaged communities.
5. Seeking, identifying, and securing significant sources of funding for incentives to implement early deployment and commercialization of zero and near-zero technologies, particularly in the mobile source sector.
6. Enhancing the socioeconomic analysis and selecting the most efficient and cost-effective path to achieve multi-pollutant and deadline targets.
7. Prioritize non-regulatory, innovative approaches that can contribute to the economic vitality of the regional while maximizing emission reductions.

The emission forecasts and demonstrations presented in the 2016 AMQP rely heavily on information contained in other planning and strategy documents. For example, the 2016 AQMP's long-term emissions inventory is based on the growth and land use(s) projections contained in the SCAG's 2016 RTP/SCS. Additionally, the conclusions relating to ozone compliance are based on implementation of measures presented in CARB's Mobile Source Strategy and SIP strategy. The Mobile Source Strategy outlines a suite of measures targeted at on-road light- and heavy-duty vehicles, off-road equipment, and Federal and international sources. A subset of the statewide strategy is a mobile source strategy for the South Coast SIP. Because the SCAQMD has limited authority in regulating mobile source emissions, coordination and cooperation between SCAQMD, CARB, and the U.S. EPA is imperative to meeting the oxides of nitrogen (NOx) reductions required to meet ozone standards. Although not incorporated specifically from another planning document strategy, the 2016 AQMP also provides numerous control measures for stationary sources.

CITY OF DUARTE PLANS AND POLICIES

Duarte General Plan

The City adopted the *City of Duarte Comprehensive General Plan 2005 – 2020* (*General Plan*) in August 2007. The *General Plan* consists of broad goals, policies, and programs that reflect the values and visions of the community. The *General Plan* contains the following mandatory and optional elements:

- Safety
- Open Space and Conservation
- Noise
- Land Use
- Housing
- Historic Preservation
- Economic Development
- Circulation

The relevant portions of the Land Use Element, which has the broadest scope of all the General Plan elements, are discussed below. Additionally, the proposed project would involve new housing and circulation improvements. Therefore, relevant portions of the Housing and Circulation Elements are also discussed.

The General Plan policies relevant to the proposed project are outlined in *Table 5.1-2*, *General Plan Consistency Analysis*.

LAND USE ELEMENT

The Land Use Element is intended to direct growth and development in the City through goals, objectives, and policies, as well as the Land Use Plan. This element uses text and maps to designate future use/reuse all properties in Duarte. The overall approach of the Land Use Element is to maintain the small town atmosphere while providing a healthy local economy so that residents and businesses of Duarte can continue to maintain a high level of City services.

The following text from the 2013 amended *General Plan* Land Use Element describes the intent of the original Duarte Station Specific Plan (referred to as the DSSP).

> *"The City's 2007 General Plan designated the 19.08-acre parcels (3) as the Gold Line Station Area Development Specific Plan land use designation. The DSSP project required that General Plan Amendment 13-1 be adopted to reflect the community's commitment to a vibrant, mixed-use transit village near the light rail station. General Plan Amendment 13-1 amended the land use designation from Gold Line Station Area Development Specific Plan to Duarte Station Specific Plan for the three parcels identified in the Plan Area. The DSSP would permit the maximum development potential of up to 475 high-density residential uses, 250 hotel rooms, 400,000 square feet of office, and 12,000 square feet of commercial uses."*

Development Code Section 19.22.010 describes the Specific Plan zone (SP zone) as a zone that provides for flexibility, innovative use of land resources and development, a variety of housing and other development types, and an effective and safe method of pedestrian and vehicular circulation.

Land Use Element Table LU-4 includes the original planned land use and/or development densities/intensities for the Duarte Station Specific Plan area. As indicated in Table LU-4, the current General Plan projects 475 dwelling units, 400,000 square feet (sf) of retail, 12,000 sf of office space, and a 250-room hotel. Table LU-4 projects an anticipated density of 40 to 70 dwelling units per acre (DU/acre) and stipulates a maximum Floor Area Ratio (FAR) per acre of 2.0. The current General Plan projects a population of 1,430 in the Duarte Station Specific Plan area.

HOUSING ELEMENT

The Housing Element provides an inventory of land adequately zoned or planned to be zoned for housing, certainty in permit processing procedures, and a commitment to assist in housing development through regulatory concessions and incentives. The Housing Element also provides a powerful tool to address the special housing needs of people within the community including the homeless, farmworkers, and persons with disabilities. The Housing Element

process ensures local governments promote a variety of housing types including multifamily rental units, manufactured housing, transitional and other types of supportive housing.

The 2014-2021 Housing Element identifies the Duarte Station Specific Plan as a key component of the sites inventory, with the ability to provide up to 475 housing units and requiring a minimum of 178 high density residential units. The Housing Element includes the following objective related to the Specific Plan:

> *Program 15: Provide zoning and development standards to facilitate residential and mixed-use development within the Duarte Station TOD, including incentives for the inclusion of affordable units.*

CIRCULATION ELEMENT

The Circulation Element establishes a program that is intended to provide a balanced transportation/circulation system that will support the anticipated growth in local and regional land uses. The Circulation Element outlines the goals, objectives, and policies for meeting Duarte's existing and future transportation needs and describes the future circulation system needed to support the Land Use Element.

Duarte is served by a network of roadways which form which a grid system of north/south and east/west roads. *Exhibit 5.4-1*, *Study Intersections* illustrates the existing street network in the project's vicinity and indicates the following roadways provide local access to the project site: Duarte Road (forms the site's southern boundary); Highland Avenue (forms the site's eastern boundary); Evergreen Street (forms the eastern portion of the site's northern boundary); and Business Center Drive (forms the western portion of the site's northern boundary).

Circulation System 2020 Master Plan

Circulation Element Diagram CIRC-4, Circulation System 2020 Master Plan, illustrates the City's Master Plan of Streets (2020 Master Plan). The 2020 Master Plan designates the preferred number of traffic lanes (roadway classification) to support buildout of the Land Use Element. According to the Master Plan, Duarte Road and Highland Avenue are identified as Minor Arterials, Evergreen Street is identified as a Collector, and Business Center Drive is identified as a Local Street.

A Minor Arterial is an arterial roadway that has less of a regional significance than Other Principal Arterial roadways. It accommodates subregional and intercity travel and generally has four to six through travel lanes with a raised median and/or a center left-turn lane. Minor Arterials accommodate through traffic while also providing direct access to adjacent properties and intersecting streets. The right-of-way widths for Minor Arterial roadways in Duarte range from 80 to 100 feet.

A Collector is a street that is intended to serve as an intermediate route to accommodate travel between local streets and arterial roadways and to provide access to the abutting properties. Collector streets generally have two travel lanes, although four lanes may be provided at certain locations. The right-of-way width for collector streets in Duarte is typically 60 feet, with varying pavement widths.

A Local Street is a low-speed street that is primarily intended to provide direct access to the abutting properties. Local streets generally have two travel lanes with parking along both sides

of the street. The right-of-way widths for local streets in Duarte range from 50 to 60 feet, while the pavement widths range from 32 to 40 feet.

Circulation Element Figure CIRC-1, Standard Roadway Cross-Sections, illustrates the standard cross sections for each roadway classification. The Circulation Element recommends that the roadway cross-sections be standardized for each roadway classification.

- *Transit System.* Circulation Element Diagram CIRC-3, Transit System Route, identifies the fixed-route bus transit system within the City. The Commuter Line and Green Line operate in the vicinity of the project site with stops along Evergreen Street and Duarte Road. Refer to Section 5.4, Traffic, for discussion regarding transit facilities.

- *Bike Trails.* There are no bicycle facilities located in the vicinity of the project site. Circulation Element Diagram CIRC-2, Duarte Bike Trails, illustrates the bike trails within the City. Refer to Section 5.4, Traffic, for discussion regarding bicycle facilities.

Duarte Municipal Code

The *Duarte Municipal Code* is the method the City uses to implement control of land uses in accordance with General Plan goals and policies.

MUNICIPAL CODE TITLE 19,
DEVELOPMENT CODE OF THE CITY OF DUARTE, CALIFORNIA

Municipal Code Title 19, *Development Code* identifies land uses permitted and prohibited according to the zoning category of particular parcels and establishes the development standards and regulations for each zone. The location and boundaries of the various zones are delineated on the City's Zoning Map. According to the Zoning Map, the project site is zoned SP-18, Duarte Station Specific Plan.

Development Code Chapter 19.22, Specific Plan Zones (SP)

The Specific Plan (SP) zone is established to implement *Government Code* Sections 65450 through 65457. As provided for in the *Government Code*, a specific plan is designed to provide for flexibility, innovative use of land resources and development, a variety of housing and other development types, and an effective and safe method of pedestrian and vehicular circulation. A specific plan may be adopted for any property or group of properties meeting the criteria set forth in Chapter 19.150, Specific Plans.

5.1.2 ENVIRONMENTAL SETTING

ON-SITE LAND USES

The approximately 19.08-acre site is comprised of four parcels under separate ownerships; refer to *Exhibit 3-3*, *Specific Plan Area*. The parcels are developed with a mix of industrial uses totaling approximately 313,955 square feet.

- Parcel 1 (Assessor Identification Number [AIN] 8528-011-023), at 1801 Highland Avenue, which abuts the Metro Gold Line station, is approximately 6.60 acres in size

and includes a 128,466-square-foot warehouse building occupied by multiple tenants.

- Parcel 2 (AIN 8528-011-025), at 1700 Business Center Drive, located in the center of the plan area, is approximately 7.75 acres in size and includes a 114,599-square-foot industrial building currently occupied by Woodward-Duarte. Parcel 2 under the original Duarte Station Specific Plan and EIR was subsequently split into what are now referred to as Parcels 2 and 4 since approval of the original Specific Plan.

- Parcel 4 (AIN 852-8011-906), located at 1789 Business Center Drive, in the center of the plan area and accessible from Highland Avenue, is approximately 1.41 acres in size and is currently a Metro Gold Line parking lot. The site is vacant.

- Parcel 3 (AIN 8528-011-024), at 1716 Evergreen Street, located in the northern portion of the plan area, is approximately 3.32 acres in size and includes a 70,890-square-foot warehouse building occupied by multiple tenants

SURROUNDING LAND USES

The project site is surrounded by the following uses:

- *North:* Evergreen Street and the Foothill Freeway (Interstate 210) immediately bound the site to the north, with single-family residential uses located to the north across Business Center Drive.

- *West:* An approximately 204-unit single-family residential neighborhood is located south of Evergreen Street, east of Buena Vista Street, north of Duarte Road, and west of the project site.

- *South:* The Metro-owned railroad right-of-way is directly adjacent to the project site. The City of Hope medical are research campus and the Santa Fe Dam Recreational Area, owned by the U.S. Army Corps of Engineers and operated by Los Angeles County Department of Parks and Recreation, is located in the City of Irwindale to the south, across Duarte Road.

- *East:* The Duarte/Lewis Business Center occupies approximately 40 acres to the east, across Highland Avenue, south of the Interstate 210 and west of the San Gabriel Freeway (Interstate 605).

5.1.3 SIGNIFICANCE THRESHOLD CRITERIA

The issues presented in the Initial Study Environmental Checklist (*CEQA Guidelines* Appendix G) have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Physically divide an established community (refer to Section 8.0, Effects Found Not To Be Significant); or

- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

For the purposes of this impact analysis, a significant impact would occur if project implementation would result in inconsistencies or conflicts with the General Plan's adopted goals and policies and/or the Development Code's applicable rules and regulations, as well as the specified regional plans. Based on these standards, the project's effects have been categorized as either a "less than significant impact" or "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant and unavoidable impact.

5.1.4 PROJECT IMPACTS AND MITIGATION MEASURES

OVERVIEW OF THE AMENDED DUARTE STATION SPECIFIC PLAN (PROPOSED PROJECT)

The amended Duarte Station Specific Plan continues to establish the planning concept, regulations, and administrative procedures necessary to achieve compatible, orderly, and efficient development of the 19.08-acre project site.

Per *Government Code* Section 65451, Specific Plans are permitted to regulate development including permitted uses, density, design, building size, and placement. Specific Plans also govern the type and extent of open space, landscaping, roadways, and the provision of infrastructure and utilities. Since the development guidelines established in a Specific Plan focus on the unique needs of a specific area, Specific Plans allow for greater flexibility than is possible with conventional zoning.

The proposed Specific Plan articulates the vision to make the Duarte Station Specific Plan area a vibrant, mixed-use transit village that has a focus on residential uses, retail, and urban green space. The Gold Line Station on the project's southern edge would act as the gateway to the neighborhood with special attention paid to the public realm in the immediate vicinity by creating pedestrian linkages and open space so that the station area may also serve as a local gathering place. A strong emphasis is to be placed on walkability through a pleasant sidewalk environment where buildings frame the street.

The overall purpose and intent of the Specific Plan is to create a policy and zoning document that will establish a planning and regulatory framework designed for the future development and buildout of the property located within the Specific Plan Area. An overview of the Specific Plan sections is provided below.

Section 1 – Introduction. This section provides background information about the Specific Plan.

Section 2 – Development Plan. Section 2 identifies the fundamental components of the Specific Plan. The detailed land use program is presented through tables and a master land use plan graphic.

Section 3 – Development Regulations and Design Guidelines. Section 3 provides development standards and design guidelines for proposed development in the Specific Plan

area. These regulations are presented through a hybrid approach that integrates features of a conventional zoning code and a form-based code. Regulations are supported by the Design Guidelines in the plan.

Section 4 – Infrastructure and Services Plan. The Infrastructure and Services Plan section discusses existing conditions and proposed improvements to local circulation, parking, sewer, water, and storm drain systems to serve the Specific Plan area at full build-out.

Section 5 – Implementation and Administration. This section provides methods for eventual construction and build-out of the Specific Plan. Implementation techniques, tools, and incentives—including efficient entitlement processing standards, phasing, cost estimates, and public and private funding and financing mechanisms—are addressed.

Section 6 – Appendices. This section includes the General Plan consistency analysis as well as other supporting information. After approval, the appendices will include the project's Mitigation Monitoring and Reporting Program.

California Government Code (Title 7, Division 1, Chapter 3, Article 8, Sections 65450 through 65457) provides the authority to adopt a Specific Plan by ordinance (as a regulatory plan) or resolution (a policy driven plan). The Specific Plan will be both a regulatory and policy document adopted by the ordinance.

As a regulatory plan, the Specific Plan will establish the zoning for the land within the Specific Plan area. Development plans, site plans, tentative tract maps, and/or parcel maps must be consistent with the Specific Plan and General Plan. Upon approval of the amended Duarte Station Specific Plan, which will also be the zoning for the site, future development will be subject to the development standards and development parameters governed by the Specific Plan. In the event the Duarte Station Specific Plan is silent as to a development standard or procedure, the provisions of the City's *Development Code* would control.

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

IMPLEMENTATION OF THE PROPOSED PROJECT COULD CONFLICT WITH SCAG'S 2016 RTP/SCS GOALS AND ADOPTED GROWTH FORECASTS.

Impact Analysis: SCAG's IGR section is responsible for performing a consistency review of local plans, projects, and programs with regional plans. According to SCAG's criteria for classification of projects as regionally significant, the following criteria are relevant to the project:

- *Criteria 1:* A proposed local general plan, element, or amendment thereof for which an EIR was prepared.

- *Criteria 4:* A proposed commercial office building employing more than 1,000 persons or encompassing more than 250,000 square feet of floor space.

Because the proposed project satisfies Criteria 1 and 4 above, it is considered regionally significant and must demonstrate its consistency with the *2016-2040 RTP/SCS*, which is established through consistency with *2016-2040 RTP/SCS* Goals and Adopted Growth Forecasts. *Table 5.1-1*, *SCAG Consistency Analysis*, provides an analysis of the proposed project's consistency with the *2016-2040 RTP/SCS* Goals and Adopted Growth Forecasts. As

concluded in *Table 5.1-1*, the project is consistent with the *2016-2040 RTP/SCS* Goals and growth forecasts, resulting in a less than significant impact in this regard.

Table 5.1-1
SCAG Consistency Analysis

Goal #	Goal	Determination of Consistency
Regional Transportation Plan/Sustainable Communities Strategy: Goals[1]		
RTP/SCS G1	Align the plan investments and policies with improving regional economic development and competitiveness.	Consistent: The proposed project would potentially provide a net increase of 383 jobs in the City, thereby improving regional economic development and competitiveness.
RTP/SCS G2	Maximize mobility and accessibility for all people and goods in the region	Consistent: The project site is located immediately adjacent to the Duarte Gold Line Station. Additionally, the I-210 and I-605 freeways are located to the north and east, respectively. The plan area's proximity to the Gold Line and freeways would maximize mobility for the proposed project's future residents, employees, patrons, and visitors.
RTP/SCS G3	Ensure travel safety and reliability for all people and goods in the region.	Consistent: The proposed Circulation Plan includes a private roadway network through the Specific Plan area to support potential future development within the area. Existing roadways surrounding the site would remain unchanged. Future traffic signals would be provided on Highland Avenue and Duarte Road as mitigation for the Gold Line. As indicated in Section 5.4, Traffic, improvements would be required including traffic signals at the I-210 westbound off ramp/Central Avenue, Village Road/Duarte Road, and Highland Avenue/Huntington Drive intersections to reduce potential impacts. Although significant unavoidable impacts would remain at the Buena Vista Street/Duarte Road intersection, improvements have been identified to reduce potential impacts to the extent feasible.
RTP/SCS G4	Preserve and ensure a sustainable regional transportation system	Consistent: Section 5.4, Traffic, includes an analysis of the proposed project's impacts to the study area intersections, including State-controlled intersections, which form part of the regional transportation system. The analysis has concluded that impacts to State-controlled intersections would be less than significant. To ensure freeway on- and off-ramp impacts associated with the proposed project remain consistent with the Draft EIR analysis, mitigation would be implemented requiring future development to prepare and submit a traffic study to verify the Draft EIR conclusions and identify appropriate mitigation if impacts are identified.
RTP/SCS G5	Maximize the productivity of our transportation system.	Consistent: Refer to Responses to Goals RTP/SCS G2 and G3.
RTP/SCS G6	Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g. bicycling and walking).	Consistent. The project site is located adjacent to the Duarte Gold Line Station, which would provide increased opportunities for alternative modes of transportation, including walking and bicycling. Future development would be required to comply Duarte Municipal Code Section 19.38.220 (Bicycle parking requirements), which establish bicycle parking requirements based on land use. Amenities would be provided for cyclists within the project area. Additionally, the private roadway network within the Specific Plan area would include sidewalks and future development would be designed for comfortable pedestrian circulation and access.
RTP/SCS G7	Actively encourage and create incentives for energy efficiency, where possible.	Consistent. Future development within the Specific Plan area would be required to comply with Duarte Municipal Code Chapter 19.52 (Sustainable Development Practices), which includes standards that promote increased energy efficiency.
RTP/SCS G8	Encourage land use and growth patterns that facilitate transit and active transportation.	Consistent: Refer to Responses to Goals RTP/SCS G2 and G6.

Table 5.1-1
SCAG Consistency Analysis

Goal #	Goal	Determination of Consistency
RTP/SCS G9	Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	Not Applicable: The security of the regional transportation system is beyond the control of the proposed project.

As also discussed in Section 5.3, Population and Housing, the net increase in population and number of employees under the proposed project are compared with the latest RTP/SCS projected growth assumptions (SCAG 2016) in *Table 5.1-2*, *RTP/SCS and Specific Plan Growth Assumptions*.

Table 5.1-2
RTP/SCS and Specific Plan Growth Assumptions

Scenario	Population	Employment
Proposed Project		
Duarte Station Specific Plan	*4,242*	*383*
Other City Projects		
Duarte Town Center Specific Plan	3,180	577
City of Hope Campus Plan	--	1,841
Total Growth	**7,422**	**2,801**
RTC/SCS Growth 2012 - 2040	**2,800**	**1,800**
Within Growth Assumptions?	**No**	**No**
Source: SCAG 2016, City of Duarte 2019.		

As shown in *Table 5.1-2*, implementation of the proposed project, along with other City projects that have been approved, would exceed the growth assumptions contained in the 2016-2040 RTP/SCS. As such, the proposed Specific Plan would result in growth in the City that is inconsistent with the underlying assumptions used to develop strategies in the RTP/SCS.

The cumulative projects involve various residential and non-residential development that have the potential to result in population growth in Duarte and each of the respective jurisdictions where the cumulative sites are located. The *Duarte General Plan* assumed additional growth within the City, specifically associated with the Duarte Town Center Specific Plan, in addition to the proposed project. Although the development associated with the proposed project would be greater than anticipated by the *General Plan* and exceeds growth projections under the RTP/SCS, development of the Duarte Station Specific Plan Area would not require substantial development of unplanned or unforeseen public services and utility/service systems. As concluded in *Section 5.10* through *Section 5.17*, existing public services and utility/service systems can be readily upgraded and/or extended into the Specific Plan Area to serve the increased population. Development within the Specific Plan Area is anticipated to occur over several years based on market demand, which would allow for development of necessary services and infrastructure to serve the anticipated growth. The proposed project is intended to meet the Regional Housing Needs Assessment (RHNA) allocation for Duarte by providing up to 1,400 dwelling units, some of which would be affordable housing. Finally, as stated above, most

new employees in the Specific Plan are assumed to occupy new residences generated by the project. Therefore, cumulative impacts associated with new development under the proposed project would be considered less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

CITY OF DUARTE GENERAL PLAN

IMPLEMENTATION OF THE PROPOSED PROJECT COULD CONFLICT WITH A DUARTE GENERAL PLAN LAND USE PLAN OR POLICY.

Impact Analysis: The project involves an application to revise the Duarte Station Specific Plan. The Specific Plan is intended to establish the general type, parameters, and character of the development in order to develop an integrated TOD that is also compatible with the surrounding area.

The updated Specific Plan would establish land use restrictions for development of the plan area that provide flexibility for property owners to respond to market conditions and develop a mixed-use "transit village" that revitalizes the Specific Plan area through the provision of multiple land uses that complement one another. Land uses would consist of residential, office, and retail/restaurant space. Previous *Table 3-1*, *Land Use Designations and Acreages* identifies the land use designations and associated acreages established by the Specific Plan.

The proposed The Residences at Duarte Station development would comprise Parcel 2. The Duarte Intergenerational Housing project, which is conceptual at this stage, may be developed on Parcel 4 under the amended Duarte Station Specific Plan. The ultimate land use on Parcels 1 and 3 would be determined at the time of site plan submittal for a specific parcel, subject to the development standards and permitted uses outlined in the amended Specific Plan, as well as the specified density/FAR.

Table 3-3, *Growth Over Existing Conditions*, outlines the land uses in the Specific Plan area under existing and proposed conditions, and the difference between the two conditions. As indicated in *Table 3-3*, the Specific Plan area is currently developed with warehouse/industrial uses totaling 313,955 square feet. The proposed development scenario for a portion of the site consists of up to 1,400 new residential dwelling units, 100,000 square feet of office space, and 12,500 square feet of retail/restaurant uses.

Land Use Plan and Designations

Per California law, the proposed Specific Plan must be consistent with the *Duarte General Plan*. The *General Plan* Land Use Diagram currently designates the project site as the Specific Plan Area #18, Duarte Station Specific Plan. Thus, the proposed Specific Plan would be consistent with the *General Plan*.

General Plan Policies

Table 5.1-3, General Plan Policy Consistency Analysis, analyzes the proposed project's consistency with the relevant *General Plan* policies. As demonstrated in *Table 5.1-3*, the

proposed Specific Plan is determined to be consistent with the relevant General Plan Policies. All future development plans or agreements, tentative tract or parcel maps, and any other development approvals would be subject to compliance with the Specific Plan. Compliance with the Specific Plan would be verified on a project-by-project basis through the development review process articulated in Section 6.0 of the plan. Because all future actions and projects must comply with the Specific Plan, which complies with the *General Plan*, they would inherently comply with the *General Plan.*

Table 5.1-3
General Plan Consistency Analysis

Policy #	Policy	Determination of Consistency
Land Use Element[1]		
LU 1.1.2	Encourage the development of a mix of housing types and densities to ensure a variety of housing to accommodate a range of tastes and incomes.	Consistent. The Specific Plan allows for mixed-use residential and high-density residential uses in proximity to the Gold Line Station. It is anticipated that future residential development would provide housing at a variety of income levels, including providing opportunities for affordable housing.
LU 2.1.1	New infill residential development should be compatible in design, bulk, and height with existing nearby residential development as referenced in Duarte's Architectural Design Guidelines.	Consistent. The Specific Plan allows for the development of higher-density residential uses adjacent to existing single-family uses to the west. However, the Specific Plan includes development standards which provide specific height limits and setback conditions for proposed development adjacent to the existing single-family residential neighborhood.
LU 2.1.7	Make every effort to ensure that industry and residences, where located in close proximity, will be compatible neighbors with non-industrial uses located nearby, and with neighboring cities as well.	Consistent. The Duarte/Lewis Business Center is located to the east of the Specific Plan area across Highland Avenue. The Specific Plan identifies mixed use land uses adjacent to Highland Avenue, which would be compatible with adjacent uses. Further, the Specific Plan development standards identify building setbacks and height limits adjacent to Highland Avenue to provide adequate buffering and distance.
LU 3.1.4	Create a flexible mixed use Transit Oriented Development Specific Plan for the current non-residential area north of the Gold Line Station.	Consistent. The Duarte Station Specific Plan allows for a flexible mix of uses that incorporates retail, office, restaurant, and residential development.
LU 3.1.6	Promote the use of mixed land use techniques and construction methods to provide more housing and minimize housing costs without compromising basic health, safety and aesthetic qualities.	Consistent. The Duarte Station Specific Plan encourages mixed-use development, including high-density residential uses, as well as office, retail, and restaurant uses. It is anticipated that future residential development would provide housing at a variety of income levels, including providing opportunities for affordable housing.
Housing Element[2]		
5.1.1	Provide site opportunities for development of housing that responds to diverse community needs in terms of housing type, cost and location, emphasizing locations near services and transit that promote walkability.	Consistent. The Duarte Station Specific Plan provides the opportunity for high-density residential development, including opportunity for multi-family units consistent with the City's affordable housing requirements.
5.1.3	Promote the efficient use of land by encouraging commercial and residential uses on the same property in both horizontal and vertical mixed-use configurations.	Consistent. The Duarte Station Specific Plan allows for a flexible mix of uses that incorporates retail, office, restaurant, and residential development.

Table 5.1-3
General Plan Consistency Analysis

Policy #	Policy	Determination of Consistency
Circulation Element[1]		
Circ 1.1.4	Evaluate the traffic impacts of new development and require developers to employ appropriate mitigation measures to reduce traffic or improve roadway and traffic conditions.	Consistent. A Transportation Impact Study has been prepared for the proposed project. As indicated in Section 5.4, Traffic, implementation of the proposed project would result in traffic impacts at City intersections. Improvements have been identified to reduce potential impacts. However, significant unavoidable impacts would remain at the Buena Vista Street/Duarte Road. Mitigation measures analyzed for this intersection are not recommended by the traffic study. Nevertheless, intersection improvements have been identified to the maximum extent feasible.
Circ 1.1.6	Pursue and provide adequate right-of-way to accommodate future circulation system improvements.	Consistent. The Duarte Station Specific Plan identifies a private roadway network to support future development.
Circ 3.1.4	Ensure that new developments incorporate both local and regional transit measures into the project design that promote the use of alternate modes of transportation.	Consistent. The proposed project promotes a transit-oriented development in proximity to the Duarte Gold Line Station. The proposed mix of uses and development standards would promote the use of the Gold Line, as well as other alternate modes of transportation, such as bicycling and walking.

Source:
1. *City of Duarte Comprehensive General Plan 2005-2020*, August 14, 2007.
City of Duarte 2014-2021 Housing Element, February 2014.

Overall, as concluded in the discussions presented above, the proposed project would not conflict with the *Duarte General Plan*, therefore, impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

CITY OF DUARTE DEVELOPMENT CODE

IMPLEMENTATION OF THE PROPOSED PROJECT COULD CONFLICT WITH THE DUARTE MUNICIPAL CODE STANDARDS AND REGULATIONS.

Impact Analysis: The Specific Plan replaces *Development Code* requirements except in instances where the Specific Plan is silent, in which case, the requirements of the *Development Code* apply. The amended Duarte Station Specific Plan would need to be adopted by the City of Duarte by ordinance. Upon adoption, the Specific Plan would function as the Zoning Code for the Specific Plan Area. Buildout of the Specific Plan Area could not exceed the specified density or floor area ratio. All future development proposals within the Specific Plan Area would be subject to compliance with the Specific Plan, which would regulate and restrict the uses of lands and buildings, height and bulk of buildings, yards and other open spaces, and density/intensity of development. Individual development projects, including the proposed The Residences at Duarte Station, would be subject to the development standards and design guidelines and the development review process articulated in Section 5.0 of the Plan. Because all future actions

and projects must comply with the Specific Plan, which would comply with the *Development Code* upon approval, they would inherently comply with the *Development Code*. Thus, the proposed project would not conflict with the *Duarte Development Code* and a less than significant impact would occur in this regard.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.1.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES

DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS COULD CONFLICT WITH APPLICABLE LAND USE PLANS, POLICIES, OR REGULATIONS.

Impact Analysis: As indicated in *Table 4-1*, *Cumulative Projects*, the related projects and other possible development would occur within the cities of Duarte, Monrovia, Irwindale, and Azusa. The project site does not abut any other jurisdiction. The adjacent City of Hope property in Duarte has been planned to interact with and take advantage of Gold Line-adjacent properties, per the *General Plan* vision for the district. Thus, development of the plan area, combined with other development, would not result in any cumulative land use impacts.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.1.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Implementation of the proposed project would result in less than significant project and cumulative impacts related to land use and planning. As such, no significant unavoidable impacts would result from implementation of the amended Duarte Station Specific Plan.

5.1.7 SOURCES CITED

City of Duarte, *City of Duarte Comprehensive General Plan 2005-2020*, August 14, 2007.

City of Duarte, *City of Duarte 2014-2021 Housing Element*, February 2014.

City of Duarte, *City of Duarte Municipal Code*, current through Ordinance 888, passed December 11, 2018.

Southern California Association of Governments, 2016, *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS): Towards a Sustainable Future*, http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx#toc, accessed June 27, 2019.

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5.2 AESTHETICS

This section describes the existing visual environment in and around the project area and analyzes potential impacts to the aesthetic character/quality of the area with implementation of the proposed Specific Plan. Consideration of public scenic vistas and views impacts to scenic resources and the creation of new sources of light and glare are also analyzed. The analysis is based on information from the proposed amended Duarte Station Specific Plan, the plan set for The Residences at Duarte Station included in Appendix J, conceptual drawings for the Duarte Intergenerational Housing Project included in Appendix K, and a site visit conducted by MIG, Inc. on June 17, 2019.

5.2.1 REGULATORY SETTING

STATE

California Scenic Highway Program

The California Scenic Highway Program was created in 1963 to preserve and protect highway corridors located in areas of outstanding natural beauty from changes that would diminish the aesthetic value of the adjacent lands. The California Department of Transportation (Caltrans) designates highways based on how much of the landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which views are compromised by development.

LOCAL

Duarte General Plan

The *City of Duarte Comprehensive General Plan 2005–2020* (*General Plan*) contains goals and policies that guide growth and development within the City. City policies pertaining to visual character are contained in the Land Use and Open Space and Conservation Elements. The goals, objectives, and policies which pertain to the project include the following:

Land Use Goal 2: Develop compatible and harmonious land uses by providing a mix of uses consistent with projected future social, environmental and economic conditions.

Objective 2.1: Assure that future development complements surrounding areas.

Policies:

LU 2.1.1 New infill residential development should be compatible in design, bulk, and height with existing nearby residential development as referenced in Duarte's Architectural Design Guidelines.

LU 2.1.7 Make every effort to ensure that industry and residences, where located in close proximity, will be compatible neighbors with non-industrial uses located nearby, and with neighboring cities as well.

LU 3.1.4 Create a flexible mixed-use Transit Oriented Development Specific Plan for the current non-residential area north of the Gold Line Station.

LU 3.1.6 Promote the use of mixed land use techniques and construction methods to provide more housing and minimize housing costs without compromising basic health, safety and aesthetic qualities.

Conservation Goal 3: To protect Duarte's environment through proper consideration of the environmental implications of new development in the city.

Objective 3.1: Keep current on environmental legislation to protect Duarte's environment.

Policies:

Con 3.1.3 Minimize the aesthetic impacts of signs through the strict enforcement of the Municipal Sign Ordinance.

Duarte Municipal Code

Duarte Municipal Code Title 19, *Development Code of the City of Duarte*, promotes the orderly development of the City and is the primary tool used by the City to carry out the goals, objectives, and policies of the *General Plan*.

Chapter 19.22, Specific Plan Zones (SP), establishes the appropriate review of development projects with the SP zone to ensure that site and structural development:

- Promote the orderly development of the City in compliance with the goals, objectives, and policies of the General Plan, any applicable specific plan, and the standards specified in the Development Code
- Respect the physical and environmental characteristics of the site
- Ensure safe and convenient access and circulation for pedestrians and vehicles
- Exemplify high-quality design practices
- Encourage the maintenance of a distinct neighborhood and/or community identity
- Minimizes or eliminates negative or undesirable visual impacts

Site plan and design review consider compatibility; architectural design and detail; and landscape, lighting, parking, signs, and other design details.

Chapter 19.50, Performance Standards, establishes performance standards applicable to all zones. Section 19.50.070, Outdoor Lighting, establishes lighting standards that are intended to be energy efficient and balance safety and security needs for lighting with efforts to ensure that light trespass (spill light), light pollution, and glare have a negligible impact on surrounding properties, particularly residential uses.

5.2.2 ENVIRONMENTAL SETTING

SCENIC VIEWS AND VISTAS

The City of Duarte is located within the eastern portion of the San Gabriel Valley. The City is situated at the base of the San Gabriel Mountains. Approximately 53 percent of Duarte's incorporated land area is undeveloped and within or adjacent to the Angeles National Forest along the west slope of the San Gabriel Mountains.[1] However, there are no *General Plan* designated scenic views or vistas within the City.

The project site and surrounding area are currently developed and located within the southern portion of the City. The topography of the project area is relatively flat. Evergreen Street and the Foothill Freeway (Interstate 210) are located to the north of the most northern portion of the site. Single-family residential uses are located to the north across Business Center Drive. A single-family residential neighborhood is located to the east of the project site. The Los Angeles County Metropolitan Transportation Authority (Metro)-owned railroad right-of-way is directly adjacent to the project site on the south. The City of Hope medical and research campus and the Santa Fe Dam Recreational Area are located to the south of the project site, across East Duarte Road. Highland Avenue forms the project site's eastern boundary. The Duarte/Lewis Business Center is located to the east across Highland Avenue, south of the Foothill Freeway (Interstate 210) and west of the San Gabriel Freeway (Interstate 605).

There are no unique or unusual features in the project area that comprise a dominant portion of a viewshed. Long-range views to the north of the San Gabriel Mountains are available from the project site and surrounding area. These mountains are scenic resources since they involve undisturbed natural areas and offer distant vistas of mountain backdrops from portions of Duarte. However, views of the mountains from the project site and surrounding area are interrupted by existing development within the area, including I-210, which is elevated.

STATE SCENIC HIGHWAYS

The State Scenic Highway System includes a list of highways that are either currently designated as scenic highways by the State or are eligible for that designation. The California Department of Transportation (Caltrans) does not identify designated scenic highways (or eligible scenic highways) within the City or in its immediate vicinity.[2] Therefore, the project site is not located in the viewshed of a State scenic highway.

VISUAL CHARACTER/QUALITY

The proposed Specific Plan Area encompasses approximately 19 acres bounded by Duarte Road to the south, Evergreen Street and I-210 to the north, Highland Avenue to the east, and residential uses to the west. The existing Metro railroad right-of-way runs parallel to the north side of Duarte Road. The project site consists of four parcels developed with office and industrial buildings and associated surface parking; refer to *Exhibit 3-3*, *Specific Plan Area*.

[1] Duarte Comprehensive General Plan 2005-2020, August 2007.
[2] State of California Department of Transportation, *California Scenic Highway Mapping System*, http://www.dot.ca.gov/hq/LandArch/scenic_highways/, accessed July 18, 2019.

Parcel 1, located adjacent to Duarte Road, is developed with the Highland Industrial Center, a single-story warehouse building. Several industrial uses occupy the building. Surface parking is located north and west of the building. Landscaping (grass and mature trees) is located along the eastern and western edges of the property. Sporadic landscaping is provided to the south. A chain-link fence separates the project site from the rail corridor. A block wall separates the site from the residences located to the west.

Parcel 2 is located south of Business Center Drive, is developed with a two-story office building and attached single-story manufacturing building occupied by Woodward-Duarte (formerly GE Aviation). Surface parking is located adjacent to the building. Parcel 4 is comprised of a parking lot for the Metro station and is located west of the building on Parcel 2. Landscaping (grass and mature trees) is located along the eastern, northern, and western edges of the area comprising both parcels, as well as within the parking lots. Sidewalks are adjacent to the eastern and northern boundaries of the area. A block wall is located along the western edge of the area, adjacent to the residential uses.

Parcel 3, located adjacent to Evergreen Street, is developed with a single-story, tilt-up building that contains industrial/warehousing suites. Surface parking is located on the north, east, and west sides of the building. Landscaping (grass and mature trees) is located primarily around the edges of the property, with a few trees located adjacent to the building. There is a sidewalk along the east side and in the southeast corner of this parcel. North of the parcel (across Evergreen Street), there is a landscaped embankment within the Caltrans right-of-way sloping up to the I-210 Freeway, which is planted with trees and shrubs. A masonry sound wall is located at the top of this embankment beginning to the west of the western edge of the property.

Prominent factors influencing the character of the project site and its surroundings are the variety of uses that occur within the area including the residential neighborhood to the west, I-210 to the north, Duarte/Lewis Business Center to the east, and the Metro railroad right-of-way, City of Hope Campus, and Santa Fe Dam Recreation Area to the south.

Views of the northern portion of the project site from residential uses fronting Denning Avenue are unobstructed. Views from residential uses fronting Glenford Avenue are intermittent, with some residences having unobstructed views of the portion of the project site located immediately adjacent to Business Center Drive. A block wall separates the rear and/or side yards of the residences located immediately adjacent to the western project boundary, limiting direct views towards the project site. I-210 is slightly elevated, providing a visual barrier of the project site from uses to the north. However, eastbound and westbound travelers on I-210 have views of the project site. A rock berm separating the Santa Fe Dam Recreation Area from Duarte Road limits views of the project site from the south. Views of the project site from the City of Hope Campus are limited to surface parking within the western portion of the project site, closest to Duarte Road. Views of the project site from the Metro railroad right-of-way are relatively unobstructed.

LIGHT AND GLARE

Lighting effects are associated with the use of artificial light during the evening and nighttime hours. There are two primary sources of light: light emanating from building interiors passing through windows and light from exterior sources (i.e., street lighting, building illumination, security lighting, parking lot lighting and landscape lighting). Light introduction can be a nuisance to adjacent residential areas, diminish the view of the clear night sky, and if

uncontrolled, can cause disturbances. Uses such as residences and hotels are considered light sensitive since occupants have expectations of privacy during evening hours and may be subject to disturbance by bright light sources. Light spill is typically defined as the presence of unwanted light on properties adjacent to the property being illuminated. With respect to lighting, the degree of illumination may vary widely depending on the amount of light generated, height of the light source, presence of barriers or obstructions, type of light source, and weather conditions.

Glare is primarily a daytime occurrence caused by the reflection of sunlight or artificial light by highly polished surfaces, such as window glass or reflective materials and, to a lesser degree, from broad expanses of light-colored surfaces. Perceived glare is the unwanted and potentially objectionable sensation as observed by a person as they look directly into the light source of a luminaire. Daytime glare generation is common in urban areas and is typically associated with buildings with exterior facades largely or entirely comprised of highly reflective glass. Glare can also be produced during evening and nighttime hours by the reflection of artificial light sources such as automobile headlights. Glare-sensitive uses include residences, hotels, transportation corridors, and aircraft landing corridors.

Lighting within the project site and surrounding area is typical of developed urban areas. Primary sources of light and glare in the area include motor vehicle headlights, streetlights, parking lot and exterior security lighting, and interior building lighting. Currently, light and glare are being emitted from existing industrial, office, residential, and surface parking uses located within the area. The location of the project site—adjacent to roadways and I-210—results in car headlights and street lighting that affect the project site and its surroundings.

SHADE AND SHADOW

The longest shadows are cast during the winter months, and the shortest shadows are cast during the summer months. Shadow-sensitive uses within the project vicinity include front, rear, and side yards associated with single-family residential uses to the north and west of the project site. These shadow-sensitive uses are not currently shaded by existing on-site structures.

5.2.3 SIGNIFICANCE THRESHOLD CRITERIA

The issues presented in the Initial Study Environmental Checklist (*CEQA Guidelines* Appendix G) have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Have a substantial adverse effect on a scenic vista (refer to Section 8.0, Effects Found Not to Be Significant).

- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway (refer to Section 8.0, Effects Found Not to Be Significant).

- In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, the project would conflict with applicable zoning and other regulations governing scenic quality.

- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Based on these significance thresholds and criteria, the project's effects have been categorized as either "no impact," a "less than significant impact," or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

5.2.4 PROJECT IMPACTS AND MITIGATION MEASURES

OVERVIEW OF DUARTE STATION SPECIFIC PLAN (PROPOSED PROJECT)

Below is an overview of the key section of the proposed Duarte Station Specific Plan that pertains to aesthetics: Section 3, Development Regulations and Design Guidelines.

Section 3 – Development Regulations and Design Guidelines

This section describes all the standards and guidelines for street design, site planning, and building design for the plan area. The regulations are district and building specific. These are the regulations that govern new construction, as well as alterations and additions, in the plan area.

To create a vibrant, thriving and special community, the development standards are "form based" to create a predictable public realm by establishing guidelines and regulations that focus primarily on the physical form of the environment. By addressing the relationships between building facades and the public realm, the form and mass of buildings in relation to one another, and the scale and types of streets and blocks, through an integrated package of requirements for street and building design, massing and scale and setbacks, the standards help in creating a unique character.

The amended Specific Plan regulates based on general development standards applicable to the entire plan area and frontage standards applicable to the related frontage street. Publicly accessible open space within the plan area will be provided in the form of a 25-foot pedestrian promenade, located along Highland Avenue.

Section 3 provides development standards and design guidelines for proposed development in the Specific Plan area. These regulations are presented through a hybrid approach that integrates features of a conventional zoning code and a form-based code. Form-based codes regulate land uses based on form and function and are based on a "human-use" scale. This section contains development standards for architecture and building placement, streets and alleys, public spaces, and landscaped or hardscape areas. Regulations are further supported by the design guidelines embedded in this section of the plan. The purpose of the design guidelines is to identify and establish visual themes that are aesthetically pleasing and will result in a cohesiveness to create a "sense of place" for persons who live, work, or visit the TOD Specific Plan area. The guidelines are minimum requirements, and developers may be required to provide additional amenities to meet the goals of the Specific Plan.

SHORT-TERM VISUAL CHARACTER/QUALITY

CONSTRUCTION ACTIVITIES ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN SIGNIFICANT IMPACTS RELATED TO TEMPORARY DEGRADATION OF THE VISUAL CHARACTER/QUALITY OF THE SITE AND ITS SURROUNDINGS.

Impact Analysis: Short-term construction-related activities associated with future development would temporarily alter the existing visual character of the development sites and their surroundings. The visual impact associated with construction activities would involve graded surfaces, construction materials, equipment, and truck traffic. Soil would be stockpiled and equipment for grading activities would be staged at various locations. In addition, temporary structures could be located on the respective development site during various stages of construction, within materials storage areas, or associated with construction debris piles on-site. Exposed trenches, roadway bedding, spoils/debris piles and steel plates would be visible during construction of proposed street and utility infrastructure improvements. These construction activities and equipment could temporarily degrade the existing visual character and quality of localized sites within the Specific Plan area and surroundings during the construction phase. The typical window of construction-related activities at a particular location would vary depending on the scale and nature of the proposed development.

Construction-related activities are not considered significant because they would be short-term and temporary; construction activity would not be continuous and would proceed on a project-by-project basis. Temporary screening of a particular construction staging site would partially relieve the visual impacts typically associated with construction activities. Moreover, development of specific sites within the Specific Plan Area would vary such that areas of temporary construction-related visual impacts would change throughout the implementation of the proposed Specific Plan. Compliance with Mitigation Measure AES-1, which would be incorporated into construction documents, would reduce potential construction-related visual impacts to less than significant.

Mitigation Measures:

AES-1 Prior to the issuance of a building permit, each project applicant shall submit a Construction Management Plan for review and approval by the City of Duarte Community Development Director. The Construction Management Plan shall, at a minimum, indicate the equipment and vehicle staging areas, stockpiling of materials, fencing (i.e., temporary fencing with opaque material), and construction haul route(s). Staging areas shall be screened from view from residential properties. Construction worker parking may be located off-site with prior approval by the City; however, on-street parking of construction worker vehicles on residential streets shall be prohibited. Vehicles shall be kept clean and free of mud and dust before leaving the development site. Surrounding streets shall be swept daily and maintained free of dirt and debris.

Level of Significance: Less Than Significant Impact with Mitigation Incorporated.

LONG-TERM VISUAL CHARACTER/QUALITY

IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN SIGNIFICANT IMPACTS RELATED TO THE LONG-TERM DEGRADATION OF THE VISUAL CHARACTER/QUALITY OF THE SITE AND ITS SURROUNDINGS.

Impact Analysis:

Visual Quality/Character

The visual analysis of a proposed project must consider its visual quality and compatibility in consideration of the area's visual sensitivity. The following analysis examines the proposed project for compatibility with the character of the surrounding land uses, in consideration of the following visual elements:

- Architectural features (e.g., repetition of design elements: materials, texture, colors, form, type of construction, details, and building systems)
- Scale and Height (e.g., size/height relationships between adjacent buildings, and between buildings and adjacent open spaces)
- Property setbacks (e.g., setbacks providing distance and/or a visual buffer between the project site and receptors)

The proposed amended Duarte Station Specific Plan would continue to allow for a mix of uses to be developed on the approximately 19-acre site located adjacent to the Duarte Gold Line Station. The project site is located within a developed area that includes residential, industrial, and institutional land uses. Single-family residential uses are located to the north and west, adjacent to the site. Residential uses north of Business Center Drive have limited views of the project site, depending upon their orientation and location, whereas the residential uses fronting Denning Avenue have an unobstructed view of the project site, specifically Parcel 3. A block wall separates the rear and/or side yards of the residences located immediately adjacent to the western project boundary, limiting direct views towards the project site. Partial views of the upper levels of proposed buildings within the site are likely to occur. The adjacent residential uses are primarily single-story. The existing industrial buildings east of Highland Avenue are located at a minimum of 60 feet from the property line.

The existing visual character/quality of the project site would be altered with implementation of the proposed project, as the project site would be developed into a transit-oriented development. Existing single-story industrial buildings would be removed and replaced with a mix of uses and buildings with a maximum height of 120 feet, except for within 90 feet of an R-1 zone pursuant to the amended Duarte Station Specific Plan. Some of the existing buildings could be adaptively reused for offices or commercial businesses. A new interior circulation network supporting potential development would also be provided.

The proposed Specific Plan area is comprised of four parcels; refer to *Figure 3-3* in the Project Description. In addition to general development standards that regulate height, setbacks, parking, and open space for the Plan Area in general, the Specific Plan adds an additional layer of regulation through Frontage Class Design Standards. The Frontage Classes provide tailored, context-sensitive standards for ground floor uses, vehicular access, and permitted façade types;

taking into account adjacent uses and the function of the fronting street; refer to *Figure 3-4* in the Project Description. The development scenario includes retail/restaurant, office, and high-density residential uses, as well as open space and interior roads. The proposed development The Residences at Duarte Station (The Residences) is situated on Parcels 2 and 4. The Residences involves two buildings in Parcel 2 (APN 852-8011-025), both of which are five stories with a 7.5-story wrap-around parking garage each. The Residences also feature a linear park between the two buildings and several courtyards throughout the property. The plan set for The Residences is contained in Appendix J. A planned mixed-use project including affordable housing is also planned for Parcel 4; conceptual drawings for the Duarte Intergenerational Housing project are shown in Appendix K.

Development within the Specific Plan area would be required to comply with Section 3.0 of the proposed Duarte Station Specific Plan, which identifies the standards and guidelines for street design, site planning, and building design for the Specific Plan area. Required building setbacks would take into consideration the streets that the setbacks are adjacent to, the intensity of proposed land uses, proposed building mass and scale, and the surrounding context and edge conditions.

Building setbacks are regulated based on the Frontage Type. Along Highland Avenue, a minimum 25-foot setback is required to facilitate the planned pedestrian promenade. Rail frontages require a 10-foot minimum setback, and 20-foot setback with a paseo along the area closest to the Metro station. Secondary Frontage and Internal Frontage regulations require no minimum setback. Neighborhood Frontage, running the western length of the Plan Area, requires a minimum 30-foot setback from adjacent R-1 properties.

Maximum building heights would not exceed 120 feet. Within 90 feet of R-1 zoned properties, building heights are limited to 90 feet.

The proposed Specific Plan also includes both mandatory standards and interpretive design guidelines to guide future development. These guidelines address a variety of areas including architectural character, building orientation, building massing and articulation, and building materials. Future development would be reviewed to determine compliance with development regulations. Additionally, the proposed Specific Plan requires a completed Site Plan and Design Review Application with completed development and architectural plans to be submitted to the Duarte Planning, Building and Safety, and Public Works/Engineering Divisions. The Community Development Director would be required to make a finding of conformance with the land use and development standards of the Specific Plan prior to site plan submittal to the Architectural Review Board. The proposed Specific Plan review requirements would ensure that the design and general appearance of future development would be in compliance with land use and development regulations and design guidelines intended to maintain and enhance the appearance of the area. Although the character of the area would be altered with the replacement of industrial uses with higher density residential, office, and retail/restaurant uses, overall, the proposed project would improve the visual character/quality of the area. Impact would be less than significant impact.

Shade/Shadow

Implementation of the proposed project would result in new shade and shadow patterns in the area, as the proposed Specific Plan would allow for the development of structures at a greater height than the existing on-site structures. The only shadow sensitive uses in the project area

are existing residential uses located along the western project edge, north of Business Center Drive and west of Denning Avenue. These existing residential uses feature mature trees within their yards and within the project site along the western edge, which currently create shading at portions of these uses.

Implementation of the proposed project could result in the construction of new structures up to 120 feet in height. These new structures would cast new shadows on site and off site in the project area. Potential shade and shadow impacts would be dependent upon the siting, massing, and heights of future buildings within the plan area. Due to the adjacency of residential uses, there is a potential for the residences to experience shade and shadow impacts as a result of future development.

However, the Project qualifies as a mixed-use residential project on an infill site within a Transit Priority Area (TPA)[3], and therefore, falls under Sections 21099(d)(1) and (2) of CEQA which state:

> *"(d)(1) Aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment.*
>
> *(2) (A) This subdivision does not affect, change, or modify the authority of a lead agency to consider aesthetic impacts pursuant to local design review ordinances or other discretionary powers provided by other laws or policies.*
>
> *(B) For the purposes of this subdivision, aesthetic impacts do not include impacts on historical or cultural resources."*

Due to this provision in CEQA, and because the proposed project will undergo design review, shade and shadow impacts would be less than significant.

Mitigation Measures: No mitigation measures are required for visual character/quality.

Level of Significance: Less Than Significant Impact for Visual Quality/Character.

LIGHT AND GLARE

IMPLEMENTATION OF THE PROPOSED PROJECT COULD CREATE A NEW SOURCE OF LIGHT AND/OR GLARE, WHICH COULD AFFECT DAYTIME AND/OR NIGHTTIME VIEWS IN THE AREA.

Impact Analysis:

Short-Term Construction Impacts

[3] TPAs are defined as areas within one-half mile of a major transit stop that are existing or planned where a "major transit stop" is a "site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods" (Section 21064.3 of CEQA).

Construction activities are anticipated to occur during the day hours; however, security lighting would result in short-term light and glare impacts associated with construction activities. Residential uses are currently located west and north of the plan area and are considered light sensitive since occupants have expectations of privacy during evening hours and may be subject to disturbance by bright light sources. Implementation of the recommended mitigation involving shielding of construction-related lighting (AES-2) would reduce the impact to a less than significant level.

Long-Term Operational Impacts

Lighting and Glare from Proposed Structures
Implementation of the proposed project would introduce additional sources of light and glare including light from proposed residential, office, retail, and restaurant uses, as well as security lighting and vehicle headlights at proposed roads and driveways. The project site currently generates light from building interiors and security lighting around buildings and within surface parking areas. Lighting is also being emitted from streetlamps and car headlights associated with adjacent roadways.

Implementation of the proposed Specific Plan would allow for future development of residential and non-residential land uses at greater densities/intensities than currently exist. Development would have the potential to create new sources of light and glare in the form of lighting emanating from building interiors, rooftop uses, streetlights, exterior lighting, and lighting for the purposes of safety, as well as glare effects caused by reflective surfaces. These new sources of light and glare would be most visible from development along adjacent roadways and to receptors such as residents and traveling motorists.

The proposed Specific Plan requires that building lighting preclude direct glare onto adjacent properties and that pedestrian scale lighting be provided at entries, plazas, courtyards, parking lots, and other areas where nighttime pedestrian activity is expected. Additionally, future development would be subject to *Municipal Code* Section 19.50.070, Outdoor Lighting, which establishes lighting standards to ensure that light trespass (spill light), light pollution, and glare have a negligible impact on surrounding properties, particularly residential uses. Compliance with the proposed Specific Plan and *Municipal Code* requirements would reduce potential light and glare impacts from proposed structures to a less than significant level.

Vehicle Headlights
Implementation of the proposed project would introduce new roadways and/or extension of existing roadways within the plan area. Additionally, new driveways may be constructed to serve future on-site development. Vehicles entering and existing future developments within the plan area may introduce new or increased nighttime lighting, potentially impacting adjacent residential uses. Future development would be reviewed to determine compliance with development regulations. Additionally, the proposed Specific Plan requires a completed Site Plan and Design Review Application with completed development and architectural plans to be submitted to the Duarte Planning, Building and Safety, and Public Works/Engineering Divisions. As part of the Site Plan and Design Review, site access would be reviewed. To reduce potential impacts on adjacent residential uses associated with vehicle headlights, vehicular access locations should not be sited directly across from residential uses. In the event access is located across from residential uses, existing screening (i.e., landscaping, perimeter walls, etc.) should remain in place or new screening should be installed to reduce vehicle headlights from directly shining onto residential uses (Mitigation Measure AES-4). With implementation of

mitigation, potential impacts associated with vehicle headlights would be reduced to a less than significant level.

Mitigation Measures:

AES-2 Construction equipment staging areas shall use appropriate screening (i.e., temporary fencing with opaque material) to buffer views of construction equipment and material, when feasible. Staging locations shall be indicated on Final Development Plans and Grading Plans.

AES-3 All construction-related lighting shall include shielding to direct lighting down and away from adjacent hotel and residential uses and consist of the minimal wattage necessary to provide safety at the construction site. A construction safety lighting plan shall be submitted to the City for review concurrent with Grading Permit application.

AES-4 As part of Site Plan and Design Review, site access locations shall be reviewed to ensure that vehicle access locations are not sited in a manner that would result in vehicle headlights directly shining onto residential uses. If siting of vehicle access locations would result in headlights directly shining onto residential uses, the project applicant shall implement screening, consistent with the Duarte Station Specific Plan, to reduce lighting impacts.

Level of Significance: Less Than Significant Impact with Mitigation Incorporated.

5.2.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES

DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS COULD RESULT IN CUMULATIVELY CONSIDERABLE AESTHETICS IMPACTS.

Impact Analysis: The aesthetic-related impacts associated with visual character/quality, light and glare, and shade and shadow to the surrounding area are not considered cumulatively considerable, as there are no cumulative projects located in the immediate project vicinity. The nearest project, City of Hope, is located southwest of the project site, south of Duarte Road. Impacts to visual character would be unique to each respective development site. Impacts to visual character, light and glare, and shade/shadow (both during construction and operations of the project) would be dependent upon project- and site-specific variables, including proximity to visually sensitive receptors, the visual sensitivity of the respective development sites, and duration of demolition and construction. The potential visual impacts of other projects would be evaluated on a project-by-project basis. It is assumed that cumulative development would progress in accordance with the City's *Municipal Code*. Cumulative impacts to visual character/quality or the substantial increase in light and glare to the surrounding area would be less than significant, and the proposed project would not be cumulatively considerable.

Mitigation Measures: Refer to Mitigation Measure AES-1 through AES-4. No additional mitigation measures are required.

Level of Significance: Less Than Significant Impact with Mitigation Incorporated.

5.2.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Impacts on aesthetics and visual resources associated with implementation of the proposed amended Duarte Station Specific Plan are either at less than significant levels or can be mitigated to less than significant levels.

5.2.7 SOURCES CITED

City of Duarte, *City of Duarte Comprehensive General Plan 2005-2020*, August 14, 2007.

City of Duarte, *City of Duarte Municipal Code*, current through Ordinance 888, passed December 11, 2018.

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5.3 POPULATION AND HOUSING

This section identifies the existing population, housing, and employment statistics for the City of Duarte (City) and County of Los Angeles (County) and provides an analysis of potential impacts that may result from project implementation. More specifically, the impact analysis evaluates how project implementation could induce population, housing, or employment growth in the City, either directly or indirectly. The primary sources of data presented in this section are the U.S. Census 2000 and 2010, California Department of Finance, Southern California Association of Governments, and *City of Duarte Comprehensive General Plan 2005-2020* (*General Plan*), including the *2014-2021 Housing Element*.

5.3.1 REGULATORY SETTING

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

The Southern California Association of Governments (SCAG) is the responsible agency for developing and adopting regional household, population, and employment growth forecasts for local governments in Imperial, Los Angeles, Orange, Riverside, Los Angeles, and Ventura counties. To facilitate regional planning efforts, SCAG's planning area is further organized into subregions. The City of Duarte is a member agency of the San Gabriel Valley Association of Governments (SGVCOG), one of 14 sub-regional organizations that make up SCAG. The SGVCOG is a joint powers authority of 31 cities (inclusive of Duarte), the three Supervisorial Districts representing the unincorporated areas in the San Gabriel Valley, and the Valley's three water agencies.

SCAG's Forecasting Section has produced the *Adopted 2012 Integrated Growth Forecast* (March 12, 2012), which includes socioeconomic estimates and projections at multiple geographic levels for multiple years. These socioeconomic estimates and projections are used for State-mandated long-range planning efforts such as the *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS)* and *Air Quality Management Plan (AQMP),* among others. Additionally, the projections enable the proper planning of infrastructure and facilities to adequately meet the needs of the anticipated growth. The growth forecasts provide population, household, and employment data for 2012 and 2040.

Additionally, every two years SCAG produces local profiles for each SCAG jurisdiction. These profiles are intended to provide updated jurisdictional data and analysis to support community planning and outreach efforts. The 2019 profiles were released by SCAG in May 2019.

REGIONAL HOUSING NEEDS ASSESSMENT

The Regional Housing Needs Assessment (RHNA) is mandated by State housing law as part of the periodic process of updating local General Plan housing elements. The RHNA quantifies the need for housing by income group within each jurisdiction during specified planning periods. Jurisdictions are required to provide their fair share of regional housing needs. The housing construction need is determined for four broad household income categories:

- Extremely Low (households making less than 30 percent of median family income)
- Very low (31-50 percent of median family income)
- Low (51 to 80 percent of median family income)

- Moderate (81 to 120 percent of median family income)
- Above moderate (more than 120 percent of median family income)

The intent of the future needs allocation by income groups is to relieve the undue concentration of very low and low-income households in a single jurisdiction and to help allocate resources in a fair and equitable manner.

The RHNA Allocation Plan, which covers the planning period from January 1, 2014 to June 30, 2021, is the most recently completed RHNA allocation and was adopted by SCAG's Regional Council on October 4, 2012. As indicated in *Table 5.3-1*, *Duarte RHNA Allocation 2014-2021*, Duarte's RHNA allocation for the 2014-2021 planning period is 337 housing units, including 184 units within the very low- and low-income categories.

Table 5.3-1
Duarte RHNA Allocation 2014-2021

Income Category	Housing Allocation
Extremely Low	44
Very Low	87
Low	53
Moderate	55
Above Moderate	142
Total	**337**
Source: *City of Duarte 2014-2021 Housing Element*, February 2014.	

CITY OF DUARTE GENERAL PLAN HOUSING ELEMENT

The City of Duarte Housing Element, adopted by the City Council in 2014, is an eight-year plan that covers the planning period from January 2014 to June 2021. The element sets forth a strategy to address the City's identified housing needs, including specific implementing programs and activities.

As noted, Duarte's RHNA allocation for the 2014-2021 planning period is 337 housing units. The City permitted construction of 39 units between 2014 and 2018.[1] In consideration of the permitted units, the City's adjusted need for 2014-2021 is 342 housing units, including 44 units within the extremely low-, very low-, and low-income categories; refer to *Table 5.3-3*, *Duarte Adjusted RHNA Allocation 2014-2021*.

[1] SCAG, 2019 Local Profiles Report: City of Duarte, May 2019.

5.3.2 ENVIRONMENTAL SETTING

POPULATION

County of Los Angeles

Los Angeles County's population totaled 9,519,338 persons in 2000 and 9,818,605 persons in 2010, representing a growth rate of approximately three percent for this time period; refer to *Table 5.3-2*, *Population Estimates and Projections*. As of January 2019, the County's population was an estimated 10,253,716 persons. According to SCAG, with a forecast population of approximately 11,514,000 persons by 2040, the County's population is projected to grow approximately 12.3 percent between 2019 and 2035.

Table 5.3-2
Population Estimates and Projections

Year	County of Los Angeles	City of Duarte
2000 Census[1]	9,519,338	21,486
2010 Census[2]	9,818,605	21,321
2000 - 2010 Change	*+299,267*	*(165)*
2000 - 2010 % Change	*+3.1%*	*-0.7%*
2019 Existing Conditions[3]	10,253,716	21,952
2010 – 2019 Change	*+435,111*	*+631*
2010 – 2019 % Change	*+4.2%*	*+2.9%*
2040 SCAG Forecasts[4]	11,514,000	24,300
2019 – 2040 Change	*+1,260,284*	*+2,348*
2019 – 2035 % Change	*+12.3%*	*+10.7%*

Notes:
1. U.S. Census Bureau, *Census 2000*.
2. U.S. Census Bureau, *Census 2010*.
3. State of California Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties, and the State, January 2011-2019, With 2010 Benchmark*. Sacramento, California, May 2019.
4. Southern California Association of Governments, *Adopted 2016 RTP/SCS*, http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx#toc, accessed June 27, 2019.

City of Duarte

As indicated in *Table 5.3-2*, the City's population was an estimated 21,486 persons in 2000 and 21,321 persons in 2010, representing a population decline of approximately 0.7 percent between 2000 and 2010. The City's 2019 population is approximately 21,952 persons. SCAG forecasts the City's population will increase to approximately 23,400 persons by 2035, or approximately 6.6 percent between 2019 and 2035. Comparatively, the City is forecast to grow at a much lower rate than the County, which is forecast to grow by approximately 14 percent. By 2035, the City will constitute less than one-quarter percent of the County's total population.

HOUSING

County of Los Angeles

The County's housing data is presented in *Table 5.3-3*, *Household and Housing Estimates and Projections*. The County's 2000 housing inventory was an estimated 3,270,909 dwelling units, representing an increase of approximately 5.3 percent over the 2010 inventory of 3,445,076 dwelling units. The County's 2019 housing inventory totaled 3,568,898 dwelling units, with a 6.1 percent vacancy rate and an average of 3.03 persons per household. The County's households are forecast to total 3,946,600 by 2040. Based on a vacancy rate of 6.1 percent, the County's housing inventory is forecast to total approximately 4,202,982 dwelling units by 2040. County households are forecast to grow approximately 17.8 percent between 2019 and 2040; refer to *Table 5.3-3*.

Table 5.3-3
Household and Housing Estimates and Projections

Year/Description	County of Los Angeles		City of Duarte	
	Households	Dwelling Units	Households	Dwelling Units
2000 Census[1]	3,133,774	3,270,909	6,635	6,805
2010 Census[2]	3,241,204	3,445,076	7,013	7,254
2000 - 2010 Change	*+107,430*	*+174,167*	*+378*	*+449*
2000 - 2010 % Change	*+3.4%*	*+5.3%*	*+5.7%*	*+6.6%*
2019 Existing Conditions[3]	3,350,389	3,568,898	7,155	7,339
2010 - 2019 *Change*	*+109,185*	*+123,822*	*+142*	*+85*
2010 – 2019 % Change	*+3.4%*	*+3.6%*	*+2.0%*	*+1.2%*
2019 Existing Vacancy Rate[3]	--	6.1%	--	3.0%
2019 Existing Persons per Household[3]	3.01	--	3.03	--
2040 SCAG Forecasts[4]	3,946,600	4,202,982[5]	8,200	8,454
2019 – 2040 Change	*+596,211*	*+634,084*	*+1,045*	*+1,115*
2019 – 2040 % Change	*+17.8%*	*+17.8%*	*+14.6%*	*+15.9%*

Notes:
1. U.S. Census Bureau, *Census 2000*.
2. U.S. Census Bureau, *Census 2010*.
3. State of California Department of Finance, E-5 Population and Housing Estimates for Cities, Counties, and the State, January 2011-2019, With 2010 Benchmark. Sacramento, California, May 2019.
4. SCAG provides population, household, and employment forecasts, however, no housing forecasts. Therefore, the County's 2040 housing forecast has been extrapolated, based on 3,946,600 households and 6.1 percent vacancy rate.
5. The City's 2040 housing forecast has been extrapolated, based on 8,200 households and 3.0 percent vacancy rate.

City of Duarte

The City's 2010 housing inventory was an estimated 7,254 dwelling units, representing an increase of approximately 6.6 percent over the 2000 inventory of 6,805 dwelling units; refer to *Table 5.3-3*. Comparatively, the City's housing growth rate between 2000 and 2010 was slightly higher than the County's growth rate for the same period (approximately five percent). As of January 2019, the City's housing inventory totaled 7,339 dwelling units. The City's households

total 7,155, with an average of 3.03 persons per household. SCAG forecasts the City's households will total 8,200 by 2040, representing an increase of approximately 14.6 percent between 2019 and 2040; refer to *Table 5.3-3*. Based on a vacancy rate of 3.0 percent, the City's housing inventory is forecast to total approximately 8,454 dwelling units by 2040.

Vacancy rates are a measure of the general availability of housing. They also indicate how well the types of available units meet the housing market demand. A low vacancy rate suggests that households may have difficulty finding housing within their price range, whereas a high vacancy rate indicates that either the units available are not suited to the population's needs or there is an oversupply of housing units. The availability of vacant housing units provides households with choices of type and price to accommodate their specific needs. Low vacancy rates can result in higher prices, limited choices, and settling with inadequate housing. It may also contribute to overcrowding. A vacancy rate between 4.0 and 6.0 is considered "healthy." As indicated in *Table 5.3-3*, the City's 2019 vacancy rate is 3.0 percent, which is considered low. Comparatively, the City's vacancy rate was less than the County's overall vacancy rate of 6.1 percent.

EMPLOYMENT

County of Los Angeles

As indicated in *Table 5.3-4*, *Labor Force and Employment Estimates*, the County's 2000 civilian labor force was an estimated 4,307,762 persons, of whom approximately 8.2 percent were unemployed.

Table 5.3-4
Labor Force and Employment Estimates

Year	County of Los Angeles			City of Duarte		
	Labor Force	Unemployed Number	Unemployed Rate	Labor Force	Unemployed Number	Unemployed Rate
2000 Census[1]	4,307,762	354,347	8.2%	10,041	545	3.4%
2010 Census[2]	5,014,682	623,414	12.4%	10,514	1,158	6.7%
2000 – 2010 Change	*+706,920*	*+269,067*	*+4.2%*	*+473*	*+613*	*+3.3%*
2000 – 2010 % Change	*+16%*	*+76%*	*+51%*	*+4.7%*	*+112%*	*+97%*
2019 Existing Conditions[3]	5,072,100	199,400	3.9%	11,100	500	4.5%
2010 – 2019 Change	*+57,418*	*-424,014*	*-8.5%*	*+586*	*-658*	*-2.2%*
2010 – 2019 % Change	*+1.1%*	*-32.0%*	*-31.5%*	*+5.6%*	*-43.2%*	*-67.2%*

Notes:
1. U.S. Census Bureau, Census 2000.
2. U.S. Census Bureau, Census 2010.
3. State of California, Employment Development Department Labor Market Information Division, *Monthly Labor Force Data for Cities and Census Designated Places (CDP)* May 2019 - Preliminary, Data Not Seasonally Adjusted, May 2019.

By 2010, the County's civilian labor force increased to an estimated 5,014,682 persons. Between 2000 and 2010, the County's unemployment rate increased from 8.2 percent to 12.4 percent. According to the U.S. Census 2010, approximately 35.2 percent of the County's labor force was employed in management, business, science, and arts occupations; approximately 26 percent was employed in sales and office occupations. The largest industry sector in the County was educational services and health care and social assistance (21 percent). The County's existing labor force (as of May 2019) is an estimated 5,072,100 persons, with an unemployment rate of approximately 3.9 percent.

Table 5.3-5, *Employment Estimates and Projections* presents the County's existing employment and forecast employment, according to SCAG. As indicated in *Table 5.3-5*, Los Angeles County's labor market is projected to increase from 4,872,600 jobs in 2019 to 5,226,000 jobs in 2040. Thus, SCAG forecasts the County's labor market will grow approximately 7.3 percent between 2019 and 2040 (353,400 jobs).

Table 5.3-5
Employment Estimates and Projections

Year	County of Los Angeles	City of Duarte
2019 Existing Conditions[1]	4,872,600	10,600
2040 SCAG Forecasts[2]	5,226,000	11,900
2019 – 2040 Change	*+353,400*	*+1,300*
2019 – 2040 % Change	*+7.3%*	*+12.3%*

Notes:
1. State of California, Employment Development Department Labor Market Information Division, *Monthly Labor Force Data for Cities and Census Designated Places (CDP)* May 2019 - Preliminary, Data Not Seasonally Adjusted, May 2019.
2. Southern California Association of Governments, *Adopted 2016 RTP/SCS*, http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx#toc, accessed June 27, 2019.

City of Duarte

As indicated in *Table 5.3-4*, the 2000 civilian labor force in Duarte totaled approximately 10,041 persons, with an unemployment rate of approximately 3.4 percent. In 2010, the civilian labor force totaled 10,514 persons. Between 2000 and 2010, the local unemployment rate almost doubled, from 3.4 to 6.7 percent. The U.S. Census 2010 reports that the majority (approximately 33.8 percent) of the labor force in Duarte was employed in management, business, science, and arts occupations. The labor force's next highest occupation category, representing approximately 27 percent, was sales and office occupations. As of May 2019, the labor force in Duarte was an estimated 11,100 persons, with an unemployment rate of approximately 4.5 percent. Comparatively, the existing unemployment rate is approximately 15 percent more than the County's existing unemployment rate of approximately 3.9 percent.

As indicated in *Table 5.3-5*, SCAG reports the number of jobs in the City in 2019 totaled 10,600. The majority of the 2017 jobs were in the education sector (21.7 percent) and professional (20.9 percent). SCAG forecasts the local labor market will grow to 11,900 jobs by 2040, an increase of approximately 1,300 jobs (approximately 12.3 percent) between 2019 and 2040.

The jobs/housing ratio is used as a general measure of balance between a community's employment opportunities and the housing needs of its residents. A ratio of 1.0 or greater generally indicates that a city provides adequate employment opportunities, potentially allowing its residents to work within the city. Duarte's current (2019) jobs/housing ratio is approximately 0.73, indicating employment opportunities for residents to work within the City are not readily available.

5.3.3 SIGNIFICANCE THRESHOLD CRITERIA

The issues presented in the Initial Study Environmental Checklist (*CEQA Guidelines* Appendix G) have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere; refer to *Section 8.0, Effects Found Not To Be Significant*.

Based on these significance thresholds and criteria, the project's effects have been categorized as either "no impact," a "less than significant impact," or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

5.3.4 PROJECT IMPACTS AND MITIGATION MEASURES

POPULATION GROWTH

IMPLEMENTATION OF THE PROPOSED PROJECT COULD INDUCE SUBSTANTIAL POPULATION GROWTH IN THE CITY.

Impact Analysis: A project could induce population growth in an area, either directly (for example, by proposing new residential and employment-generating land uses) or indirectly (for example, through extension of roads or other infrastructure). The proposed project could induce new population growth through new residential and employment-generating land uses. Although the project proposes road improvements through the Specific Plan area to support potential development, it does not involve the extension of roads or other infrastructure into undeveloped areas; refer to Section 5.4, Traffic. Therefore, project implementation would not induce population growth indirectly through extension of roads or other infrastructure.

The proposed project would increase the existing housing inventory in Duarte by 1,400 units, and add 100,000 square feet (sf) of office space and 12,500 sf of restaurant/retail space resulting in a potential population growth of 4,625 residents and employees..[2] The net increase in population

[2] Based on 3.01 persons per household and 100 percent occupancy according to the City's Housing Element; and 280 sf/employee for office space, and 250 sf/restaurant and retail space per SCAG's RTP/SCS (SCAG 2016).

and number of employees compared with existing conditions in *Table 5.3-6, Project Compared to Existing Conditions*.

Table 5.3-6
Project Compared to Existing Conditions

Description	Housing (Dwelling Units)	Households (Occupied Dwelling Units)	Population (Persons)	Employment (Jobs)
Project				
Employment Generating Land Uses	0	0	0	383
Residential Land Uses	1,400	1,400[1]	4,242[2]	0
Total Project	***1,400***	***1,400***	***4,242***	***383***
Existing + Project Conditions				
Existing Conditions (2019)	7,339	7,155	21,952	10,600
Existing / Project Implemented Total	*8,739*	*8,555*	*26,194*	*10,938*
Existing / Project Implemented % Change	*+19.1%*	*+19.6%*	*+19.3%*	*+3.61%*

Notes:
1. Assumes 100 percent occupancy of new residential.
2. Assumes 3.03 persons per household (Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties, and the State,* January 2011-2019, With 2010 Benchmark. Sacramento, California, May 2019).

In addition, as indicated in *Table 5.3-6*, the potential residential development would increase the City's residents by 4,242 persons, or approximately 19.3 percent above existing conditions.

Additional population associated with new residential development within the Specific Plan area has been considered in the *General Plan*. The proposed project is intended to meet the RHNA allocation for Duarte and the goals of the *2014-2021 Housing Element* by providing up to 1,400 dwelling units, some of which would be affordable housing. However, as concluded in *Sections 5.10* through *Section 5.17*, existing public services and utility/service systems can be readily upgraded and/or extended into the Specific Plan area to serve the increased population. Project implementation would not require substantial development of unplanned or unforeseen public services and utility/service systems. Individual development projects would be reviewed on a project-by-project basis to determine if existing services and utilities are sufficient or if new and/or upgraded facilities are necessary to serve the development. The increased demands for public services and utility/service systems would not significantly reduce or impair any existing or future levels of services, either locally or regionally. Further, development within the Specific Plan area is anticipated to occur over multiple years based on market demand, which would allow for development of necessary services and infrastructure to serve the anticipated growth. Therefore, impacts would be less than significant.

In addition, as also indicated in *Table 5.3-6*, implementation of the proposed project would increase local employment by approximately 3.61 percent over existing conditions. This employment growth would result in population growth within the City, as the potential exists that future employees (and their families) would choose to relocate to the City. However, estimating the number of these future employees who would choose to relocate to Duarte would be highly speculative since many factors influence personal housing location decisions. Based on the City's vacancy rate of 3.0 percent, 220 dwelling units are available (vacant), as of May 2019. New

employees in the Specific Plan area could utilize these vacant dwelling units. However, most new employees are assumed to occupy new residences generated by the project. Therefore, impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.3.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES

DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS COULD INDUCE SUBSTANTIAL POPULATION AND HOUSING GROWTH IN THE AREA.

Impact Analysis: The net increase in population and number of employees under the proposed project are compared with the latest RTP/SCS projected growth assumptions (SCAG 2016) in *Table 5.3-7*, *RTP/SCS and Specific Plan Growth Assumptions*.

Table 5.3-7
RTP/SCS and Specific Plan Growth Assumptions

Scenario	Population	Employment
Proposed Project		
Duarte Station Specific Plan	*4,242*	*383*
Other City Projects		
Duarte Town Center Specific Plan	3,180	577
City of Hope Campus Plan	--	1,841
Total Growth	**7,422**	**2,801**
RTC/SCS Growth 2012 - 2040	**2,800**	**1,800**
Within Growth Assumptions?	**No**	**No**
Source: SCAG 2016, City of Duarte 2019.		

As shown in Table 5.3-7, implementation of the proposed project, along with other City projects that have been approved, would exceed the growth assumptions contained in the 2016-2040 RTP/SCS. As such, the proposed Specific Plan would result in growth in the City that is inconsistent with the underlying assumptions used to develop strategies in the RTP/SCS.

The cumulative projects involve various residential and non-residential development that have the potential to result in population growth in Duarte and each of the respective jurisdictions where the cumulative sites are located. The *Duarte General Plan* assumed additional growth within the City, specifically associated with the Duarte Town Center Specific Plan, in addition to the proposed project. Although the development associated with the proposed project would be greater than anticipated by the *General Plan* and exceeds growth projections under the RTP/SCS, development of the Duarte Station Specific Plan Area would not require substantial development of unplanned or unforeseen public services and utility/service systems. As concluded in *Section 5.10* through *Section 5.17*, existing public services and utility/service systems can be readily upgraded and/or extended into the Specific Plan Area to serve the increased population.

Development within the Specific Plan Area is anticipated to occur over several years based on market demand, which would allow for development of necessary services and infrastructure to serve the anticipated growth. The proposed project is intended to meet the RHNA allocation for Duarte by providing up to 1,400 dwelling units, some of which would be affordable housing. Finally, as stated above, most new employees in the Specific Plan are assumed to occupy new residences generated by the project. Therefore, cumulative impacts associated with new development under the proposed project would be considered less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.3.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Implementation of the proposed project would result in less than significant project and cumulative impacts related to population and housing. As such, no significant unavoidable impacts would result from implementation of the amended Duarte Station Specific Plan.

5.3.7 SOURCES CITED

City of Duarte, *City of Duarte 2014-2021 Housing Element*, February 2014.

Institute of Transportation Engineers, *Trip Generation*, 9th Edition, 2012.

Southern California Association of Governments, adopted 2016-2040 RTP/SCS, http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx#toc, accessed June 27, 2019.

Southern California Association of Governments, *2019 Local Profiles of SCAG Jurisdictions*, http://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx, accessed June 27, 2019.

Southern California Association of Governments, *5th Cycle Regional Housing Needs Assessment Final Allocation Plan*, 1/1/2014-10/1/2021, http://www.scag.ca.gov/programs/Pages/Housing.aspx, accessed June 27, 2019.

State of California Department of Finance, E-5 Population and Housing Estimates for Cities, Counties, and the State, January 2011-2019, With 2010 Benchmark. Sacramento, California, May 2019.

State of California, Employment Development Department Labor Market Information Division, *Monthly Labor Force Data for Cities and Census Designated Places (CDP) May 2019 - Preliminary, Data Not Seasonally Adjusted*, May 2019.

United States Census Bureau, Census 2000.

United States Census Bureau, Census 2010.

5.4 TRAFFIC

This section is based upon the *Duarte Station Specific Plan Transportation Impact Study*, dated July 2019, prepared by Fehr & Peers and included as Appendix D, Transportation Impact Analysis, for the amendment to the Duarte Station Specific Plan. The purpose of the *Transportation Impact Study* is to evaluate development under the amended Duarte Station Specific Plan from a traffic and circulation standpoint.

Under the current approved 2013 Duarte Station Specific Plan, mitigation measures were suggested for traffic impacts on the intersections of Village Road and Duarte Road and Buena Vista Street and Duarte Road. In 2013, unavoidable significant impacts were found at the intersections of Buena Vista Road and Three Ranch Road as well as Highland Avenue and Evergreen Street. Circumstances, cumulative impacts, as well as proposed development under the amended Duarte Station Specific Plan have now changed requiring new analyses as well as new mitigation measures which are provided below to avoid or reduce project impacts on traffic and circulation.

The *Transportation Impact Study* analyzes existing and future morning and evening peak hour traffic conditions for the following scenarios:

- Existing Conditions
- Existing plus Project Conditions
- Future (Year 2025) Without Project Conditions
- Future (Year 2025) plus Project Conditions

5.4.1 REGULATORY SETTING

CALIFORNIA ENVIRONMENTAL QUALITY ACT

On September 27, 2013, Governor Jerry Brown signed Senate Bill (SB) 743 into law and started a process that will fundamentally change transportation impact analysis conducted as part of CEQA compliance. The Governor's Office of Planning and Research (OPR) was charged with developing new guidelines for evaluating transportation impacts under CEQA using methods that no longer focus on measuring automobile delay and level of service (LOS). This change at the State level recognizes the unintended consequences of using LOS as an impact metric, which results in understating potential transportation impacts in greenfield areas and discouraging more sustainable infill projects and alternative transportation projects. SB 743 directed agencies to create new guidelines that develop a transportation performance metric promoting: the reduction of greenhouse gas emissions, the development of multimodal networks, and a more sustainable diversity of land uses.

OPR issued proposed updates to the CEQA guidelines in support of these goals in November 2017 and a supporting technical advisory in December 2018. The updates establish vehicle miles traveled (VMT) as the primary metric for evaluating a project's environmental impacts on the transportation system. The changes to CEQA Guidelines Section 15064.3 to implement SB 743 were certified by the State in December of 2018. Lead agencies have until July 1, 2020 to implement these new requirements. As the City of Duarte has not yet adopted new traffic impact study guidelines including the VMT metric and significance in compliance with SB 743 guidelines, the analyses below were conducted for informational purposes only.

CALIFORNIA DEPARTMENT OF TRANSPORTATION

The California Department of Transportation (Caltrans) publishes the *Guide for the Preparation of Traffic Impact Studies*, which provides guidelines and recommended elements of traffic studies for projects that could potentially impact state facilities such as State Route highways and freeway facilities. This is a State-level document that is used by each of the Caltrans District offices.

The guide defines when traffic studies should be conducted to address impacts to state facilities but does not define quantitative impact standards. The guide states that Measures of Effectiveness (MOEs) are used to evaluate Caltrans facilities and that the agency strives to maintain a LOS value of C on its facilities. However, the guide states that the appropriate target LOS varies by facility and congestion level and is defined differently by Caltrans depending on the analyzed facility.

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY

The Los Angeles County Metropolitan Transportation Authority (Metro) is the agency that operates the Metro bus transit lines and the Metrorail facilities, including the Gold Line through Duarte. Metro also administers the Los Angeles County Congestion Management Program (CMP) and prepares the Long Range Transportation Plan (LRTP).

The Los Angeles County CMP is mandated by State law. This law is administered locally by Metro and requires that the traffic generated by individual development projects be analyzed for potential impacts to the regional roadway system. It also requires that local jurisdictions (cities and counties) maintain CMP conformance by monitoring development activity, reporting the results annually to Metro, and adopting a CMP transportation demand management ordinance. The only two CMP highways in or near Duarte are the I-210 and I-605 freeways. There are no CMP arterial roadways in Duarte.

The LRTP prepared by Metro is the blueprint for implementing future transportation improvements in Los Angeles County. It is a program of recommended transportation projects that assists decision-makers in understanding the options that are available for improving the transportation system. The LRTP recommends a balanced transportation program with a strong emphasis on public transit to meet the region's growing travel demands.

CITY OF DUARTE

City of Duarte General Plan

The *General Plan* Circulation Element serves as the City's primary guide for transportation planning. Specifically, the Circulation Element establishes the overarching goal of providing a balanced transportation/circulation system that will support the anticipated growth in local and regional land uses.

The Circulation Element focuses on providing a safe and efficient circulation system that improves the flow of traffic while enhancing pedestrian and vehicular safety, promoting commerce, and providing for alternative modes of transportation. Circulation Element policies that pertain to the proposed project include, but are not limited to, the following:

- Circ 1.1.4 - Evaluate the traffic impacts of new development and require developers to employ appropriate mitigation measures to reduce traffic or improve roadway and traffic conditions.

- Circ 2.1.1 - Discourage through traffic on local streets that are located in residential neighborhoods.

- Circ 2.1.4 - Discourage non-resident motorists from traveling through residential neighborhoods.

- Circ 2.1.5 - Appropriate mitigation measures should be implemented to ensure that the adverse impacts from trucks and employee traffic can be reduced.

- Circ 3.1.1 - Continue to promote the development of the MTA Gold Line and a Duarte Station.

- Circ 3.1.4 - Ensure that new developments incorporate both local and regional transit measures into the project design that promote the use of alternate modes of transportation.

- Circ 3.1.5 - Provide incentives for appropriate pedestrian and bicycle facilities throughout Duarte, particularly for bike lanes to the Gold Line Station.

5.4.2 ENVIRONMENTAL SETTING

STUDY AREA

Primary access to the project site is provided at Highland Avenue, Evergreen Street, and Business Center Drive.

Local Roadways

The characteristics of the roadway system in the vicinity of the project site are described below:

- *Interstate 210 (I-210)* runs in an east-west direction north of the project site and extends from I-5 in the west to San Bernardino in the east. I-210 provides four general travel lanes and one high-occupancy vehicle (HOV) lane in each direction within the study area. A number of interchanges are provided between Mountain Avenue and Mount Olive Drive in the study area.

- *Interstate 605 (I-605)* runs generally in a north-south direction east of the project site and extends from Huntington Drive in Duarte in the north to I-405 in the south. The freeway provides four general travel lanes in each direction within the study area. The project site can access I-605 via Huntington Drive to the north and Arrow Highway in the south.

- *Huntington Drive* is an arterial street that runs through the northern portion of the study area. It is a component of Historic U.S. Route 66. Huntington Drive provides two travel lanes in each direction with a median and left-turn pockets through the corridor. Generally, the street allows parking on both sides of the roadway with a posted speed limit of 40 miles per hour.

- *Central Avenue* is a collector street that runs parallel to and north of I-210. The street generally provides one travel lane in each direction between Fernley Drive and Buena Vista Street, after which it turns into a two-lane one-way street in the westbound direction. It also provides access to the I- 210 ramps. The corridor allows parking on both sides of the roadway east of Buena Vista and the posted speed limit is 35 miles per hour.

- *Evergreen Street* is a collector that runs parallel to and south of I-210. The street provides two travel lanes in the eastward direction with access to I-210 between Mountain Avenue and Buena Vista Street and no parking is allowed. The street provides one lane in each direction between Buena Vista Street and Highland Avenue with parking allowed on the south side of the street and limited parking on the north side of the street. The posted speed limit is 30 miles per hour.

- *Business Center Drive* is a local street that runs through the project site. The street provides one travel lane in each direction and parking on both sides of the street.

- *Three Ranch Road* is a local street that runs just west of the project site through residential neighborhoods. The street provides one travel lane in each direction and allows parking on both sides of the street.

- *Duarte Road* is an arterial street that runs directly south of the project site parallel to the Metro Gold Line. The street provides two travel lanes in each direction with a median and left-turn pockets throughout the corridor. Parking is not allowed on either side of the street. The posted speed limit is 40 miles per hour.

- *Mountain Avenue* is an arterial street that runs in the western portion of the study area. The street provides two travel lanes in each direction north of Duarte Road and one travel lane in each direction south of Duarte Road. Mountain Avenue also has a center turn lane. Parking is generally allowed on both sides of the street south of Duarte Road, and the posted speed limit is 40 miles per hour.

- *Buena Vista Street* is an arterial street that runs through the center of the study area. The street provides two travel lanes in each direction and has parking on both sides of the street south of I-210. North of the freeway, the street has bike lanes on both sides. The posted speed limit is 35 miles per hour.

- *Village Road* is a private drive that runs south of Duarte Road between Hope Drive and Buena Vista Street. The street provides one travel lane in each direction, and no parking is allowed.

- *Hope Drive* is a private drive that runs south of Duarte Road between Village Road and Highland Avenue. The street provides two lanes in the southern direction and one in the northern direction. No parking is allowed on either side.

- *Duncannon Avenue* is a local street that runs west of the project site. The street provides one travel lane in each direction, and parking is allowed on both sides of the street.

- *Highland Avenue* is an arterial street that runs east of the project site. The street provides two travel lanes in each direction and has parking on both sides of the street, with the

exception of immediately adjacent to the project site. The posted speed limit is 35 miles per hour.

- *Mt. Olive Drive* is a collector street that runs north from the I-605 terminus. The street provides one travel lane in the north direction and two travel lanes in the south direction. Parking is allowed on the west side of the street and is restricted on the east of the street. The posted speed limit is 35 miles per hour.

Study Intersections

Table 5.4-1, *Study Intersections*, identifies the study intersections and respective jurisdictions. *Figure 5.4-1*, *Study Intersections*, illustrates the location of the study intersections.

Table 5.4-1
Study Intersections

Intersection Number	Study Intersection	Jurisdiction	
		City of Duarte	Caltrans
1	Mountain Avenue/Central Avenue	X	
2	Mountain Avenue/Evergreen Street	X	
3	Mountain Avenue/Duarte Road	X	
4	Buena Vista Street/Huntington Drive	X	
5	Buena Vista Street/Central Avenue	X	
6	Buena Vista Street/I-210 WB On-Ramp		X
7	Buena Vista Street & Evergreen Street/I-210 EB On-Ramp		X
8	Buena Vista Street/Three Ranch Road	X	
9	Buena Vista Street/Duarte Road	X	
10	I-210 WB Off-Ramp/Central Avenue		X
11	Village Road/Duarte Road	X	
12	Duncannon Avenue/Evergreen Street	X	
13	Hope Drive/Duarte Road	X	
14	Highland Avenue/Huntington Drive	X	
15	Highland Avenue/Central Avenue	X	
16	Highland Avenue/Evergreen Street	X	
17	Highland Avenue/Business Center Drive	X	
18	I-605 Terminus/Mt. Olive Drive/Huntington Drive		X

WB = westbound; EB = eastbound.

ANALYSIS METHODOLOGY

The traffic analysis is based upon the potential impacts associated with the proposed project. The traffic analysis evaluates existing operating conditions at key study intersections within the project vicinity, estimates the trip generation potential of the proposed project, and forecasts future operating conditions with and without the proposed project. For a detailed discussion of the analytical methodology, refer to Appendix D, Traffic Impact Analysis.

Existing Conditions

To determine existing operation of the study intersections, weekday AM and PM peak period traffic movement counts were collected on December 4, 2018 during typical weekday conditions. The AM peak period intersection counts were collected from 7:00 AM to 9:00 AM; the PM peak period intersection counts were collected from 4:00 PM to 6:00 PM. The traffic volumes used in this analysis were taken from the highest hour within the two-hour peak period counted. Detailed traffic count data sheets are contained in Appendix D.

INTERSECTION LEVEL OF SERVICE METHODOLOGY

City of Duarte

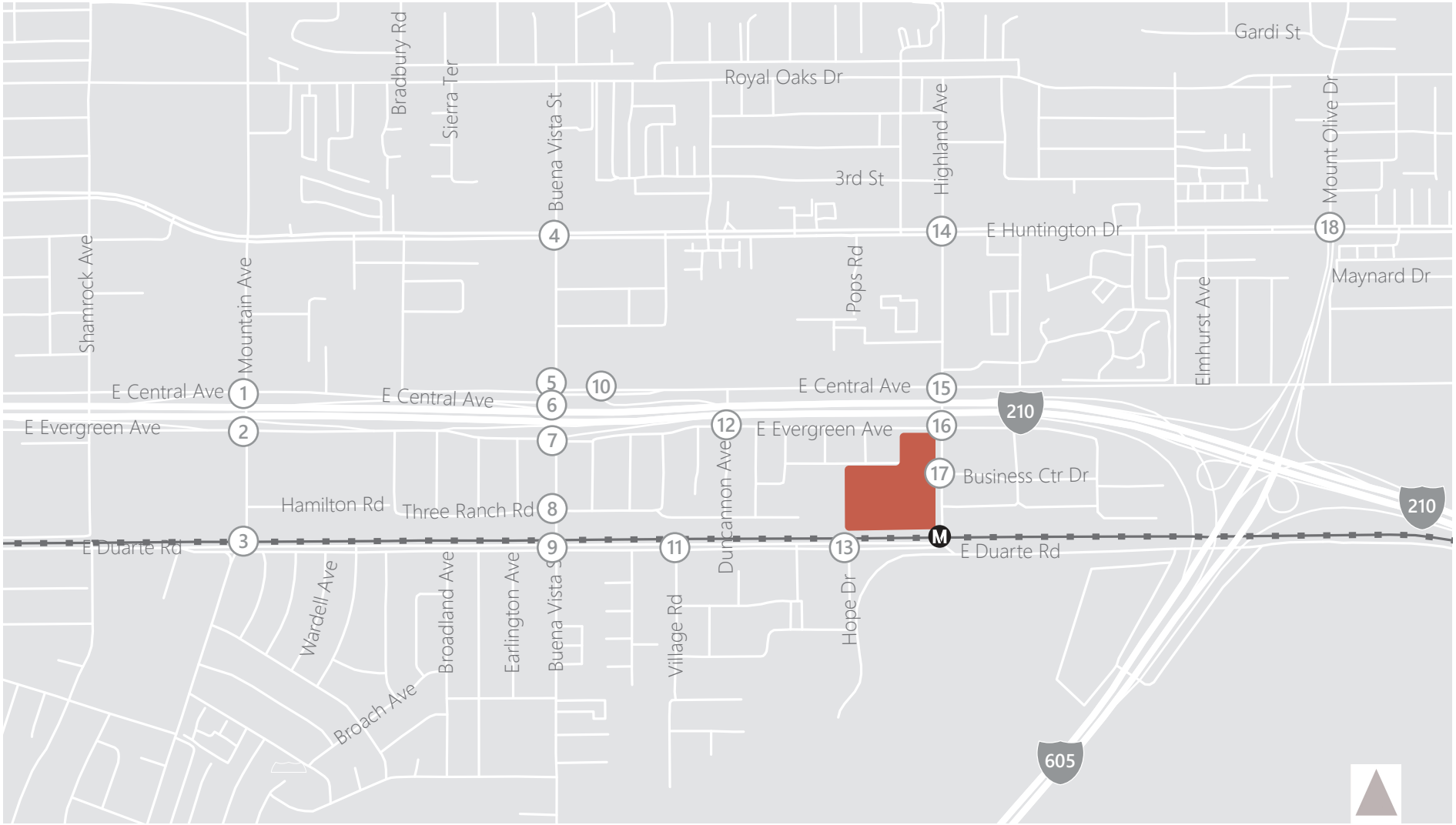
INTERSECTION CAPACITY UTILIZATION (ICU) METHOD OF ANALYSIS

LOS is commonly used as a qualitative description of intersection operation and is based on the capacity of the intersection and the volume of traffic using the intersection. The Intersection Capacity Utilization (ICU) analysis method is utilized by the City of Duarte to determine the operating LOS of signalized intersections. The ICU analysis methodology describes the operation of an intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding volume to capacity (V/C) ratios shown in *Table 5.4-2, Signalized Study Intersection V/C and Level of Service Ranges*.

Table 5.4-2
Signalized Study Intersection V/C and Level of Service Ranges

V/C Ratio	Level of Service (LOS)
$\leq$ 0.60	A
0.61 to $\leq$ 0.70	B
0.71 to $\leq$ 0.80	C
0.81 to $\leq$ 0.90	D
0.91 to $\leq$ 1.00	E
> 1.00	F

Source: Transportation Research Circular No. 212, Interim Materials on Highway Capacity, Transportation Research Board, 1980.
V/C = Volume to Capacity



Source: Fehr & Peers, 2019

(#) Study Intersections

Project Site Boundary

Rail

Metro Rail Station

Figure 5.4-1 Study Intersections

Duarte Station Specific Plan Subsequent EIR

MIG

HIGHWAY CAPACITY MANUAL METHOD OF ANALYSIS

The Highway Capacity Manual (HCM) intersection analysis methodology is used to analyze the operation of unsignalized study intersections. The HCM analysis methodology describes the operation of an unsignalized intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding stopped delay experienced per vehicle as shown in *Table 5.4-3*, *Unsignalized Study Intersection Level of Service and Delay Ranges*.

Table 5.4-3
Unsignalized Study Intersection Level of Service and Delay Ranges

Level of Service (LOS)	Delay (second/vehicle)
A	≤ 10.0
B	> 10.0 to ≤ 15.0
C	> 15.0 to ≤ 25.0
D	> 25.0 to ≤ 35.0
E	> 35.0 to ≤ 50.0
F	> 50.0

Source: Transportation Research Board. 2010. Highway Capacity Manual.

HCM level of service is based on the average stopped delay per vehicle for all movements of all-way stop-controlled intersections; for one-way or two-way stop-controlled intersections, LOS is based on the worst stop-controlled approach.

California Department of Transportation

This intersection analysis of State-controlled study intersections has been prepared in accordance with the California Department of Transportation (Caltrans) *Guide for the Preparation of Traffic Impact Studies* (State of California Department of Transportation, December 2002).

HIGHWAY CAPACITY MANUAL METHOD OF ANALYSIS

Caltrans also advocates use of HCM intersection analysis methodology to analyze the operation of signalized intersections. The HCM analysis methodology describes the operation of signalized intersections and unsignalized intersections using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding stopped delay experienced per vehicle as shown in *Table 5.4-4*, *State-Controlled Intersection Level of Service and Delay Ranges*.

Table 5.4-4
State-Controlled Intersection Level of Service and Delay Ranges

Level of Service (LOS)	Delay (seconds/vehicle)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10.0	≤ 10.0
B	> 10.0 to ≤ 20.0	> 10.0 to ≤ 15.0
C	> 20.0 to ≤ 35.0	> 15.0 to ≤ 25.0
D	> 35.0 to ≤ 55.0	> 25.0 to ≤ 35.0
E	> 55.0 to ≤ 80.0	> 35.0 to ≤ 50.0
F	> 80.0	> 50.0

Source: Transportation Research Board. 2010. Highway Capacity Manual.

LOS is based on the average stopped delay per vehicle for all movements of signalized intersections and all-way stop-controlled intersections; for one-way or two-way stop-controlled intersections, LOS is based on the worst stop-controlled approach.

EXISTING INTERSECTION LEVELS OF SERVICE

Table 5.4-5, *Existing Year (2018) Intersection Levels of Service Signalized Study Intersections*, summarizes the existing peak hour LOS for the signalized study intersections.

Table 5.4-5
Existing Year (2018) Intersection Levels of Service Signalized Study Intersections

Study Intersection		V/C – Delay – LOS	
		AM Peak Hour	PM Peak Hour
1	Mountain Avenue / Central Avenue	0.771 – C	0.761 – C
2	Mountain Avenue / Evergreen Street	0.652 – B	0.959 – E
3	Mountain Avenue / Duarte Rd	0.6 – A	0.678 – B
4	Buena Vista Street / Huntington Drive	0.691 – B	0.787 – C
5	Buena Vista Street / Central Avenue	0.556 – A	0.613 – B
6	Buena Vista St / I-210 WB On-ramp	0.390 – A	0.524 – A
7	Buena Vista St / Evergreen St/I-210 EB On-ramp	0.597 – A	0.595 – A
9	Buena Vista St & Duarte Rd	0.808 – D	0.920 – E
13	Hope Dr & Duarte Rd	0.330 – A	0.415 – A
14	Highland Avenue / Huntington Drive	0.552 – A	0.821 – D
15	Highland Avenue / Central Avenue	0.565 – A	0.763 – C
17	Highland Avenue / Business Center Drive	0.346 – A	0.433 – A
18	I-605/Mt Olive Dr / Huntington Dr	0.891 – D	1.096 – F

V/C = volume to capacity

Table 5.4-6, *Existing Year (2018) Intersection Levels of Service Unsignalized Study Intersections*, summarizes existing AM and PM peak hour LOS of the unsignalized study intersections; detailed LOS analysis sheets are contained in Appendix D.

Table 5.4-6
Existing Year (2018) Intersection Levels of Service Unsignalized Study Intersections

Study Intersection		Delay – LOS	
		AM Peak Hour	PM Peak Hour
8	Buena Vista Street / Three Ranch Road	18.9 – C	22.5 – C
10	I-210 WB Off-Ramp / Central Avenue	94.4 – F	94.9 – F
11	Village Rd / Duarte Road	49.1 – E	44.3 – E
12	Duncannon Avenue / Evergreen Street	7.8 – A	7.5 – A
16	Highland Avenue / Evergreen Street	24.3 – C	22.0 – C

Delay shown in seconds. Average vehicular delay reported for worst case approach for unsignalized intersections.
WB = westbound; EB = eastbound

EXISTING TRANSIT SERVICE

The City of Duarte, Foothill Transit, and Metro provide bus service to the City. The Metro Gold Line is a light-rail transit line running from East Los Angeles to Azusa via Los Angeles Union Station. The study area is served by the Duarte/City of Hope Station (directly accessible from the Project site). Metro Line 264/267 provides local service running between Altadena and Duarte. The line runs east to west through the project site and connects to the Duarte/City of Hope Light Rail Station.

Foothill Transit Line 187 provides service to Pasadena, Arcadia, Duarte, and Azusa. Line 187 runs in the northern section of the study area. Foothill Transit Line 272 provides service between Duarte and West Covina, through Irwindale and Baldwin Park. Line 272 runs directly through the northern and southern sections of the study area. Foothill Transit Line 494 provides service between El Monte and San Dimas, through Monrovia, Arcadia, Duarte, Azusa, Glendora, and San Dimas. Line 494 runs from east to west through the northern edge of the study area. Foothill Transit Line 690 provides service between Pasadena and Claremont through La Verne, San Dimas, Glendora, Azusa, and Pasadena. Line 690 runs east to west through the northern edge of the study area.

The Duarte Transit Green Line operates in a clockwise direction around Duarte. The Green Line runs around the study area. The Duarte Transit Blue Line operates in a counterclockwise direction around Duarte. The Blue Line runs around the study area.

EXISTING PEDESTRIAN AND BICYCLE FACILITIES

Along the eastern edge of the project site, an approximately nine-foot-wide sidewalk exists along the western side of Highland Avenue. Business Center Drive, which runs through the project site, has a six-foot-wide sidewalk on the southern side. There is no sidewalk present on the northern edge of the project site along Evergreen Street. A six-foot-wide sidewalk exists along the southern side of Duarte Road between Mountain Avenue and 800 feet east of Hope Drive, where it abruptly ends. On the northern side of Duarte Road, an approximately 10-foot-wide sidewalk is present between Mountain Avenue and Highland Avenue. Pedestrian facilities improvements such as continuations of sidewalks, streetscape improvements, and installations of high-visibility crosswalks are planned along Duarte Road.

Per Caltrans, a Class I bicycle facility is a bike path which has exclusive right-of-way for bicyclists and pedestrians away from the roadway, with crossflows by motor traffic minimized. A Class II bicycle facility is a bike lane established along the street and is defined by pavement striping and signage to delineate a portion of the roadway dedicated for bicycle travel. The bike lane can also be buffered to provide a greater separation from adjacent traffic. A Class III bicycle facility is a bike route which designates a preferred route for bicyclists on streets shared with motor traffic and is not designated as a separate facility. A Class IV bike facility is a separated bikeway, often referred to as a protected bike lane that is physically separated from motor traffic with a vertical feature.

Below is a description of the existing bicycle facilities in the City of Duarte.

- Royal Oaks Drive – A Class I bicycle facility on Royal Oaks Drive provides a bike path in the northern part of the study area, from Buena Vista Street to Vineyard Avenue.

- Duarte Road – A Class II bicycle facility on Duarte Road provides a bike lane from Mountain Avenue to the Duarte Gold Line station.

- Emerald Necklace Bike Trail – A Class I bicycle facility is located within the Santa Fe Recreation area adjacent to the City of Hope in the southern part of the study area. It provides a bike path connecting San Gabriel River Bike Trail and Duarte/City of Hope Gold Line Station.

Highland Avenue – The Class III Duarte Recreational Trail runs along Highland Avenue from Royal Oaks Drive to the Metro Gold Line.

- Buena Vista Street – A Class II bicycle facility on Buena Vista Street provides a bike lane from Huntington Drive to Central Avenue.

- Shamrock Avenue – A Class III bicycle facility on Shamrock Avenue provides a bike route north of Central Avenue.

5.4.3 SIGNIFICANCE THRESHOLD CRITERIA

DEFINITION OF SIGNIFICANT IMPACT

Significant Study Intersection Traffic Impact Criteria

Traffic impacts are identified if a project would result in a significant adverse change in traffic conditions on an analyzed facility. A significant impact is typically identified if traffic generated by a project would cause service levels to deteriorate beyond a threshold limit specified by the overseeing agency. Impacts can also be significant if an intersection is already operating below the poorest acceptable level and project traffic would substantially worsen the condition, thereby causing a further decline below the threshold.

CITY OF DUARTE

Consistent with the Los Angeles County CMP, to determine whether the addition of project-generated trips results in a significant impact at the City of Duarte signalized study intersections, and thus requires mitigation, the following threshold of significance is used:

- A significant project impact occurs when a proposed project increases traffic demand at a signalized study intersection by two percent or more of capacity (increase in V/C by equal to or greater than 0.02), causing or worsening LOS E or F (V/C >0.901) conditions.

At stop-controlled study intersections in Duarte, a significant traffic impact occurs if one of the minor street movements are forecast to operate at LOS F and the addition of project-generated trips causes an increase in delay of two or more seconds to that movement. However, this is not a rigid threshold, and judgment is required to consider the relevance of turning traffic volume, lane configuration, queuing impacts, and other parameters affecting intersection operations. For example, the project would have a significant impact on traffic if the intersection meets signal warrants either caused by project volumes or project volumes are added at an intersection that meets signal warrants in baseline scenarios.

CALTRANS

While Caltrans has not established traffic thresholds of significance, this analysis utilizes the following traffic threshold of significance:

- A significant project impact occurs at a State highway study intersection when the addition of project-generated trips to an intersection operating at LOS D or worse causes the peak hour performance and associated level of service of the study intersection to deteriorate one letter grade or more when compared to pre-project conditions.

Significance Criteria

Environmental impact thresholds, as indicated in *CEQA Guidelines* Appendix G (Initial Study Checklist Form), are also used as significance thresholds in this analysis. As such, a project would create a significant impact if it would:

- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;
- Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b);
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); and/or
- Result in inadequate emergency access.

Based on these significance thresholds and criteria, the project's effects have been categorized as either "no impact," a "less than significant impact," or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

5.4.4 PROJECT IMPACTS AND MITIGATION MEASURES

PROJECT TRIP GENERATION

To determine the number of trips currently generated by the existing land uses that would be displaced by the proposed project, traffic counts were collected at the project site in December 2018 during typical weekday conditions. *Table 5.4-7*, *Trip Generation of Existing Land Uses*, shows the trip generation of the existing land uses that would be displaced by the proposed project based on observed data.

Table 5.4-7
Trip Generation of Existing Land Uses

Land Use	AM Peak Hour Trips			PM Peak Hour Trips			Daily Trips
	In	Out	Total	In	Out	Total	
General Light Industrial	92	12	104	11	70	81	1,248

As indicated in *Table 5.4-7*, uses on the site are currently generating approximately 1,248 daily trips, which includes approximately 104 AM peak hour trips and 81 PM peak hour trips.

The proposed project would consist of a mixed-use transit-oriented development with 12,500 square feet of retail and restaurant space, 100,000 square feet of office, and 1,400 residential units. Existing on-site uses would be removed prior to construction or may be adaptively reused with more intensive uses.

To calculate trips forecast to be generated by the proposed project, Institute of Transportation Engineers (ITE) trip generation rates were utilized. *Table 5.4-8*, *ITE Trip Generation Rates for Proposed Project Land Uses*, summarizes the ITE trip generation rates used to calculate the number of trips forecast to be generated by the proposed project.

Table 5.4-8
ITE Trip Generation Rates for Proposed Project Land Uses

Land Use (ITE Code)	Units	AM Peak Hour Rates			PM Peak Hour Rates			Daily Trip Rates
		In	Out	Total	In	Out	Total	
Multifamily Housing (Mid-rise (221)	du	26%	74%	[a]	61%	39%	[a]	[a]
High-Turnover (Sit Down) Restaurant (932)	ksf	55%	45%	9.94	62%	38%	9.77	112.18
Retail (820)	ksf	62%	38%	0.94	48%	52%	3.81	37.75
Office (710)	ksf	86%	14%	[b]	16%	84%	[b]	[b]

Source: 2017 ITE Trip Generation Manual, 10th Edition.
ksf = thousand square feet; du = dwelling units.
[a] ITE Multifamily Housing (Mid-Rise) trip generation equations used rather than linear trip generation rate:
Daily: T = 5.45*A - 1.75, where T = trips, A = area in ksf (Suburban/Urban rate used)
AM Peak Hour: Ln(T) = 0.98*LN(A) - 0.98, where T = trips, A = area in ksf (Suburban/Urban equation used)

Table 5.4-8
ITE Trip Generation Rates for Proposed Project Land Uses

Land Use (ITE Code)	Units	AM Peak Hour Rates			PM Peak Hour Rates			Daily Trip Rates
		In	Out	Total	In	Out	Total	
PM Peak Hour: Ln(T) = 0.96*LN(A) - 0.63, where T = trips, A = area in ksf (Suburban/Urban equation used)								
[b] ITE Office trip generation equations used rather than linear trip generation rate:								
Daily: Ln(T) = 0.97 Ln(A) + 2.50, where T = trips, A = area in ksf (Suburban/Urban equation used)								
AM Peak Hour: T = 0.94(A) + 26.49, where T = trips, A = area in ksf (Suburban/Urban equation used)								
PM Peak Hour: Ln(T) = 0.95 Ln(A) + 0.36, where T = trips, A = area in ksf (Suburban/Urban equation used)								

Pass-by Trip Reduction

As documented in ITE's *Trip Generation Manual (Institute of Transportation Engineers, 10th Edition, 2017),* a pass-by trip reduction is applicable to retail and restaurant land uses located along busy arterial highways attracting vehicle trips already on the roadway; this is particularly the case when the roadway is experiencing peak operating conditions. For example, during the PM peak hour, a motorist already traveling along Highland Avenue between work and home or other destinations may stop at the proposed project site. A pass-by discount under this example would reduce/eliminate both the inbound trip and the outbound trip from the surrounding roadway circulation system since the vehicle was already traveling on the roadway. Without the pass-by trip discount, two trips would be generated: an inbound trip to the project site and an outbound trip from the project site.

Table 5.4-9, *Pass-by Trip Reduction Percentages Applicable to Proposed Project*, summarizes the pass-by trip reductions applicable to the proposed project land uses as documented in the ITE *Trip Generation Manual*.

Table 5.4-9
Pass-by Trip Reduction Percentages Applicable to Proposed Project

Proposed Project Land Use	Peak Hour	
	AM Peak Hour	PM Peak Hour
Restaurant	20%	20%
Retail	50%	50%
Source: 2017 ITE Trip Generation Manual, 10th Edition.		

As shown in *Table 5.4-9*, a reduction of 20 percent was applied to the high-turnover (sit down) restaurant uses and reduction of 50 percent was applied to the retail uses. No pass-by trip credit is applied to the residential and office uses because traveling this use is typically the final destination of one's trip, not a destination one chooses as they pass by.

Trip Reduction for Development Near Transit Centers and Light Rail Stations

The project qualifies for a reduction in site vehicle trip generation because it is a development within 0.25 mile of a transit center or light rail station pursuant to ITE's *Trip General Manual*. The vehicle trip reduction factor increases based on the density/intensity of the development; the larger trip reduction factors are achieved with development patterns that ITE would consider mixed use.

Trip reductions associated with proximity to transit or light rail center for the proposed project have been estimated by applying the applicable ITE-recommended trip reduction factor to the commercial and residential components of the proposed project. The project is located in a transit-rich environment, adjacent to the Metro Gold Line Duarte/City of Hope Light Rail Station and in close proximity to local bus lines. A 15 percent vehicle trip reduction was applied to each land use, since they are all located within a 0.25-mile walking distance of high-quality transit.

Internal Trip Capture Reduction for Proposed Project

As documented in ITE's *Trip Generation Manual,* an internal trip capture reduction is applicable when a project has mixed land uses in which a trip originates from a land use located at the site and ends at a land use located within the same site. For example, a development with residential and office land uses has the potential to generate a pedestrian trip from the residential land use to the office land use within the same site in lieu of generating a vehicular trip to an offsite office.

Consistent with industry standards, internal trip capture has been calculated as directed in ITE's *Trip Generation Manual.* Detailed internal trip capture summary calculation sheets are contained in Appendix D. *Table 5.4-10*, *ITE Internal Trip Capture Percentages for Proposed Project*, shows the proposed project internal capture rates utilized in the analysis.

Table 5.4-10
ITE Internal Trip Capture Percentages for Proposed Project

Proposed Project Land Use	Internal Trip Capture Percentage				
	AM Peak Hour		PM Peak Hour		Daily
	In	Out	In	Out	
Multi-family Housing (Mid-Rise)	1%	3%	3%	7%	3%
High-Turnover (Sit Down) Restaurant)	N/A	N/A	N/A	N/A	N/A
Retail	57%	33%	70%	55%	42%
Office	17%	74%	60%	5%	15%

Forecast Trip Generation of Proposed Project

Table 5.4-11, *Forecast Trip Generation of Proposed Project*, summarizes the forecast trip generation of the proposed project utilizing the ITE trip generation rates shown in *Table 5.4-8*, ITE's pass-by trip reduction adjustment rates shown in *Table 5.4-9*, ITE's 15 percent trip reduction for development near transit centers/light rail stations, ITE's internal trip capture adjustment rates shown in *Table 5.4-10*, and accounting for the existing displaced land uses.

Table 5.4-11
Forecast Trip Generation of Proposed Project

Land Use	AM Peak Hour Trips			PM Peak Hour Trips			Daily Trips
	In	Out	Total	In	Out	Total	
1,400-du Multi-family Housing (Mid-Rise)	118	337	455	340	218	558	7,628
Less: Internal Capture [c]	*(1)*	*(13)*	*(11)*	*(10)*	*(15)*	*(25)*	*(229)*
Less: Transit/Walk/Bike credit [d]	*(18)*	*(49)*	*(67)*	*(50)*	*(30)*	*(80)*	*(1,110)*
Net External Vehicle Trips Subtotal	99	278	377	280	173	453	6,289
100-ksf Office	103	17	120	18	96	114	1,061
Less: Internal Capture [c]	*(18)*	*(13)*	*(31)*	*(11)*	*(5)*	*(16)*	*(159)*
Less: Transit/Walk/Bike credit [d]	*(13)*	*(1)*	*(14)*	*(1)*	*(14)*	*(15)*	*(135)*
Net External Vehicle Trips Subtotal	72	3	75	6	77	83	767
6.25-ksf High-Turnover (Sit Down) Restaurant	34	28	62	38	23	61	701
Less: Transit/Walk/Bike credit [d]	*(3)*	*(3)*	*(6)*	*(4)*	*(2)*	*(6)*	*(76)*
Total Driveway Trips	17	14	31	24	10	34	429
Less: Pass-by [e]	*(3)*	*(3)*	*(6)*	*(5)*	*(2)*	*(7)*	*(86)*
Net External Vehicle Trips Subtotal	14	11	25	19	8	27	343
6.25-ksl Retail	4	2	6	12	12	24	236
Less: Internal Capture [c]	*(2)*	*(1)*	*(3)*	*(8)*	*(7)*	*(15)*	*(99)*
Less: Transit/Walk/Bike credit [d]	*(0)*	*(0)*	*(0)*	*(0)*	*(0)*	*(0)*	*(21)*
Less: Pass-by [e]	*(1)*	*(1)*	*(2)*	*(2)*	*(3)*	*(5)*	*(58)*
Net External Vehicle Trips Subtotal	1	0	1	2	2	4	58
Total Driveway Trips	**190**	**296**	**486**	**314**	**265**	**579**	**7,601**
Total Project External Vehicle Trips	**186**	**292**	**478**	**307**	**265**	**567**	**7,457**
Existing Use: General Light Industrial	92	12	104	11	70	81	1,248
Net External Vehicle Trips Subtotal	92	12	104	11	70	81	1,248
Total Existing Use Credit	**92**	**12**	**104**	**11**	**70**	**81**	**1,248**
Total Project (Net)	**94**	**280**	**374**	**296**	**190**	**486**	**6,209**

ksf = thousand square feet; du = dwelling unit

As indicated in *Table 5.4-11*, when accounting for the displaced land uses, the proposed project is forecast to generate a total of approximately 6,209 net new daily trips, which includes approximately 374 net new AM peak hour trips and approximately 486 net new PM peak hour trips.

Forecast Project Trip Distribution and Assignment

Project trip distribution refers to the paths or routes that project trips are forecast to utilize within the study area when travelling to and from the project site, taking into account the typical minimum time and distance paths. To determine the forecast project trip distribution, various sources of information were reviewed, including the location and land use of surrounding development, the surrounding roadway network, and the directionality of existing traffic.

EXISTING WITH PROJECT CONDITIONS

IMPLEMENTATION OF THE PROPOSED PROJECT COULD CAUSE A SIGNIFICANT INCREASE IN TRAFFIC AT STUDY INTERSECTIONS UNDER EXISTING PLUS PROJECT CONDITIONS WHEN COMPARED TO THE TRAFFIC CAPACITY OF THE STREET SYSTEM.

Impact Analysis: This section addresses the impacts associated with adding project-related trips to existing conditions traffic volumes. The Existing with Project scenario is a hypothetical scenario that assumes the proposed project would be fully implemented at the present time, with no other changes to area traffic volumes or to the street network serving the project site. This analysis is intended to comply with the *CEQA Guidelines* Section 15125. This scenario assumes the full development of the proposed project and full absorption of the proposed project traffic on the circulation systems at the present time. This scenario is provided for information purposes only and is not used for impact determinations or mitigation.

Signalized Study Intersections

Existing with project conditions AM and PM peak hour volumes were derived by adding forecast project-generated trips to existing conditions traffic volumes.

Table 5.4-12, *Existing Year (2018) Plus Project Conditions AM and PM Peak Hour Signalized Study Intersection Level of Service*, summarizes existing plus project conditions AM and PM peak hour LOS of the City study intersections; detailed LOS analysis sheets are contained in Appendix D. As indicated in *Table 5.4-12*, based on the thresholds of significance, the addition of project-generated trips is forecast to result in a significant traffic impact at the following City study intersection for forecast existing with project conditions:

- Buena Vista Street and Duarte Road (PM peak hours)

Table 5.4-12
Existing Year (2018) Plus Project Conditions AM and PM Peak Hour Signalized Study Intersection Level of Service

Signalized Study Intersection		Existing Conditions		Existing with Project Conditions		Change in V/C		Significant Impact?
		V/C – Delay – LOS				AM Peak Hour	PM Peak Hour	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
1	Mountain Avenue / Central Avenue	0.771 – C	0.761 – C	0.772 – C	0.765 – C	0.001	0.004	No
2	Mountain Avenue / Evergreen Street	0.652 – B	0.959 – E	0.656 – B	0.967 – E	0.004	0.008	No
3	Mountain Avenue / Duarte Rd	0.600 – A	0.678 – B	0.614 – B	0.673 – B	0.014	-0.005	No
4	Buena Vista Street / Huntington Drive	0.691 – B	0.787 – C	0.695 – B	0.794– C	0.004	0.007	No
5	Buena Vista Street / Central Avenue	0.556 – A	0.613 – B	0.578 – A	0.629 – B	0.022	0.016	No
6	Buena Vista St / I-210 WB On-ramp	0.390 – A	0.524 – A	0.412 – A	0.539 – A	0.022	0.015	No
7	Buena Vista St / Evergreen St/I-210 EB On-ramp	0.597 – A	0.595 – A	0.623 – B	0.607 – B	0.026	0.012	No
9	Buena Vista St & Duarte Rd	0.808 – D	0.920 – E	**0.838 – D**	**0.967 – E**	0.030	0.047	**Yes**
13	Hope Dr & Duarte Rd	0.330 – A	0.415 – A	0.343 – A	0.449 – A	0.013	0.034	No
14	Highland Avenue / Huntington Drive	0.552 – A	0.821 – D	0.584 – A	0.893 – D	0.032	0.072	No
15	Highland Avenue / Central Avenue	0.565 – A	0.763 – C	0.599 – A	0.783 – C	0.034	0.020	No
17	Highland Avenue / Business Center Drive	0.346 – A	0.433 – A	0.439 – A	0.487 – A	0.093	0.054	No
18	I-605/Mt Olive Dr / Huntington Dr	0.891 – D	1.096 – F	0.901 – E	1.115 – F	0.010	0.019	No

V/C = volume to capacity

Unsignalized Intersections

Forecast existing with project conditions AM and PM peak hour volumes were derived by adding forecast project-generated trips to existing conditions traffic volumes. *Table 5.4-13*, *Existing Year (2018) Plus Project AM and PM Peak Hour Unsignalized Highway Intersection Level of Service*, summarizes existing with project conditions AM and PM peak hour LOS of the unsignalized study intersections; detailed LOS analysis sheets are contained in Appendix D.

Table 5.4-13
Existing Year (2018) Plus Project Conditions AM and PM Peak Hour
Unsignalized Intersection Level of Service

Unsignalized Study Intersection		Existing Conditions		Existing Plus Project Conditions		Increase in Delay		Significant Impact?
		Delay – LOS				AM Peak Hour	PM Peak Hour	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
8	Buena Vista St / 3 Ranch Rd	18.9 – C	22.5 – C	23.4 – C	28.4 – D	4.5	5.9	No
10	I-210 WB Off-Ramp / Central Ave	94.4 – F	94.9 – F	112.7 – F	101.6 – F	18.3	6.7	**Yes**
11	Village Rd / Duarte Rd	49.1 – E	44.3 – E	63.2 – F	85.8 – F	14.1	41.5	**Yes**
12	Duncannon Ave / Evergreen St	7.8 – A	7.5 – A	7.9 – A	7.7 – A	0.1	0.2	No
16	Highland Ave / Evergreen St	24.3 – C	22.0 – C	31.8 – D	36.9 – E	7.5	14.9	No

WB = westbound; EB = eastbound.
Delay shown in seconds.

As indicated in *Table 5.4-13*, based on the thresholds of significance, the addition of project-generated trips is forecast to result in a significant traffic impact at the following unsignalized study intersection for forecast existing with project conditions:

- I-210 WB Off-ramp & Central Avenue (AM peak hours)
- Village Road & Duarte Road (PM peak hours)

A mitigation measure was analyzed for the intersection of Buena Vista Street and Duarte Road involving a modification to the northbound approach on Buena Vista Street to add a right-turn lane. This mitigation would require the widening of the northbound leg to accommodate the additional lane. However, applying this mitigation measure would still not reduce impacts to less than significant levels, as shown in *Table 5.4-14*, *Mitigated Existing Year (2018) With Project Conditions AM and PM Peak Hour All Study Intersection Level of Service*. In addition, this measure would require modifications of the road right-of- way, which contains the Metro Gold Line tracks to the north and private property to the south. Therefore, this measure was deemed infeasible. Impacts would remain significant and unavoidable.

As stated in the Traffic Impact Analysis (Fehr and Peers 2019), the City of Hope is implementing the following road improvements as part of a Specific Plan to construct a new hospital:

- I-210 westbound off-ramp and Central Avenue – Install a traffic signal per the design specifications of the City Engineer. This improvement shall be accomplished prior to the issuance of occupancy permits for the first development within the Specific Plan or as otherwise directed by the City Traffic Engineer. Costs of the improvement may be shared by other projects, as determined by the Community Development Director.

- Village Road & Duarte Road – Install a traffic signal per the design specifications of the City Engineer. This improvement shall be accomplished prior to the issuance of occupancy permits for the first development within the Specific Plan or as otherwise directed by the City Traffic Engineer. Costs of the improvement may be shared by other projects, as determined by the Community Development Director.

With implementation of these improvements, impacts of the proposed project on these two intersections would be reduced to less than significant levels as shown in *Table 5.4-14, Mitigated Existing Year (2018) With Project Conditions AM and PM Peak Hour All Study Intersection Level of Service*. Detailed LOS analysis sheets are contained in Appendix D. Specifically, a signal warrant analysis was conducted for both intersections (see results in the Traffic Impact Study in Appendix D), and they meet the peak hour signal warrant.

Table 5.4-14
Mitigated Existing Year (2018) With Project Conditions AM and PM Peak All Study Intersection Level of Service

Study Intersection		Existing Year (2018) Without Project Conditions		Existing Year (2018) with Project Conditions (Mitigation)		Change in V/C		Significant Impact Remains?
		V/C – LOS				AM Peak Hour	PM Peak Hour	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
9	Buena Vista St & Duarte Rd	0.808 – D	0.920 – E	0.838 – D	0.967 – E	0.030	0.047	**Yes**
10	I-210 WB Off-ramp & Central Ave*	0.616 – B	0.567 - A	0.651 – B	0.585 - A	0.035	0.018	No
11	Village Rd & Duarte Rd*	0.484 – A	0.438 - A	0.494 – A	0.470 – A	0.010	0.032	No

V/C = volume to capacity; N/A = Not Applicable; * = Unsignalized Study Intersection

Furthermore, the City of Duarte wants to ensure that freeway on- and off-ramp impacts associated with future development within the plan area remain consistent with these conclusions, and as such, Mitigation Measure TRF-1 requires that future project applicants prepare traffic studies for proposed development within the Duarte Station Specific Plan Area pursuant to CEQA and the CEQA Guidelines.

Mitigation Measures:

TRF-1 Pursuant to CEQA and the latest CEQA Guidelines, all project applicants within the Duarte Station Specific Plan Area shall prepare and submit at their time of their development application to the Community Development Department a traffic study that documents the project-related trips.

Level of Significance: Significant Unavoidable Impact.

FUTURE YEAR 2025 WITH PROJECT CONDITIONS

IMPLEMENTATION OF THE PROPOSED PROJECT COULD CAUSE A SIGNIFICANT INCREASE IN TRAFFIC AT STUDY INTERSECTIONS UNDER FUTURE YEAR 2025 CONDITIONS WHEN COMPARED TO THE TRAFFIC CAPACITY OF THE STREET SYSTEM.

Impact Analysis: Year 2025 traffic with the proposed project is considered in comparison to the forecast year 2025 traffic conditions without the project. Traffic from cumulative projects are factored into the forecast year 2025 traffic conditions for all study intersections.

Future Year 2025 Without Project Conditions

Consistent with the *Los Angeles County Congestion Management Program's (Los Angeles County Metropolitan Transportation Authority (Metro), 2010)* future growth forecasts for this area of the San Gabriel Valley (i.e., Regional Statistical Area for Duarte), an annual growth rate of 0.46 percent per year of growth was assumed, resulting in a total projected growth of 3.2 percent between 2018 and 2025. It should be noted this is a conservative assumption since the growth rate is applied to all movements at the study intersections.

Additionally, in accordance with City staff direction, future year 2025 without project traffic volumes include the addition of trips associated with the cumulative projects identified in Chapter 4.0 of this EIR. These cumulative projects are assumed to be constructed and generating trips by the time of operation of the proposed project. Exhibit 11 of the Traffic Impact Study (contained in Appendix D) illustrates Future Year 2025 Without Project conditions, including AM and PM peak hour volumes at the study intersections.

Table 5.4-15, Cumulative Projects Trip Generation, summarizes the trips forecast to be generated by the cumulative projects. As indicated in *Table 5.4-15*, the cumulative projects are forecast to generate approximately 1,065 AM peak hour trips, approximately 1,735 PM peak hour trips, and approximately 12,846 daily trips by the year 2025.

Table 5.4-15
Cumulative Projects Trip Generation

Location	Land Use	Trip Generation						
		Daily Trips	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
1634 Third St. and 1101 Oak Ave	Apartments	138	2	7	9	7	4	11
	Townhomes							
	Third Street Park (Existing)							
1122 Huntington Drive	Fast Food Restaurant with drive-thru	636	28	26	54	36	33	69
	Fast Food Restaurant with drive-thru (Existing)							
2632 Royal Oaks Drive [b][c]	Religious Institution	26	1	0	1	1	1	2
946-962 Huntington Drive	Townhomes	236	5	14	19	16	9	25
1405-37 Huntington Drive	Mid-Rise Apartments	1,087	63	45	108	53	39	92
	Commercial							

Table 5.4-15
Cumulative Projects Trip Generation

Location	Land Use	Trip Generation						
		Daily Trips	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
	Live/Work Space [d]							
1200 Huntington Drive	Apartments Commercial Hotel	3,150	155	160	315	538	378	916
City of Hope Specific Plan [d]	Hospital	4,753	448	66	514	74	388	462
1193 Huntington Drive [f]	Gym	547	11	10	21	31	24	55
1525 Huntington Drive	Restaurant	2,112	9	5	14	52	43	95
928 Huntington Drive	Apartments	161	2	8	10	8	0	8
Future Year 2025 Total Cumulative Project Trip Generation		**12,846**	**724**	**341**	**1,065**	**816**	**919**	**1,735**

[a] Trip generation estimates based on rates from Trip Generation, 10th Edition, Institute of Transportation Engineers, 2017.
[b] Square footage of the project site estimated based on project aerial view through google imagery.
[c] ITE trip generation rates for church used for meditation temple.
[d] Trip Generation Estimates provided in Traffic Impact Analysis City of Hope, April 2017
[e] Daily ITE rate was not available. Daily rate was estimated by multiplying PM peak hour rate by 10.

Table 5.4-16, *Future Year 2025 Without Project Conditions AM and PM Peak Signalized Study Intersection Level of Service*, summarizes the AM and PM peak hour LOS of the signalized study intersections under Year 2025 Without Project Conditions; detailed LOS analysis sheets are contained in Appendix D.

Table 5.4-16
Future Year 2025 Without Project Conditions
AM and PM Peak Hour Signalized Study Intersection Level of Service

Signalized Study Intersection		Future Year 2025 Without Project Conditions	
		AM Peak Hour	PM Peak Hour
		V/C – Delay – LOS	
1	Mountain Avenue / Central Avenue	0.843 – D	0.950 – E
2	Mountain Avenue / Evergreen Street	0.720 – C	1.069 – F
3	Mountain Avenue / Duarte Rd	0.620 – B	0.710 – C
4	Buena Vista Street / Huntington Drive	0.740 – C	0.884 – D
5	Buena Vista Street / Central Avenue	0.628 – B	0.669 – B
6	Buena Vista St / I-210 WB On-ramp	0.459 – A	0.626 – B
7	Buena Vista St / Evergreen St/I-210 EB On-ramp	0.656 – B	0.690 – B
9	Buena Vista St & Duarte Rd	1.022 – F	1.175 – F
13	Hope Dr & Duarte Rd	0.397 – A	0.490 – A
14	Highland Avenue / Huntington Drive	0.612 – B	0.901 – E
15	Highland Avenue / Central Avenue	0.598 – A	0.789 – C

Table 5.4-16
Future Year 2025 Without Project Conditions
AM and PM Peak Hour Signalized Study Intersection Level of Service

Signalized Study Intersection		Future Year 2025 Without Project Conditions	
		AM Peak Hour	PM Peak Hour
		V/C – Delay – LOS	
1	Mountain Avenue / Central Avenue	0.843 – D	0.950 – E
17	Highland Avenue / Business Center Drive	0.375 – A	0.458 – A
18	I-605/Mt Olive Dr / Huntington Dr	0.957 – E	1.171 – F
V/C = volume to capacity			

Future year 2025 traffic conditions without the project for unsignalized intersections are summarized in *Table 5.4-17*, *Future Year 2025 Without Project Conditions AM and PM Peak Hour Unsignalized Study Intersection Level of Service*; detailed LOS analysis sheets are contained in Appendix D.

Table 5.4-17
Future Year 2025 Without Project Conditions AM and PM Peak Hour
Unsignalized Study Intersection Level of Service

Unsignalized Study Intersection		AM Peak Hour	PM Peak Hour
		Delay – LOS	
8	Buena Vista St & 3 Ranch Rd	26.9 – D	42.7 – E
10	I-210 WB Off-ramp & Central Ave	201.8 – F	159.0 – F
11	Village Rd & Duarte Rd	305.9 – F	238.3 – F
12	Duncannon Ave & Evergreen St	7.8 – A	7.5 – A
16	Highland Ave & Evergreen St	30.7 – D	25.0 – C
Delay shown in seconds. WB = westbound; EB = eastbound			

Future Year 2025 Plus Project Conditions

Peak hour volumes under the Future Year 2025 With Project conditions were derived by adding project-generated trips to Year 2025 Without Project conditions and are shown in *Tables 5.4-18* and *5.4-19* for signalized and unsignalized intersections, respectively; detailed LOS analysis sheets are contained in Appendix D.

Table 5.4-18
Future Year 2025 Plus Project Conditions AM and PM Peak Hour Signalized Study Intersection Level of Service

Signalized Study Intersection		Future Year 2025 Without Project Conditions		Future Year 2025 Plus Project Conditions		Change in V/C		Significant Impact?
		V/C – Delay – LOS				AM Peak Hour	PM Peak Hour	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
1	Mountain Avenue / Central Avenue	0.843 – D	0.950 – E	0.845 – D	0.955 – E	0.002	0.005	No
2	Mountain Avenue / Evergreen Street	0.720 – C	1.069 – F	0.724 – C	1.078 – F	0.004	0.009	No
3	Mountain Avenue / Duarte Rd	0.620 – B	0.710 – C	0.634 – B	0.705 – C	0.014	-0.005	No
4	Buena Vista Street / Huntington Drive	0.740 – C	0.884 – D	0.745 – C	0.888 – D	0.005	0.004	No
5	Buena Vista Street / Central Avenue	0.628 – B	0.669 – B	0.650 – B	0.639 – B	0.022	0.013	No
6	Buena Vista St / I-210 WB On-ramp	0.459 – A	0.626 – B	0.480 – A	0.639 – B	0.021	0.013	No
7	Buena Vista St / Evergreen St/I-210 EB On-ramp	0.656 – B	0.690 – B	0.689 – B	0.702 – C	0.033	0.012	No
9	Buena Vista St & Duarte Rd	1.022 – F	1.175 – F	**1.052 – F**	**1.222 – F**	0.030	0.047	**Yes**
13	Hope Dr & Duarte Rd	0.397 – A	0.490 – A	0.409 – A	0.525 – A	0.012	0.035	No
14	Highland Avenue / Huntington Drive	0.612 – B	0.901 – E	0.643 – B	**0.974 – E**	0.031	0.073	**Yes**
15	Highland Avenue / Central Avenue	0.598 – A	0.789 – C	0.632 – B	0.808 – D	0.034	0.019	No
17	Highland Avenue / Business Center Drive	0.375 – A	0.458 – A	0.468 – A	0.512 – A	0.093	0.054	No
18	I-605/Mt Olive Dr / Huntington Dr	0.957 – E	1.171 – F	0.968 – E	1.190 – F	0.011	0.019	No

V/C = volume to capacity

Table 5.4-19
Future Year 2025 With Project Conditions AM and PM Peak Hour
Unsignalized Study Intersection Level of Service

Study Intersection		Future Year 2025 Without Project Conditions		Future Year 2025 With Project Conditions		Increase in Delay		Significant Impact?
		Delay – LOS				AM Peak Hour	PM Peak Hour	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
8	Buena Vista St & 3 Ranch Rd	26.9 – D	42.7 – E	37.5 – E	63.4 – F	10.6	20.7	No
10	I-210 WB Off-ramp & Central Ave	201.8 – F	159.0 – F	228.3 – F	168.0 – F	26.5	9.0	**Yes**
11	Village Rd & Duarte Rd	305.9 – F	238.3 – F	406.8 – F	367.2 – F	100.9	128.9	**Yes**
12	Duncannon Ave & Evergreen St	7.8 – A	7.5 – A	7.9 – A	7.7 – A	0.1	0.2	No
16	Highland Ave & Evergreen St	7.8 – A	7.5 – A	42.7 – E	45.1 – E	12.0	20.1	No

Notes: Worst approach delay reported for Two-Way Stop Controlled intersections.
Delay shown in seconds.
WB = westbound; EB = eastbound

As under Existing Plus Project conditions, the proposed project would result in a significant impact on Future Year 2025 Plus Project Conditions at the following intersections.

- Buena Vista Street/Duarte Road (AM and PM peak hour)
- I-210 westbound off-ramp and Central Avenue (AM and PM peak hours)
- Village Road and Duarte Road (PM peak hours)

The Buena Vista Street/Duarte Road intersection would be significantly affected during both AM and PM peak hours. As discussed above under Existing Plus Project conditions, because implementation of improvements at this intersection would be infeasible, impacts would be significant and unavoidable. However, implementation of road improvements at the I-210 westbound off-ramp and Central Avenue and at Village Road and Duarte Road by the City of Hope would reduce impacts on these intersections to less than significant levels as shown in *Table 5.4-20*.

Finally, the proposed project would result in a significant impact on Future Year 2025 Plus Project Conditions at the following additional intersection:

- Highland Avenue/Huntington Drive (PM peak hour only)

Mitigation Measure TRF-2 would address the future significant traffic impacts at this intersection and reduce impacts to less than significant levels as also shown in Table 5.4-20. A signal warrant analysis was performed for this intersection (see Appendix D) and it meets the peak hour signal warrant.

Table 5.4-20
Mitigated Future Year 2025 With Project Conditions AM and PM Peak All Study Intersection Level of Service

Study Intersection		Future Year 2025 Without Project Conditions		Future Year 2025 With Project Conditions (Mitigation)		Change in V/C		Significant Impact Remains?
		V/C – LOS				AM Peak Hour	PM Peak Hour	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour			
9	Buena Vista St & Duarte Rd	1.022 – F	1.175 – F	**1.052 – F**	**1.222 – F**	0.030	0.047	**Yes**
10	I-210 WB Off-ramp & Central Ave*	0.659 – B	0.600 – A	0.686 – B	0.618 – B	0.027	0.018	No
11	Village Rd & Duarte Rd*	0.610 – B	0.545 – A	0.620 – B	0.577 – A	0.010	0.032	No
14	Highland Ave & Huntington Dr	0.612 – B	0.901 – E	0.643 – B	0.891 – C	0.031	-0.010	No

V/C = volume to capacity; N/A = Not Applicable; * = Unsignalized Study Intersection

As under the Existing Plus Project scenario, the City of Duarte wants to ensure that freeway on- and off-ramp impacts associated with future development within the plan area remain consistent with these conclusions, and as such, Mitigation Measure TRF-1 requires that future project applicants prepare traffic studies for proposed development within the Duarte Station Specific Plan Area pursuant to CEQA and the CEQA Guidelines..

Mitigation Measures:

Refer to Mitigation Measure TRF-1. In addition, the following mitigation measure shall be required:

TRF-2 Highland Avenue and Huntington Drive – Modify the northbound approach and southbound approach signal on Highland Avenue by adding an overlap phase for both right-turn approaches. This mitigation will require a modification to the lane geometry through the striping of northbound and southbound right-turn lanes. This improvement shall be accomplished prior to the issuance of occupancy permits for the first development within the Specific Plan or as otherwise directed by the City Traffic Engineer. Costs of the improvement may be shared by other projects, as determined by the Community Development Director.

Level of Significance: Significant Unavoidable Impact.

VEHICLE MILES TRAVELED

IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN A SIGNIFICANT INCREASE IN THE AMOUNT OF VEHICLE MILES TRAVELED.

Impact Analysis: As noted above, the State has adopted VMT as the primary metric for evaluating a project's environmental impacts on transportation systems. Lead agencies have until July 1, 2020 to implement these new requirements. As the City of Duarte has not yet adopted

new traffic impact study guidelines including the VMT metric and significance in compliance with SB 743 guidelines, the analyses below were conducted for informational purposes only.

Trip Types

OPR's *Technical Advisory on Evaluating Transportation Impacts* (OPR 2018) advises that the focus of VMT calculations for residential uses should be on "Home-Based" trips. This includes Home-Based Work (HBW) trips and Home-Based Other (HBO) trips, defined as trips produced by residential land uses and trips attracted by non-residential land uses, respectively. The other trip type, Non-Home-Based (NHB), is produced and attracted by non-residential land uses, but is not included in this analysis per OPR guidance (OPR 2018). For office uses, VMT calculations should be on HBW trips (OPR 2018). Finally, changes to the CEQA Guidelines do not require VMT analysis for commercial uses less than 50,000 square feet (OPR 2018). Therefore, daily trips produced by the retail and restaurant land uses of the proposed project have not been included in this analysis.

Trip Distances

Trip distances were determined using Southern California Association of Government's (SCAG) Travel Demand Model. The vehicle trip length for the Duarte transportation analysis zone (TAZ) was obtained from the SCAG 2016 RTP Travel Demand Model. To determine the average trip length of the residential component of the project, the average lengths of production trips in HBW and HBO were identified. To determine average trip length for the office component of the project, average HBW trip distances from attraction trips were selected. The 2016 SCAG Travel Demand Model identifies the average trip length for residential land uses as 15.8 miles for HBW trips and 8.1 miles for HBO trips for the Duarte TAZ, and the average trip length for office land uses for HBW trips is 17.7 miles for the Duarte TAZ (Table 5.4-22).

Trip Generation

The project is expected to generate an estimated 6,289 net new daily residential trips and 767 net new daily worker trips (i.e., not counting existing trips from the project area). National Cooperative Highway Research Program (NCHRP) guidelines estimate that 15 percent of residential trips are HBW trips and 50 percent of residential trips are HBO trips (NCHRP 1998). NCHRP guidelines also estimate that 35 percent of office trips are HBW (NCHRP 1998). These factors were applied to the daily trip generation estimated in the Traffic Impact Study (Fehr and Peers 2019) to identify the number of residential HBW and HBO trips and office HBW trips. For residential land uses, the number of HBW trips was estimated at 943 trips and the number of HBO trips was estimated at 3,145 trips. For office land uses, the number of HBW trips was estimated at 268 trips.

VMT Estimate

To calculate the daily VMT, the trips for each land use were multiplied by the associated SCAG Travel Demand Model trip distances. Based on the project's estimated trip generation of 943 HBW residential trips and average resident HBW trip length of 15.8 miles and 3,145 HBO residential trips and average HBO trip length of 8.1 miles, the residential land use generates 40,374 daily VMT. Based on the project's estimated trip generation of 268 HBW employee trips and average HBW employee trip length of 17.7 miles, the office land use generates 4,744 daily VMT (Table 5.4-22).

Service Population

To conduct a VMT per capita analysis, a service population for the residential and office land uses was determined. Service populations typically account for residents and employees of a project. Residential land uses were converted to household population based on conversion rates derived from 2019 Department of Finance data which assumes an average of 3.03 people per dwelling unit. This results in an estimated population of 4,242 residents generated by the project. SCAG (2016) estimates 280 square feet of General Office space per employee; therefore, 100,000 square feet of new office space would generate 357 employees.

VMT Per Capita Estimate

To calculate the VMT per capita at the project, the daily VMT was divided by the project's population. For the residential land uses, 40,374 daily VMT was divided by the residential population of 4,242 to result in an estimated 9.5 VMT per resident. For the office land uses, 4,744 daily VMT was divided by an employee population of 357 to result in an estimated 13.3 VMT per employee. *Table 5.4-21, Vehicle Miles Traveled (VMT) Analysis,* below summaries the VMT analysis.

Table 5.4-21
Vehicle Miles Traveled (VMT) Analysis

	Residential		Office
	HBW	HBO	HBW
Trip Length by Land Use (miles) [a]	15.8	8.1	17.7
Project Trip Generation [b]	943	3,145	268
Daily VMT [c]	40,374		4,744
Service Population [d]	4,242		357
VMT per Capita/Employee	9.5		13.3

Notes:
a] The Southern California Association of Governments (SCAG) Travel Demand Forecasting Model provides the ability to evaluate the transportation system, use performance indicators for land use and transportation alternatives, provide information on regional pass-through traffic versus locally generated trips, and graphically display these results. The model captures planned growth in the Project Area and is sensitive to emerging land use trends through improved sensitivity to built environment variables. The model forecasts AM and PM peak period and daily vehicle and transit flows on the transportation network in the City and calculates trip origins and destinations for those vehicle flows, ultimately providing the trip lengths utilized here.
[b] NCHRP (1998) estimates 15% of total residential trips to be HBW trip types and 50% of residential trips to be HBO trip types. NCHRP (1998) also estimates 35% of total office trips to be HBW trip types. These factors were applied to the daily trip generation to identify the number of residential HBW and HBO trips and office HBW trips.
[c] Daily VMT for residential and office land uses is calculated using the residential and office trip generation explained in [b] and the average trip length calculated using the SCAG Travel Demand Model for each land use.
[d] VMT per Capita for residential is calculated by converting the residential land use to population based on conversion rates derived from 2019 Department of Finance data. The average population per dwelling unit is 3.03 people per dwelling unit. VMT per Capita for office is based upon SCAG's (2016) estimate of 280 square feet of office space per employee, or 357 employees for the proposed 100,000 square feet of new office space.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

OFF-RAMP QUEUING

IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN A HAZARDOUS TRAFFIC CONDITION ASSOCIATED WITH QUEUING AT THE FREEWAY STUDY INTERSECTION OFF-RAMPS.

Impact Analysis: An off-ramp queuing analysis was conducted at the five following off-ramps on the I-210 and I-605 freeways:

1. I-210 Westbound off-ramp/Central Avenue & Mountain Avenue
2. I-210 Eastbound off-ramp/Evergreen Street & Mountain Avenue
7. I-210 Eastbound off-ramp/Evergreen Street & Buena Vista Street
10. I-210 Westbound off-ramp & Central Avenue
18. I-605 ramps/Mount Olive Avenue & Huntington Avenue

Table 5.4-22, *AM and PM Peak Hour Freeway Study Intersection Off-Ramp Queue Analysis*, summarizes the results of the peak hour vehicular queue analysis at the freeway study intersection off-ramps for the evaluated scenarios; detailed LOS analysis sheets are contained in Appendix D.

Table 5.4-22
AM and PM Peak Hour Freeway Study Intersection Off-Ramp Queue Analysis

Freeway Study Intersection Off-Ramp	Available Storage Capacity (feet)	Vehicular Queue (feet)								Adequate Storage Provided to Accommodate Queue?
		Existing Conditions		Existing with Project Conditions		Future Year 2025 without Project Conditions		Future Year 2025 With Project Conditions		
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
I-210 Westbound off-ramp/Central Ave & Mountain Ave	3,860	1128	406	1128	412	1250	609	1250	613	Yes
I-210 Eastbound off-ramp/Evergreen St & Mountain Ave	4,560	489	1329	493	1355	526	1451	530	1476	Yes
I-210 Eastbound off-ramp/Evergreen St & Buena Vista St	5,200	218	368	218	388	340	418	350	440	Yes
I-210 Westbound off-ramp & Central Ave	1,450	478	323	523	358	788	446	591	488	Yes
I-605 ramps/Mount Olive Ave & Huntington Ave	3,130	1390	911	1453	1085	1653	1188	1715	1360	Yes

As indicated in *Table 5.4-22*, the freeway ramps queues would not extend beyond 85 percent of the capacity of the ramp under any existing or future scenarios with the project. No significant impact at off-ramp locations is anticipated as a result of the project. Detailed queue calculations are provided in Appendix D. Impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

MAINLINE FREEWAY SEGMENT ANALYSIS

IMPLEMENTATION OF THE PROPOSED PROJECT COULD CAUSE A CHANGE IN THE MEASURE OF EFFECTIVENESS (MOE) ON STATE HIGHWAY FACILITIES.

Impact Analysis: Mainline freeway segment analyses were conducted using the HCM operational analysis methodology as implemented by the Highway Capacity Software (HCS) software package for the following four segments along I-210 and I-605 in both directions:

- I-210 west of Mountain Avenue
- I-210 between Buena Vista Street and Highland Avenue
- I-210 east of Mount Olive Drive
- I-605 south of Live Oak Avenue

Per the *Guide for the Preparation of Traffic Impact Studies*, or Caltrans TIS Guide (Caltrans, 2002), Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities; however, Caltrans acknowledges that this may not always be feasible. If an existing State highway facility is operating at less than the appropriate target LOS, the existing MOE should be maintained (Caltrans TIS Guide, page 1). This latter criterion does not allow for determination of effect if the segment is operating at LOS F under baseline conditions. For informational purposes, freeway segments operating at LOS F under base conditions were identified if the project traffic added to these segments is estimated to represent two percent or more of the total traffic on the segment.

Existing and Existing Plus Project Mainline Level of Service

Freeway mainline volume and speed data were obtained from Caltrans' Performance Measurement System (PeMS) archived traffic data for the AM and PM peak periods for Tuesdays, Wednesdays, and Thursdays in December 2018, between December 1 through 22, except when data were not available for those dates, and the data were averaged across the days. Existing and Existing plus Project conditions on the mainline segments, as well as detailed LOS calculations are provided in the Traffic Impact Study in Appendix D.

LOS was determined using the following definitions in *Table 5.4-23* and from the HCM as presented in Appendix C of the Caltrans TIS Guide (note that LOS F is defined as density exceeding 45 passenger cars per mile per lane and average speed below 52.2 miles per hour).

Table 5.4-23
LOS Definitions for Basic Freeway Segments at 65 miles/hour

Level of Service (LOS)	Maximum Density (pc/mi/ln)	Minimum Speed (mph)
A	11	65.0
B	18	65.0
C	26	64.6
D	35	59.7
E	45	52.2

Source: Caltrans. 2012. *Guide for the Preparation of Traffic Impact Studies.*
pc/mi/ln passenger cars per mile per lane
mph miles per hour

For both the Existing and Existing plus Project scenarios during the AM peak hour, I-210 west of Mountain Avenue in the westbound direction and I-605 south of Live Oak Avenue in the southbound direction operate at a congested LOS F. During the PM peak hour, the eastbound segments on I-210 operate at LOS F.

With the project, all of the segments during the AM peak hour would continue to operate at the same LOS as under Existing conditions. The project represents between 0.2 percent and 1.4 percent of the Existing plus Project traffic volumes on the segments, depending on location and direction. The project is projected to have no change in the MOE during the AM peak hour under the Existing plus Project scenario. With the project, none of the segments during the PM peak hour would operate at a worse LOS when compared to the Existing condition. The project represents between 0.5 percent and 1.9 percent of the Existing plus Project traffic volumes on the segments depending on location and direction. The project is projected to have no change in the MOE during the PM peak hour under the Existing plus Project scenario.

Future and Future Plus Project Mainline Level of Service

Per the Caltrans TIS Guide, future conditions analyzed in conjunction with a project entitlement process should be evaluated for the future year in which the project is anticipated to complete construction (Caltrans TIS Guide, page 3). Future volumes were thus projected for the future traffic conditions (year 2025) taking into account projected changes in traffic over existing conditions from two primary sources: (1) ambient growth in the existing traffic volumes due to the effects of overall regional growth and development outside the study area, and (2) traffic generated by specific development projects in, or in the vicinity of, the study area. The methods used to account for these factors are described below.

- **Background or Ambient Growth** – Ambient growth for the study area was developed based on growth factors from the Los Angeles County CMP (Metro, 2010). The State of California requires that a congestion management program be developed, adopted, and updated biennially for every county that includes an urbanized area and shall include every city and the county government within that county. Metro is designated as the Congestion Management Agency for Los Angeles County and is responsible for the implementation of the CMP. The CMP was approved in October 2010 and serves as a resource for future growth factors within the 21 Regional Statistical Areas (RSA) of Los Angeles County. The growth rate factors for the RSA area of Duarte was used to determine yearly growth rates

of the future traffic. Growth rates of 0.46 percent per year for the Duarte RSA was used for the development of the future year scenario.

- **Related Projects** – Future traffic forecasts include the effects of specific projects, called related projects, expected to be implemented in the vicinity of the proposed project site prior to the buildout date of the proposed project. The list of related projects was prepared based on data from the City of Duarte (see Traffic Impact Study in Appendix D). A total of 10 cumulative projects were identified in the study area. Trip generation estimates for the related projects were calculated using a combination of previous study findings, publicly available environmental documentation, and trip generation rates contained in the Institute of Transportation Engineers' trip generation manual.

The Traffic Impact Study in Appendix D presents the future freeway mainline segment analysis. For both the Future and Future plus Project scenarios, during the AM peak hour, I-210 west of Mountain in the westbound direction and I-605 south of Live Oak Avenue in the southbound direction operate at a congested LOS F. During the PM peak hour, the eastbound segments on I-210 operate at LOS F.

With the project, all of the segments during the AM peak hour would continue to operate at the same LOS as under future conditions. The project represents between 0.2 percent and 1.4 percent of the Future plus Project traffic volumes on the segments, depending on location and direction. The project is projected to have no change in the MOE during the AM peak hour under the Future plus Project scenario.

With the project, all of the segments during the PM peak hour would continue to operate at the same LOS as under future conditions. The project represents between 0.5 percent and 1.8 percent of the Future plus Project traffic volumes on the segments depending on location and direction. The project is projected to have no change in the MOE during the PM peak hour under the Future plus Project scenario.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

HAZARDOUS TRAFFIC CONDITIONS

IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN A HAZARDOUS TRAFFIC CONDITION ASSOCIATED WITH NEIGHBORHOOD PASS-THROUGH TRAFFIC.

Impact Analysis:

Traffic Intrusion into Residential Neighborhood

As discussed above, the traffic impact analysis provides a distribution of both residential and non-residential land use trips on the I-210 and I-605 freeways and on the City's road network, specifically:

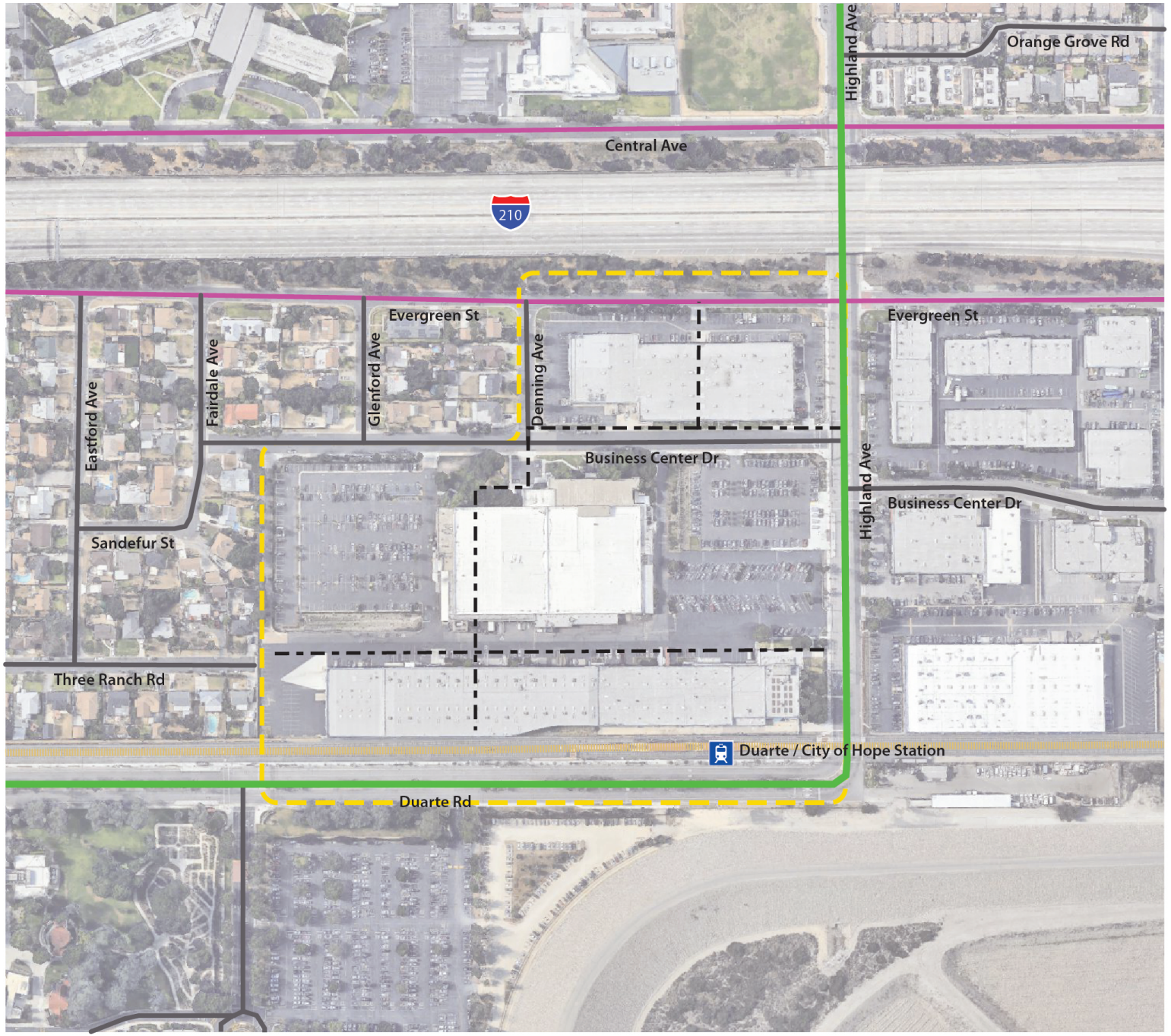
- Huntington Drive (Principal Arterial)
- Central Avenue (Collector)

- Evergreen Street (Collector)
- Business Center Drive (Local Street)
- Three Ranch Road (Local Street)
- Duarte Road (Principal Arterial)
- Mountain Avenue (Principal Arterial)
- Buena Vista Street (Minor Arterial)
- Village Road (Private Drive)
- Hope Drive (Private Drive)
- Duncannon Avenue (Local Street)
- Highland Avenue (Minor Arterial)
- Mt. Olive Drive (Collector)

The proposed Circulation Plan of the amended Duarte Station Specific Plan is shown in *Figure 5.4-2*. No trips were distributed to local streets (with the exception of at intersections with arterials or collectors), which include the residential streets located east of Buena Vista, south of Evergreen Street, north of Duarte Road, and generally west of Highland Avenue, as none of the streets within this residential neighborhood are identified as collector roadways. In addition, the local streets within these areas are not configured in a traditional grid pattern. Instead, the existing configuration includes Evergreen Street (Collector) that runs along the north side of the neighborhood from Brightside Avenue on the west to Highland Avenue (Minor Arterial) on the east. Within the neighborhood, the street network includes a number of cul-de-sacs or roadways that dead end into other streets, with five of the nine north-south streets west of the plan area providing direct connections between Evergreen Street (Collector) and Three Ranch Road (Local Street), which extends from Buena Vista Street on the west and terminates as a cul-de-sac on the east the Specific Plan boundary.

However, individual drivers could look for alternative ways to travel to/from the plan area throughout the day to avoid perceived congested roadways or intersections, which could include driving through the residential neighborhood. While no traffic impacts have been identified in this regard, to ensure that the adjacent residential neighborhood does not experience increased nuisance impacts from the proposed project—such as cut-through traffic, increased traffic volumes, or higher speeds on the local streets—Mitigation Measure TRF-3 includes the development and implementation of a Neighborhood Traffic Management Plan (NTMP), when deemed necessary by the City's Community Development Director and/or City Engineer. The NTMP would be warranted after the City has received a sufficient number of comments from neighborhood residents, which would be forwarded to the Traffic Safety Commission for review and recommendation.

The NTMP would identify measures to make local streets less attractive to through traffic, such as would identify measures to make local routes less attractive to through traffic, such as speed reduction measures, movement prohibitions, physical mitigations, and parking restrictions. The NTMP would be implemented on an area-wide basis with all affected parties, including neighborhood residents, planners, traffic engineers, and project applicants involved in development of the Plan. Improvements that could be considered include speed reduction measures speed tables and stop signs, movement prohibitions (e.g., restricted turns), physical measures (e.g., road narrowing, curb extensions), and parking controls. Development and compliance with the NTMP would reduce impacts to a less than significant level.



Circulation Plan

- Existing Local Road
- Existing Collector
- Existing Minor Arterial
- Internal Pathways*
- Specific Plan Area
- Metro: Gold Line

0 feet — 250 feet

N

* Not exact location of Internal Pathways; actual locations determined by site design.

Figure 5.4-2 Circulation Plan

Duarte Station Specific Plan Subsequent EIR

MIG

Mitigation Measures:

TRF-3 When deemed necessary by the City Community Development Director and/or City Engineer, the project applicant(s) shall prepare, implement, and fund a Neighborhood Traffic Management Plan (NTMP), which shall include three components: education, enforcement, and enhancement.

The educational component of the NTMP shall provide the community with a means of understanding traffic management tools and processes and also increase public awareness of the impact that traffic will have on the neighborhood. Educational efforts that could be implemented as part of the NTMP include, but are not limited to, the following:

- Coordination of neighborhood NTMP meetings
- Coordination of a speed watch program
- Coordination of the placement of temporary NTMP yard signs with volunteers
- Design and distribution of NTMP brochures
- Coordination of applicant and/or staff presentations to neighborhood groups

The enforcement component of the NTMP entails focusing law enforcement efforts to acknowledge areas of concern. Enforcement efforts that could be implemented as part of the NTMP include, but are not limited to, the following:

- Increased enforcement
- Real-time speed feedback signs
- Signage ("Entering residential neighborhood…")

The enhancement component of the NTMP consists of non-physical and physical transportation system improvements. Numerous traffic-calming devices may be selected by a neighborhood for placement on a street. Potential improvements that could be implemented by the applicant and/or City of Duarte as part of the NTMP include, but are not limited to, the following:

- Pavement marking/lane narrowing
- Temporary speed tables
- Neckdowns/bulbouts (extensions of curbs/corner sidewalks at an intersection)
- Choker/Chicane (chokers are build-outs added to a road to narrow it, while chicanes are sequences of tight serpentine curves designed to slow roadway traffic)
- Turn movement restrictions
- Diagonal intersection diverters
- Median barrier through intersection
- Forced turn island

Level of Significance: Less Than Significant Impact with Mitigation Incorporated.

CONFLICT WITH POLICIES, PLANS, OR PROGRAMS

IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN A DECREASE OF THE PERFORMANCE OR SAFETY OF PUBLIC TRANSIT, BICYCLE, OR PEDESTRIAN FACILITIES AS A RESULT OF A CONFLICT WITH ADOPTED POLICIES, PLANS, OR PROGRAMS.

Impact Analysis: The proposed project would not conflict with any of the following Circulation Element policies pertaining to public transit, bicycle, or pedestrian facilities:

- Circ 3.1.1 - Continue to promote the development of the MTA Gold Line and a Duarte Station.
- Circ 3.1.4 - Ensure that new developments incorporate both local and regional transit measures into the project design that promote the use of alternate modes of transportation.
- Circ 3.1.5 - Provide incentives for appropriate pedestrian and bicycle facilities throughout Duarte, particularly for bike lanes to the Gold Line Station.

Bus service and light rail service is currently provided within the project area. The transit-oriented nature of the proposed project adjacent to the Duarte/City of Hope Light Rail Station would encourage and support use of transit services in the area. Dedicated public parking spaces for Metro's Duarte/City of Hope Light Rail Station are proposed for The Residences at Duarte within the Specific Plan area. Implementation of the proposed project would also not interfere with the establishment of new or expanded bus routes within the area.

There are pedestrian facilities adjacent to the project site. Along the eastern edge of the project site (Highland Avenue), an approximately nine-foot sidewalk is present on the western side of Highland Avenue. Business Center Drive, which runs through the project site, has a six-foot sidewalk present on the southern side. There is no sidewalk present on the northern edge of the project site along Evergreen Street.

A six-foot-wide sidewalk is present on the southern side of Duarte Road between Mountain Avenue and 800 feet east of Hope Drive, where it abruptly ends. On the northern side of Duarte Road, an approximately 10-foot-wide sidewalk is present between Mountain Avenue and Highland Avenue. Pedestrian facilities improvements such as continuations of sidewalks, streetscape improvements, and installations of high-visibility crosswalks are planned along Duarte Road. New sidewalk construction on the southern side of Duarte Road between Hope Drive and East Circle Drive is currently grant funded.

The following improvements by the City of Duarte are also anticipated through the California Active Transportation Program:

- Evergreen Pedestrian Walkway – Sidewalk along the north side of Evergreen Street between Brightside Avenue and Highland Avenue
- Pedestrian / Bicyclist Connection Corridor – Pedestrian corridor south of the I-210 between Buena Vista Street and Brightside Avenue
- Central Pedestrian Walkway – Sidewalk along the south side of Central Avenue between Bradbury Avenue to Highland Avenue

- Pedestrian Underpass Connectivity – Advanced pedestrian lighting under the I-210 underpasses along Highland Avenue, Duncannon Avenue, and Buena Vista Avenue

There are currently no bicycle facilities within the project area. The proposed Specific Plan development standards include requirements for bicycle parking based building code requirements. Incorporation of bike racks is also encouraged.

In addition to the existing facilities, the City is planning to add other Class I, Class II, and Class III bicycle facilities in the project vicinity. Proposed Class I bicycle facilities include a bike path south of Duarte Road between Buena Vista Street and Village Road. Proposed Class II bicycle facilities include a bike lane on Buena Vista Street between Central Avenue and Royal Oaks Drive and on Highland Avenue between Evergreen Street and Royal Oaks Drive. Proposed Class III bicycle facilities include a bike route on Royal Oaks Drive east of Bradbury Avenue, on Central Avenue east of Buena Vista Street, on Evergreen Street between Duncannon Avenue and Highland Avenue, on Highland Avenue between Duarte Road and Evergreen Street, and on Buena Vista Street south of Central Avenue. The Specific Plan would not interfere with these plans.

The proposed project would encourage and support the use of public transit and other forms of transportation including bicycles. Additionally, the proposed project would provide pedestrian facilities that currently do not exist within the project area. Thus, implementation of the proposed project would not conflict with adopted policies, plans, or programs that would result in a decrease of the performance or safety of public transit, bicycle, or pedestrian facilities. Impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

IMPLEMENTATION OF THE PROPOSED PROJECT COULD CONFLICT WITH THE CONGESTION MANAGEMENT PROGRAM.

Impact Analysis: This section presents an analysis of potential impacts on the regional transportation system. This analysis was conducted in accordance with the procedures outlined in the Los Angeles County CMP (Metro, 2010). The CMP requires that, when an environmental impact report is prepared for a project, traffic and public transit impact analyses be conducted for select regional facilities based on the quantity of project traffic expected to use those facilities.

The CMP guidelines require that the first issue to be addressed is the determination of the geographic scope of the study area. The criteria for determining the study area for CMP arterial monitoring intersections and for freeway monitoring locations are:

- All CMP arterial monitoring intersections where a proposed project will add 50 or more trips during either the AM or PM peak hours of adjacent street traffic
- All CMP mainline freeway monitoring locations where a proposed project will add 150 or more trips, in either direction, during either the AM or PM peak hours

The CMP traffic impact analysis guidelines establish that a significant project impact occurs when the following threshold is exceeded:

- The proposed project increases traffic demand on a CMP facility by two percent of capacity (by a V/C ≥ 0.02), causing LOS F (V/C > 1.00)

If the facility is already at LOS F, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by two percent of capacity (by a V/C ≥ 0.02).

The closest CMP arterial monitoring station, the intersection of Azusa Avenue and Foothill Boulevard, is approximately 4.3 miles from the project site. The project is not expected to add 50 or more vehicle trips during the AM or PM peak hours in the eastbound and westbound directions at any of the study intersections in the northeastern boundary of the Study Area, much closer to the project site. Therefore, the project would not add more than 50 trips to the intersection of Azusa Avenue and Foothill Boulevard farther east, and no further arterial review using CMP criteria is required.

The CMP mainline freeway monitoring stations closest to the project site are I-210 at Highland Avenue and I-605 at Rivergrade Road. According to the trip generation estimates and trip distribution estimates for the proposed project, the project is projected to result in an increase of fewer than 150 trips in each direction for both the AM and PM peak hours at both of these locations. No further analysis of the freeway segments is required for CMP purposes.

Appendix C-8 of the 2010 CMP provides a methodology for estimating the number of transit trips expected to result from a proposed project based on the projected number of vehicle trips. This methodology assumes an average vehicle ridership factor of 1.4 in order to estimate the number of person trips to and from a project and then provides guidance regarding the percentage of person trips assigned to public transit depending on the type of use (commercial/other versus residential) and the proximity to transit services. Appendix C-8 of the 2010 CMP recommends summarizing the fixed-route local bus services within 0.25-mile of the project site and express bus routes and rail service within two miles of the project site.

Within 0.25-mile of the project site, Metro operates one local bus line and one light-rail line; Foothill transit operates two local lines; and Duarte Transit operates two local routes. There are no additional high-quality transit services within two miles of the project site.

As part of the trip generation estimates for the proposed project, a transit credit of 15 percent was taken for the project. This credit accounts for trips made to and from the project site using transit. The 15 percent transit credit is estimated to reduce project-generated trips by 87 vehicle trips during the AM peak hour and 101 during the PM peak hour on weekdays. Applying the average vehicle ridership factor of 1.4, the project would generate an estimated 122 transit riders in the AM peak hour and an estimated 142 transit riders in the PM peak hour.

The project location is well served by numerous established local and regional transit routes; therefore, project-related transit impacts are not expected to be significant. The headway service (i.e., time between vehicles in a transit system) for local routes are between 15 and 60 minutes during both peak periods, as seen in Table 2 in the Traffic Impact Study contained in Appendix D. The Metro Gold Line operates with a 7-minute headway during peak periods. An AM and PM capacity were determined based on AM and PM peak period headways and seating capacities of the various transit types. With a total estimated transit seating capacity of approximately 8,155 persons in the peak hour, the project's estimated transit riders of 122 in the AM peak hour and 142 in the PM peak hour would utilize approximately 1.5 percent of available transit capacity

during the AM peak hour and 1.7 percent during the PM peak hour. This is not considered a significant public transit impact.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.4.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES

DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS RELATED TO TRAFFIC AND CIRCULATION.

Impact Analysis: As previously stated, Future Year 2025 Without Project traffic volumes were derived by applying an annual growth rate of 0.46 percent per year be to existing traffic volume between 2018 and 2025 to account for background and cumulative growth. Additionally, Future Year 2025 Without Project volumes include the addition of trips associated with cumulative projects that are assumed to be constructed and generating trips by project opening (see *Chapter 4.0*). Thus, the analysis provided above within *Section 5.4.4* inherently includes cumulative impacts related to the identified cumulative projects within *Chapter 4.0*.

As concluded in *Section 5.4.4*, the proposed project would result in a cumulatively considerable traffic impacts at the following local intersections:

- Buena Vista Street/Duarte Road (AM and PM peak hour)
- I-210 westbound off-ramp and Central Avenue (AM and PM peak hours)
- Village Road and Duarte Road (PM peak hours)
- Highland Avenue/Huntington Drive (PM peak hour only)

However, implementation of mitigation measure TRF-2 would reduce impacts to a level considered less than significant for the Future Year 2025 With Project conditions, with the exception of the Buena Vista Street/Duarte Road intersection. Traffic impacts at this intersection would remain significant and unavoidable for Future Year 2025 because the mitigation measure analyzed for this intersection would not be feasible. Thus, the proposed project would result in a significant and unavoidable cumulative traffic impact.

As also determined in Section 5.4.4, the proposed project would not result in a cumulative considerable impact on off-ramp queuing or on mainline freeway segments. Impacts would be less than significant.

Given the nature and location of the identified cumulative projects, it is not anticipated that cumulatively considerable impacts related to hazardous traffic conditions would occur. The proposed project, in combination with identified cumulative projects, would not result in the creation of dangerous design features or hazardous intersections. Each project would undergo review by the applicable jurisdiction pursuant to mitigation measure TRF-1 to ensure that circulation and access components comply with existing City standards. TRF-3 would ensure that a Neighborhood Traffic Management Plan is required to address neighborhood complaints of traffic in the surrounding neighborhood of the Specific Plan area. Therefore, impacts would be less than significant.

Finally, cumulative projects within the City would be required to comply with the City's adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities on a project-by-project basis. Implementation of the proposed project would not impede the existing public transit, bicycle, or pedestrian facilities. Implementation of the Specific Plan would improve pedestrian walkability within the area, including the provision of sidewalks and paths connecting existing and proposed residential areas with the Duarte/City of Hope Light Rail Station. The proposed project would not conflict with any of the applicable policies of the Circulation Element pertaining to public transit, bicycle, or pedestrian facilities. The proposed project would encourage and improve accessibility to transit services. The proposed project would be consistent with the Los Angeles County CMP. Therefore, impacts would be less than significant.

Mitigation Measures: Refer to Mitigation Measures TRF-1 through TRF-3. No additional mitigation measures are required.

Level of Significance: Significant and Unavoidable Impact for impacts on Buena Vista Street/Duarte Road. All other impacts are Less Than Significant or Less Than Significant with Mitigation Incorporated.

5.4.6 SIGNIFICANT UNAVOIDABLE IMPACTS

With implementation of the proposed Duarte Station Specific Plan, significant unavoidable project and cumulative project impacts would occur at the following intersections:

- Buena Vista Street/Duarte Road

All other traffic and circulation impacts associated with implementation of the amended Duarte Station Specific Plan are either at less than significant levels or can be mitigated to less than significant levels.

If the City of Duarte approves the proposed Duarte Station Specific Plan, the City Council shall be required to cite their findings in accordance with *CEQA Guidelines* Section 15091 and prepare a Statement of Overriding Considerations in accordance with *CEQA Guidelines* Section 15093.

5.4.7 SOURCES CITED

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5.5 AIR QUALITY

This section describes the existing air quality setting in the vicinity of the project area, the regulatory framework necessary to evaluate potential environmental impacts resulting from the proposed project, and the potential impacts that could result from the project. Where necessary, this section identifies mitigation measures that would avoid or reduce the project's potentially significant air quality impacts. The methodologies and assumptions used in the preparation of this section follow the CEQA Guidelines developed by the South Coast Air Quality Management District (SCAQMD; SCAQMD 2017a). Information on existing air quality conditions, Federal and State ambient air quality standards, and pollutants of concern was obtained from the U.S. Environmental Protection Agency (U.S. EPA), California Air Resources Board (CARB), and SCAQMD. This air quality analysis has been closely coordinated with the greenhouse gas (GHG) analysis in Section 5.6 of this EIR. This analysis is based upon an *Air Quality and GHG Impact Analysis* report prepared for the project, as well as a *Health Risk Assessment Report,* which are contained in Appendix E, Air Quality/Greenhouse Gas Data, and Appendix E, Health Risk Assessment (MIG 2019a; MIG 2019b).

5.5.1 REGULATORY SETTING

FEDERAL

Federal Clean Air Act

The Federal Clean Air Act (CAA), as amended, provides the overarching basis for both Federal and State air pollution prevention, control, and regulation. The CAA establishes the U.S. EPA's responsibilities for protecting and improving the nation's air quality. The U.S. EPA oversees Federal programs for setting air quality standards and designating attainment status, permitting new and modified stationary sources of pollutants, controlling emissions of hazardous air pollutants, and reducing emissions from motor vehicles and other mobile sources. In 1971, to achieve the purposes of Section 109 of the CAA, the U.S. EPA developed primary and secondary National Ambient Air Quality Standards (NAAQS). Primary standards are designed to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and public welfare from air pollutants in the atmosphere.

The U.S. EPA requires each State to prepare and submit a State Implementation Plan (SIP) that consists of background information, rules, technical documentation, and agreements that an individual State will use to attain compliance with the NAAQS within federally imposed deadlines. State and local agencies implement the plans and rules associated with the SIP, but the rules are also federally enforceable.

STATE

California Clean Air Act

In addition to being subject to Federal requirements, air quality in the State is governed by more stringent regulations under the California Clean Air Act, which was enacted in 1988 to develop plans and strategies for attaining the California Ambient Air Quality Standards (CAAQS).

In California, both the Federal and State clean air acts are administered by the California Air Resources Board (CARB). CARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional level.

In-Use Off-Road Diesel Equipment Program

CARB's In-Use Off-Road Diesel Equipment regulation is intended to reduce emissions of nitrous oxides (NO_x) and particulate matter (PM) from off-road diesel vehicles, including construction equipment, operating within California. The regulation imposes limits on idling; requires reporting equipment and engine information and labeling all vehicles reported; restricts adding older vehicles to fleets; and requires fleets to reduce their emissions by retiring, replacing, or repowering older engines or installing exhaust retrofits for PM. The requirements and compliance dates of the off-road regulation vary by fleet size, and large fleets (fleets with more than 5,000 horsepower) must meet average targets or comply with Best Available Control Technology (BACT) requirements beginning in 2014. CARB has off-road anti-idling regulations affecting self-propelled diesel-fueled vehicles of 25 horsepower and up. The off-road anti-idling regulations limit idling on applicable equipment to no more than five minutes, unless exempted due to safety, operation, or maintenance requirements.

On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation

CARB's On-Road Heavy-Duty Diesel Vehicles (In-Use) regulation (also known as the Truck and Bus Regulation) is intended to reduce emission of NO_X, PM, and other criteria pollutants generated from existing on-road diesel vehicles operating in California. The regulation applies to nearly all diesel-fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds that are privately or federally owned, and for privately and publicly owned school buses. Heavier trucks and buses with a GVWR greater than 26,000 pounds must comply with a schedule by engine model year or owners can report to show compliance with more flexible options. Fleets complying with the heavier trucks and buses schedule must install the best available PM filter on 1996 model year and newer engines and replace the vehicle 8 years later. Trucks with 1995 model year and older engines had to be replaced starting in 2015. Replacements with a 2010 model year or newer engine meet the final requirements, but owners can also replace the equipment with used trucks that have a future compliance date (as specified in regulation). By 2023, all trucks and buses must have at least 2010 model year engines with few exceptions.

Stationary Diesel Engines – Emissions Regulations

In 1998, CARB identified Diesel Particulate Matter (DPM) as a Toxic Air Contaminant (TAC). To reduce public exposure to DPM, in 2000, CARB approved the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (Risk Reduction Plan) (CARB 2000). Integral to this plan is the implementation of control measures to reduce DPM such as the control measures for stationary diesel-fueled engines. As such, diesel generators must comply with regulations under CARB's amendments *to Airborne Toxic Control Measure for Stationary Compression Ignition Engines* and be permitted by the SCAQMD.

Air Quality and Land Use Handbook

In 1998, CARB identified particulate matter from diesel-fueled engines as a TAC. CARB's *Air Quality and Land Use Handbook* is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process (CARB 2005). The CARB handbook recommends that planning agencies consider proximity to air pollution sources when considering new locations for "sensitive" land uses, such as residences, medical facilities, daycare centers, schools, and playgrounds. Air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners, and large gasoline service stations. Key recommendations in the handbook relative to the project area include taking steps to consider or avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day
- Within 300 feet for gasoline fueling stations
- Within 300 feet of dry-cleaning operations (dry-cleaning with TACs is being phased out and will be prohibited in 2023). The SCAQMD (Regulation 14, Rule 21) has established emission controls for the use of perchloroethylene, the most common dry-cleaning solvent.

CARB prepared a technical supplement to the handbook, a *Technical Advisory on Strategies to Reduce Air Pollution Exposure Near High Volume Roadways* (CARB 2017), that provides recommendations for strategies to minimize exposure of the public to air pollutants due to proximity to high volume roadways, such as reducing traffic emissions and removing pollution from the air.

Air Toxics "Hot Spots" Program

"Air toxics" are a special class of air pollutants especially harmful to human health, and they include carbon monoxide (CO) and TACs. State requirements specifically address emissions of air toxics through Assembly Bill (AB) 1807 (known as the Tanner Bill) that established the State Air Toxics "Hot Spots" Program and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588) (California Health and Safety Code Section 44300 et seq.). Under the Air Toxics Hot Spots Information and Assessment Act of 1987 (or Air Toxics "Hot Spots" Act) and Air Toxics Hot Spots Program, the State (CARB) must collect data on toxic emissions from stationary sources (facilities) throughout the State and ascertain potential health risks that these emissions pose to members of community for developing cancer or for resulting in non-cancer health effects. California's Children's Environmental Health Protection Act of 1999 (California Health and Safety Code Section 39606), also requires explicit consideration of infants and children in assessing risks from air toxics.

Substances regulated under California's Air Toxics Hot Spots Program are defined in statute and include a list of substances developed by the following sources:

- International Agency for Research on Cancer (IARC)
- U.S. EPA
- U.S. National Toxicology Program (NTP)
- CARB Toxic Air Contaminant Identification Program List
- Hazard Evaluation System and Information Service (HESIS) (State of California)

- Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986) list of carcinogens and reproductive toxicants (State of California)
- Any additional substance recognized by the State Board as presenting a chronic or acute threat to public health when present in the ambient air

On May 6, 2005, the SCAQMD adopted a *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning* containing numerous recommendations focused on land use planning, such as locating sensitive receptors away from substantial sources of TACs and CO hot spots (e.g., high-traffic freeways and roads, distribution centers, refineries, etc.). When locating receptors near large generators of TAC emissions, the SCAQMD recommends conducting CO hot spot analyses and analyzing health risk for these new developments.

California's Office of Environmental Health Hazard Assessment (OEHHA) has developed procedures for performing "Health Risk Assessments" (HRA) to evaluate the "likelihood" of emissions of TACs to cause cancer or non-cancer effects (OEHHA 2015). An HRA can also be used to evaluate the impacts of TAC emissions of individual projects on the public, including the likelihood to cause cancer or non-cancer effects. Often these risks are evaluated for sensitive receptors (i.e., residents, including children), as these are the members of the public most sensitive to exposure to TACs.

OEHHA has striven to use the best science available in developing these risk assessment guidelines. However, there is a great deal of uncertainty associated with the process of risk assessment (OEHHA 2015). The uncertainty arises from lack of data in many areas necessitating the use of assumptions. The assumptions used in the guidelines are designed to err on the side of health protection to avoid underestimation of risk to the public (OEHHA 2015).

REGIONAL

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is a joint powers authority under California law, established as an association of local governments and agencies that voluntarily convene as a forum to address regional issues. SCAG encompasses the counties of Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial.

SCAG is designated as a Metropolitan Planning Organization (MPO) and as a Regional Transportation Planning Agency. Under Senate Bill (SB) 375, SCAG, as a designated MPO, is required to prepare a Sustainable Communities Strategy (SCS) as an integral part of its Regional Transportation Plan (RTP). On April 7, 2016, SCAG's Regional Council adopted the *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (2016 RTP/SCS). The 2016 RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. Information contained in Chapter 5: The Road to Greater Mobility and Sustainable Growth of the 2016 RTP/SCS forms the basis for the land use and transportation components of the *Air Quality Management Plan* (AQMP), and are utilized in the preparation of air quality forecasts and consistency analysis included in the AQMP.

SCAQMD Air Quality Management Plan

Under State law, SCAQMD is required to prepare an overall plan for air quality improvement, known as an AQMP. The purposed of an AQMP is to bring an air basin into compliance with Federal and State air quality standards. The SCAQMD 2016 AQMP was adopted on March 3, 2017 (SCAQMD 2017b). The 2016 AQMP provides new and revised demonstration's for how the SCAQMD, in coordination with Federal, State, regional, and local governments will bring the South Coast Air Basin (SCAB) back into attainment for the following NAAQS:

- 2008 8-hour Ozone
- 2012 Annual PM2.5
- 2006 24-hour PM2.5[1]
- 1997 8-hour Ozone
- 1997 1-hour Ozone

To achieve the reductions necessary to bring ambient air quality back into attainment, the SCAQMD has identified seven primary objectives for the AQMP:

1. Eliminating reliance on unknown future technology measures to demonstrate future attainment of air quality standards
2. Calculating and accounting for co-benefits associated with measures identified in other, approved planning efforts (e.g., SCAG's RTP/SCS)
3. Developing a strategy with fair-share emission reductions at the Federal, State, and local levels
4. Investing in strategies and technologies that meet multiple objectives regarding air quality, climate change, air toxic exposure, energy, and transportation – especially in disadvantaged communities
5. Seeking, identifying, and securing significant sources of funding for incentives to implement early deployment and commercialization of zero and near-zero technologies, particularly in the mobile source sector
6. Enhancing the socioeconomic analysis and selecting the most efficient and cost-effective path to achieve multi-pollutant and deadline targets
7. Prioritize non-regulatory, innovative approaches that can contribute to the economic vitality of the regional while maximizing emission reductions

The emission forecasts and demonstrations presented in the 2016 AMQP rely heavily on information contained in other planning and strategy documents. For example, the 2016 AQMP's long-term emissions inventory is based on the growth and land use(s) projections contained in the SCAG's 2016 RTP/SCS. Additionally, the conclusions relating to ozone compliance are based on implementation of measures presented in CARB's Mobile Source Strategy and SIP strategy. The Mobile Source Strategy outlines a suite of measures targeted at on-road light- and heavy-duty vehicles, off-road equipment, and Federal and international sources. A subset of the statewide strategy is a mobile source strategy for the South Coast SIP. Because the SCAQMD has limited authority in regulating mobile source emissions, coordination and cooperation between SCAQMD, CARB, and the U.S. EPA is imperative to meeting the oxides of nitrogen (NOx) reductions required to meet ozone standards. Although not

[1] Although the 2006 24-hour $PM_{2.5}$ standard was focused on in the 2012 AQMP, it has since been determined, primarily due to unexpected drought conditions, that it is impractical to meet the standard by the original attainment year. Since adoption of the 2012 AQMP, the U.S. EPA approved a re-classification to "serious" non-attainment for the standard, which requires a new attainment demonstration and deadline.

incorporated specifically from another planning document strategy, the 2016 AQMP also provides numerous control measures for stationary sources.

SCAQMD Rules and Regulations

The SCAQMD adopts rules that establish permissible air pollutant emissions and governs a variety of business, processes, operations, and products to implement the AQMP and the various Federal and State air quality requirements. In general, rules anticipated to be applicable during buildout of the proposed project include:

- **Rule 401 (Visible Emissions)** prohibits discharge into the atmosphere from any single source of emission for any contaminant for a period or periods aggregating more than three minutes in any one hour that is as dark or darker in shade than that designated as No. 1 on the Ringelmann Chart, as published by the U.S. Bureau of Mines.
- **Rule 402 (Nuisance)** prohibits discharges of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
- **Rule 403 (Fugitive Dust)** prohibits emissions of fugitive dust from any grading activity, storage pile, or other disturbed surface area if it crosses the project property line or if emissions caused by vehicle movement cause substantial impairment of visibility (defined as exceeding 20 percent capacity in the air). Rule 403 requires the implementation of Best Available Control Measures and includes additional provisions for projects disturbing more than five acres and those disturbing more than fifty acres.
- **Rule 445 (Wood Burning Devices)** prohibits installation of woodburning devices such as fireplaces and wood-burning stoves in new development unless the development is located at an elevation above 3,000 feet or if existing infrastructure for natural gas service is not available within 150-feet of the development. All fireplaces installed within the Proposed Project area will be natural gas fueled fireplaces.
- **Rule 481 (Spray Coating Operations)** imposes equipment and operational restrictions during construction for all spray painting and spray coating operations.
- **Rule 1108 (Cutback Asphalt)** prohibits the sale or use of any cutback asphalt containing more than 0.5 percent by volume organic compounds which evaporate at 260 degrees Celsius (°C), approximately 500 degrees Fahrenheit (°F), or lower.
- **Rule 1113 (Architectural Coatings)** establishes maximum concentrations of Volatile Organic Compounds (VOCs) in paints and other applications and establishes the thresholds for low-VOC coatings.
- **Rule 1143 (Consumer Paint Thinners and Multi-Purpose Solvents)** prohibits the supply, sale, manufacture, blend, package or repackage of any consumer paint thinner or multi-purpose solvent for use in the District unless consumer paint thinners or other multi-purpose solvents comply with applicable VOC content limits.
- **Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities)** specifies work practice requirements to limit asbestos emissions from building demolitions and renovation activities, including the removal and associated disturbance of asbestos containing materials. The requirements for demolition and renovation activities include asbestos surveying, notification, asbestos containing materials removal procedures and time schedules, asbestos containing materials handling and clean-up procedures, and storage, disposal, and land filling requirements for asbestos containing waste materials.
- **Rule 2202 (On-Road Motor Vehicle Mitigation Options)** provides employers with options to reduce mobile source emissions generated from employee commutes. The

rule applies to any employer who employs 250 or more employees on a full- or part-time basis at a worksite or a consecutive six-month period.

LOCAL

City of Duarte General Plan

The City's General Plan Open Space and Conservation Element establishes the following goals, objectives, and policies related to air quality that may be applicable to the proposed project:

Air Quality Goal 1: Create Land Use policies that address the relationship between land use and air quality to protect public health and minimize impacts on existing land use patterns and future land use developments.

Objective 1.1: Through land use plans provide heightened consideration of policies and strategies to minimize exposure of sensitive receptors and sites (e.g., schools, hospitals, and residences) to health risks related to air pollution.

Policy AQ 1.1.2: Promote and support mixed-use land patterns that allow the integration of retail, office, institutional and residential uses.

Objective 1.2: Reduce mobile source emissions by reducing vehicle trips and vehicle miles traveled associated with land use patterns.

Policy AQ 1.2.2: Create opportunities to receive State transportation funds by adopting incentives (e.g., an expedited review process) for planning and implementation infill development projects that include job centers and clean transportation nodes (e.g., preparation of a "transit village" plan).

Air Quality Goal 3: Achieve ambient levels of particulate matter that meet state and federal clean air standards.

Objective 3.1: Reduce the amount of fugitive dust that is re-entrained into the atmosphere from unpaved areas, parking lots, construction sites and nearby quarries.

Policy AQ 3.1.2: Cooperate with local, regional, state, and federal jurisdictions to better control fugitive dust from stationary, mobile, and area sources

Policy AQ 3.1.3: Ensure that vehicles do not transport aggregate or similar material upon a highway unless the material is stabilized or covered, in accordance with state law and AQMD regulations.

5.5.2 ENVIRONMENTAL SETTING

REGULATED AIR POLLUTANTS

The U.S. EPA has established NAAQS for six common air pollutants:

- Ozone (O_3)
- PM, which consists of "inhalable coarse" PM (particles with an aerodynamic diameter between 2.5 and 10 microns, or PM_{10}) and "fine" PM (particles with an aerodynamic diameter smaller than 2.5 microns, or $PM_{2.5}$)
- Carbon monoxide (CO)
- Nitrogen dioxide (NO_2)

- Sulfur dioxide (SO_2)
- Lead (Pb)

The U.S. EPA refers to these six common pollutants as "criteria" pollutants because the agency regulates the pollutants on the basis of human health and/or environmentally-based criteria because they are known to cause adverse human health effects and/or adverse effects on the environment (U.S. EPA 2019a, b). CARB has also established CAAQS for the six common air pollutants regulated by the CAA (the CAAQS are more stringent than the NAAQS), plus the following additional air pollutants:

- Hydrogen sulfide (H_2S)
- Sulfur oxides (SO_X)
- Vinyl chloride
- Visibility reducing particles due to their known adverse effects on human health or the environment (CARB 2019a)

A description of the air pollutants associated with the proposed project and its vicinity is provided below. Air pollutants not commonly associated with the existing or proposed sources in the vicinity of the project site, such as hydrogen sulfide, lead, and visibility reducing particles, are not described below.

- Ground-level ozone**, or smog,** is not emitted directly into the atmosphere. It is created from chemical reactions between NO_X and VOCs, also called Reactive Organic Gases (ROG), in the presence of sunlight (U.S. EPA 2017). Thus, ozone formation is typically highest on hot sunny days in urban areas with NO_X and ROG pollution. Ozone irritates the nose, throat, and air pathways and can cause or aggravate shortness of breath, coughing, asthma attacks, and lung diseases such as emphysema and bronchitis.
    - **ROGs** is a CARB term defined as any compound of carbon, excluding CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, and includes several low-reactive organic compounds which have been exempted by the U.S. EPA VOC definition (CARB 2004).
    - **VOCs** is a U.S. EPA term defined as any compound of carbon, excluding CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. The term exempts organic compounds of carbon which have been determined to have negligible photochemical reactivity such as methane, ethane, and methylene chloride (CARB 2004).
- **Particulate Matter**, also known as particle pollution, is a mixture of extremely small solid and liquid particles made up of a variety of components such as organic chemicals, metals, and soil and dust particles (U.S. EPA 2016a).
    - **PM_{10}**, also known as inhalable coarse, respirable, or suspended PM_{10}, consists of particles less than or equal to 10 micrometers in diameter (approximately $1/7^{th}$ the thickness of a human hair). These particles can be inhaled deep into the lungs and possibly enter the blood stream, causing health effects that include, but are not limited to, increased respiratory symptoms (e.g., irritation, coughing), decreased lung capacity, aggravated asthma, irregular heartbeats, heart attacks, and premature death in people with heart or lung disease (U.S. EPA 2016a).
    - **$PM_{2.5}$**, also known as fine PM, consists of particles less than or equal to 2.5 micrometers in diameter (approximately $1/30^{th}$ the thickness of a human hair). These particles pose an increased risk because they can penetrate the deepest

parts of the lung, leading to and exacerbating heart and lung health effects (U.S. EPA 2016a).

- **Carbon Monoxide (CO)** is an odorless, colorless gas that is formed by the incomplete combustion of fuels. At high concentrations, CO reduces the oxygen-carrying capacity of the blood and can aggravate cardiovascular disease and cause headaches, dizziness, unconsciousness, and even death (U.S. EPA 2016b).
- **Nitrogen Dioxide (NO_2)** is a by-product of combustion. NO_2 is not directly emitted but is formed through a reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_X and are major contributors to ozone formation. NO_2 also contributes to the formation of particulate matter. NO_2 can cause breathing difficulties at high concentrations (U.S. EPA 2016c).
- **Sulfur Dioxide (SO_2)** is one of a group of highly reactive gases known as SO_X. Fossil fuel combustion in power plants and industrial facilities are the largest emitters of SO_2. Short-term effects of SO_2 exposure can include adverse respiratory effects such as asthma symptoms. SO_2 and other SO_X can react to form PM (U.S. EPA 2016d).
- **Sulfates (SO_4^{2-})** are the fully oxidized ionic form of sulfur. SO_4^{2-} are primarily produced from fuel combustion. Sulfur compounds in the fuel are oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. Sulfate exposure can increase risks of respiratory disease (CARB 2009).

Common criteria air pollutants such as ozone precursors, SO_2, and PM are emitted by a large number of sources and have effects on a regional basis (i.e., throughout the SCAB). Other pollutants, such as hazardous air pollutants (HAPs), TACs (described in more detail below), and fugitive dust, are generally not as prevalent and/or emitted by fewer and more specific sources. As such, these pollutants have much greater effects on local air quality conditions and local receptors.

HAZARDOUS AIR POLLUTANTS/TOXIC AIR CONTAMINANTS

In addition to criteria air pollutants, the U.S. EPA and CARB have classified certain pollutants as HAPs and TACs, respectively. These pollutants can cause severe health effects at very low concentrations (non-cancer effects), and many are suspected or confirmed carcinogens (i.e., can cause cancer) (U.S. EPA 2019b, CARB 2019b). People exposed to HAPs/TACs at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects (U.S. EPA 2019b, CARB 2019b). These health effects can include damage to the immune system, as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and/or other health problems (U.S. EPA 2019b, CARB 2019b).

The U.S. EPA has identified 187 HAPs, including such substances as benzene and formaldehyde; CARB also considers particulate emissions from diesel-fueled engines and other substances to be TACs. Since CARB's list of TACs references and includes U.S. EPA's list of HAPs, this EIR uses the term TAC when referring to HAPs and TACs. A description of the TACs associated with the proposed project and its vicinity is provided below.

- **Gasoline-Powered Mobile Sources**. According to the SCAQMD's *Multiple Air Toxics Exposure Study in the South Coast Air Basin* (SCAQMD 2015a), or MATES IV, gasoline-powered vehicles emit TACs, such as benzene, which can have adverse health risks. Gasoline-powered sources emit TACs in much smaller amounts than diesel-powered vehicles. The MATES IV study identifies that diesel emissions account for between 68% to 80% of the total air toxics and cancer risk in the South Coast Air Basin.

- **Diesel Particulate Matter (DPM)**. Diesel engines emit both gaseous and solid material; the solid material is known as DPM. Almost all DPM is less than 1 µm in diameter, and thus is a subset of $PM_{2.5}$. DPM is typically composed of carbon particles and numerous organic compounds. Diesel exhaust also contains gaseous pollutants, including VOCs and NO_x. The primary sources of diesel emissions are ships, trains, trucks, rail yards and heavily traveled roadways. These sources are often located near highly populated areas, resulting in greater DPM related health consequences in urban areas. The majority of DPM is small enough to be inhaled into the lungs and what particles are not exhaled can be deposited on the lung surface and in the deepest regions of the lungs where the lung is most susceptible to injury. In 1998, CARB identified DPM as a TAC based on evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects. DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposure (CARB 2019c).

- **PM from Wheel-Rail Interaction**. PM may also be generated from friction between rail and locomotive wheels (wheel-rail interaction). This abrasion process can suspend metals such as iron, chromium, manganese, and copper in the form of PM (CARB 2019c, Loxham et al. 2013); however, the potential for PM to be generated is dependent on the weight of the train and the conditions of the wheels and track on which the train rides. The Metro Gold Line is commuter rail that consists of an Electric Multiple Unit locomotive system that is lighter than traditional diesel locomotive commuter and freight trains, and in new condition. Thus, while the Metro Gold Line may generate PM from wheel-rail interaction, this contribution is anticipated be minimal (i.e., would not have an appreciable effect on mass emission or health risk estimates); thus, this issue is not discussed further in this EIR.

SOUTH COAST AIR BASIN

CARB has geographically divided the State into 15 air basins for the purposes of managing air quality on a regional basis. An air basin is a CARB-designated management unit with similar meteorological and geographic conditions.

The City of Duarte is located in the SCAB, which includes Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside counties. The SCAB encompasses approximately 6,745 square miles of coastal plains and is bounded by the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east.

Basin Climate and Meteorology

The climate of the Los Angeles region is classified as Mediterranean, but weather conditions within the SCAB are dependent on local topography and proximity to the Pacific Ocean. The climate is dominated by the Pacific high-pressure system that results in generally mild, dry summers and mild, wet winters. This temperate climate is occasionally interrupted by extremely hot temperatures during the summer, Santa Ana winds during the fall, and storms from the Pacific Northwest during the winter. In addition to the SCAB's topography and geographic location, El Niño and La Niña patterns also have large effects on weather and rainfall received between November and March.

The Pacific high-pressure system drives the prevailing winds in the SCAB. The winds tend to blow onshore in the daytime and offshore at night. In the summer, an inversion layer is created over the coastal areas and increases ozone levels. A temperature inversion is created when a layer of cool air is overlain by a layer of warmer air; this can occur over coastal areas when cool, dense air that originates over the ocean is blown onto land and flows underneath the warmer, drier air that is present over land. In the winter, areas throughout the SCAB often experience a shallow inversion layer that prevents the dispersion of surface level air pollutants, resulting in higher concentrations of criteria air pollutants such as CO and NO_X.

In the fall months, the SCAB is often impacted by Santa Ana winds. These winds are the result of a high-pressure system over the Nevada-Utah region that overcomes the westerly wind pattern and forces hot, dry winds from the east to the Pacific Ocean. These winds are powerful and incessant. A strong Santa Ana wind can easily exacerbate fire conditions, resulting in worsening air quality throughout the SCAB, as smoke and ash are pushed into the region.

An El Niño is a warming of the surface waters of the eastern Pacific Ocean. It is a climate pattern that occurs across the tropical Pacific Ocean that is usually associated with drastic weather occurrences, including enhanced rainfall in Southern California. La Niña is a term for cooler than normal sea surface temperatures across the Eastern Pacific Ocean. The Los Angeles region receives less than normal rainfall during La Niña years.

Moderate temperatures, comfortable humidity, and limited precipitation characterize the climate in the SCAB. The average annual temperature varies little throughout the Basin, averaging 75°F. However, with a less pronounced oceanic influence, the eastern inland portions of the SCAB show greater variability in annual minimum and maximum temperatures.

Almost all areas within the SCAB have recorded temperatures over 100°F in recent years. Although the SCAB has a semiarid climate, the air near the surface is moist because of the presence of a shallow marine layer. Except for infrequent periods when dry air is brought into the SCAB by offshore winds, the ocean effect is dominant. Periods with heavy fog are frequent, and low stratus clouds, occasionally referred to as “high fog,” are a characteristic climate feature. Annual average relative humidity is 70% at the coast and 57% in the eastern part of the Basin. Precipitation is typically 9 to 14 inches annually and is rarely in the form of snow or hail because of typically warm weather. The frequency and amount of rainfall is greater in the coastal areas of the SCAB.

Based on historical data from a meteorological station in an adjacent jurisdiction, the City of Duarte’s average temperatures generally range from a high of 91.9°F in August to a low of 39.6°F in December. Annual precipitation is approximately 18.96 inches, falling mostly from November through April (WRCC 2019).

Ambient Air Quality Standards and Basin Attainment Status

In general, the NAAQS and CAAQS define “clean” air, which is established at levels designed to protect the health of the most sensitive groups in communities by defining the maximum amount of a pollutant (averaged over a specified period of time) that can be present in outdoor air without any harmful effects on people or the environment. Air pollutant levels are typically described in terms of concentration, which refers to the amount of pollutant material per volumetric unit of air. Concentrations are typically measured in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$).

The U.S. EPA, CARB, and regional air agencies assess the air quality of an area by measuring and monitoring the amount of pollutants in the ambient air and comparing pollutant levels against NAAQS and CAAQS. Based on these comparisons, regions are classified into one of the following categories:

- **Attainment.** A region is "in attainment" if monitoring shows ambient concentrations of a specific pollutant are less than or equal to the NAAQS or CAAQS. In addition, an area that has been re-designated from nonattainment to attainment is classified as a "maintenance area" for 10 years to ensure that the air quality improvements are sustained.

- **Nonattainment**. If the NAAQS or CAAQS are exceeded for a pollutant, the region is designated as nonattainment for that pollutant. It is important to note that some NAAQS and CAAQS require multiple exceedances of the standard in order for a region to be classified as nonattainment. Federal and State Laws require nonattainment areas to develop strategies, implementation plans, and control measures to reduce pollutant concentrations to levels that meet, or attain, standards.

- **Unclassified.** An area is unclassified if the ambient air monitoring data are incomplete and do not support a designation of attainment or nonattainment.

Table 5.5-1, Ambient Air Quality Standards and Basin Attainment Status summarizes SCAB's attainment status.

Table: 5.5-1
Ambient Air Quality Standards and Basin Attainment Status

Pollutant	Averaging Time[B]	California Standards[A]		National Standards[A]	
		Standard[C]	Attainment Status[D]	Standard[C]	Attainment Status[D]
Ozone	1-Hour (1979)	--	--	240 µg/m^3	Nonattainment
	1-Hour (Current)	180 µg/m^3	Nonattainment	--	--
	8-Hour (1997)	--	--	160 µg/m^3	Nonattainment
	8-Hour (2008)	--	--	147 µg/m^3	Nonattainment
	8-Hour (Current)	137 µg/m^3	Nonattainment	137 µg/m^3	Pending
PM_{10}	24-Hour	50 µg/m^3	Nonattainment	150 µg/m^3	Attainment
	Annual Average	20 µg/m^3	Nonattainment	--	--
$PM_{2.5}$	24-Hour	--	--	35 µg/m^3	Nonattainment
	Annual Average (1997)	--	--	15 µg/m^3	Nonattainment
	Annual Average (Current)	12 µg/m^3	Nonattainment	12 µg/m^3	Nonattainment
Carbon Monoxide	1-Hour	23,000 µg/m^3	Attainment	40,000 µg/m^3	Attainment
	8-Hour	10,000 µg/m^3	Attainment	10,000 µg/m^3	Attainment
Nitrogen Dioxide	1-Hour	339 µg/m^3	Attainment	188 µg/m^3	Unclassifiable/ Attainment
	Annual Average	57 µg/m^3	Attainment	100 µg/m^3	Attainment

Table: 5.5-1
Ambient Air Quality Standards and Basin Attainment Status

Pollutant	Averaging Time[B]	California Standards[A]		National Standards[A]	
		Standard[C]	Attainment Status[D]	Standard[C]	Attainment Status[D]
Sulfur Dioxide	1-Hour	655 µg/m^3	Attainment	196 µg/m^3	Attainment
	24-Hour	105 µg/m^3	Attainment	367 µg/m^3	Unclassifiable/ Attainment
	Annual Average	--	--	79 µg/m^3	Unclassifiable/ Attainment
Lead	3-Months Rolling	--	--	0.15 µg/m^3	Nonattainment (Partial)
Hydrogen Sulfide	1-Hour	42 µg/m^3	Attainment	--	
Sulfates	24-Hour	25 µg/m^3	Attainment	--	
Vinyl Chloride	24-Hour	26 µg/m^3	Attainment	--	

Source: CARB 2016, SCAQMD 2016a, modified by MIG.

(A) This table summarizes the CAAQS and NAAQS and the SCAB's attainments status (as of January 2018). This table does not prevent comprehensive information regarding the CAAQS and NAAQS. Each CAAQS and NAAQS has its own averaging time, standard unit of measurement, measurement method, and statistical test for determining if a specific standard has been exceeded. Standards are not presented for visibility reducing particles, which are not concentration-based. The Basin is unclassified for visibility reducing particles.

(B) Ambient air standards have changed over time. This table presents information on the standards previously used by the U.S. EPA for which the SCAB does not meet attainment.

(C) All standards are shown in terms of micrograms per cubic meter (µg/m^3) rounded to the nearest whole number for comparison purposes (with the exception of lead, which has a standard less than 1 µg/m^3). The actual CAAQS and NAAQS standards specify specific units for each pollutant measurement.

(D) A= Attainment, N= Nonattainment, U=Unclassifiable.

LOCAL AIR QUALITY CONDITIONS

The SCAQMD monitors air quality within the SCAB. Existing levels of ambient air quality and historical trends within the project area are best documented by measurements taken by the SCAQMD. The station closest to Duarte is identified as the East San Gabriel Valley 1 Station (Station #060) by SCAQMD (CARB refers to this station as Azusa). The station is located less than three miles east of Duarte's boundary and monitors CO, O_3, NO_2, PM_{10} and $PM_{2.5}$. This monitoring station represents the best approximation of the air quality conditions within the City.

Table 5.5-2, Local Air Quality Conditions (2015-2017) summarizes the published monitoring data from East San Gabriel Valley 1 monitoring station from 2015 to 2017, the three most recent years for which verified, published data are available from the SCAQMD (2018 data were not available as of the time of writing of this EIR). Table 5.5-2 shows that air quality standards at this location have been exceeded for $PM_{2.5}$, PM_{10}, and O_3. This is consistent with the entire SCAB's classification as non-attainment for $PM_{2.5}$, PM_{10}, and O_3. As shown in Table 5.5-2:

- The maximum 1-hour and 8-hour CO concentration generally decreased from 2014 to 2016. There were no days in which CO standards were exceeded during this time period.

- The maximum 1-hour NO_2 concentration generally increased from 2014 to 2016, while the average annual NO_2 concentration generally decreased. There were no days in which NO_2 standards were exceeded during this time period.
- The maximum 1-hour and 8-hour O_3 concentration, as well as the number of days exceeding O_3 standards, generally increased from 2014 to 2016.
- The maximum 24-hour and average annual PM_{10} concentration fluctuated during the 2014 to 2016 period but there were no days/years in which the Federal PM_{10} standards were exceeded. The State PM_{10} annual standard was exceeded in 2014, 2015, and 2016; however, the annual average PM_{10} concentration and the number of days exceeding the state 24-hour standard generally decreased over this time period.
- The maximum 24-hour and average annual $PM_{2.5}$ concentration fluctuated during the 2014 to 2016 period but there were no years in which the Federal or State $PM_{2.5}$ annual average standards were exceeded. The Federal 24-hour $PM_{2.5}$ was exceeded once in 2015.

EXISTING PLAN AREA EMISSIONS

As described in Chapter 3.0, Project Description, the existing land uses in the project area consist of three parcels developed with industrial uses totaling approximately 313,955 square feet and a fourth parcel developed as a surface parking lot for the Metro Gold Line station. These existing land uses generate emissions from the following sources:

- **Small "area" sources.** Existing land uses in the project area generate emissions from small area sources including landscaping equipment and the use of consumer products, such as pains, cleaners, and fertilizers, that result in result in the evaporation of chemicals into the atmosphere during product use.
- **Energy use and consumption.** Existing land uses in the project area generate emissions from the combustion of natural gas in water and space heating equipment, as well as industrial processes.
- **Mobile sources.** Existing land uses in the project area generate emissions from vehicles traveling to and from sites.

Existing emissions were estimated using the California Emissions Estimator Model, or CalEEMod, Version 2016.3.2. Existing emissions were estimated using default data assumptions provided by CalEEMod, with the following project-specific modifications:

- The default acreage and square footage for each land use type were adjusted to reflect the actual project area as currently developed.
- The weekday default trip generation rates for the existing land use types were replaced with trip generation rates contained in the *Transportation Impact Study* (TIS) prepared for the proposed project (57.96 trips plus 3.79 trips/day/1,000 square feet for general light industrial land use in a suburban/urban setting) (Fehr & Peers 2019).
- Emissions for criteria air pollutants for existing land uses are summarized in *Table 5.5-3, Existing Emissions in the Project Area*.

Table 5.5-2
Local Air Quality Conditions (2015-2017)

Pollutant	Ambient Air Standard	Year(A)		
		2015	2016	2017
Ozone (O_3)				
Maximum 1-hour Concentration (ppm)		0.122	0.146	0.152
Maximum 8-hr Concentration (ppm)		0.096	0.106	0.114
Number of Days Exceeding State 1-hr Standard	>180 µg/m3	21	30	38
Number of Days Exceeding State 8-hr Standard	>137 µg/m3	28	40	62
Days Exceeding Federal 1-hr Standard	>0.124 ppm	0	4	7
Days Exceeding Federal 8-hr Standard	>0.070 ppm	27	39	62
Carbon Monoxide (CO)				
Maximum 1-hr Concentration (ppm)		2.1	1.3	1.8
Maximum 8-hr Concentration (ppm)		1.3	1.2	0.9
Days Exceeding State 1-hr Standard	>23,000 µg/m^3	--	--	--
Days Exceeding Federal/State 8-hr Standard	>10,000 µg/m^3	--	--	--
Days Exceeding Federal 1-hr Standard	>40,000 µg/m^3	--	--	--
Nitrogen Dioxide (NO_2)				
Maximum 1-hr Concentration (ppb)		71.0	74.2	65.6
Annual Arithmetic Mean Concentration (ppb)		15.4	16.6	15.8
Days Exceeding State 1-hr Standard	>180 µg/m^3	--	--	--
Coarse Particulate Matter (PM_{10})				
Maximum 24-hr Concentration (µg/m^3)		101	74	83
Annual Arithmetic Mean (µg/m^3)		37.1	33.7	31.4
Samples Exceeding State 24-hr Standard	>50 µg/m^3	12	12	6
Samples Exceeding Federal 24-hr Standard	>150 µg/m^3	0	0	0
Fine Particulate Matter ($PM_{2.5}$)				
Maximum 24-hr Concentration (µg/m^3)		44.3	32.17	24.9
Annual Arithmetic Mean (µg/m^3)		9.4	10.15	10.42
Samples Exceeding Federal 24-hr Standard	>35 µg/m^3	1	0	0

Source: SCAQMD 2019a, 2019b, 2019c
(A) "--" indicates data are not available.

Table 5.5-3
Existing Emissions in the Project Area

Emissions Source	Maximum Daily Pollutant Emissions (Pounds Per Day) (A)					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Area	6.6	<0.0(C)	<0.0(C)	0.00	<0.0(C)	<0.0(C)
Energy	0.1	0.9	0.7	<0.0(C)	0.1	0.1
Mobile	3.1	15.2	45.0	0.14	10.7	3.0
Total(B)	***9.8***	***16.1***	***45.8***	***0.15***	***10.8***	***3.0***

Source: MIG 2019a (see Appendix E).

(A) Emissions estimated using CalEEMod, V 2016.3.2. Estimates are based on default model assumptions unless otherwise noted. Maximum daily ROG, CO, and SO_2 emissions occur during the summer. Maximum daily NO_X, PM_{10}, and $PM_{2.5}$ emissions occur during the winter.

(B) Totals may not equal due to rounding.

(C) "<0.0" does not indicate the emissions are less than or equal to 0; rather, it indicates the emission is smaller than 0.1 but larger than 0.00.

SENSITIVE RECEPTORS

Both CARB and the SCAQMD consider residences, schools, parks and playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes to be sensitive air quality land uses and receptors (SCAQMD 2017a; CARB 2005). The potential sensitive air quality receptors adjacent or in close proximity to the perimeter of the project area (i.e., within 1,000 feet) are summarized in *Table 5.5-4*, *Sensitive Receptors*.

Table 5.5-4
Air Quality Sensitive Receptors

Type of Receptor	Location	Distance from Project Site	Direction from Project Site
Residential	Along Business Center Drive, Denning Avenue, and Glenford Avenue	70	North
	Along Orange Grove Road	740	North, across the I-210
	Along Fairdale Avenue and 3 Ranch Road	30	West
School	Northview Intermediate School	700	North
	Duarte High School	700	Northwest
Public Park	Northview Park	700	North
	Pioneer Park	600	Southwest

5.5.3 SIGNIFICANCE THRESHOLD CRITERIA

METHODOLOGY

Construction

Mass daily combustion emissions, fugitive PM_{10} and $PM_{2.5}$, and off-gassing emissions were calculated using the CalEEMod, as recommended by the SCAQMD. CalEEMod separates the construction process into multiple phases, including demolition and site clearing, grading, trenching, paving, building construction, and architectural coating. Construction emissions account for on-site construction equipment emissions, haul truck trips, and worker commute trips. Construction activities were based upon construction scheduling and other preliminary construction details provided by the City. Where appropriate, CalEEMod defaults were utilized. CalEEMod assumptions are provided in Appendix E, Air Quality/Greenhouse Gas Data.

Operations

The CalEEMod software was also used to quantify the daily emissions from mobile and area sources that would occur during long-term operation of the proposed project. Mobile source emissions calculations in CalEEMod were supplemented with traffic trips within the TIS. Area source emissions were quantified using CalEEMod default emissions and exclude emissions from wood burning fireplaces and stoves. The significance threshold in the SCAQMD's *CEQA Air Quality Handbook* were used for evaluating the impacts associated with the implementation of the proposed project. The SCAQMD has established mass daily thresholds for regional pollutant emissions, as shown in *Table 5.5-5*, *SCAQMD Regional Emission Significance Thresholds*.

Table 5.5-5
SCAQMD Regional Emission Significance Thresholds

Air Contaminant	Construction (Maximum Pounds Per Day)	Operation (Maximum Pounds Per Day)
NO_X	100	55
VOC	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_X	150	150
CO	550	550
Lead	3	3
Source: SCAQMD 2019d.		

Localized Significance Thresholds

In addition to establishing thresholds of significance for emissions of criteria air pollutants on a regional level, the SCAQMD has also developed Localized Significance Thresholds (LSTs) that represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable Federal or State ambient air quality standards, which would result in significant adverse localized air quality impacts. The LST methodology

takes into account a number of factors, including: (1) existing ambient air quality in each Source Receptor Area (SRA); (2) how many acres the project would disturb in a day; and (3) how far project construction and operational activities would take place from the nearest sensitive receptor. Unlike the regional emission significance thresholds presented in Table 5.5-5, LSTs have only been developed for NOx, CO, PM_{10} and $PM_{2.5}$. The construction and operational LSTs for one-acre, two-acre, and five-acre sites in SRA 9 (East San Gabriel Valley), the SRA in which the City of Duarte is located, are shown in *Table 5.5-6*, *SCAQMD Localized Significance Thresholds for Receptor Area 9*.

Carbon Monoxide "Hot Spot" Thresholds

Historically, to determine whether a project poses the potential for a CO hotspot, the quantitative CO screening procedures provided in the *Transportation Project-Level Carbon Monoxide Protocol* (the Protocol) were used (UCD ITS 1997). The Protocol determines a project may worsen air quality if the project increases the percentage of vehicles in cold start modes by two percent or more; significantly increases traffic volumes by five percent or more; or worsens traffic flow, defined for signalized intersections as increasing average delay at intersections operating at level of service (LOS) E or F or causing an intersection that would operate at LOS D or better without the project, to operate at LOS E or F. With new vehicles and improvements in fuels resulting in fewer emissions, the retirement of older polluting vehicles, and new controls and programs, CO concentrations have declined dramatically in California. As a result of emissions controls on new vehicles, the number of vehicles that can idle and the length of time that vehicles can idle before emissions would trigger a CO impact has increased, so the use of LOS as an indicator is no longer applicable for determining CO impacts.

SCAQMD does not have a methodology for screening CO hotspots. However, the Bay Area Air Quality Management District (BAAQMD) developed a screening-level analysis for CO hotspots in 2010 which finds that projects that are consistent with the applicable congestion management program, and that do not cause traffic volumes at affected intersections to increase to more than 44,000 vehicles per hour, would not result in a CO hotspot that could exceed State or Federal air quality standards (BAAQMD 2017 pg. 3-4). To mirror this approach, SCAQMD performed CO modeling as part of its 2003 AQMP at four busy intersections during morning and evening peak hour periods. The busiest intersection studied in the analysis—Wilshire Boulevard and Veteran Avenue—had 8,062 vehicles per hour during morning peak hours, 7,719 vehicles per hour during evening peak hours, and approximately 100,000 vehicles per day. The 2003 AQMP estimated that the 1-hour CO concentration for this intersection was 4.6 ppm, which is less than a fourth of the 1-hour CAAQS CO standard (20 ppm) (SCAQMD 2003a). Thus, the BAAQMD screening threshold is generally consistent with the results of the CO modeling conducted for the SCAQMD's 2003 AQMP.

Therefore, for purposes of this EIR, the project would pose the potential for a CO hotspot if it would exceed the BAAQMD's screening traffic level for peak hour intersection traffic volumes (44,000 vehicles per hour) (thereby having the potential to result in CO concentrations that exceed 1-hour State [20 ppm], 1-hour Federal [35 ppm], and/or State and Federal 8-hour [9 ppm] ambient air quality standards for CO).

Table 5.5-6
SCAQMD Localized Significance Thresholds for Source Receptor Area 9

Pollutant Monitored	Maximum Allowable Emissions (Pounds per Day) as a Function of Receptor Distance (in Feet) from Site Boundary				
	82 Feet	164 Feet	328 Feet	656 Feet	1,640 Feet
ONE-ACRE SITE					
Construction Thresholds					
Nitrogen Oxides (NO_x)	89	112	159	251	489
Carbon Monoxide (CO)	623	945	1,914	4,803	20,721
Particulate Matter (PM_{10})	5	14	34	75	199
Particulate Matter ($PM_{2.5}$)	3	5	9	22	94
Operational Thresholds					
Nitrogen Oxides (NO_x)	89	112	159	251	489
Carbon Monoxide (CO)	623	945	1,914	4,803	20,721
Particulate Matter (PM_{10})	2	4	9	19	48
Particulate Matter ($PM_{2.5}$)	1	2	3	6	23
TWO-ACRE SITE					
Construction Thresholds					
Nitrogen Oxides (NO_x)	128	151	200	284	513
Carbon Monoxide (CO)	953	1,344	2,445	5,658	22,093
Particulate Matter (PM_{10})	7	22	42	84	207
Particulate Matter ($PM_{2.5}$)	5	7	12	26	100
Operational Thresholds					
Nitrogen Oxides (NO_x)	128	151	200	284	513
Carbon Monoxide (CO)	953	1,344	2,445	5,658	22,093
Particulate Matter (PM_{10})	2	6	11	20	50
Particulate Matter ($PM_{2.5}$)	2	2	3	7	25
FIVE-ACRE SITE					
Construction Thresholds					
Nitrogen Oxides (NO_x)	203	227	286	368	584
Carbon Monoxide (CO)	1,733	2,299	3,680	7,600	25,558
Particulate Matter (PM_{10})	14	43	63	105	229
Particulate Matter ($PM_{2.5}$)	8	11	17	35	116
Operational Thresholds					
Nitrogen Oxides (NO_x)	203	227	286	368	584
Carbon Monoxide (CO)	1,733	2,299	3,680	7,600	25,558
Particulate Matter (PM_{10})	4	11	16	26	55
Particulate Matter ($PM_{2.5}$)	2	3	5	9	28

Source: SCAQMD 2009, modified by MIG 2019
Note: The localized thresholds for NOx in this table account for the conversion of NO to NO_2. The emission thresholds are based on NO_2 levels, as this is the compound associated with adverse health effects.

Toxic Air Contaminant Thresholds

The SCAQMD recommends preparation of an HRA for large commercial or industrial projects to determine the specific health risks posed by long-term emissions of TACs from a project. Following OEHHA and SCAQMD guidance, health risks from TAC emissions are estimated based on "Individual Cancer Risk," which is the likelihood that a person exposed to TACs over 70-year lifetime will get cancer or suffer some other "non-cancer" effect (measured by what is called as a "hazard index"). Numerous weighting factors (e.g., age sensitivity factors, breathing rates, etc.) are applied during health risk calculations to account for those members of the public who may be more sensitive to pollution than others (e.g., sensitive receptors). A project is considered to have a significant impact if it results in any of the following:

- A maximum incremental cancer risk greater than or equal to 10 in one million; or
- A chronic or acute hazard index greater than or equal to 1.0.

The California Supreme Court in *California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal.4th 369 (2015) ruled CEQA review is focused on a project's impact on the environment "and not the environment's impact on the project." The opinion also holds that when a project has "potentially significant exacerbating effects on existing environmental hazards" those impacts are properly within the scope of CEQA because they can be viewed as impacts of the project on "existing conditions" rather than impacts of the environment on the project. The Supreme Court provided the example of a project that threatens to disperse existing buried environmental contaminants that would otherwise remain undisturbed. The Court concluded that it is proper under CEQA to undertake an analysis of the dispersal of existing contaminants because such an analysis would be focused on how the project "would worsen existing conditions." The court also found that the limited number of express CEQA provisions that require analysis of the impacts of the existing environment on a project—such as impacts associated with school siting and airports—should be viewed as specific statutory exceptions to the general rule that such impacts are not properly within CEQA's scope.

In another recent Supreme Court Ruling—*Sierra Club v. County of Fresno* 6 Cal. 5th 502 (2018)—the Supreme Court held that CEQA requires a Lead Agency to make a reasonable effort to provide an appropriate, project-specific context and connection between mass pollutant emissions estimates (i.e., pounds per day or tons per year) and the potential health impacts associated with such emissions estimates, or to explain what is and is not yet known about the Project's "bare" emissions numbers and their potential adverse health impacts.

Consistent with these court rulings, the impact discussion presented below focuses on the proposed Project's effect on air quality and existing health risks, rather than the effect of existing air quality and its potential risks on the proposed project's residents. The analysis evaluates whether the proposed project would create or exacerbate adverse public health risk conditions at sensitive receptor locations, as identified in the SCAQMD's CEQA significance criteria.

CEQA SIGNIFICANCE CRITERIA

The issues presented in the Initial Study Environmental Checklist (*CEQA Guidelines* Appendix G) have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Conflict with or obstruct implementation of the applicable air quality plan

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

- Expose sensitive receptors to substantial pollutant concentrations (i.e., carbon monoxide hot spots or TACs)

- Result in other emissions (such as those leading to odor) adversely affecting a substantial number of people

Based on these significance thresholds and criteria, the project's effects have been categorized as either "no impact," a "less than significant impact," or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

The standards used to evaluate the significance of impacts are often qualitative rather than quantitative because appropriate quantitative standards are either not available for many types of impacts or are not applicable for some types of projects.

5.5.4 PROJECT IMPACTS AND MITIGATION MEASURES

CONSISTENCY WITH THE SCAQMD AQMP

IMPLEMENTATION OF THE PROPOSED SPECIFIC PLAN COULD CONFLICT WITH THE SCAQMD 2016 AIR QUALITY MANAGEMENT PLAN.

Impact Analysis: The proposed project site is within the SCAB, which is under the jurisdiction of the SCAQMD. Pursuant to the methodology provided in Chapter 12 of the SCAQMD *CEQA Air Quality Handbook*, consistency with the AQMP is affirmed if the project:

1) Is consistent with the growth assumptions in the AQMP; and
2) Does not increase the frequency or severity of an air quality standards violation or cause a new one.

Consistency with Criterion 1 refers to the growth forecasts and associated assumptions included in the 2016 AQMP. The 2016 AQMP was designed to achieve attainment for all criteria air pollutants within the Basin while still accommodating growth in the region. Projects that are consistent with the AQMP growth assumptions would not interfere with attainment of air quality standards, because this growth is included in the projections used to formulate the AQMP. Therefore, if the growth under the project is consistent with the regional population, housing, and employment forecasts identified by SCAG in the RTP/SCS, plan implementation would be consistent with the AQMP, even if emissions could potentially exceed the SCAQMD's recommended daily emissions thresholds.

The proposed Specific Plan includes land use designations that support development of up to 1,400 dwelling units, accommodating a population of up to 4,242 residents. The plan area would also support approximately 383 employees. The 2016 RTP/SCS population and employment projections for the City of Duarte, as well as the population and employment that would occur

with the implementation of the proposed Specific Plan, are shown in *Table 5.5-7*, *RTP/SCS and Specific Plan Growth Assumptions*.

Table 5.5-7
RTP/SCS and Specific Plan Growth Assumptions

Scenario	Population	Employment
Proposed Project		
Duarte Station Specific Plan	*4,242*	*383*
Other City Projects		
Duarte Town Center Specific Plan	3,180	577
City of Hope Campus Plan	--	1,841
Total Growth	**7,422**	**2,801**
RTC/SCS Growth 2012 - 2040	**2,800**	**1,800**
Within Growth Assumptions?	**No**	**No**
Source: SCAG 2016, City of Duarte 2019.		

As shown in *Table 4.3-6*, implementation of the proposed project, along with other City projects that have been approved, would exceed the growth assumptions contained in the AQMP. As such, the proposed Specific Plan would result in growth in the City that is inconsistent with the underlying assumptions used to develop strategies in the AQMP to bring the SCAB into attainment for criteria air pollutants. As such, implementation of the proposed Specific Plan would conflict with the SCAQMD 2016 AQMP with regard to the first criterion.

Consistency Criterion 2 refers to the CAAQS and NAAQS. As described in the following discussion under "Cumulatively Considerable Increase in Non-Attainment Pollutants," the SCAB is designated nonattainment for national and State O_3 standards, national and State $PM_{2.5}$ standards, and national PM_{10} standards. The analysis of potential buildout emissions under the following discussion indicates buildout of the Specific Plan would not result in the emission of criteria air pollutants that would exceed SCAQMD regional or LST thresholds after the implementation of Mitigation Measure AIR-2A and AIR-2B. In developing its CEQA significance thresholds the SCAQMD considered the emission levels at which a project's individual emissions would be cumulatively considerable (SCAQMD 2003b; page D-3). Since the proposed Specific Plan would not exceed the SCAQMD regional or LST thresholds, the project would be consistent with the second criterion.

Although the proposed Specific Plan would not exceed the SCAQMD's regional and LST significance thresholds after the implementation of Mitigation Measures AIR-2A and AIR-2B, the overall growth facilitated under buildout conditions would exceed those accounted for in the AQMP. Since buildout of the Specific Plan would ultimately increase the total mass emission of criteria air pollutants in the SCAB, the project would conflict with the implementation of the SCAQMD 2016 AQMP. This impact would be significant and unavoidable even with the incorporation of feasible mitigation measures.

CUMULATIVELY CONSIDERABLE INCREASE IN NON-ATTAINMENT POLLUTANTS

IMPLEMENTATION OF THE PROPOSED SPECIFIC PLAN COULD RESULT IN A CUMULATIVELY CONSIDREABLE INCREASE IN NON-ATTAINMENT CRITERIA AIR POLLUTANTS.

Development pursuant to the proposed updated Specific Plan would generate short-term construction and long-term operational emissions of regulated air pollutants (i.e., criteria air pollutants and TACs). These emissions would be released to the ambient air and disperse according to the topographic and meteorological influences that prevail near the Specific Plan area and in the greater SCAB (see Section 5.5.2).

Although future projects occurring within the plan area would be guided by the goals and policies outlined in the updated Duarte Station Specific Plan and the City's General Plan, the City's adoption of the proposed Specific Plan would neither authorize nor permit any individual projects to move forward at this time. Nonetheless, the City has prepared an air quality analysis that focuses on the nature and magnitude of the change in the air quality environment due to implementation and build-out of the proposed Specific Plan. The SCAQMD has not adopted plan-level significance thresholds. The SCAQMD and/or CARB monitor levels of criteria air pollutant concentrations in ambient air to evaluate attainment of CAAQS and NAAQS; the significance of the net change in criteria air pollutant emissions that the implementation of the Specific Plan could emit during construction and operation is evaluated below by comparing the potential levels of emissions from these activities against the SCAQMD's regional and localized significance thresholds (see *Table 5.5-5* and *Table 5.5-6*, above). As explained under the preceding analysis, the SCAQMD, in developing its CEQA significance thresholds, considered the emission levels at which a project's individual emissions would be cumulatively considerable (SCAQMD 2003b; page D-3). The SCAQMD considers projects that result in emissions that exceed its CEQA significance thresholds to result in individual impacts that are cumulatively considerable and significant.

Neither the SCAQMD nor CARB conducts regular and routine monitoring of TACs because most TACs do not have an established ambient air quality standard against which ambient air concentrations can be compared[2]; however, TAC emissions could result in local effects if substantial concentrations were to occur at sensitive receptor locations as a result of the proposed project. The proposed project's TAC emissions are discussed under the "Exposure Sensitive Receptors to Substantial Pollutant Concentrations" discussion, below.

Construction Emissions

Regional Construction Emissions. Implementation of the updated Duarte Station Specific Plan would lead to new uses in, and redevelopment of, the plan area. These development activities would take place over two phases. Phase 1, which would begin in 2020, consists of developing the two middle parcels with approximately 700 apartment units, 1,348 parking garage spaces, and 6,250 square feet of retail / commercial use. Phase 2 would consist of developing the northern and southernmost parcels with an additional 700 apartment units, 6,250 square feet of retail commercial use, and 100,000 square feet of commercial space. Although it is unknown

[2] Ambient air quality standards have been adopted for lead and vinyl chloride, both of which are TACs; however, these pollutants are monitored at far fewer locations than criteria air pollutants like ozone precursor and PM. In addition, the SCAQMD does periodically conduct monitoring and modeling of TAC emissions sources; however, these efforts are usually source specific.

when construction of Phase 2 would begin, it is anticipated Phase 2 would be operational by 2025. As such, this analysis assumes construction of Phase 2 would begin in 2022, approximately two years after construction of Phase 1 has begun.

Construction during both phases would generally involve demolition, site preparation, grading, building construction, paving, and architectural coating (i.e., painting) activities. Fugitive dust (PM_{10}) emissions would typically be greatest during building demolition, site preparation, and grading due to the disturbance of soils and transport of material. NOx and other emissions would also result from the combustion of diesel fuels used to power off-road heavy-duty pieces of equipment (e.g., backhoes, bulldozers, excavators, etc.) and worker, vendor, and other construction-related vehicle trips. The types and quantity of equipment, as well as duration of construction activities, would be dependent on project specific conditions.

To determine if anticipated construction activities could result in a significant air quality impact, construction emissions were modeled for both phases using CalEEMod v. 2016.3.2. CalEEMod utilizes construction survey data to estimate construction phase lengths and equipment needs based on the geographic area of a project site. Specific Plan construction emission estimates for Phase 1 and 2 are presented in *Table 5.5-8*, *Unmitigated Regional Specific Plan Construction Emissions Estimates*.

Table 5.5-8
Unmitigated Regional Specific Plan Construction Estimates

Emissions Source	Daily Pollutant Emissions (lbs/day)[A]					
	VOC[B]	NO_X	CO	SO_X	PM_{10}[C]	$PM_{2.5}$[C]
Phase 1						
Year 1	6.5	42.5	53.5	0.2	10.5	5.9
Year 2	**162.9**[D]	35.7	50.3	0.2	10.3	3.5
SCAQMD Construction Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Emissions Exceed Thresholds?	***Yes***	***No***	***No***	***No***	***No***	***No***
Phase 2						
Year 3	4.4	37.2	38.6	0.1	8.9	5.4
Year 4	**244.4**	22.2	36.7	0.1	7.4	2.5
SCAQMD Construction Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Emissions Exceed Thresholds?	***Yes***	***No***	***No***	***No***	***No***	***No***

CO = carbon monoxide; VOC = volatile organic compounds; NO_X = nitrogen oxides; PM_{10} = particulate matter smaller than 10 microns; $PM_{2.5}$ = particulate matter smaller than 2.5 microns

Notes:

(A) Emissions were calculated using CalEEMod, as recommended by the SCAQMD. Estimates are based on default model assumptions unless otherwise noted. Maximum daily CO and SO_2 emissions occur during the summer. Maximum daily ROG, NO_X, PM_{10}, and $PM_{2.5}$ emissions occur during the winter.

(B) VOC emissions are calculated with low VOC coatings pursuant to SCAQMD Rule 1113. CalEEMod does not include this as a mitigation option for construction.

(C) The reduction/credits for construction emission mitigations are based on mitigation included in the CalEEMod model and as typically required by the SCAQMD through Rule 403. This rule requirement is captured in CalEEMod as "mitigation" for watering three times per day.

(D) Values in **bold** reflect emissions estimates that exceed SCAQMD thresholds.

Refer to Appendix E, Air Quality/Greenhouse Gas Data, for assumptions used in this analysis.

As shown in *Table 5.5-8,* the maximum daily construction emissions generated by the Duarte Station Specific Plan would be below applicable SCAQMD regional thresholds for all pollutants except for VOC in the second year of construction in Phases 1 and 2 (Years 2 and 4, respectively), when peak architectural coating (e.g., paint) application activities would occur. This is considered a potentially significant impact.

To reduce potential VOC emissions generated during coating application activities to below SCAQMD threshold, the City would require applicants to implement Mitigation Measure AIR-2A, which requires the use of SCAQMD Rule 1113 "super compliant" coating with a lower VOC content than what is currently required by standard Rule 1113 requirements. Whereas the current Rule 1113 requirements provide coatings shall meet 50 grams of VOC per liter of coating, Mitigation Measure AIR-2A requires the preparation of a Coating Restriction Plan (CRP) demonstrating that all interior and exterior residential and non-residential architectural coatings used in Project construction meet the SCAQMD "super compliant" coating VOC content standard of less than 10 grams of VOC per liter of coating. As shown in *Table 5.5-9*, *Mitigated Regional Specific Plan Construction Estimates*, Mitigation Measure AIR-2A would substantially reduce VOC emissions during coating application activities.

Table 5.5-9
Mitigated Regional Specific Plan Construction Estimates

Emissions Source	Daily Pollutant Emissions (lbs/day)[A]					
	VOC[B]	NO_X	CO	SO_X	PM_{10}[C]	$PM_{2.5}$[C]
Phase 1						
Year 1	6.5	42.5	53.5	0.2	10.5	5.9
Year 2	39.3	35.7	50.3	0.2	10.3	3.5
SCAQMD Construction Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Emissions Exceed Thresholds?	***No***	***No***	***No***	***No***	***No***	***No***
Phase 2						
Year 3	4.4	37.2	38.6	0.1	8.9	5.4
Year 4	49.4	22.2	36.7	0.1	7.4	2.5
SCAQMD Construction Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Emissions Exceed Thresholds?	***No***	***No***	***No***	***No***	***No***	***No***

CO = carbon monoxide; VOC = volatile organic compounds; NO_X = nitrogen oxides; PM_{10} = particulate matter smaller than 10 microns; $PM_{2.5}$ = particulate matter smaller than 2.5 microns

Notes:

A. Emissions were calculated using CalEEMod, as recommended by the SCAQMD. Estimates are based on default model assumptions unless otherwise noted. Maximum daily CO and SO_2 emissions occur during the summer. Maximum daily ROG, NO_X, PM_{10}, and $PM_{2.5}$ emissions occur during the winter.

B. VOC emissions are calculated with low VOC coatings pursuant to SCAQMD Rule 1113. CalEEMod does not include this as a mitigation option for construction.

C. The reduction/credits for construction emission mitigations are based on mitigation included in the CalEEMod model and as typically required by the SCAQMD through Rule 403. This rule requirement is captured in CalEEMod as "mitigation" for watering three times per day.

Refer to Appendix E, Air Quality/Greenhouse Gas Data, for assumptions used in this analysis.

As shown in *Table 5.5-9*, the maximum daily construction emissions generated by the proposed Duarte Station Specific Plan would be below the SCAQMD's regional construction emission thresholds with the inclusion of Mitigation Measure AIR-2A. Thus, the mitigation measure ensures the Duarte Station Specific Plan's regional construction emissions would have a less-than-significant impact.

Localized Construction Emissions. The Specific Plan's maximum daily construction emissions for Phases 1 and 2 are compared against the SCAQMD's-recommended LSTs in *Table 5.5-10*, *Construction Emissions Localized Significance Thresholds Analysis*. Consistent with the SCAQMD's LST methodology, the emissions in the construction LST analysis are on-site emissions only, and the LST thresholds against which potential on-site emissions are compared against are based on the project size, in acres, as determined using the specific equipment list generated by CalEEMod, and the equipment estimates contained in the SCAQMD's *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds* (SCAQMD 2016b).[3] The LST thresholds are for SRA 9 (East San Gabriel Valley), the SRA in which the proposed project is located, and are based on a receptor distance of 25 meters (82 feet), the closest LST receptor distance threshold recommended for use by the SCAQMD.

Based on the use of three rubber-tired dozers and four crawler tractors during the site preparation phase (for both Phase 1 and Phase 2), potential on-site construction emissions were estimated against the SCAQMD's thresholds for a 3.5-acre project size. The emissions are presented in *Table 5.5-10*, *Construction Localized Significance Thresholds Analysis*, include the application of dust control measures commensurate with SCAQMD Rule 403, as described above under the regional construction emissions discussion.

Table 5.5-10
Construction Emissions Localized Significance Thresholds Analysis

Emissions Source	Daily Pollutant Emissions (lbs/day)[A]			
	NO_X	CO	PM_{10}[B]	$PM_{2.5}$[B]
Phase 1				
Demolition	33.2	21.8	3.9	1.9
Site Preparation	42.4	21.5	9.2	5.9
Grading	26.4	16.1	3.8	2.5
Building Construction – Year 1	19.2	16.8	1.1	1.1
Building Construction – Year 2	17.4	16.6	1.0	0.9
Paving	12.9	14.7	0.7	0.6
Architectural Coating	1.5	1.8	0.1	0.1
SCAQMD Construction LST Thresholds	*163.1*	*1,330.9*	*10.6*	*6.3*
Emissions Exceed Thresholds?	***No***	***No***	***No***	***No***
Phase 2				
Demolition	25.7	20.6	5.1	1.7
Site Preparation	33.1	19.7	8.7	5.4
Grading	20.9	15.3	3.5	2.2
Building Construction – Year 3	15.6	16.4	0.8	0.8
Building Construction – Year 4	14.4	16.2	0.7	0.7
Paving	10.2	14.6	0.5	0.5
Architectural Coating	1.3	1.8	0.1	0.1
SCAQMD Construction Thresholds	*163.1*	*1,330.9*	*10.6*	*6.3*
Emissions Exceed Thresholds?	***No***	***No***	***No***	***No***

[3] According to the SCAQMD's *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds*, the maximum number of acres disturbed on the peak day of use per crawler tractor, grader, and rubber tired dozer is 0.5 acres per 8 hour day, while the maximum number of acres disturbed on the peak day of use per scraper is 1 acre per 8 hour day.

Table 5.5-10
Construction Emissions Localized Significance Thresholds Analysis

Notes:
A. Emissions were calculated using CalEEMod, as recommended by the SCAQMD. Estimates are based on default model assumptions unless otherwise noted. Maximum daily CO and SO_2 emissions occur during the summer. Maximum daily ROG, NO_X, PM_{10}, and $PM_{2.5}$ emissions occur during the winter.
B. The reduction/credits for construction emission mitigations are based on mitigation included in the CalEEMod model and as typically required by the SCAQMD through Rule 403. This rule requirement is captured in CalEEMod as "mitigation" for watering three times per day.

Refer to Appendix E, Air Quality/Greenhouse Gas Data, for assumptions used in this analysis.

As shown in *Table 5.5-10*, the maximum daily on-site emissions generated during project construction would not exceed the SCAQMD's recommended construction LST thresholds. Thus, this impact would be less than significant.

Operational Emissions

Regional Operational Emissions. The Specific Plan area is currently occupied by light industrial land uses. Under buildout of the Specific Plan, these land uses would be converted to residential, commercial, and retail land uses. Overall, implementation of the Specific Plan would remove 313,955 square feet of light industrial land use and add 1,400 dwelling units, 12,500 square feet of commercial/retail space, and 100,000 square feet of office space.

Buildout of the Specific Plan would result in long-term regional emissions of criteria air pollutants and ozone precursors associated with the operation of area sources, energy sources, and mobile sources. Area source emissions, which are widely distributed and made of many small emissions sources (e.g., landscaping equipment, consumer products, painting operations, etc.), were modeled according to the size and type of land use proposed. Energy sources, which include natural gas combustion for heating and other purposes, were also modeled based on the size and type of build-out land uses included in the Specific Plan. Mobile-source emissions were modeled based on the daily vehicle trips that would result from the proposed Specific Plan. The net change in emissions of regulated air pollutants that would occur with implementation of the Specific Plan was modeled using CalEEMod, V. 2016.3.2. The net change in operational emissions for the project was modeled based on the Specific Plan's horizon year (2025), using default data assumptions provided by CalEEMod, with the following project-specific modifications:

- **Land Use Development:** The default acreage and square footage for proposed development intensities within the plan area was adjusted to reflect proposed development conditions (considering allowable floor-to-area ratio, acreage in the plan area, etc.). Consistent with the TIS prepared by Fehr and Peers for the proposed Specific Plan, the 12,500 square feet of commercial/retail space was split evenly between "High Turnover (Sit Down Restaurant)" for commercial land use and "Strip Mall" for the retail land use.
- **Area Sources:** Woodstoves and hearths were excluded pursuant to SCAQMD Rule 445.
- **Energy Use and Consumption:** The residential default electrical energy intensity values were adjusted downward by a factor of 0.47 to reflect increased energy efficiency and solar photovoltaic requirements of the 2019 energy code (CEC, 2018). Similarly, the non-residential default light energy intensity values were adjusted downward by a factor of 0.7 to reflect increased lighting efficiency in the 2019 energy code.

- **Mobile Sources:** The default weekday trip generation rates for existing land use types were replaced with trip generation rates contained in the TIS prepared for the Duarte Station Specific Plan (Fehr & Peers, 2019). According to the TIS, the proposed land uses generate approximately 7,457 total daily vehicle trips per weekday. Default weekend trip rates were scaled based on the difference in weekday trip generation between CalEEMod and the TIS. As estimated using CalEEMod, the existing, light industrial land uses in the plan area generate approximately 3,884,754 annual vehicle miles travelled, or VMT (see Appendix E).

The net change in operational emissions that would be generated by buildout of the proposed Specific Plan are shown in *Table 5.5-11*, *Unmitigated Regional Operational Emissions Estimates*.

Table 5.5-11
Unmitigated Regional Operational Emissions Estimates

Emissions Source	Daily Pollutant Emissions (lbs/day)(A)					
	VOC(B)	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Existing Emissions (2019)						
Area Sources	6.6	<0.0(C)	<0.0(C)	0.00	<0.0(C)	<0.0(C)
Energy Sources	0.1	0.9	0.7	<0.0(C)	0.1	0.1
Mobile Sources	3.1	15.2	45.0	0.14	10.7	3.0
Total Emissions(C)	*9.8*	*16.1*	*45.8*	*0.15*	*10.8*	*3.0*
Specific Plan Buildout Emissions (2025)						
Area Sources	34.1	22.2	124.4	0.1	2.3	2.3
Energy Sources	0.6	5.4	2.6	<0.0(C)	0.4	0.4
Mobile Sources	*11.0*	*48.5*	*145.9*	*0.6*	*52.8*	*14.4*
Total Emissions(C)	*45.8*	*76.1*	*272.9*	*0.7*	*55.6*	*17.2*
Net Change in Emissions Levels						
Area Sources	*27.5*	*22.2*	*124.4*	*0.1*	*2.3*	*2.3*
Energy Sources	*0.5*	*4.5*	*1.9*	<0.0(C)	*0.3*	*0.3*
Mobile Sources	*7.9*	*33.3*	*100.9*	*0.5*	*42.1*	*11.4*
Total Emissions(C)	*36.0*	*60.0*	*227.1*	*0.6*	*44.8*	*14.2*
SCAQMD CEQA Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Emissions Exceed Thresholds?	***No***	***Yes***	***No***	***No***	***No***	***No***

Notes:
A. Emissions were calculated using CalEEMod, as recommended by the SCAQMD. Estimates are based on default model assumptions unless otherwise noted. Maximum daily CO and SO_2 emissions occur during the summer. Maximum daily ROG, NO_X, PM_{10}, and $PM_{2.5}$ emissions occur during the winter.
B. VOC emissions are calculated with low VOC coatings pursuant to SCAQMD Rule 1113. CalEEMod does not include this as a mitigation option.
C. "<0.0" does not indicate the emissions are less than or equal to 0; rather, it indicates the emission is smaller than 0.1 but larger than 0.00.
Refer to Appendix E, Air Quality/Greenhouse Gas Data, for assumptions used in this analysis.

As shown in *Table 5.5-11*, the modeled, maximum daily operational emissions associated with build-out of the Specific Plan do not exceed the SCAQMD's recommended regional pollutant thresholds for all criteria air pollutant emissions, except NOx. The increase in NOx, as well as other mobile source emissions, is attributable to the increase in VMT that would occur with implementation of the Specific Plan. As described in Section 5.5.2, the SCAB is designated nonattainment for national and State ozone standards, and NOx is an ozone precursor pollutant. Therefore, the potential increase in NOx emissions that could occur with buildout of the Specific Plan is considered a potentially significant impact.

As shown in *Table 5.5-11*, the increase in regional NOx emissions anticipated to occur under buildout conditions would primarily come from area and mobile sources. Area sources account for approximately 37 percent of NOx emissions, and mobile sources account for approximately 56 percent. The NOx emissions from areas sources are specifically attributable to additional natural gas consumption and combustion associated with operation of the gas fireplaces that would be located in the approximately 1,400 apartment units. The increase in NOx emissions from mobile sources is attributable to the increase in VMT that would occur under increased land use development intensity in the Plan area.

The TIS prepared for the project indicates the default land use trip generation rates were reduced to reflect: the characteristics of the street system servicing the project site; accessibility of routes to and from the project site; locations of commercial centers to which residents of the project would be drawn; and locations of the residential area from which other persons would be drawn (Fehr & Peers, 2019). Overall, these characteristics are estimated to reduce annual VMT by approximately 22.5 percent compared to standard trip generation rates.

To reduce the amount of NOx emissions generated by the proposed project, the City would implement Mitigation Measure AIR-2B, which requires project applicants to demonstrate the proposed apartment land uses do not include gas fireplaces in more than 60 percent of the apartment units proposed. By reducing the number of fireplaces, there would be fewer units that could use natural gas to heat the unit via operation of the fireplace, and, as a result, NOx emissions from that area source would also be reduced. *Table 5.5-12*, *Mitigated Regional Operational Emissions Estimates*, presents the proposed Specific Plan's estimated operational emissions after the application Mitigation Measure AIR-2B.

As shown in *Table 5.5-12*, implementation of Mitigation Measure AIR-2B would reduce area source NOx emissions from approximately 22.2 lbs/day to approximately 15.3 lbs/day, which brings the Plan area's net NOx emissions to 53.1 lbs/day; approximately two lbs/day below the SCAQMD threshold. Therefore, after the implementation of Mitigation Measure AIR-2B, this impact would be less than significant.

Table 5.5-12
Mitigated Regional Operational Emissions Estimates

Emissions Source	Daily Pollutant Emissions (lbs/day)[A]					
	VOC[B]	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Existing Emissions (2019)						
Area Sources	6.6	<0.0[C]	<0.0[C]	0.00	<0.0[C]	<0.0[C]
Energy Sources	0.1	0.9	0.7	<0.0[C]	0.1	0.1
Mobile Sources	3.1	15.2	45.0	0.14	10.7	3.0
Total Emissions[C]	*9.8*	*16.1*	*45.8*	*0.15*	*10.8*	*3.0*
Specific Plan Buildout Emissions (2025)						
Area Sources	33.3	15.3	121.5	0.1	1.8	1.8
Energy Sources	0.6	5.4	2.6	<0.0[C]	0.4	0.4
Mobile Sources	*11.0*	*48.5*	*145.9*	*0.6*	*52.8*	*14.4*
Total Emissions[C]	*44.9*	*69.2*	*270.0*	*0.7*	*55.0*	*14.4*
Net Change in Emissions Levels						
Area Sources	26.7	15.3	121.5	0.1	1.8	1.8
Energy Sources	0.5	4.5	1.9	0.0	0.3	0.3
Mobile Sources	7.9	33.3	100.9	0.5	42.1	11.4
Total Emissions[C]	35.1	53.1	224.2	0.6	44.2	13.6
SCAQMD CEQA Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Emissions Exceed Thresholds?	***No***	***No***	***No***	***No***	***No***	***No***

Notes:
A. Emissions were calculated using CalEEMod, as recommended by the SCAQMD. Estimates are based on default model assumptions unless otherwise noted. Maximum daily CO and SO_2 emissions occur during the summer. Maximum daily ROG, NO_X, PM_{10}, and $PM_{2.5}$ emissions occur during the winter.
B. ROG emissions are calculated with low VOC coatings pursuant to SCAQMD Rule 1113. CalEEMod does not include this as a mitigation option.
C. "<0.0" does not indicate the emissions are less than or equal to 0; rather, it indicates the emission is smaller than 0.1 but larger than 0.00.

Refer to Appendix E, Air Quality/Greenhouse Gas Data, for assumptions used in this analysis.

Localized Operational Emissions. The project's maximum daily operational emissions are compared against the SCAQMD's-recommended LSTs in *Table 5.5-13*, *Operational Emissions Localized Significance Thresholds Analysis*. Consistent with the SCAQMD's LST methodology, the emissions included in the operational LST analysis are on-site emissions only, and the LST thresholds against which these on-site emissions are compared are based on the average project size, in acres. The LST thresholds are for SRA 9 (East San Gabriel Valley), the SRA in which the project is located, and are based on a receptor distance of 25 meters (82 feet), the closest LST receptor distance threshold recommended for use by the SCAQMD.

Table 5.5-13
Operational Emissions Localized Significance Thresholds Analysis

Emissions Source[A]	Daily Pollutant Emissions (lbs/day)[B]			
	NO_X	CO	PM_{10}[B]	$PM_{2.5}$[B]
Total Area Emissions	15.3	121.5	1.8	1.8
Total Energy Emissions	5.4	2.6	0.4	0.4
Total On-site Mobile Emissions[C]	*4.9*	*14.6*	*5.3*	*1.4*
Total On-site Emissions in Plan area	*25.6*	*138.7*	*7.5*	*3.6*
Average Emissions per Acre[D]	1.3	7.3	0.4	0.2
SCAQMD LST Thresholds	*91*	*664*	*1*	*1*
Emissions Exceed Thresholds?	***No***	***No***	***No***	***No***

Notes:
A. See *Table 5.5-12*.
B. Emissions presented are worst-case and may reflect summer or winter emissions levels. In general, due to rounding, there is no difference between summer and winter levels for the purposes of this table.
C. Total on-site emissions are equal to 10% of the total mobile emissions estimated in *Table 5.5-12.*
D. The Plan area is approximately 19.08 acres in size
E. LST threshold is based on a 1.0-acre project size and 25-meter receptor distance. See *Table 5.5-6*.

Refer to Appendix E, Air Quality/Greenhouse Gas Data, for assumptions used in this analysis.

As shown in *Table 5.5-13*, the total emissions from all on-site operational activities within the plan area would be below the SCAQMD's recommended LST threshold for a one-acre project for all pollutants. The radius of a one-acre circle is approximately 25 meters. Therefore, the emissions occurring within one acre of the plan area would not subject a sensitive receptor within 25 meters of the plan area to criteria air pollutant emissions in excess of the LSTs. The use of one-acre LSTs at a distance of 25 meters is considered a conservative approach, since they are the lowest LST values applicable within the plan area (see *Table 5.5-6*). This impact would be less than significant.

Mitigation Measures

Mitigation Measure AIR-2A: The City shall require applicants comply with South Coast Air Quality Management District Rule 1113 to reduce VOC emissions from architectural coating applications. Prior to the issuance of a building permit for the Project, the Applicant shall submit, to the satisfaction of the Planning Division, a Coating Restriction Plan (CRP), consistent with South Coast Air Quality Management District (SCAQMD) guidelines. The applicant shall include in any construction contracts and/or subcontracts a requirement that project contractors adhere to the requirements of the CRP. The CRP shall include a requirement that all interior and exterior residential and non-residential architectural coatings used in project construction meet the SCAQMD "super compliant" coating VOC content standard of less than 10 grams of VOC per liter of coating. The CRP shall also specify the use of high-volume, low pressure spray guns during coating applications to reduce coating waste.

Requirements and Timing: Applicant shall receive Planning Division approval of a Coating Restriction Plan (CRP) prior to receipt of building permits.
Monitoring: City Planning staff shall conduct site inspections to ensure that the CRP is followed during construction.

Mitigation Measure AIR-2B: The City shall require all apartment buildings in the plan area be constructed such that no more than 60 percent of units in the structure have fireplaces (natural gas or otherwise). This requirement shall be included in all engineering diagrams and any construction contracts and/or subcontracts. The City Building Department shall review all plans sets to ensure all apartment structures are designed to this specification.

Requirements and Timing: The Building Department shall review and approve all plan sets prior to receipt of building permits.
Monitoring: City Planning staff shall conduct site inspections to ensure apartment structures are being built to this mitigation requirement.

EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS

IMPLEMENTATION OF THE PROPOSED PROJECT WOULD NOT EXPOSE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS.

Impact Analysis Buildout of the proposed Specific Plan could expose existing and new sensitive receptors to substantial concentrations of criteria air pollutants and TAC emissions that pose adverse health effects; however, as described in more detail below, these emissions would be less than significant with standard environmental review practices.

CO Hotspots

Based on the TIS prepared for the Project (see Appendix E), the maximum number of vehicles moving through any study analysis zone would be substantially below the screening threshold of 44,000 vehicles per hour for a CO hotspot analysis (See Section 5.5.3). Therefore, the project would not cause or significantly contribute to CO concentrations that exceed State or Federal ambient air quality standards for CO. This impact would be less than significant.

Asbestos

Pursuant to guidance issued by the Governor's Office of Planning and Research, State Clearinghouse, lead agencies are encouraged to analyze potential impacts related to naturally occurring asbestos. Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by State, Federal, and international agencies and was identified as a TAC by CARB in 1986.

Asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed.

Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in the counties of the Sierra Nevada foothills, the Klamath

Mountains, and Coast Ranges. According to the Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report* (dated August 2000), the proposed project is not located in an area where naturally occurring asbestos is likely to be present. Therefore, impacts would be less than significant.

It is also possible that asbestos-containing materials may exist within older existing buildings that may be modified or demolished. Therefore, the possibility exists that asbestos fibers may be released into the air should no asbestos assessment or removal (if needed) take place prior to demolition. Standard practice pursuant to SCAQMD Rule 1403 is to conduct an asbestos assessment for candidate buildings to determine the presence of asbestos. If identified, an asbestos abatement contractor would be retained to develop an abatement plan and remove the asbestos containing materials, in accordance with local, State, and Federal requirements. After removal, demolition may proceed without significant concern to the release of asbestos fibers into the air. Also refer to Section 5.8, Hazards and Hazardous Materials, for additional discussion of asbestos and asbestos-containing materials.

Fugitive Dust and DPM Emissions

The proposed project would have the potential to expose existing sensitive receptors present within and near the project area to fugitive dust and DPM during construction and operation. Construction activities associated with the Project would have the potential to generate fugitive dust and emissions of DPM, a TAC, which could impact sensitive air quality receptors. Operation of the project would generate vehicle DPM emissions in the area, also having the potential to impact sensitive receptors.

In addition, portions of the plan area range from approximately 110 feet to 1,000 feet south of the I-210, an existing local source of DPM emissions.[4] Development associated with Phase 1 of the Duarte Station Specific Plan would result in the placement of new sensitive residential receptors within approximately 430 feet of I-210, and development associated with Phase 2 would have the potential to place new sensitive residential receptors within 110 feet of I-210 as well. Pursuant to the California Supreme Court's decision in *CBIA v. BAAQMD*, an analysis of whether the proposed Project would exacerbate the existing health risks associated with I-210 vehicle emissions is also required.

According to the SCAQMD's MATES IV Carcinogenic Risk Map, the existing cancer risk on either side of I-210 in the project vicinity (south and north of I-210) is 1,340 and 1,127, respectively (i.e., there is a probability of 1,340 and 1,127 cases of cancer out of a population of one million) (SCAQMD 2018a). These cancer risks are orders of magnitude higher than the SCAQMD's significance threshold of 10 cases in one million for cancer risk. These estimates, however, are based upon regional modeling efforts that largely do not account for site specific emission rates and dispersion characteristics that typically result in refined and substantially lower health risk estimates. Therefore, potential health risks associated with vehicle emissions along I-210 in the project vicinity were calculated (see below and Appendix E).

[4] Gasoline and diesel-fueled vehicles travelling on I-210 would emit other TACs besides DPM; however, these other TACs would be emitted in much lower quantities than DPM. In addition, the SCAQMD's MATES IV study continues to identify DPM as the primary contributor to mobile source risks estimates. Accordingly, this EIR focuses on the risk from DPM emitted by vehicles travelling on I-210 as an overall indicator of potential adverse health risks from mobile sources operating near the site.

CalEnviroScreen is another mapping tool that helps identify California communities that are most affected by many sources of pollution, and where people are often especially vulnerable to pollution's effects. The tool uses environmental, health, and socioeconomic information to produce scores for every census tract in the State. The scores are then mapped so that different communities can be compared. An area with a high score is one that experiences a much higher pollution burden than areas with low scores. According to the OEHHA CalEnviroScreen 3.0 Map, the Project area is in census tract 6037430101 and has an average pollution indicator percentile of 85% to 90% based on the CalEnviroScreen indicators (e.g., exposure, environmental effects, population characteristics, socioeconomic factors) (OEHHA 2018). These numbers also indicate relatively high health risks in the project area, likely attributable to the proximity to the I-210 and I-605 freeways.

To determine if the project would exacerbate health risks associated with DPM emissions in the area, an HRA was conducted to evaluate the potential health hazards to new residential receptors in the project area from I-210, as well as to children. The HRA methodology and results are presented below and included in an *Air Quality Impact Analysis Report* contained in Appendix E. Emission factor calculations, dispersion model inputs, outputs, and HRA calculations are all contained in the report in Appendix E.

Construction Fugitive Dust and DPM Emissions. Construction activities associated with buildout of the Specific Plan would result in demolition, site preparation, grading, and other activities that would generate fugitive dust; however, as shown under the discussion for "Cumulatively Considerable Increase in Non-Attainment Criteria Air Pollutants" above, the total PM_{10} and $PM_{2.5}$ emissions generated during construction of the project would be below SCAQMD LST thresholds. The SCAQMD's LST thresholds represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable Federal or State AAQS. Thus, since project construction emissions would not exceed applicable LST thresholds, the proposed project would not expose sensitive receptors to substantial fugitive dust concentrations.

A portion of the PM_{10} and $PM_{2.5}$ emissions generated during construction Phase 1 and Phase 2 of the Duarte Station Specific Plan (see *Table 5.5-10*) would be DPM. DPM is a TAC that can potentially cause substantial adverse health risks at concentrations lower than the ambient air quality standards for PM_{10} and $PM_{2.5}$ set by the Federal and State CAA. Equipment with diesel engines would be used during all construction phases (e.g., demolition, site preparation, etc.) of the proposed Specific Plan, and some construction activities would occur as close as approximately 30 to 70 feet away from sensitive receptor locations (e.g., receptors along Fairdale Avenue, 3 Ranch Roach, Denning Avenue, and Glenford Avenue). Although construction activities could take place as close as 30 to 70 feet from sensitive receptors, the vast majority of equipment operation would occur on the interior of the plan area, several hundred feet or more from sensitive receptor locations.

In addition, implementation of idling restrictions under CARB regulations (i.e., idling for no more than five minutes) would minimize DPM emissions from construction equipment. Furthermore, as shown in Figure 5.5-1, the prevailing daytime wind direction is from the west/southwest at the nearest meteorological station maintained by the SCAQMD in Azusa (less than five miles east of the Project area). Wind conditions at this location are considered representative of wind conditions in the Project area, meaning that DPM emissions generated by construction equipment would generally be pushed to the east/northeast, away from the closest sensitive residential receptors, and pollutants would quickly disperse over distance. Finally, potential long-term adverse health risks from DPM are evaluated assuming a constant exposure to

emissions over a 70-year lifetime, 24 hours a day, seven days a week, with increased risks generally associated with increased proximity to emissions sources. Since construction activities would only generate DPM emissions on an interim, short-term basis, DPM emissions from construction activities would be unlikely to result in adverse health effects to existing sensitive receptors that exceed the SCAMQD's significance criteria listed in Section 5.5.3. Therefore, construction activities associated with buildout of the Project would not expose nearby sensitive receptors to substantial levels of DPM that would pose a significant adverse health risk. This impact would be less than significant.

Operational – Health Risks to Exposure from I-210 Emissions. An HRA was performed to determine the health risk associated with operation of the project consistent with the guidance and recommendations contained in the SCAQMD's CEQA *Air Quality Handbook*, as amended and supplemented (SCAQMD 2017a), SCAQMD's *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Emissions* (SCAQMD 2003b), and OEHHA's *Air Toxics Hot Spots Program Guidance Manual* (OEHHA 2015).

The U.S. EPA's AERMOD dispersion model was used to predict pollutant concentrations from the I-210 at the proposed project boundary. The AERMOD dispersion model is a U.S. EPA-approved and SCAQMD-recommended model for simulating the dispersion of pollutant emissions and estimating ground level concentrations of pollutants at specified receptor locations. AERMOD requires the user to input information on the source(s) of pollutants being modeled, the receptors where pollutant concentrations are modeled, and the meteorology, terrain, and other factors that affect the potential dispersion of pollutants. These variables are described below and shown in detail in Appendix E to this EIR.

Modeled I-210 Sources/Emission Rates. Emissions from the I-210 were modeled as a polygon-area source shown in *Table 5.5-14*, *AERMOD Source Parameters*. The area source representing the freeway was extended 1,000 feet to the east and west of the plan area to capture emissions emanating from I-210 both adjacent to and in proximity to the plan area. The total length of I-210 modeled was approximately 3,238 feet, or 0.61 miles.

Table 5.5-14
AERMOD Source Parameters

ID	Description	UTM Coordinates(A)		Size (m^2)
		X	Y	
PAREA1	I-210 (Eastbound and Westbound)	410188.74	3777583.15	46,592.0

Source: MIG 2019, see Appendix E.
(A) UTM coordinates represent the northwest corner of the source.

Consistent with SCAQMD recommendations, PM_{10} exhaust from diesel vehicles travelling along I-210 was evaluated in the HRA. The emission rate for the segment of I-210 modeled in the operational HRA was derived from diesel vehicle emission factors and vehicle population data contained in CARB's EMFAC model and annual average daily traffic volume data available from Caltrans. Using EMFAC data (for the Los Angeles South Coast Sub-Area), an average diesel emission factor, in terms of grams per mile, was developed for each vehicle class, based on a speed of 65 miles per hour. Then the population percentage for each vehicle class was multiplied by the annual average daily trips (AADT) for the segment of I-210 adjacent to the project area, between Buena Vista Street and the I-605/I-215 junction, to determine the total

amount of diesel vehicles traveling adjacent to the project area.[5] This diesel vehicle estimate was then multiplied by the total segment length (0.61 miles) to determine the total miles travelled by each vehicle class. The total miles travelled were then multiplied by the average emission factor to determine total diesel vehicle emissions emitted from the modeled portion of I-210. *Table 5.5-15*, *AERMOD Source Emissions Rate Information*, summarizes the aver emission factors, vehicle class population percentage, VMT, and total diesel emissions occurring within the modeled source.

Table 5.5-15
AERMOD Source Emissions Rate Information

Vehicle Class	Emission Factor at 65 MPH (grams per mile)(A)	Vehicle Population(B)	Vehicle Miles Traveled(C)	Total Daily PM_{10} Emissions (Grams)(D)	Total Daily PM_{10} (Grams Per Second)(E)
LDA	0.001611306	0.45%	848	1.808857102	2.09358E-05
LDT1	0.028116599	0.00%	8	0.269520366	3.11945E-06
LDT2	0.003345548	0.11%	209	0.725303357	8.39471E-06
LHDT1	0.006014986	0.81%	1,545	10.01385464	0.000115901
LHDT2	0.010734683	0.33%	624	6.844403056	7.92176E-05
HHDT	0.033787693	0.77%	1,458	51.51689952	0.00059626
MDV	0.001345391	0.24%	460	0.713820065	8.26181E-06
MH	0.038410995	0.08%	145	6.186299655	7.16007E-05
MHDT	0.015244088	0.88%	1,680	31.79783868	0.000368031
OBUS	0.023503175	0.04%	79	2.075569263	2.40228E-05
SBUS	0.018215134	0.05%	89	0	0
UBUS	0.003787529	0.00%	0	0.001306541	1.5122E-08
Total	--	3.75%	7,145	111.9536722	0.00129576

Source: EMFAC2017 and Caltrans 2019
(A) Emission factors represent the average emission factor for the vehicle class over the 2021 to 2050 time period. Emission factors are reported for a speed of 65 miles per hour.
(B) Population percentage reflects the proportion of each vehicle class out of the total amount of vehicles in the Los Angeles (South Coast) sub-area.
(C) Vehicle miles travelled is estimated by multiplying the vehicle population percentage times 252,000 (the ADT on I-210), times the modeled segment length (0.61 miles).
(D) Total daily emissions are estimated by multiplying the vehicle miles travelled by the average emission factor.
(E) Grams per second is derived based on 86,400 seconds per day.

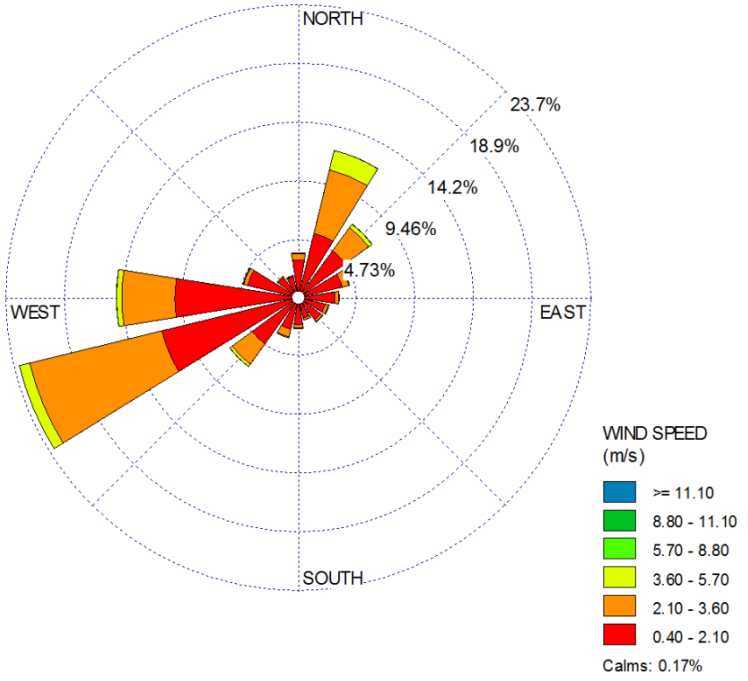
The release height for the modeled source was set to 3.28 meters to approximate an average height for all vehicle exhaust sources.

Meteorological Data Inputs. AERMOD requires meteorological data as an input into the model. The meteorological data is processed using AERMET, a pre-processor to AERMOD. AERMET requires surface meteorological data, upper air meteorological data, and surface parameter data such as albedo (reflectivity) and surface roughness. For the proposed project, pre-processed surface data from the SCAQMD was obtained for the Azusa meteorological station, the closest meteorological station to the project site. Five complete years of meteorological data from January 2012 to December 2016 were utilized. Emissions were presumed to be generated 24-

[5] Since the AADT highway values provided by Caltrans for Year 2017, an annual growth factor of one percent per year was applied out to Year 2025. Then, the adjusted AADT values for Year 2021 through Year 2050 were averaged to arrive at 311,972, the average, estimated AADT on the I-210 between Year 2021 and Year 2050.

hours per day. The wind rose for the Azusa meteorological station data set is shown in *Figure 5.5-1*, *Wind Rose for Azusa Meteorological Station (Blowing From)*.

Figure 5.5-1
Wind Rose for Azusa Meteorological Station (Blowing From)



Source: SCAQMD 2018b

Terrain Inputs. Terrain was incorporated by using AERMAP (an AERMOD pre-processer) to import the elevation of the project site using data from the National Elevation Dataset with a resolution of 1/3 arcsecond.

Modeled Receptors. Emissions were modeled in a single-tier fenceline grid. The single tier consisted of five-meter spacing from the fenceline for a distance of 25 meters. Primary and intermediate (spaced every five meters) were also modeled. The receptor grids were then converted to discrete Cartesian receptors (1,568 in total). Receptors were modeled at heights of 0.0 and 10 meters and (33 feet) above the ground.

Cancer Risk. Cancer risk is the calculated, pollutant-specific estimated probability of developing cancer based upon the dose and exposure to the TAC. Cancer risk is determined by calculating the combinatory effects of a cancer potency factor (CPF) when inhaling the toxic, the daily inhalation dose, the age group the receptor is cohort to, the duration of exposure over a lifetime (70 years), and other factors such as age sensitivity and the amount of time spent at the location of exposure.

For the proposed project, risks were assessed for the inhalation pathway (i.e., breathing) for both residential and worker receptors. Additionally, residential receptors were assessed under a 70-year exposure duration to further detail potential risk to those under lifetime exposure. Cancer risk equations for residential receptors is summarized in *Table 5.5-16*, *Cancer Risk Equations* and *Table 5.5-17*, *Inhalation Dose Equations*.

Table 5.5-16
Cancer Risk Equations

Equation 1 - Residential Risk:	$RISK_{INH.RES} = DOSE_{AIR.RES} \times CPF \times ASF \times \frac{ED}{AT} \times FAH$
Where:	
$DOSE_{AIR}$ =	Daily Inhalation Dose (mg/kg-day). See Table 5.5-17.
CPF =	Cancer Potency Factor for Inhalants (mg/kg-day). CPF is expressed as the 95th percent upper confidence limit of the slope of the dose response curve under continuous lifetime exposure conditions. The CPF for diesel exhaust is 1.1 mg/kg-day.
ASF =	Age Sensitivity Factor. ASF is a protective coefficient intended to take into account increased susceptibility to long-term health effects from early-life exposure to TACs. The recommended ASFs are 10 for the third-trimester to birth and two-year age bins, three for the two-year to nine-year and 16-year age bins, and one for receptors over 16 years of age.
ED =	Exposure Duration (years). Exposure duration characterizes the length of residency (30 Years) of the receptor.
AT =	Averaging Time (years). A 70-year (lifetime) averaging time is used to characterize to total risk as a factor of average risk over a typical lifespan.
FAH =	Fraction at Home. FAH is the percentage of time the receptor is physically at the receptor location. The recommended percentages are 85 percent for the third-trimester to birth and two-year age bins, 72 percent for the two-year to nine-year and 16-year age bins, and 73 for receptors over 16 years of age.

Table 5.5-17
Inhalation Dose Equations

Residential Dose	$DOSE_{AIR.RES} = C_{AIr} \times \frac{BR}{BW} \times A \times EF \times 10^{-6}$
Where:	
C_{AIR} =	Concentration of TAC in air (µg/m^3). Concentration of toxic in micrograms per one cubic meter of air. The AERMOD program is used in the study to determine concentrations of diesel particulate matter at surrounding discrete and grid receptor points.
BR/BW =	Breathing Rate ÷ Body Weight (L/kg/day). Daily breathing rate normalized to body weight. The 95th percentile breathing rate to body weight ratios are used in this study with a recommended 361 L/kg/day for the third-trimester to birth age bin, 1,090 L/kg/day for the birth to two-years age bin, 861 L/kg/day for the two-years to nine-years age bin, 745 for the two-years to 16-years age bin, 335 L/kg/day for the 16-years to 30-years age bin, and 290 L/kg/day for the 16-years to 70-years age bin.
A =	Inhalation Absorption Factor. Is a coefficient that reflects the fraction of chemical absorbed in studies used in the development of CPF and Reference Exposure Levels (RELs). An absorption factor of one is recommended for all chemicals.
EF =	Exposure Frequency. EF is the ratio of days in a year that a receptor is receiving the dose. The recommended EF is 0.96 characterizing an assumed 350 days a year that a residential receptor is home for some portion of the day.

Maximally Exposed Individual Resident. Cancer risk was assessed for the maximally exposed individual resident (MEIR) in the Project area over a 30-year exposure duration (which characterizes the maximum residency tendency in California). The Point of Maximum Impact (PMI) was also determined. The MEIR is the location of the resident expected to have the highest exposure to TACs. The PMI corresponds to the location where the highest concentration of TACs is expected. Residential risk calculations account for presumed

sensitivity to carcinogens and differences in intake rates for the third trimester to birth, birth to two-years, two-years to nine-years, two-years to 16-years, 16-years to 30-years, and 16-years to 70 years age bins. Concentrations were modeled using AERMOD and then input into CARB's Hot Spots and Reporting Program (HARP) Health Risk Assessment Standalone Tool (RAST) to calculate cancer risk based on the methods and recommendations found in the OEHHA HRA Guidelines. The RAST intake rate percentile was set to the 95th percentile and the fraction of time at home factor was applied to age bins less than 16 years. The resulting annual average DPM concentration and corresponding excess cancer risk at the MEIR are summarized in *Table 5.5-18*, *Estimated Cancer Risk at PMI and MEIR (Uncontrolled I-210 DPM Emissions)*. The MEIR is located at ground level, along the Plan area's northern border, toward the western side. The PMI is located off-site, between Evergreen Avenue and I-210 in an area that would not be occupied by residential receptors; cancer risks at this location, therefore, were not estimated.

Modeling Results. The results of the modeling indicate that, in general, DPM concentrations are higher on the northern and western side of the project area. This is due to the proximity of the northern project boundary to I-210. In general, the estimated cancer risks along the northern project area boundary range from 21.9 to 40.7, while risks along the southern project area boundary range from 5.5 to 6.5 (see Appendix E for more details). As mentioned previously, the MEIR is located at ground level, along the Plan area's northern border, toward the western side. *Table 5.5-18* summarizes the location, annual average concentration, and calculated excess cancer risk at the modeled MEIR location.

Table 5.5-18
Estimated Cancer Risk at PMI, MEIR, and MEIR (Uncontrolled I-210 DPM Emissions)

Receptor	UTM Location		Annual Average DPM Concentration (µg/m^3)	Excess Cancer Risk (per million population)	Threshold Exceeded?
	Easting	Northing			
PMI[(A)]	410677.47	3777574.86	0.10542	--	--
MEIR	410726.00	3777549.20	0.05970	40.7	Yes

Source: MIG 2019 (see Appendix E)
The PMI is located in Caltrans right of way and is not an occupied nor a potential receptor location. Therefore, cancer risk was not calculated.

As shown in *Table 5.5-18*, site specific cancer risks are much lower than CARB's MATES IV results, but uncontrolled DPM emissions would generate cancer risks in the project area that are above the SCAQMD recommended cancer risk thresholds (10 cases of cancer per a population of one million) by a factor of approximately four as a worst case. This would occur at ground level along the northern portion of the project area. Potential risks in the southern portion of the project area, however, would be much lower (by approximately one-eighth) and below the recommended thresholds (6.5 cases in one million). Without control of DPM emissions, therefore, vehicle emissions from I-210 could result in an adverse impact on sensitive receptors in the project area, and the addition of DPM emissions to the area from project vehicle trips could exacerbate this condition. It is important to note, that the above estimates are conservative and are likely to overestimate potential risks for the following reasons:

1. The lifetime exposure for a sensitive receptor was assumed to begin in the third trimester (i.e., in the womb) in the project area, and it was assumed that sensitive receptors would then continue to be exposed through the infant stage and into early childhood. Risks to adult receptors (receptors older than 16 at the time of initial

exposure) would be much lower (approximately 80% lower and less than the SCAQMD carcinogenic risk threshold).

2. The HRA estimates are based on near continuous exterior exposure at the property line locations. Concentrations within the interior of the property where receptors would be located would be lower.
3. Because the project is an infill, transit-oriented development, it would result in an overall reduction of vehicle miles traveled by resident and workers in the City of Duarte, thereby reducing overall traffic in the city and along I-210. This is one of CARB's strategies for reducing air pollution near high-volume roadways (CARB 2017).
4. The HRA does not take into account reductions in PM that would be achieved by mechanically supplied air systems. Specifically, the 2019 amendments made to the California Building Standards Code, set to go into effect on January 1, 2020, would require high-rise[6] multifamily dwellings within 500 feet of busy roadways (more than 100,000 ADT) to use HVAC systems and filters with a Minimum Efficiency Rating Value (MERV) of 13. MERV-13 filters can remove up to 90% of particles less than 10 microns in size, which would result in a corresponding reduction in exposure to PM_{10} and associated adverse health risks by 90%. While the California Building Standards code would require these HVAC systems to be appropriately designed and sized for individual dwelling units, the long-term air quality benefit and risk reduction realized by these enhanced filtration systems would be dependent, in part, on individual owners and occupants of each dwelling unit (due to system maintenance and filter replacement requirements). Nonetheless, less efficient filters, such as a MERV-8, can remove up to 70% of particles less than 10 microns in size, which would result in a corresponding reduction in exposure to PM10 and associated adverse health risks by 70%. A 70% reduction in modeled PM concentrations (i.e., indoor air quality levels) would reduce risks, but not to levels that are below the SCAQMD threshold at the MEIR location (a 70% reduction would result in a cancer health risk of approximately 12.2 at the MEIR location).

For the reasons outlined above, it is reasonable to assume that installation of HVAC systems with MERV-13 filters would reduce cancer risk to below SCAQMD significance thresholds. For full effectiveness, the HVAC system must be in operation at all times while residents are inside their unit and must be properly maintained. In addition, HVAC systems may not be a California Building Code requirement for all new structures in the Project area. Therefore, to ensure indoor air quality concentrations remain at or are lower than the estimates presented in *Table 5.5-18* for all residents in the Project area, Mitigation Measure AIR-3 requires the installation of HVAC systems in all new residential buildings with a MERV of 13 and would ensure that HVAC systems are maintained on a regular basis and that filters are replaced as required to ensure their effectiveness. With the implementation of this mitigation measure, buildout under the project would not exacerbate cancer risk associated with DPM emissions, including from I-210.

Non-Cancer Risks. The chronic non-cancer hazard quotient is the calculated pollutant-specific indicator for risk of developing an adverse health effect on specific organ system(s) targeted by the identified TAC, in this case, DPM. The potential for exposure to result in chronic non-cancer effects is evaluated by comparing the estimated annual average air concentration to the chemical-specific, non-cancer chronic reference exposure levels (RELs). The REL is a

[6] A high-rise building is defined by the California Building Code as any building used for human occupancy greater than 55 feet above the lowest level of Fire Department vehicle access. For the purposes of compliance with prescriptive indoor air quality requirements, the building energy efficiency standards consider a high rise residential building to be any building with four or more habitable stories.

concentration below which there is assumed to be no observable adverse health impact to a target organ system. When calculated for a single chemical, the comparison yields a ratio termed a hazard quotient. The annual average air concentration is divided by the REL to calculate a hazard quotient. To evaluate the potential for adverse chronic non-cancer health effects from simultaneous exposure to multiple chemicals, the hazard quotients for all chemicals are summed, yielding a hazard index. The chronic REL for DPM was established by OEHHA as 5 µg/m^3. There is no acute REL for DPM. Chronic non-cancer risks are considered significant if a project's TAC emissions result in a hazard index greater than or equal to one. Non-cancer risk equations are summarized in *Table 5.5-19*, *Non-Cancer Risk Equation*.

Table 5.5-19
Non-Cancer Risk Equation

Chronic Hazard Quotient:	$HI_{DPM} = \frac{C_{DPM}}{REL_{AAC}}$
Where:	
HI_{DPM} =	Hazard Index; an expression of the potential for non-cancer health effects.
C_{DPM} =	Annual average DPM concentration (µg/m^3).
REL_{DPM} =	Reference exposure level (REL) for DPM; the DPM concentration at which no adverse health effects are anticipated.

Existing sensitive receptors are exposed to air pollution associated with motor vehicles travelling on I-210, located adjacent to the project area. As shown in *Table 5.5-18*, the annual average DPM concentration associated with vehicle emissions along I-201 at the PMI is 0.10542, which yields a chronic hazard quotient of 0.02, and is less than the SCAQMD threshold of 1.0. As indicated above, the PMI is not an occupied receptor location; thus, the calculated hazard quotient at all other receptor locations would be less than 0.02 and less than the SCAQMD threshold of 1.0.

Operational Emissions – Criteria Air Pollutant Emissions

Criteria Air Pollutant Emissions. As described in Section 5.5.1, both the U.S. EPA and CARB regulate common air pollutants on the basis of human health and/or environmental criteria, and most commonly regulated air pollutants including NO_X, PM, CO, etc. can cause adverse human health effects. As shown in *Table 5.5-13*, the potential emissions of NO_X, CO and PM occurring with build out of the Specific Plan would not exceed SCAQMD-recommended localized significance thresholds. These thresholds represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable Federal or State ambient air quality standards. In developing the CAAQS and NAAQS, the U.S. EPA and CARB considered scientific evidence linking exposure to air pollutants to health risks. Although each individual's health characteristics, environment, and pre-disposition to adverse respiratory health effects is different, compliance with the CAAQS and NAAQS is intended to protect the most sensitive individuals. Since the amount of emissions (in terms of pounds per day) occurring under the Specific Plan would not exceed SCAQMD LSTs, it is reasonable to assume these emissions levels would not result in significant local adverse health impacts.

As shown in *Table 5.5-12*, the potential emissions of VOC, NOx, CO, SOx, and PM occurring with build out of the Specific Plan would not exceed SCAQMD-recommended regional significance thresholds. Although implementation of the Specific Plan would increase criteria air

pollutant emissions within the SCAB, it is not possible, at this time to estimate, what the adverse health effects associated with this mass increase in criteria air pollutant emissions would be for several reasons. First, to estimate potential adverse health effects from regional emissions (e.g., ozone), it is necessary to have information on the sources of the emissions location, velocity of emissions, the meteorology and topography of the area, and the location of receptors exposed to the emissions (SCAQMD 2015b). While the general nature of the emissions sources occurring with implementation of the Specific Plan is known (i.e., area source, energy source, mobile source, etc.), the specific location of these sources within the plan area is not known, nor is other information, including source emission rate, exit velocity, operating characteristics (e.g., daytime or nighttime, seasonal or steady-state), etc. In addition, as shown in *Table 5.5-12*, approximately 70% of the mitigated NO_X emissions estimated to occur with buildout of the Specific Plan would be from mobile sources (i.e., vehicle trips) that would potentially travel on numerous local and regional roadways throughout the plan area and beyond that would be subject to varying meteorological and topographical influences.

Second, the SCAQMD has stated (SCAQMD 2015b, pgs. 10-11):

> "For the so-called criteria pollutants, such as ozone, it may be more difficult to quantify health impacts . . . It takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources . . . Scientifically, health effects from ozone are correlated with increases in the ambient level of ozone in the air a person breathes . . . However, it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels over an entire region. For example, the SCAQMD's 2012 AQMP showed that reducing NOx by 432 tons per day (157,680 tons/year) and reducing VOC by 187 tons per day (68,255 tons/year) would reduce ozone levels at the SCAQMD's monitor site with the highest levels by only 9 parts per billion. SCAQMD staff does not currently know of a way to accurately quantify ozone-related health impacts caused by NO_X or VOC emissions from relatively small projects"

Although it is not possible to specifically quantify the adverse health effects that may or may not occur due to the increase in emissions (e.g., NOx) that would occur with implementation of the Specific Plan, the SCAQMD has also stated (SCAQMD 2015b, pgs. 13-14):

> "A project emitting only 10 tons per year of NOx or VOC is small enough that its regional impact on ambient ozone levels may not be detected in the regional air quality models that are currently used to determine ozone levels. Thus, in this case it would not be feasible to directly correlate project emissions of VOC or NOx with specific health impacts from ozone. This is in part because ozone formation is not linearly related to emissions. Ozone impacts vary depending on the location of the emissions, the location of other precursor emissions, meteorology and seasonal impacts, and because ozone is formed some time later and downwind from the actual emission."

The emissions modeling conducted for the project indicates implementation of the Specific Plan would increase NOx and VOC emissions by approximately 7.5 and 5.9 tons per year, respectively, which is approximately 2.5 and 4.1 tons per year less than the 10 tons per year referenced in the above SCAQMD statement, respectively (see Appendix E). Given that implementation of the Specific Plan would not result in criteria air pollutant emissions that exceed the aforementioned 10 tons per day for NOx and VOC, and that emissions would be below SCAMQD LSTs, this impact is considered to be less than significant.

Mitigation Measures

Mitigation Measure AIR-3: For all new residential units in the project area, the developer shall install, and owner maintain, HVAC systems with air filters that meet or exceed a Minimum Efficiency Rating Value (MERV) of 13 as determined by ASHRAE Standard 52.2 (a Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size). The owner and/or occupant or other designated representative of the residential unit shall maintain and replace air filters according to the manufacturer's specifications.

Requirements and Timing: This measure shall be printed on construction drawings and included as a requirement of the construction contract for new residential buildings. This measure shall also be recorded in a Notice to Property Owner for the Duarte Station Specific Plan units and for each new residential property within the Project area.
Monitoring: City Planning staff shall confirm that HVAC units and MERV-13 filters (or better) are installed in accordance with this measure prior to final sign off on construction for all new residential units. City Planning staff shall also review and approve of the Notice to Property Owner language and ensure recordation prior to final sign-off on construction of new residential units in the project area.

Level of Significance: Less than significant with mitigation incorporated.

ODORS

IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN EMISSIONS (SUCH AS THOSE LEADING TO ODOR) ADVERSLEY AFFECTING A SUBSTANTIAL NUMBER OF PEOPLE.

Impact Analysis. While odors do not present a health risk of themselves, they are often considered a nuisance by people who live, work, or otherwise are located near outdoor odor sources. According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints include agricultural operations, wastewater treatment plants, landfills, and certain industrial operations (such as manufacturing uses that produce chemicals, paper, etc.). The proposed Specific Plan does not support such sources, and there are no such sources in proximity of the Plan area. The City's prohibits the production of odors that would otherwise be dangerous, injurious, noxious, or otherwise objectionable, and enforces this requirement through Municipal Code Section 19.50.090.

The proposed Specific Plan would increase residential development within the City, including mixed-use residential development that could be located close to retail, restaurant, and other commercial land uses that may generate localized sources of odors that may or may not be objectionable to nearby residential land uses; however, the Specific Plan in and of itself does not permit or authorize any new, major sources of potential odors (e.g., wastewater treatment plant), and odor impacts would be less than significant with standard environmental review practices and enforcement of Municipal Code Section 19.50.090.

5.5.5 CUMULATIVE IMPACTS

Table 4-1, *Cumulative Projects List*, identifies the related projects and other possible development in the area determined as having the potential to interact with the proposed project

to the extent that a significant cumulative effect may occur. The following discussions are included per topic area to determine whether a significant cumulative effect would occur.

SHORT-TERM CONSTRUCTION AIR EMISSIONS

SHORT-TERM CONSTRUCTION ACTIVITIES ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS COULD RESULT IN AIR POLLUTANT EMISSION IMPACTS OR EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS.

Impact Analysis: In developing its CEQA significance thresholds, the SCAQMD considered the emission levels at which a project's individual emissions would be cumulatively considerable (SCAQMD 2003b; page D-3). The SCAQMD considers projects that result in emissions that exceed its CEQA significance thresholds to result in individual impacts that are cumulatively considerable and significant. As discussed in the preceding discussion, construction in the Plan area would not result in criteria air pollutant emissions that exceed regional or LST thresholds after the implementation of Mitigation Measure AIR-2A, which would reduce VOC emissions from architectural coatings to levels that are below applicable SCAQMD regional thresholds. Therefore, the proposed project would not generate construction criteria air pollutant emissions that are cumulatively considerable. This impact would be less than significant with mitigation incorporated.

Mitigation Measures

Refer to Mitigation Measure AIR-2A. No additional mitigation measures are required.

LONG-TERM OPERATIONAL AIR EMISSIONS

IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS COULD RESULT IN SIGNIFICANT IMPACTS PERTAINING TO OPERATIONAL AIR EMISSIONS.

Impact Analysis: In developing its CEQA significance thresholds, the SCAQMD considered the emission levels at which a project's individual emissions would be cumulatively considerable (SCAQMD 2003b; page D-3). The SCAQMD considers projects that result in emissions that exceed its CEQA significance thresholds to result in individual impacts that are cumulatively considerable and significant. As discussed in the preceding discussion, operation of the land uses proposed in the Specific Plan could result in a potentially significant impact with regard to NOx emissions. The City would require applicants in the plan area comply with Mitigation Measure AIR-2B, which requires residential structures be constructed such that no more than 60 percent of units have fireplaces. Adherence to this mitigation measure would reduce NOx emissions to levels that are below the SCAQMD regional thresholds. Therefore, the proposed project would not generate operational criteria air pollutant emissions that are cumulatively considerable. This impact would be less than significant with mitigation incorporated.

Mitigation Measures

Refer to Mitigation Measure AIR-2B. No additional mitigation measures are required.

5.5.6 SIGNIFICANT UNAVOIDABLE IMPACTS

With implementation of the proposed Duarte Station Specific Plan, significant unavoidable impacts would occur for:

- Plan Consistency - exceedance of growth assumptions in the SCAQMD *2016 AQMP*.

All other air quality impacts associated with implementation of the proposed Duarte Station Specific Plan are either at less than significant levels or can be mitigated to less than significant levels.

If the City of Duarte approves the proposed Duarte Station Specific Plan, the City shall be required to cite their findings in accordance with *CEQA Guidelines* Section 15091 and prepare a Statement of Overriding Considerations in accordance with *CEQA Guidelines* Section 15093.

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List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
°C	Degrees Celsius
°F	Degrees Fahrenheit
µg/m3	Micrograms per Cubic Meter

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
2016 RTP/SCS	2016-2040 Regional Transportation Plan/Sustainable Communities Strategy
AADT	Annual Average Daily Trips
AB	Assembly Bill
AQMP	Air Quality Management Plan
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CO	Carbon Monoxide
CPF	Cancer Potency Factor
CRP	Coating Restriction Plan
DPM	Diesel Particulate Matter
GHG	Greenhouse Gas
GVWR	Gross Vehicle Weight Rating
H_2S	Hydrogen Sulfide
HAP	Hazardous Air Pollutant
HARP	Hot Spots and Reporting Program
HESIS	Hazard Evaluation System and Information Service
HRA	Health Risk Assessment
IARC	International Agency for Research on Cancer
LOS	Level of Service
LST	Localized Significance Threshold
MATES IV	Multiple Air Toxics Exposure Study in the South Coast Air Basin
MEIR	Maximally Exposed Individual Resident
MERV	Minimum Efficiency Rating Value
MPH	Miles Per Hour
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NOA	Naturally Occurring Asbestos
NOx	Nitrous Oxides
NTP	U.S. National Toxicology Program
O_3	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
PM	Particulate Matter
PM_{10}	PM with an Aerodynamic Diameter Between 2.5 and 10 Microns
$PM_{2.5}$	PM with an Aerodynamic Diameter Smaller Than 2.5 Microns
PMI	Point of Maximum Impact
PPM	Parts per Million
RAST	Health Risk Assessment Standalone Tool
REL	Reference Exposure Level
ROG	Reactive Organic Gases

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
RTP	Regional Transportation Plan
SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SO_4^{2-}	Sulfates
SOx	Sulfur Oxides
SRA	Source Receptor Area
TAC	Toxic Air Contaminant
TIS	Transportation Impact Study
U.S. EPA	U.S. Environmental Protection Agency
VMT	Vehicle Miles Travelled
VOC	Volatile Organic Compounds

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5.6 GREENHOUSE GAS EMISSIONS AND ENERGY

This section evaluates greenhouse gas (GHG) emissions associated with the proposed project and analyzes compliance with applicable regulations. Consideration of the project's consistency with applicable plans, policies, and regulations, as well as the introduction of new sources of GHGs, are included in this section. GHG technical data are included in Appendix E, Air Quality/Greenhouse Gas Emissions Data.

5.6.1 REGULATORY SETTING

FEDERAL

U.S. EPA GHG Tailor Rule and GHG Reporting System

On December 7, 2009, the United States Environmental Protection Agency (U.S. EPA) issued an endangerment finding that current and projected concentrations of the six 1997 Kyoto Protocol Treaty GHGs—carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs)—in the atmosphere threaten the public health and welfare of current and future generations. This finding came in response to the Supreme Court ruling in *Massachusetts v. EPA*, which found that GHGs are pollutants under the federal Clean Air Act. As a result, the U.S. EPA issued its GHG Tailoring Rule in 2010, which applies to facilities that have the potential to emit more than 100,000 metric tons of carbon dioxide equivalents (MTCO2e). In 2014, the U.S. Supreme Court issued its decision in *Utility Air Regulatory Group v. EPA* (No. 12-1146), finding that the U.S. EPA may not treat GHGs as an air pollutant for purposes of determining whether a source is a major source required to obtain a permit pursuant to the Clean Air Act's Prevention of Significant Deterioration or Title V operating permit programs. The U.S. EPA's Greenhouse Gas Reporting Program requires facilities that emit 25,000 metric tons of $MTCO_2e$ or more of GHG to report their GHG emissions to the U.S. EPA to inform future policy decisions.

STATE

Assembly Bill 32 (California Global Warming Solutions Act) and Related GHG Rules

The California Air Resources Board (CARB) is the lead agency for implementing Assembly Bill (AB) 32, the California Global Warming Solutions Act adopted by the Legislature in 2006. AB 32 requires the CARB to prepare a scoping plan containing the main strategies that will be used to achieve reductions in GHG emissions in California.

In 2007, CARB approved a statewide 1990 emissions level and corresponding 2020 GHG emissions limit of 427 million $MTCO_2e$ (CARB 2007). In 2008, CARB adopted its *Climate Change Scoping Plan*, which projects, absent regulation or under a "business as usual" scenario, 2020 statewide GHG emissions levels of 596 million $MTCO_2e$ and identifies the numerous measures (i.e., mandatory rules and regulations and voluntary measures) that will achieve at least 174 million $MTCO_2e$ of reductions and reduce statewide GHG emissions to 1990 levels by 2020 (CARB 2009). In 2011, CARB released a supplement to the 2008 *Scoping Plan Functional Equivalent Document* that included an updated 2020 business as usual statewide GHG emissions level projection of 507 million $MTCO_2e$ (CARB 2011), and in 2014 CARB adopted its *First Update to the Climate Change Scoping Plan* (CARB 2014).

Executive Order B-30-15, 2030 Carbon Target and Adaptation, issued by Governor Brown in April 2015, sets a target of reducing GHG emissions by 40 percent below 1990 levels in 2030. By directing State agencies to take measures consistent with their existing authority to reduce GHG emissions, this order establishes coherence between the 2020 and 2050 GHG reduction goals set by AB 32 and seeks to align California with the scientifically established GHG emissions levels needed to limit global warming below two degrees Celsius.

To reinforce the goals established through Executive Order B-30-15, Governor Brown went on to sign Senate Bill (SB) 32 and AB 197 on September 8, 2016. SB 32 made the GHG reduction target to reduce GHG emissions by 40 percent below 1990 levels by 2030 a requirement as opposed to a goal. AB 197 gives the Legislature additional authority over CARB to ensure the most successful strategies for lowering emissions are implemented, and requires CARB to, "protect the state's most impacted and disadvantaged communities …[and] consider the social costs of the emissions of greenhouse gases."

There are five key goals for reducing GHG emissions in California through 2030: (1) increase renewable electricity to 50 percent; (2) double energy efficiency savings achieved in existing buildings and make heating fuels cleaner; (3) reduce petroleum use in cars and trucks by up to 50 percent; (4) reduce emissions of short-lived climate pollutants, and (5) manage farms, rangelands, forests, and wetlands to increasingly store carbon. In addition, the order requires CARB to work closely with other State agencies and the public to update the State's climate change scoping plan. Under the scoping plan, approximately 85 percent of the State's emissions are subject to a cap-and-trade program where covered sectors are placed under a declining emissions cap. Emissions reductions are achieved through regulatory requirements and the option to reduce emissions further or purchase allowances to cover compliance obligations. It is expected that emission reductions from this cap-and trade program will account for a large portion of the reductions required by AB 32. Although there was initial concern AB 197 may have come at the expense of the Cap-and-Trade Program, AB 398 (approved in July 2017) extended the state's Cap-and-Trade program through 2030, thereby ensuring the program will continue to assist the state in meeting future GHG reduction goals.

On December 14, 2017, CARB adopted the *2017 Climate Change Scoping Plan Update* (2017 Scoping Plan Update) that is the State's strategy for achieving California's 2030 GHG target (CARB 2017). The primary objective of the 2017 Scoping Plan Update is to identify the measures needed to achieve the mid-term GHG reduction target for 2030 (i.e., reduce emissions by 40 percent below 1990 levels by 2030), as established under Executive Order B-30-15 and SB 32. The 2017 Scoping Plan Update identifies an increased need for coordination among state, regional, and local governments to achieve the GHG emissions reductions that can be gained from local land use planning and decisions. It notes emission reduction targets set by more than one hundred local jurisdictions in the state could result in emissions reductions of up to 45 million $MTCO_2e$ and 83 million $MTCO_2e$ by 2020 and 2050, respectively. To achieve these goals, the 2017 Scoping Plan Update includes a recommended plan-level efficiency threshold of six metric tons or less per capita by 2030 and no more than two metric tons by 2050.

The major elements of the 2017 Scoping Plan Update framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing zero emission vehicle (ZEV) buses and trucks

- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030);
- Implementation of SB 350, which expands the Renewable Portfolio Standard (RPS) to 50 percent and doubles energy efficiency savings by 2030
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks
- Implementing the proposed Short-Lived Climate Pollutant Strategy, which focuses on reducing CH_4 and hydrocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030
- Continued implementation of SB 375
- Post-2020 Cap-and-Trade Program that includes declining caps
- 20 percent reduction in GHG emissions from refineries by 2030
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink

CARB Mandatory Reporting of GHG Emissions

CARB has adopted the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (Title 17, CCR, Section 95100 – 95133 [17 CCR §95100 – 95133]), which requires facilities that emit greater than or equal to 10,000 MTCO2e from combustion annually to report their GHG emissions to CARB.

Assembly Bill 1493

With the passage of AB 1493 (Pavley I) in 2002, California launched an innovative and proactive approach for dealing with GHG emissions and climate change at the State level. AB 1493 requires CARB to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards apply to automobiles and light trucks from 2009 through 2016. Although litigation was filed challenging these regulations and the U.S. EPA initially denied California's related request for a waiver, a waiver has since been granted. In 2012, the EPA issued a final rulemaking that sets even more stringent fuel economy and GHG emissions standards for model years 2017 through 2025 among light-duty vehicles. In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The components of the Advanced Clean Cars program are the Low-Emission Vehicle regulations and the Zero-Emission Vehicle regulation. The program combines the control of smog, soot, and global warning gases and requirements for greater numbers of zero-emission vehicles into a single package of standards.

Senate Bill 375 and SCAG 2016 RTP/SCS

In January 2009, California SB 375 went into effect, known as the Sustainable Communities and Climate Protection Act. The objective of SB 375 is to better integrate regional planning of transportation, land use, and housing to reduce sprawl and ultimately reduce greenhouse gas emissions and other air pollutants. SB 375 tasks CARB to set GHG reduction targets for each of California's 18 regional Metropolitan Planning Organizations (MPOs). Each MPO is required to prepare a Sustainable Communities Strategy (SCS) as part of its Regional Transportation Plan (RTP). The SCS is a growth strategy in combination with transportation policies that will show how the MPO will meet its GHG reduction target. If the SCS cannot meet the reduction goal, an

Alternative Planning Strategy may be adopted that meets the goal through alternative development, infrastructure, and transportation measures or policies.

In August 2010, CARB released the proposed GHG reduction targets for the MPOs to be adopted in September 2010. The proposed reduction targets for the Southern California Association of Governments (SCAG) region were eight percent by year 2020 and 13 percent by year 2035. In September 2010 and February 2011, the eight percent and the 13 percent targets were adopted, respectively.

On April 4, 2012, SCAG's Regional Council adopted the *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy: Towards a Sustainable Future.* The 2012 RTP/SCS included a strong commitment to reduce emissions from transportation sources to comply with SB 375. The document contained a host of improvements to the region's multimodal transportation system. These improvements included closures of critical gaps in the network that hinder access to certain parts of the region, as well as the strategic expansion of the transportation system where there is room to grow in order to provide the region with greater mobility. The RTP/SCS demonstrated the region's ability to attain and exceed the GHG emission-reduction targets set forth by the CARB, and outlined a plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands.

SCAG's Regional Council adopted an update to the 2012 RTP/SCS on April 7, 2016, the *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (2016 RTP/SCS). The 2016 RTP/SCS expands upon the 2012 RTP/SCS's goal of balancing future mobility and housing needs with economic, environmental, and public health goals. Included in the 2016 RTP/SCS are 13 major initiatives primarily focused around preserving and maintaining the existing transportation system, expanding and improving mass transit (with a specific emphasis on passenger rail), decreasing reliance on vehicular modes of transportation through the expansion of pedestrian and bicycle infrastructure, and focusing new growth around transit. Through proactive land use planning and improvements to the transportation network, implementation of the 2016 RTP/SCS will result in an eight percent reduction in greenhouse gas emissions per capita by 2020, an 18 percent reduction by 2035, and a 21 percent reduction by 2040 when compared with 2005 levels. These reductions meet or exceed the State's mandate, which require an eight percent reduction by 2020 and 13 percent by 2035.

In March 2018, CARB established new regional GHG reduction targets for SCAG and other MPOs in the State (CARB 2018a). The new SCAG targets are an 8 percent reduction in per capita passenger vehicle GHG reductions by 2020 and a 19 percent reduction by 2035. The 2016 RTP/SCS, however, remains the approved SCS for the SCAG MPO until such time as SCAG prepares an updated SCS.

California Green Building Standards Code

The California Energy Commission (CEC) first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings in 1978 in response to a legislative mandate to reduce energy consumption in the State. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods.

Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CALGreen Code). The purpose of the CALGreen Code is to "improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) planning and design; (2) energy efficiency; (3) water efficiency and conservation; (4) material conservation and resource efficiency; and (5) environmental air quality." The CALGreen Code is not intended to substitute or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC).

CALGreen contains both mandatory and voluntary measures. For non-residential land uses, there are 39 mandatory measures including, but not limited to, exterior light pollution reduction, wastewater reduction by 20 percent, and commissioning of projects over 10,000 square feet. Two tiers of voluntary measures apply to non-residential land uses, for a total of 36 additional elective measures.

California's Building Energy Efficiency Standards are updated on an approximately three-year cycle. The 2019 standards, adopted May 9, 2018, will go into effect on January 1, 2020 and improve upon existing standards, focusing on three key areas: proposing new requirements for installation of solar photovoltaics for newly constructed low-rise residential buildings; updating current ventilation and indoor air quality requirements, and extending Title 24 Part 6 to apply to healthcare facilities. The 2019 standards also propose several smaller improvements in energy efficiency.

Renewable Portfolio Standard (RPS)

On April 12, 2011, Governor Brown signed SB X1-2 to increase California's RPS to 33 percent by 2020. SB 350, signed in October 2015, further increased the RPS to 50 percent by 2030.

REGIONAL AND LOCAL

South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) adopted a *Policy on Global Warming and Stratospheric Ozone Depletion* in April 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the Air Quality Management Plan. In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy to include the following directives:

- Phase out the use and corresponding emissions of CFCs, methyl chloroform (1,1,1-trichloroethane or TCA), carbon tetrachloride, and halons by December 1995
- Phase out the large quantity use and corresponding emissions of HCFCs by the year 2000
- Develop recycling regulations for HCFCs (e.g., SCAQMD Rules 1411 and 1415)
- Develop an emissions inventory and control strategy for methyl bromide
- Support the adoption of a California GHG emission reduction goal

The legislative and regulatory activity detailed above are expected to require significant development and implementation of energy efficient technologies and shifting of energy production to renewable sources.

City of Duarte

Duarte Municipal Code Chapter 19.52, Sustainable Development Practices, are established to encourage conservation of natural resources, increased energy efficiency, and use of sustainable practices in the development process, and to implement State laws regarding reduction in greenhouse gas emissions, water conservation, and other resource conservation directives. All new construction in the City is required to apply sustainable development practices as identified in Chapter 19.52. Prior to implementing the standards, the level of development (project size) and the corresponding required sustainable development practices must be identified and incorporated into project design and building plans.

On November 13, 2012, the City adopted an *Energy Action Plan*, created in partnership with the San Gabriel Valley Council of Governments (SGVCOG) and Southern California Edison (SCE). The plan provides the City guidance in following the California's *Long Term Energy Efficiency Strategic Plan* (CEESP) by ascertaining existing and future energy use and develops an energy efficiency strategy to meet future energy reduction goals. As the plan is a part of a unified regional framework, it also assists in identifying a clear path to successfully implementing actions, policies, and goals that will achieve the City's reduction targets. In addition, the City promotes utility company incentive programs to retrofit existing development with energy efficient lighting, air conditioning and heating systems to reduce energy consumption.

5.6.2 ENVIRONMENTAL SETTING

GREENHOUSE GASES

Gases that trap heat in the atmosphere and affect regulation of the earth's temperature are known as GHGs. Many chemical compounds found in the earth's atmosphere exhibit the GHG property. GHGs allow sunlight to enter the atmosphere freely. When sunlight strikes the earth's surface, it is either absorbed or reflected back toward space. Earth that has absorbed sunlight warms up and emits infrared radiation toward space. GHGs absorb this infrared radiation and "trap" the energy in the earth's atmosphere. Entrapment of too much infrared radiation produces an effect commonly referred to as "global warming."

GHGs that contribute to climate regulation are a different type of pollutant than criteria or hazardous air pollutants because climate regulation is global in scale, both in terms of causes and effects. Some GHGs are emitted to the atmosphere naturally by biological and geological processes such as evaporation (water vapor), aerobic respiration (CO_2), and off-gassing from low oxygen environments such as swamps or exposed permafrost (CH_4). However, GHG emissions from human activities such as fuel combustion (e.g., CO_2) and refrigerants use (e.g., HFCs) significantly contribute to overall GHG concentrations in the atmosphere, climate regulation, and global climate change. Human production of GHGs has increased steadily since pre-industrial times (approximately pre-1880), and atmospheric carbon dioxide concentrations have increased from a pre-industrial value of 280 parts per million (ppm) in the early 1800's to 414 ppm in July 2019 (NOAA 2019). The effects of increased GHG concentrations in the atmosphere include climate change (increasing temperature and shifts in precipitation patterns and amounts), reduced ice and snow cover, sea level rise, and acidification of oceans. These

effects in turn will impact food and water supplies, infrastructure, ecosystems, and overall public health and welfare.

The 1997 United Nations' Kyoto Protocol international treaty set targets for reductions in emissions of four specific greenhouse gases—CO_2, CH_4, N_2O, and SF_6—and two groups of gases, HFCs and PFCs. These GHGs are the primary GHGs emitted into the atmosphere by human activities. Water vapor is also a common GHG that regulates the earth's temperature; however, the amount of water vapor in the atmosphere can change substantially from day to day, whereas other GHG emissions remain in the atmosphere for longer periods of time. The six common GHGs are described below.

- **Carbon Dioxide (CO_2).** CO_2 is released to the atmosphere when fossil fuels (oil, gasoline, diesel, natural gas, and coal), solid waste, and wood or wood products are burned.
- **Methane (CH_4)**. CH_4 is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from the decomposition of organic waste in municipal solid waste landfills and the raising of livestock.
- **Nitrous Oxide (N_2O).** N_2O is emitted during agricultural and industrial activities, as well as during combustion of solid waste and fossil fuels.
- **Sulfur Hexafluoride (SF_6)**. SF_6 is commonly used as an electrical insulator in high voltage electrical transmission and distribution equipment such as circuit breakers, substations, and transmission switchgear. Releases of SF_6 occur during maintenance and servicing as well as from leaks of electrical equipment.
- **Hydrofluorocarbons (HFCs) and Perfluorocarbons (PFCs)**. HFCs and PFCs are generated in a variety of industrial processes. Although the amount of these gases emitted into the atmosphere is small in terms of their absolute mass, they are potent agents of climate change due to their high global warming potential.

GHGs can remain in the atmosphere long after they are emitted. The potential for a particular GHG to absorb and trap heat in the atmosphere is considered its global warming potential (GWP). The reference gas for measuring GWP is CO_2, which has a GWP of one. By comparison, CH_4 has a GWP of 25, which means that one molecule of CH_4 has 25 times the effect on global warming as one molecule of CO_2. Multiplying the estimated emissions for non-CO_2 GHG by their GWP determines their CO_2e, which enables a project's combined global warming potential to be expressed in terms of mass CO_2 emissions. The GWPs and estimated atmospheric lifetimes of the common GHGs are shown in *Table 5.6-1*, *Global Warming Potential (GWP) of Common GHG (100 Year Horizon)*.

Table 5.6-1
GLOBAL WARMING POTENTIAL (GWP) OF COMMON GHG (100-YEAR HORIZON)

GHG	GWP(A)	GHG	GWP(A)
Carbon Dioxide (CO_2)	1	Perfluorocarbons (PFCs)	
Methane (CH_4)	25	CF_4	6,500
Nitrous Oxide (N_2O)	298	C_2F_6	9,200
Hydrofluorocarbons (HFCs)		C_4F_{10}	7,000
HFC-23	14,800	C_6F_{14}	7,400
HFC-134a	1,430	Sulfur Hexafluoride (SF_6)	22,800
HFC-152a	140		
HCFC-22	1,700		

Source: CARB 2014
A) GWPs are based on the United Nations Intergovernmental Panel on Climate Change (U.N. IPCC) 4th Assessment Report.

STATEWIDE GHG EMISSIONS

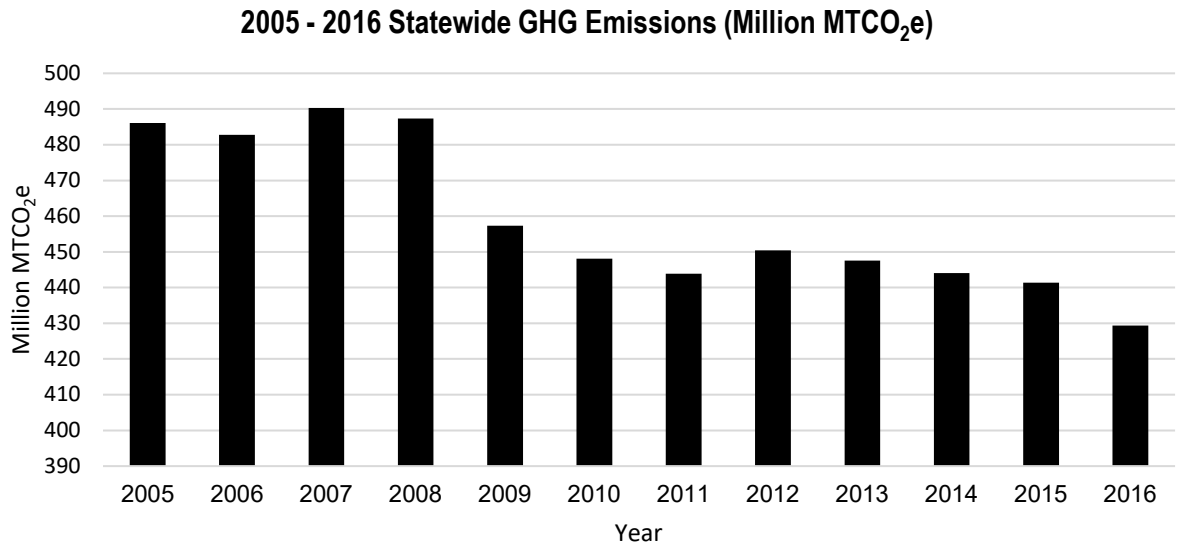
CARB prepares an annual statewide GHG emissions inventory using regional, State, and Federal data sources, including facility-specific emissions reports prepared pursuant to the State's Mandatory GHG Reporting Program. The statewide GHG emissions inventory helps CARB track progress towards meeting the State's GHG emissions target of 431 million $MTCO_2e$ set by AB 32, as well as establish and understand trends in GHG emissions[1]. Statewide GHG emissions for the 2005 – 2016 time period are shown in *Table 5.6-2*, *2005-2016 Statewide GHG Emissions (Million $MTCO_2e$)*.

As shown in *Table 5.6-2*, statewide GHG emissions have generally decreased over the last decade, with 2015 levels (440 million $MTCO_2e$) approximately 10 percent less than 2004 levels (488 million $MTCO_2e$). The transportation sector (169 million $MTCO_2e$) accounted for more than one-third (approximately 39.4percent) of the State's total GHG emissions inventory (429 million $MTCO_2e$) in 2015.

[1] CARB approved use of 431 million $MTCO_2e$ as the state's 2020 GHG emission target in May 2014. Previously, the target had been set at 427 million $MTCO_2e$.

Table 5.6-2
2005-2016 STATEWIDE GHG EMISSIONS (MILLION $MTCO_2e$)

Scoping Plan Sector	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16
Agriculture	34	35	36	36	33	34	35	36	35	36	34	34
Commercial/Residential	42	43	43	44	44	45	46	43	44	37	38	39
Electric Power	108	105	114	120	101	90	88	95	90	88	84	69
High GWP	9	10	11	12	12	14	15	16	17	18	19	20
Industrial	96	93	90	91	88	91	91	91	94	94	92	90
Recycling and Waste	8	8	8	8	8	8	8	8	9	9	9	9
Transportation	189	189	189	178	170	165	162	161	161	162	166	169
TOTAL $MMTCO_2e$[(A)]	***486***	***483***	***490***	***487***	***457***	***448***	***444***	***450***	***448***	***444***	***441***	***429***



Source: CARB 2018b
A) Totals may not equal due to rounding. CARB GHG inventory uses GWPs based on the U.N. IPCC's 4th Assessment Report.

EXISTING PROJECT SITE GHG EMISSIONS

The existing land uses within the project area contribute to existing city, regional, and statewide GHG emissions. The project area's existing GHG emissions, presented below in *Table 5.6-3*, *Planning Area Existing GHG Emissions*, were estimated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2. GHG emissions generated within the planning area primarily come from the area, energy, and mobile sources described in *Section 5.5*, *Air Quality*, as well as the following addition sources specific to GHG emissions:

- **Energy Use and Consumption:** Emissions generated from purchased electricity and natural gas. As estimated using CalEEMod, the existing land uses in the planning area

use and consume approximately 4,171,930 kilowatt-hours (kWh) of electricity per year and 3,283,970 thousand British Thermal Units (kBtu) of natural gas per year.

- **Solid Waste Disposal:** Emissions generated from the transport and disposal of waste generated by the existing light industrial uses. CalEEMod estimates approximately 389 tons of solid waste are generated per year by the people working in the planning area.
- **Water/wastewater:** Emissions from electricity used to supply water to the light industrial buildings, and treat the resulting wastewater generated. As estimated in CalEEMod, the existing land uses within the Planning Area wouldn't use any water per year for outdoor use but would use approximately 72.6 million gallons of water per year for indoor use (e.g., bathroom faucets).

The project area's existing GHG emissions were estimated using default emissions assumptions provided by CalEEMod, with the project-specific modifications described in *Section 5.5.2* and below:

- **Mobile Sources.** The default weekday trip generation rates for the proposed land use types were replaced with trip generation rates contained in the Traffic Impact Study (TIS) prepared for the project (Fehr & Peers, 2019). According to the TIS, the existing land uses generate approximately 1,248 trips per weekday[2]. CalEEMod does not estimate N_2O emissions from on-road vehicle travel or off-road construction sources. To account for this, CalEEMod emissions estimates were adjusted as follows:
  - N_2O emissions were estimated for the project by comparing the ratio of CO_2 and N_2O emissions for the on-road (light-duty vehicles) contained in the State's most recent GHG inventory (CARB 2018c, 2018d). In 2016, statewide CO_2 and N_2O emissions estimates for the on-road transportation sector (light-duty gasoline vehicles) were 115.4 and 0.005 million metric tons, respectively (N_2O emissions are therefore equal to 0.004 percent of CO_2 emissions for this sector).
  - Based on the latest estimate available from CARB, the LCFS regulation resulted in a 3.7 percent reduction in average carbon intensity content in 2017, thus the CalEEMod estimate of CO_2 emissions was reduced by accordingly (CARB 2018c).

- **Energy Use and Consumption.** In addition to natural gas usage, the existing land uses in the Project area would generate indirect GHG emissions from electricity use. SCE provides electricity service in the City of Duarte. The CalEEMod default GHG intensity values for this electric service provider are from 2012 and do not represent existing and future reductions in GHG intensity that have been achieved under the State's RPS. To account for this, CalEEMod default assumptions regarding energy use were adjusted as follows:
  - The SCE GHG intensity value was reduced based on an increase in renewable energy mix from 20 percent under estimated Year 2012 conditions (the CalEEMod default data year) to 33 percent under existing conditions (2019, based on 2017 available data from SCE). This adjustment reduced the estimated amount of CO_2 produced by the SCE energy mix from approximately 702 pounds/megawatt-hour (lbs/MWh) to 531 lbs/MWh (SCE 2016).

[2] Due to minor differences and rounding in square footages and trip rates, the CalEEMod emissions estimates for existing 2019 conditions are based on a total of 1,250 daily weekday trips.

- Electricity generation emissions factors for CH_4 (0.033 lbs/MWh) and N_20 (0.004 lbs/mWh were obtained from the U.S. EPA's EGRID database for year 2016 (U.S. EPA 2017).

Existing GHG emissions from on-site uses are summarized in *Table 5.6-3*.

Table 5.6-3
EXISITNG GHG EMISSIONS

Source	GHG Emissions (Metric Tons / Year)			
	CO_2	CH_4	N_2O	Total $MTCO_2e$
Area	<0.0	<0.0	0.0	<0.0
Energy	1,178.8	0.1	<0.0	1,183.6
Mobile(A)	1,695.3	0.1	0.1	1,718.7
Waste	79.0	4.7	0.0	195.8
Water	250.6	2.4	0.1	327.3
Total Existing GHG Emissions(B)	3,203.2	7.2	0.1	3,425.4

Source: MIG, 2019 (see Appendix E)
A) CalEEMod 2016.3.2 does not incorporate GHG emissions reductions resulting from the State's LCFS. Although LCFS largely reduces GHG from upstream fuel processing (and not individual tailpipe emissions) the aggregate effect on transportation fuels is a reduction in GHG emissions throughout the state from lower fuel carbon content. Accordingly, this EIR analysis reduces transportation combustion emissions pursuant to LCFS requirements. Based on the latest estimate available from CARB, the LCFS regulation resulted in a 3.7percent reduction in average carbon intensity content in 2017. Thus, CalEEMod transportation emissions were adjusted by multiplying by a factor of .963 to account for the LCFS regulation (CARB 2018c).
B) Totals may not equal due to rounding.

ENERGY SETTING

Energy use can affect air quality and other natural resources adversely. Energy is primarily categorized in three areas: electricity, natural gas, and fuels used for transportation. According to the United States Energy Information Administration (U.S. EIA), California is the most populous state in the United States, representing 12 percent of the total national population, and has the largest economy, second only to Texas in total energy consumption. However, California has one of the lowest per capita energy consumption levels in the United States. This is a result of California's mild climate, extensive efforts to increase energy efficiency, and implementation of alternative technologies. California leads the nation in electricity generation from solar, geothermal, and biomass resources (U.S. EIA 2018).

Total annual energy consumption in the United States as of October 2018 was approximately 83.7 quadrillion Btu (U.S. EIA 2019). Fossil fuels provided approximately 79 percent of this energy, consisting of petroleum (approximately 30 percent), natural gas (approximately 33 percent), and coal (approximately 16 percent) resources. Total renewable sources accounted for approximately 12percent of energy consumption, and nuclear electric power accounted for approximately 9percent of the energy consumed in the United States. In 2016, California was ranked the fourth lowest state in terms of energy use on a per capita basis (199 million Btu per person).

Electricity

Almost half of California's net electricity generation was from renewable resources, including hydropower, in 2017 (U.S. EIA 2019). In 2017 the California electric system used 292,039 Gigawatt hours (GWh) of electricity, of which 206,336 GWh was produced in-state (CEC 2018a). Los Angeles County consumed 67,598 GWh of electricity, about 23 percent of the State's electricity consumption (CEC, 2019a).

SCE is the utility provider for the City of Duarte. In the 2017 fiscal year, SCE sold approximately 85,879 million kWh of electricity in total (SCE 2018a); approximately 46percent of the electricity that SCE delivered to customers came from carbon-free resources, including solar energy (approximately 13percent, wind energy (approximately 10percent), and geothermal energy (approximately 8percent) (SCE 2018b).

Based on the CalEEMod emissions estimates prepared for the project, existing on-site development is estimated to consume approximately 3,283,970 kWh per year. Based on a service population of approximately 262, this works out to approximately 15,923 kWh/service population annually.

Natural Gas

California accounts for less than one percent of total U.S. natural gas reserves and production; however, almost two-thirds of California households use natural gas for home heating (U.S. EIA 2019). In 2017, California consumed about 25,142 million therms of natural gas. Approximately 18 percent of natural gas was consumed by the residential sector. Los Angeles County consumed approximately 2,956 million therms of natural gas in the same year, accounting for 12 percent of statewide consumption. The residential sector made up approximately 38 percent of county-wide consumption (CEC 2019b).

The Southern California Gas Company (SoCalGas) provides natural gas service to the City. SoCalGas facilities located within the City of Duarte include medium pressure mains (pipelines) that feed from high pressure lines through pressure regulating stations. SoCalGas is the principal distributor of natural gas in Southern California and provides natural gas for residential, commercial, and industrial markets. The annual natural gas sale to all markets in 2017 was approximately 5,142 million Btu.

Based on the CalEEMod emissions estimates prepared for the project, existing on-site development is estimated to consume approximately 3,283,970 kBtu per year. Based on a service population of approximately 262, this works out to approximately 12,474 kBtu/service population annually.

Transportation

California's transportation sector consumed 79.3 million Btu of energy per capita in 2017, which ranked 32nd in the nation (U.S. EIA 2017). Most gasoline and diesel fuel sold in California for motor vehicles is refined in California to meet State-specific formulations required by CARB.

According to the Board of Equalization (BOE), statewide taxable sales figures indicate a total of 15,584 million gallons of gasoline and 3,124 million gallons of diesel fuel were sold in 2017

(CEC, 2019c; CDFTA 2018). Although exact estimates are not available by County, retail fuel outlet survey data indicate Los Angeles County accounted for approximately 23.4 percent and 9.7 percent of total statewide gasoline and diesel sales, respectively (CEC, 2018b).

It is not possible to know the exact amount of vehicle miles travelled, or VMT, in the Los Angeles County region; however, several estimates are available. According to Caltrans' Traffic Data Branch, there were approximately 201 billion vehicle miles travelled on the State Highway System alone from January 2018 to January 2019 (Caltrans 2019). The SCAG 2016 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) estimates VMT in the six-county SCAG region to be approximately 152 billion miles per year and approximately 179 billion miles per year in its 2012 and 2040 baseline VMT modeling scenarios (see *Section 5.6.1* for a discussion of SCAG's RTP/SCS).[3] For Los Angeles County, the SCAG RTP/SCS estimates annual VMT to be approximately 78 and 85 billion miles per year for the 2012 and 2040 baseline VMT modeling scenarios. The 2016 RTP/SCS does not contain an estimate of annual VMT for the year 2020. According to CARB's Emission Factor (EMFAC) Model 2017 Web Database, annual VMT estimates for the SCAG region and Los Angeles County are equal to approximately 195 billion miles per year and 104 billion miles per year, respectively (CARB 2019).[4]

The TIS prepared for the proposed project identifies the existing land uses in the project area generate approximately 7,457 trips per weekday (Fehr & Peers 2019). This level of trip generation was estimated by CalEEMod to produce 3,884,754 vehicle miles travelled, or VMT, per year (see Appendix E).

5.6.3 SIGNIFICANCE THRESHOLD CRITERIA

METHODOLOGY

The CalEEMod software was used to estimate the direct (e.g., mobile sources) and indirect (e.g., electricity and natural gas consumption) source emissions from construction and operation of the updated Duarte Station Specific Plan. Mobile source emissions calculations in CalEEMod were supplemented with traffic trips within the TIS.

GHG SIGNIFICANCE THRESHOLDS

To provide guidance to local lead agencies on determining the significance of GHG emissions in their CEQA documents, the SCAQMD convened the first GHG Significance Threshold Working Group (Working Group) meeting on April 30, 2008. To date, the Working Group has convened a total of 15 times, with the last meeting taking place on September 28, 2010. Based on the last Working Group meeting, the SCAQMD identified an interim, tiered approach for evaluating GHG emissions intent on capturing 90 percent of development projects where the SCAQMD is not the

[3] SCAG 2016 RTP/SCS VMT estimates are derived by multiplying the 2012 and 2040 SCAG region population estimates shown on page 63 of the 2016 RTP/SCS by the 2012 and 2040 baseline VMT per capita estimates shown on page 167 of the 2016 RTP/SCS (SCAG 2016). These values align with the baseline values reported by CARB in Appendix B of its evaluation of the performance of the 2016 RTP/SCS (CARB 2016).

[4] CARB's EMFAC 2017 Web Database includes VMT estimates for vehicles such as heavy duty trucks that are not covered by the SCAG 2016 RTP/SCS and thus is a higher estimate of VMT in the SCAG and Los Angeles County regions.

lead agency. The following describes the basic structure of the SCAQMD's tiered, interim GHG significance thresholds:

A. Tier 1 consists of evaluating whether or not the project qualifies for applicable CEQA exemptions.
B. Tier 2 consists of determining whether or not a project is consistent with a greenhouse gas reduction plan. If a project is consistent with a greenhouse gas reduction plan, it would not have a significant impact.
C. Tier 3 consists of using screening values at the discretion of the Lead Agency; however, the Lead Agency should be consistent for all projects within its jurisdiction. The following thresholds were proposed for consideration:
    a. 3,000 $MTCO_2e$/yr for all land use types; or
    b. 3,500 MTCO2e/yr for residential; 1,400 MTCO2e/yr for commercial; 3,000 MTCO2e/yr for mixed use projects.
D. Tier 4 has three options for projects that exceed the screening values identified in Tier 3:
    a. Option 1: Reduce emissions from business-as-usual by a certain percentage (currently undefined)
    b. Option 2: Early implementation of applicable AB 32 Scoping Measures
    c. Option 3: For plan-level analyses, analyze a project's emissions against an efficiency value of 6.6 MTCO2e/yr/service population (SP) by 2020 and 4.1 MTCO2e/yr/service population by 2035. For project-level analyses, analyze a project's emissions against an efficiency value of 4.8 and 3.0 MTCO2e/yr/SP for the 2020 and 2035 calendar years, respectively.

The Duarte Station Specific Plan's horizon year is 2025, five years after the SCAQMD's 2020 Tier 4 efficiency target. As such, a 2030 plan-level efficiency target has been derived based on the 2020 efficiency targets, since the next State GHG reduction target under SB 32 is for the year 2030. The resulting, interpolated efficiency target for the year 2030 is 4.0 $MTCO_2e$/yr/SP.[5]

CEQA SIGNIFICANCE CRITERIA

The issues presented in the Initial Study Environmental Checklist (*CEQA Guidelines* Appendix G) have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

[5] To remain on track with future GHG reduction goals, it is necessary to identify the efficiency target for 2030. Pursuant to existing legislation, GHG emissions are required to be reduced to 40 percent below 1990 levels by 2030. Using the efficiency metric for 2020, 6.6 $MTCO_2e$/yr/SP (the same efficiency as 1990 pursuant to AB 32 reduction requirements) and multiplying through by 60 percent (i.e., 40 percent below 1990 levels) results in a derived efficiency metric of 4.0 $MTCO_2e$/yr/SP for year 2030. The City is not applying or proposing to use 4.0 $MTCO_2e$/yr/SP as a CEQA GHG significance threshold for general use; rather, it is only intended for use on this Project.

- Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

- Conflict with or obstruct a state or local plan for reviewable energy or energy efficiency.

Based on these significance thresholds and criteria, the project's effects have been categorized as either "no impact," a "less than significant impact," or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

The standards used to evaluate the significance of impacts are often qualitative rather than quantitative because appropriate quantitative standards are either not available for many types of impacts or are not applicable for some types of projects.

5.6.4 PROJECT IMPACTS AND MITIGATION MEASURES

GREENHOUSE GAS EMISSIONS

GREENHOUSE GAS EMISSIONS GENERATED BY DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT COULD HAVE A SIGNIFICANT IMPACT ON GLOBAL CLIMATE CHANGE.

Impact Analysis: Implementation of the Duarte Station Specific Plan would result in construction and operational activities that would generate GHG emissions. As described in more detail below, the GHG emissions generated from build-out of the project area would not exceed SCAQMD thresholds and would result in a less-than-significant impact on GHG emissions.

Construction Emissions
Implementation of the Duarte Station Specific Plan would result in construction activities that would generate GHG emissions primarily from fuel combustion in equipment and worker, vendor, and haul trips to and from future development projects during demolition, site preparation, grading, building construction, paving, and architectural coating activities. As described in *Section 5.5.4*, construction would generally take place in two phases. Phase 1 would begin in 2020, and Phase 2 would begin in 2022. To determine if anticipated typical construction activities could result in a significant GHG emissions impact, construction emissions were modeled using CalEEMod, Version 2016.3.2.

Generally, the SCAQMD recommends amortizing construction GHG emissions over a 30-year period since construction activities for a project typically only occurring towards the start of a project and cease to emit GHGs upon completion. This normalizes construction emissions so that they can be grouped with operational emissions and compared to appropriate thresholds, plans, etc. The annual construction-related GHG emissions that could with implementation of the Specific Plan are shown in *Table 5.6-4*, *Construction GHG Emission Estimates*.

Table 5.6-4
CONSTRUCTION GHG EMISSIONS ESTIMATES

Source	GHG Emissions (Metric Tons / Year)			
	CO_2	CH_4	N_2O	Total MTCO2e
Phase 1 Construction Emissions				
2020	1,551.7	0.1	0.0	1,555.1
2021	161.1	<0.0	0.0	161.5
Phase 2 Construction Emissions				
2022	1,133.0	0.1	0.0	1,135.8
2023	128.3	<0.0	0.0	128.7
Total Emissions	2,574.1	0.3	0.0	2,981.1
30-Year Amortization	--	--	--	99.4
Source: MIG 2019. See Appendix E				

Operational Emissions
Once operational, the Duarte Station Specific Plan would result in GHG emissions from mobile, energy, and area sources. Mobile sources would result primarily in emissions of CO_2, with emissions of CH_4 and NO_2 also occurring in minor amounts. In addition to mobile sources, GHG emissions would also be generated from natural gas usage, electricity use, water conveyance and use, wastewater treatment, and solid waste disposal. Natural gas use would result in the emission of two GHGs: CH_4 (the major component of natural gas) and CO_2 (from the combustion of natural gas). Electricity use associated with both the physical usage of the development, as well as the energy needed to transport water/wastewater, would result in the production of GHGs if the electricity is generated through non-renewable sources (i.e., combustion of fossil fuels). Solid waste generated by the proposed project, would contribute to GHG emissions in a variety of ways. Landfilling and other methods of disposal use energy when transporting and managing the waste. In addition, landfilling, the most common waste management practice, results in the release of CH_4 from the decomposition of organic materials.

Potential operational GHG emissions resulting from the project were modeled using CalEEMod, Version 2016.3.2. The modeling buildout the Specific Plan is consistent with the change in land uses described *Section 5.5.4*, as well as the following adjustment to default model assumptions:

- **Mobile Sources.** The default, weekday trip generation rates for existing land use types were replaced with trip generation rates contained in the TIS prepared for the Duarte Station Specific Plan (Fehr & Peers 2019). According to the TIS, the proposed land uses generate approximately 7,457 total daily vehicle trips per weekday. The Saturday and Sunday trip generation rates were scaled based on the difference between default weekday trip generation rates in CalEEMod and the TIS.
    - N_2O emissions were estimated for the project by comparing the ratio of CO_2 and N_2O emissions for the on-road (light-duty vehicles) contained in the State's most recent GHG inventory (CARB 2018c, 2018d). In 2016, statewide CO_2 and N_2O emissions estimates for the on-road transportation sector (light-duty gasoline vehicles) were 115.4 and 0.005 million metric tons, respectively (N_2O emissions are therefore equal to 0.004 percent of CO_2 emissions for this sector).
    - The CalEEMod estimate of CO_2 emissions was reduced by 10 percent to reflect the reduction in carbon intensity that would be achieved under the State's Low Carbon Fuel Standard by 2020.

- **Energy Use and Consumption.** In addition to natural gas usage, operation of the proposed project would generate GHG emissions from electricity use. CalEEMod contains default energy efficiency values that are based on the 2016 energy code. To account for more efficient energy use that is anticipated to occur under the 2019 and subsequent energy codes, CalEEMod default assumptions regarding energy use were adjusted as follows:
    - CalEEMod default energy efficiency values were adjusted downwards by 53percent for residential land uses and 30 percent for non-residential land uses (lighting only) to reflect the CEC's adoption of the 2019 energy efficiency standards, which will take effect January 1, 2020 (CEC, 2018c). The adjustment for residential land uses includes an on-site electric renewable energy system, such as a solar PV system.

The total unmitigated GHG emissions estimated to occur under buildout of the Duarte Station Specific Plan are shown below in *Table 5.6-5*, *2025 Buildout Scenario GHG Emissions*. As described above, the SCAQMD recommends the use of an efficiency threshold for plan-level analysis in which potential emissions levels are considered in terms of how many GHG emissions would be produced by each resident and employee using a project's facilities. Thus, the adjusted 2030 plan-level efficiency target of 4.0 $MTCO_2e$/yr/SP was used.

Table 5.6-5
2025 BUILDOUT SCENARIO GHG EMISSIONS

Source	GHG Emissions (MTCO2e / Year)		
	Existing (2019)	Buildout (2040)	Net Change
Area	<0.0	328.6	328.5
Energy	1,183.6	2,427.7	1,244.1
Mobile(A)	1,718.7	8,356.9	6,638.2
Waste	195.8	411.3	215,6
Water	327.3	440.1	122.8
Operational Total	3,425.4	11,964.0	8,638.6
Construction	--	99.4	99.4
Total Emissions	3,425.4	12,064.0	8,539.2
Service Population (SP)	262	4,625 (B)	4,363
MTCO2e/SP	13.1	2.6	-10.5
SCAQMD Tier 4 Adjusted 2030 Plan Level Efficiency Threshold	--	4.0	--
Exceeds Threshold?	--	No	--

Source: MIG 2019 (see Appendix E)
Notes: See *Table 5.6-3* for existing GHG emissions in the Specific Plan area.

(A) CalEEMod 2016.3.2 does not incorporate GHG emissions reductions resulting from the State's LCFS. Although LCFS largely reduces GHG from upstream fuel processing (and not individual tailpipe emissions) the aggregate effect on transportation fuels is a reduction in GHG emissions throughout the state from lower fuel carbon content. Accordingly, this EIR analysis reduces transportation combustion emissions pursuant to LCFS requirements. Based on the latest estimate available from CARB, the LCFS regulation resulted in a 3.7percent

Table 5.6-5
2025 BUILDOUT SCENARIO GHG EMISSIONS

Source	GHG Emissions (MTCO2e / Year)		
	Existing (2019)	Buildout (2040)	Net Change
reduction in average carbon intensity content in 2017 and should result in a 20percent reduction in average carbon intensity in 2020. Thus, CalEEMod transportation emissions were adjusted by multiplying by a factor of .963 for existing and 0.9 for project emissions to account for the LCFS regulation (CARB 2018c). (B) Based upon SCAG's average square feet (SF)/employee (SCAG 2016): General Office building is 280 SF/employee (100,000SF / 280SF/employee = 357 employees); Restaurant and retail is 475 SF/employee (12,500 SF / 475SF/employee = 26 employees). Based on the 2019 Department of Finance, in 2019, there are approximately 3.03 people per dwelling unit (1,400 units * 3.03 people/DU = 4,242). This yields a total service population of 4,625.			

As shown above in *Table 5.6-5*, buildout of the proposed Duarte Station Specific Plan would result in a net increase in total GHG emissions of approximately 8,539.2 $MTCO_2e$/yr, compared to 2019 conditions. Comparing 2019 emission levels to 2025 emission levels somewhat limits the ability to distinguish changes in emissions that occur from the proposed changes in land uses—as opposed to regulatory requirements (e.g., upgraded building efficiency standards, LCFS, etc.) that would be in place whether or not the Specific Plan is adopted. It would also be inappropriate to use a bright line, mass-based threshold to evaluate the significance of GHG emissions since the proposed project being analyzed at programmatic level. Instead, the total GHG emissions associated with the project are evaluated on a per-service population (SP) basis to determine if GHG emissions in the planning area would be consistent with the GHG reduction targets set forth in AB 32, SB 32, and Executive Order S-03-05. As described under Section 5.6.3, the efficiency target for 2030 is 4.0 $MTCO_2e$/yr/SP.

The GHG emission estimates generated by CalEEMod indicate the project would emit approximately 12,064.0 $MTCO_2e$ annually by 2025. Dividing the Specific Plan's service population (4,625 employees and residents) results in an efficiency metric of 2.6 $MTCO_2e$/yr/SP. Not only does this efficiency metric meet the derived SCAQMD efficiency threshold of 4.0 $MTCO_2e$/yr/SP, it also vastly improves upon the existing efficiency of project land uses (i.e., 13.1 $MTCO_2e$/yr/SP, an approximate 80 percent reduction).

As shown in *Table 5.6-5*, the primary source of GHG emissions resulting from buildout of the Specific Plan is mobile sources, specifically the apartment land uses. The residential apartment land use accounts for approximately 89 percent of total annual VMT occurring with buildout of the Specific Plan. The TIS prepared for the project indicates the land use trip generation rates were reduced to reflect: 1) the characteristics of the street system servicing the project site; 2) accessibility of routes to and from the site; 3) locations of commercial centers to which the new residents could be drawn; and 4) locations of residential areas from which other persons would be drawn (Fehr & Peers 2019; pg. 24). As described under *Section 5.5.4*, these reductions accounted for in the TIS would reduce 22.5 percent of the default total vehicle trips (i.e., 9,626 total daily weekday trips) that would be generated under buildout.

As discussed above, implementation of the Specific Plan would reduce per-service population GHG emissions from approximately 13.1 $MTCO_2e$/yr/SP to 2.6 $MTCO_2e$/yr/SP, which is consistent with the SCAQMD's derived 2030 GHG efficiency threshold of 4.0 $MTCO_2e$/yr/SP. In addition, the project site would be well served by high-quality transit amenities and non-motor vehicle infrastructure and would also be in proximity to areas of interest (e.g., commercial centers) that would reduce GHG emissions from the largest emission source (i.e., mobile

sources). Since the proposed Specific Plan would reduce per-service population GHG emissions and be consistent with the SCAQMD's derived 2030 GHG emission threshold, this impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

CONSISTENCY WITH APPLICABLE GHG PLANS, POLICIES, OR REGULATIONS

IMPLEMENTATION OF THE PROPOSED PROJECT COULD CONFLICT WITH AN APPLICABLE GREENHOUSE GAS REDUCTION PLAN, POLICY, OR REGULATION.

Impact Analysis: As discussed previously, implementation of the proposed Duarte Station Specific Plan would result in construction and operational GHG emissions. The State, SCAG, and City of Duarte have adopted plans to curtail the emission of GHGs.

CARB Scoping Plan
The 2017 Climate Change Scoping Plan is CARB's primary document used to ensure State GHG reduction goals are met. The plan identifies an increasing need for coordination among State, regional, and local governments to achieve the GHG emissions reductions that can be gained from local land use planning and decisions. The major elements of the 2017 Climate Change Scoping Plan, which is designed to achieve the State's 2030 GHG reduction goal, are listed in Section 5.6.1. Nearly all of the specific measures identified in the 2017 Climate Change Scoping Plan would be implemented at the State level, with CARB and/or another state or regional agency having the primary responsibility for achieving required GHG reductions. The proposed Specific Plan, therefore, would have limited ability to directly conflict with any of the specific measure identified in the 2017 Climate Change Scoping Plan. Nonetheless, the overarching goal of the 2017 Climate Change Scoping Plan is to achieve a 40 percent reduction in GHG emissions below 1990 levels by the Year 2030. To achieve this statewide goal, the 2017 Climate Change Scoping Plan recommends a statewide efficiency metric of six metric tons per capita by 2030 and two metric tons per capita by 2050. These statewide per capita targets are based on the statewide GHG emissions inventory that includes all emissions sectors in the State. As shown in *Table 5.6-5*, the proposed Specific Plan would emit approximately 12,064 $MTCO_2e$ annually by 2025. When divided through by the population the Planning Area would support (i.e., 4,625 people) the resulting per capita efficient metric would be approximately 2.6 $MTCO_2e$/yr/capita. This is less than half of CARB's per capita efficiency metric of six metric tons per capita by 2030.

The proposed Specific Plan would, at buildout, be below the 2017 Climate Change Scoping Plan's recommended GHG emissions efficiency metric for 2030. Therefore, buildout of the proposed Specific Plan would not conflict with the 2017 Climate Change Scoping Plan. This impact would be less than significant.

SCAG 2016 RTP/SCS
The 2016 RTP/SCS is a growth strategy and transportation plan whose primary intent is to demonstrate how the SCAG region will meet its GHG reduction target through the year 2040. The 2016 RTP/SCS contains goals and land use policies designed to improve mobility, strengthen the economy and sustainability, and maintain and optimize the performance of the existing transportation system. *Table 5.1-1 Consistency with 2016 SCAG RTP/SCS,* in Section

5.1 on Land Use, summarizes the Specific Plan's consistency with applicable goals and land use policies for the RTP/SCS.

As shown in *Table 5.1-1* the Specific Plan would be consistent with applicable goals and policies identified in the 2016 RTP/SCS. It should also be noted that the primary goal of SCAG's RTP/SCS is to reduce emissions by eight percent per capita by 2020, 18 percent per capita by 2035, and 21 percent per capita by 2040 relative to 2005 levels. This level of reduction would meet and exceed the region's GHG targets set by CARB (eight percent per capita by 2020 and 13 percent per capita by 2035).

Although the proposed Specific Plan is estimated to increase annual VMT generated by land uses in the planning area by approximately 19,581,600 miles per year, it would not be in conflict with the SCAG 2016 RTP/SCS. As described under the previous discussion, the proposed Specific Plan's location and non-vehicular infrastructure is estimated to reduce VMT generated by the land uses within the planning area by approximately 22.5 percent, compared to default trip generation. In addition, the Specific Plan increases the number of jobs in the area, and introduces residential land uses in an area that is well served by regional transit (e.g., the Metro Gold Line). As such, the use of regional transit facilities and non-vehicular modes of transportation are expected to increase in the planning area and its vicinity under Specific Plan buildout conditions.

The proposed Specific Plan is consistent the goals and policies of the 2016 RTP/SCS and is estimated to reduce annual VMT by approximately 22.5 percent compared to standard trip generation rates. As such, the proposed Specific Plan would be consistent with the 2016 RTP/SCS. This impact would be less than significant.

Duarte Municipal Code and Energy Action Plan
The City of Duarte does not have an applicable plan, policy, or regulation specifically adopted for the purpose of reducing the emissions of GHGs. The *Duarte Municipal Code* Chapter 19.52 (Sustainable Development Practices) promotes natural resources conservation, increased energy efficiency, and use of sustainable practices in the development process and the implementation of State laws involving reducing GHG emissions, water conservation and other resource conservation directives for all new construction in the City. The City also adopted an *Energy Action Plan* on November 13, 2012, created in partnership with the SGVCOG and SCE. The plan provides the City guidance in following the CEESP by ascertaining existing and future energy use and develops an energy efficiency strategy to meet future energy reduction goals. As discussed above, the proposed project would comply with the 2019 Title 24 Building Code, which is approximately 53 percent more efficient than the 2016 standards for residential land uses and 30 percent more efficient for non-residential land uses. Development proposed in the Planning Area would not conflict with City policies and goals.

In addition, the proposed project would also be subject to all applicable regulatory requirements, further reducing project-related GHG emissions. The proposed project is a transit-oriented development with a mix of commercial, retail, and residential uses that would inherently reduce vehicle trips, VMT, and related GHG emissions. The proposed project would not conflict with or impede implementation of reduction goals identified in AB 32, SB 32, and other strategies to help reduce GHG emissions. Therefore, the proposed project would not conflict with an applicable GHG reduction plan, policy, or regulation. Impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

ENERGY CONSUMPTION

DEVELOPMENT FACILIATED UNDER IMPLEMENTATION OF THE PROPOSED PROJECT COULD USE ENERGY IN A WASTEFUL, INEFFICIENT, OR NECESSARY WAY.

Impact Analysis: Short-term energy demand would result from construction activities occurring as a result of buildout of the Specific Plan. Short-term demand would include energy needed to power worker and vendor vehicle trips as well as construction equipment. Long-term energy demand would result from operation of businesses and land uses within the Specific Plan area, which would include activities such as lighting, heating and cooling of structures, etc. Operational energy demands would typically result from vehicle trips, electricity and natural gas usage, and water and wastewater conveyance.

Construction Energy Consumption
Based on market conditions, the proposed project is expected to be constructed in two phases over the next approximately six years. *Table 5.6-6*, *Construction Fuel Consumption*, provides an estimate of construction fuel consumption based on information provided by the CalEEMod air quality computer model (see Appendix E). As shown in *Table 5.6-6*, construction of the proposed project is estimated to consume approximately 267,856 gallons of fuel. There are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction site in the region or State. Furthermore, all diesel-fueled construction vehicles would be required to meet the latest emissions standards. Since on- and off-road vehicles would be required to construct the project, and these pieces of equipment would be subject to the latest energy efficient standards, fuel consumption would not be inefficient, wasteful, or unnecessary.

Table 5.6-6
CONSTRUCTION FUEL CONSUMPTION

Equipment	Quantity	Horsepower	Load Factor	Fuel Consumption Rate[A] (gallons per hour)	Duration[B] (total hours)	Total Fuel Consumption[C,D] (gallons)
PHASE 1						
Air Compressors	1	78	0.48	1.50	120	179.7
Crane	1	231	0.29	2.68	1610	4,314.2
Rubber Tired Dozers	6	247	0.4	23.71	720	17,072.6
Excavators	4	158	0.38	9.61	640	6,148.1
Forklifts	3	89	0.2	2.14	5,520	11,790.7
Generator Sets	1	84	0.74	3.73	1,840	6,862.5
Graders	1	187	0.41	3.07	160	490.7
Pavers	2	130	0.42	4.37	320	1,397.8
Paving Equipment	2	132	0.36	3.80	320	1,216.5
Rollers	2	80	0.38	2.43	320	778.2
Concrete/Industrial Saws	1	81	0.73	3.55	160	567.6

Table 5.6-6
CONSTRUCTION FUEL CONSUMPTION

Equipment	Quantity	Horsepower	Load Factor	Fuel Consumption Rate[A] (gallons per hour)	Duration[B] (total hours)	Total Fuel Consumption[C,D] (gallons)
Tractors/Loaders/Backhoes	10	97	0.37	14.36	5,630	80,824.3
Welders	1	46	0.45	1.24	1,840	2,285.3
					PHASE 1 TOTAL[D]	133,928
PHASE 2						
Air Compressors	1	78	0.48	1.50	120	179.7
Crane	1	231	0.29	2.68	1610	4,314.2
Rubber Tired Dozers	6	247	0.4	23.71	720	17,072.6
Excavators	4	158	0.38	9.61	640	6,148.1
Forklifts	3	89	0.2	2.14	5,520	11,790.7
Generator Sets	1	84	0.74	3.73	1,840	6,862.5
Graders	1	187	0.41	3.07	160	490.7
Pavers	2	130	0.42	4.37	320	1,397.8
Paving Equipment	2	132	0.36	3.80	320	1,216.5
Rollers	2	80	0.38	2.43	320	778.2
Concrete/Industrial Saws	1	81	0.73	3.55	160	567.6
Tractors/Loaders/Backhoes	10	97	0.37	14.36	5,630	80,824.3
Welders	1	46	0.45	1.24	1,840	2,285.3
					PHASE 2 TOTAL[D]	133,928
					GRAND TOTAL[D]	*267,856*

Notes:
A) Derived using the following equation:
Fuel Consumption Rate = Horsepower x Load Factor x Fuel Consumption Factor; Fuel Consumption Factor for a diesel engine is 0.04 gallons per horsepower per hour (gal/hp/hr) and a gasoline engine is 0.06 gal/hp/hr.
B) Total hours of duration derived from CalEEMod modeling results; refer to Appendix E, *Air Quality/Greenhouse Gas Data*.
C) Total Fuel Consumption calculated using the following equation:
Total Fuel Consumption = Duration in Hours x Fuel Consumption Rate
D) Values may be slightly off due to rounding.

Source: Refer to Appendix E, Air Quality/Greenhouse Gas Data, for CalEEMod assumptions used in this analysis.

Operational Energy Consumption

Operation of the proposed land uses would consume energy in the form electricity, natural gas, and petroleum (i.e., diesel and gasoline). As estimated in CalEEMod, the proposed land uses are estimated to increase natural gas consumption by 17,979,830 kBtu annually and electricity consumption by 5,707,140 kWh annually. As estimated by the TIS prepared for the Specific Plan (refer to Appendix E) and the emissions modeling conducted using CalEEMod defaults, buildout of the proposed Specific Plan is anticipated to result in an increase in trip generation by approximately 19,581,600 annual VMT. Using EMFAC2017, average fuel economy for Los Angeles County (South Coast sub-region) was estimated for light duty automotive (LDA), light duty truck (LDT), and heavy-heavy duty truck (HHDT) vehicle classification under 2025 Specific Plan buildout conditions. Petroleum vehicle fuel consumption associated with operation of the proposed Specific Plan was estimated using these fuel economy values in conjunction with the fleet mix and trip generation values used in CalEEMod. *Table 5.6-7*, *Operational Fuel Consumption* provides an estimate of the annual fuel consumption of vehicles traveling to and from the proposed project.

Table 5.6-7
OPERATIONAL FUEL CONSUMPTION

Vehicle Type	Percent of Vehicle Miles Traveled(A)	Annual Vehicle Miles Traveled(B)	Average Fuel Economy (miles per gallon)(C)	Total Annual Fuel Consumption (gallons)(D)
Passenger Cars	76.1(E)	17,857,900	27.4(F)	651,619
Light/Medium Trucks	20.4(G)	4,787,137	14.7(H)	325,900
Heavy Trucks/Other	3.5(I)	821,323	7.2(J)	114,034
Total(K,L)	***100***	***23,466,360***	**--**	***1,071,533***

Notes:
(A) Percent of Vehicle Miles Traveled distribution based on trip characteristics within the CalEEMod model.
(B) Annual VMT calculated by multiplying percent vehicle trips by annual VMT (i.e., Annual VMT x percent of Vehicle Trips).
(C) Average fuel economy derived from EMFAC2017 for Los Angeles County (South Coast sub-region) for the 2025 calendar year.
(D) Total Daily Fuel Consumption calculated by dividing the daily VMT by the average fuel economy (i.e., VMT/Average Fuel Economy).
(E) Percent based on LDA, LDT1, LDT2 and MCY vehicle classifications in CalEEMod.
(F) Based on LDT2 vehicle class in EMFAC2017 for Los Angeles County (South Coast sub-region) for the 2025 calendar year.
(G) Percent based on MDV, LHD1, LHD2, and MHD vehicle classifications in CalEEMod.
(H) Based on LHDT2 vehicle class in EMFAC2017 for Los Angeles County (South Coast sub-region) for the 2025 calendar year.
(I) Percent based on HHD, OBUS, UBUS, SBUS, and MH vehicle classifications in CalEEMod.
(J) Based on HHDT vehicle class in EMFAC2017 for Los Angeles County (South Coast sub-region) for the 2025 calendar year.
(K) Values may be slightly off due to rounding.
(L) Although the TIS provides a daily VMT estimate associated with the proposed Project, the VMT estimates used to calculate total, annual fuel consumption are based on CalEEMod estimates for consistency with the air quality and greenhouse gas emission estimates. The CalEEMod project file was updated with trip generation rates contained in the TIS.

Although trip generation, petroleum, and natural gas and electricity consumption would increase under implementation of the proposed project, consumption rates per service population would decrease from existing conditions (see *Table 5.6-8*, *Energy Consumption per Service Population*).

Table 5.6-8
ENERGY CONSUMPTION BY SERVICE POPULATION

Source	Existing Conditions	Buildout	Percent Change
Annual VMT per SP(A)	14,827	5,104	-65.6
Natural Gas per SP(B)	12,474	4,622	-63.0
Electricity per SP(B)	15,923	2,149	-86.5

Source: MIG 2019
(A) Based on VMT estimates generated in CalEEMod with trip generation rates from Fehr and Peers TIA.
(B) Based on estimates generated by CalEEMod.

As shown in *Table 5.6-8*, increased land use density proposed under the Specific Plan would provide for more efficient use of resources within the City, thus ensuring that the proposed Project would not result in the wasteful or inefficient use of energy resources. Additionally, as discussed above, the proposed Specific Plan would be consistent with the 2016 RTP/SCS's goals and policies, which are aimed at reducing transportation related GHG emissions.

Thus, the Specific Plan would not result in a wasteful, inefficient, or unnecessary consumption of energy resources. This would be a less than significant impact.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

CONSISTENCY WITH APPLICABLE ENERGY EFFICIENCY AND RENEWABLE ENERGY PLANS OR REGULATIONS

IMPLEMENTATION OF THE SPECIFIC PLAN COULD CONFLICT OR OBSTRUCT A STATE OR LOCAL PLAN FOR RENEWABLE ENERGY OR ENERGY EFFICIENCY.

Impact Analysis: Development proposed would be consistent with the current Green Building Energy Codes and would not interfere with the installation of any renewable energy system. In addition to energy efficiency measures required by Title 24, the City also adopted an *Energy Action Plan* on November 13, 2012, created in partnership with the SGVCOG and SCE. The plan provides the City guidance in following the CEESP by ascertaining existing and future energy use and develops an energy efficiency strategy to meet future energy reduction goals. As the plan is a part of a unified regional framework, it also assists in identifying a clear path to successfully implementing actions, policies, and goals that will achieve the City's reduction targets. Energy efficiency targets that would be incorporated as part of the *Energy Action Plan* include, but are not limited to:

- Reduce household electricity consumption 20 percent by 2020
- Reduce electricity use 10 percent by 2020
- Move toward net zero electricity use in new buildings by 2020
- Achieve Platinum Level Status in SCE's Energy Leader Partnership Model

The proposed project would adhere to all Federal, State, and local requirements for energy efficiency. Therefore, the Project would be consistent with applicable State and local plans for promoting use of renewable energy and energy efficiency. This impact would be less than significant.

5.6.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES

Table 4-1, Cumulative Projects List, identifies the related projects and other possible development in the area determined as having the potential to interact with the proposed project to the extent that a significant cumulative effect may occur. The following discussions are included per topic area to determine whether a significant cumulative effect would occur.

GREENHOUSE GAS EMISSIONS GENERATED BY IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS COULD HAVE A SIGNIFICANT IMPACT ON GLOBAL CLIMATE CHANGE.

Impact Analysis: Global climate change is the result of GHG emissions worldwide; individual projects do not generate enough GHG emissions to influence global climate change. Thus, the analysis of GHG emissions is, by nature, a cumulative analysis focused on whether an individual project's contribution to global climate change is cumulatively considerable. As described in Section 5.6.4, buildout of the proposed Specific Plan would generate emissions that would be far below the SCAQMD's derived per SP GHG efficiency metric for 2030, as well as CARB's per capita GHG efficiency metric for 2030. In addition, the proposed Specific Plan would not conflict with or otherwise obstruct the implementation of a plan, policy, or regulation adopted for the purposes of increasing energy efficiency for renewable energy. As such, the proposed Specific Plan would not generate GHG emissions that are cumulatively considerable. This impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

ENERGY CONSUMED BY THE IMPLEMENTATION OF THE PROPOSED PROJECT COULD BE WASTEFUL, INEFFICIENT, OR UNNECESSARY.

The proposed Specific Plan, as well as other on-going and future project in the Southern California region, are well supplied by energy resources, including diesel and gasoline fuels, as well as electricity and natural gas. The project's cumulative impact on energy resources would be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.6.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Implementation of the proposed project would result in less than significant project and cumulative impacts related to GHG emissions and energy consumption. As such, no significant unavoidable impacts would result from implementation of the Duarte Station Specific Plan.

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List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
AB	Assembly Bill
BOE	Board of Equalization
Btu	British Thermal Units
CalEEMod	California Emissions Estimator Model
CALGreen Code	California Green Building Standards Code
CARB	California Air Resources Board
CBSC	California Building Standards Commission
CEC	California Energy Commission
CEESP	California's Long Term Energy Efficiency Strategic Plan
CH_4	Methane
CO_2	Carbon Dioxide
EMFAC	Emission Factor Model
GHG	Greenhouse Gas
GWh	GigaWatt-hour
GWP	Global Warming Potential
HFC	Hydrofluorocarbons
IAQ	Indoor Air Quality
kWh	kiloWatt-hour
LCFS	Low Carbon Fuel Standard
MPO	Metropolitan Planning Organization
$MTCO_2e$	Metric Tons of Carbon Dioxide Equivalents
MWh	MegaWatt-hour
N_2O	Nitrous Oxide
PFC	Perfluorocarbons
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
SB	Senate Bill
SCAG	Southern California Association of Governments
SCE	Southern California Edison
SCS	Sustainable Communities Strategy
SF_6	Sulfur Hexaflouride
SGVCOG	San Gabriel Valley Council of Governments
SoCalGas	Southern California Gas Company
SP	Service Population
TIS	Traffic Impact Study
U.N. IPCC	Intergovernmental Panel on Climate Change
U.S. EIA	United States Energy Information Administration
U.S. EPA	United States Environmental Protection Agency
VMT	Vehicle Miles Travelled
ZEV	Zero Emission Vehicle

5.7 NOISE

This section analyzes project-related noise source impacts on site and on surrounding land uses. This section evaluates short-term construction-related impacts, as well as future buildout conditions. Information in this section was obtained from the *Duarte General Plan Noise Element*, dated 2005, and the *Duarte Municipal Code* (*Municipal Code*). For the purposes of mobile source noise modeling, traffic information contained in the *Duarte Station Specific Plan Transportation Impact Study,* dated April 2019, was utilized; refer to Appendix D, Transportation Impact Study.

5.7.1 BACKGROUND

This section summarizes important background information regarding environmental acoustics, sound and vibration transmission, and the evaluation of sound and vibration levels.

FUNDAMENTALS OF ENVIRONMENTAL ACOUSTICS

Noise Definition and Measurement

Noise is generally defined as unwanted sound and is widely recognized as a form of environmental degradation. Airborne sound is the rapid fluctuation of air pressure above and below atmospheric pressure. The frequency (pitch), amplitude (intensity or loudness), and duration of a sound all contribute to the effect on a listener, or receptor, and whether or not the receptor perceives the sound as "noisy" or annoying. A summary of the key environmental noise and vibration analysis terms used in this chapter is provided in *Table 5.7-1*, *Noise and Vibration Descriptors*.

Table 5.7-1
NOISE AND VIBRATION DESCRIPTORS

Term	Definition
Decibel (dB)	A decibel is one-tenth of a bel. It is a measure on a logarithmic scale that indicates the squared ratio of sound pressure to a reference sound pressure (unit for sound pressure level) or the ratio of sound power to a reference sound power (unit for sound power level.)
Frequency or Hertz (Hz)	The number of oscillations per second of a periodic wave sound and of a vibrating solid, expressed in units of Hertz; formerly, cycles per second.
A-Weighted Sound Level (dBA)	Expressed in dBA or dB(A). Frequency-weighted sound pressure level approximating the frequency response of the human ear.
L01, L10, L50, L90	The energy-average of the A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Equivalent Noise Level (Leq)	The equivalent steady-state sound level that in a given period of time would contain the same acoustical energy as the time-varying sound level during the same period.

Table 5.7-1
NOISE AND VIBRATION DESCRIPTORS

Term	Definition
Community Noise Equivalent Level (CNEL)	A noise level that accounts for all the A-weighted noise energy from a source during 24 hours and weights the evening (7 PM to 10 PM) and night (10 PM to 7 AM) noise by adding 5 and 10 dBA, respectively, during these periods.
Day/Night Noise Level (DNL or Ldn)	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring from 10 PM to 7 AM
Lmax, Lmin	The maximum and minimum A-weighted noise level during the measurement period.
Ambient Noise	All-encompassing noise at a given place and time. This is usually a composite of sounds from all sources near and far, including any specific sources of interest.
Atmospheric Effects	Sound absorption by air molecules and water vapor, sound refraction caused by temperature and near-ground wind gradients, and air turbulence are collectively called atmospheric effects. Although atmospheric effects are mostly responsible for substantial noise fluctuations at distant receivers, they also can have a significant effect at distances within 330 feet.
Shielding	A noise reduction at the receiver because of the placement or existence of natural or artificial barriers (e.g., walls, berms, rows of buildings, or trees, if thick and dense enough).
Vibration	An oscillation wherein the quantity is a parameter that defines the motion of a mechanical system.
Peak Particle Velocity	The peak signal value of an oscillating vibration velocity waveform. Usually expressed in inches/second in the United States.
Source: Caltrans, 2013a	

Pitch is the height or depth of a tone or sound and depends on the frequency of the vibrations by which it is produced. Sound frequency is expressed in terms of cycles per second, or Hertz (Hz). Humans generally hear sounds with frequencies between 20 and 20,000 Hz, and perceive higher-frequency sounds, or high-pitch noise, as louder than low-frequency sound or sounds low in pitch.

Noise intensity or loudness is a function of the amplitude of the pressure wave generated by a noise source combined with the reception characteristics of the human ear. Atmospheric factors and obstructions between the noise source and receptor also affect the loudness perceived by the receptor. Sound pressure amplitude is measured in terms of micro-Pascals (mPa). One mPa is approximately 100 billionth (0.00000000001) of normal atmospheric pressure; however, sound pressure levels are rarely expressed in terms of mPa. Rather, sound pressure levels are expressed on a logarithmic scale in terms of decibels (dB). A dB is a unit of measurement that indicates the relative amplitude (i.e., intensity or loudness) of a sound, with 0 dB corresponding roughly to the threshold of hearing for the healthy, unimpaired human ear (approximately 20 mPa).

Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 dB represents a ten-fold increase in acoustic energy, while 20 dB is 100 times more intense, 30 dB is 1,000 times more intense, and so forth. In general, there is a relationship between the subjective noisiness or loudness of a sound and its intensity, with each 10-dB increase in sound level perceived as approximately a doubling of loudness. Due to the logarithmic basis, decibels cannot be directly added or subtracted together using common arithmetic operations:

$$50 \text{ decibels} + 50 \text{ decibels} \neq 100 \text{ decibels}$$

Instead, the combined sound level from two or more sources must be combined logarithmically. For example, if one noise source produces a sound power level of 50 dBA, two of the same sources would combine to produce 53 dB as shown below.

$$10 * 10\log\left(10^{\left(\frac{50}{10}\right)} + 10^{\left(\frac{50}{10}\right)}\right) = 53 \text{ decibels}$$

In general, when one source is 10 dB higher than another source, the quieter source does not add to the sound levels produced by the louder source because the louder source contains ten times more sound energy than the quieter source.

Sound Characterization Methods

Humans generally can hear sounds with frequencies between 20 and 20,000 Hz. Most of the sounds humans are normally exposed to do not consist of a single frequency, but rather a broad range of frequencies that are perceived differently by the human ear. In general, humans are most sensitive to sounds with frequencies in the range of 1,000 to 8,000 Hz; the human ear perceive sounds within that range better than sounds of the same amplitude at higher or lower frequency ranges. Instruments used to measure sound, therefore, include an electrical filter that enables the instrument's detectors to replicate human hearing. This filter, known as the "A-weighting" or "A-weighted sound level" filters low and very high frequencies, and gives greater importance to the frequencies of sound that the human ear is typically most sensitive to. Most environmental measurements are reported in dBA, meaning decibels on the A-scale. A list of common noise sources and their associated A-weighted noise level is provided in *Table 5.7-2*, *Typical Noise Levels*. Other weightings include the B-, C-, and D-weighting, but these scales are not commonly used for environmental noise because human annoyance correlates well with the A-weighting, and these weighting scales are not incorporated in typical environmental noise descriptors.

Sound levels are usually not steady and vary over time. Therefore, a method for describing either the average character of the sound or the statistical behavior of the variations over a period of time is necessary. The continuous equivalent noise level (L_{eq}) descriptor is used to represent the average character of the sound over a period of time. The L_{eq} represents the level of steady-state noise that would have the same acoustical energy as time-varying noise measured over a given time period. L_{eq} is useful for evaluating shorter time periods over the course of a day. The most common L_{eq} averaging period is hourly, but L_{eq} can describe any series of noise events over a given time period.

Table 5.7-2
TYPICAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock Band
Jet flyover at 1,000 feet	105	
	100	
Gas lawn mower at 3 feet	95	
	90	
Diesel truck at 50 feet at 50 mph	85	Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noise urban area, daytime	75	
Gas lawnmower, 100 feet	70	Vacuum cleaner at 10 feet
Commercial area	65	Normal speech at 3 feet
Heavy traffic at 300 feet	60	
	55	Large business office
Quiet urban daytime	50	Dishwasher next room
	45	
Quiet urban nighttime	40	Theater, large conference room
Quiet suburban nighttime	35	
	30	Library
Quite rural nighttime	25	Bedroom at night
	20	
	15	Broadcast/recording studio
	10	
	5	
Typical threshold of human hearing	0	Typical threshold of human hearing

Source: Caltrans, 2013a

Variable noise levels are the values that are exceeded for a portion of the measured time period. Therefore, the L_{01}, L_{10}, L_{50}, and L_{90} descriptors represent the sound level's exceeded 1 percent, 10 percent, 50 percent, and 90 percent of the time the measurement was performed. The L_{90} value usually corresponds to the background sound level at the measurement location.

When considering environmental noise, it is important to account for the different responses people have to daytime and nighttime noise. In general, nighttime background noise levels are quieter than the daytime, but also more noticeable due to the fact that household noise has decreased as people begin to retire and sleep. Noise exposure over the course of an entire day is described by the day/night average sound level, DNL (or L_{dn}), and the community noise

equivalent level, or CNEL, descriptors. Both descriptors represent the 24-hour noise exposure in a community or area. For DNL, the 24-hour day is divided into a 15-hour daytime period (7 AM to 10 PM) and a 9-hour nighttime period (10 PM to 7 AM), and a 10 dB "penalty" is added to measured nighttime noise levels when calculating the 24-hour average noise level. For example, a 45 dBA nighttime sound level would contribute as much to the overall day-night average as a 55 dBA daytime sound level. The CNEL descriptor is similar to DNL, except that it includes an additional 5 dBA penalty for noise events that occur during the evening time period (7 PM to 10 PM). The artificial penalties imposed during DNL and CNEL calculations are intended to account for a receptor's increased sensitivity to noise levels during quieter nighttime periods.

Sound Propagation

The energy contained in a sound pressure wave dissipates and is absorbed by the surrounding environment as the sound wave spreads out and travels away from the noise-generating source. The strength of the source is often characterized by its "sound power level." Sound power level is independent of the distance a receiver is from the source and is a property of the source alone. Knowing the sound power level of an idealized source and its distance from a receiver, the sound pressure level at a specific point (e.g., a property line or a receiver) can be calculated based on geometrical spreading and attenuation (noise reduction) as a result of distance and environmental factors, such as ground cover (asphalt versus grass or trees), atmospheric absorption, and shielding by terrain or barriers.

For an ideal "point" source of sound, such as mechanical equipment, the energy contained in a sound pressure wave dissipates and is absorbed by the surrounding environment as the sound wave spreads out in a spherical pattern and travels away from the point source. Theoretically, the sound level attenuates, or decreases, by 6 dB with each doubling of distance from the point source. In contrast, a "line" source of sound, such as roadway traffic or a rail line, spreads out in a cylindrical pattern and theoretically attenuates by 3 dB with each doubling of distance from the line source; however, the sound level at a receptor location can be modified further by additional factors. The first is the presence of a reflecting plane such as the ground. For hard ground, a reflecting plane typically increases A-weighted sound pressure levels by 3 dB. If some of the reflected sound is absorbed by the surface, this increase will be less than 3 dB. Other factors affecting the predicted sound pressure level are often lumped together into a term called "excess attenuation." Excess attenuation is the amount of additional attenuation that occurs beyond simple spherical or cylindrical spreading. For sound propagation outdoors, there is almost always excess attenuation, producing lower levels than what would be predicted by spherical or cylindrical spreading. Some examples include attenuation by sound absorption in air; attenuation by natural or man-made topography, barriers, or structures; attenuation by rain, sleet, snow, or fog; attenuation by soft ground cover such as grass, shrubbery, and trees; and attenuation from shadow zones created by wind and temperature gradients. Under certain meteorological conditions, like fog and low-level clouds, some of these excess attenuation mechanisms can be reduced or eliminated due to noise reflection.

Noise Effects

Human response to sound is highly individualized because many factors influence a person's response to a particular noise, including the type of noise, the variability of the sound level, the presence of tones or impulses, and the time of day of the noise occurs. In addition, non-acoustical factors, such as the person's opinion of the noise source, the ability to adapt to the

noise, the attitude towards the source and those associated with it, and the predictability of the noise, all influence a person's response. As such, response to noise varies widely from one person to another and with any particular noise, individual responses will range from "not annoyed" to "highly annoyed" with annoyance being an expression of negative feelings resulting from interference with activities, the disruption of one's peace of mind, or degradation of the enjoyment of one's environment.

Noise effects on human beings are generally categorized as:

- Subjective effects of annoyance, nuisance, and/or dissatisfaction
- Interference with activities such as speech, sleep, learning, or relaxing
- Physiological effects such as startling and hearing loss

Most environmental noise levels produce subjective or interference effects. Noise can mask important sounds and disrupt communication between individuals in a variety of settings, resulting in a slight irritation to a serious safety hazard, depending on the circumstance. Noise-induced sleep interference is a critical factor in community and personal annoyance. Sound level, frequency distribution, duration, repetition, and variability can make it difficult to fall asleep and may cause momentary shifts in the natural sleep pattern, or level of sleep resulting in short-term adverse effects such as mood changes, job/school performance, etc.

Physiological effects are usually limited to prolonged and/or repeated exposure to high noise environments at facilities such as, but not limited to, industrial and manufacturing facilities or airports.

Predicting the subjective and interference effects of noise is difficult due to the wide variation in individual thresholds of annoyance and past experiences with noise; however, an accepted method to determine a person's subjective reaction to a new noise source is to compare it to the existing environment without the noise source, or the "ambient" noise environment. In general, the more a new noise source exceeds the ambient noise level, the more likely it is to be considered annoying and to disturb normal activities.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1 dB changes in sound levels when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency (1,000–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dB are generally not perceptible; however, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5 dB increase is generally perceived as a distinctly noticeable increase, and a 10 dB increase is generally perceived as a doubling of loudness that would almost certainly cause an adverse response from community noise receptors.

GROUNDBORNE VIBRATION AND NOISE

Vibration is the movement of particles within a medium or object such as the ground or a building. Vibration may be caused by natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or humans (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources are usually characterized as continuous, such as factory machinery, or transient, such as explosions.

As is the case with airborne sound, groundborne vibrations may be described by amplitude and frequency; however, unlike airborne sound, there is no standard way of measuring and reporting amplitude. Vibration amplitudes can be expressed in terms of velocity (inches per second) or discussed in dB units to compress the range of numbers required to describe vibration. Vibration impacts to buildings are usually discussed in terms of peak particle velocity (PPV) in inches per second (in/sec). PPV represents the maximum instantaneous positive or negative peak of a vibration signal and is most appropriate for evaluating the potential for building damage. Vibration can impact people, structures, and sensitive equipment. The primary concern related to vibration and people is the potential to annoy those working and residing in the area. Vibration with high enough amplitudes can damage structures (such as crack plaster or destroy windows). Ground-borne vibration can also disrupt the use of sensitive medical and scientific instruments, such as electron microscopes.

Groundborne noise is noise generated by vibrating building surfaces such as floors, walls, and ceilings that radiate noise inside buildings subjected to an external source of vibration. The vibration level, the acoustic radiation of the vibrating element, and the acoustical absorption of the room are all factors that affect potential groundborne noise generation.

5.7.2 REGULATORY SETTING

This section summarizes the laws, ordinances, regulations, and standards applicable to the project. Regulatory requirements related to environmental noise are typically promulgated at the local level; however, Federal and State agencies provide standards and guidelines to the local jurisdictions.

FEDERAL GUIDELINES

Federal Transit Administration (FTA)

No federal regulations apply to noise or vibration from the proposed project, but the FTA's 2018 *Transit Noise and Vibration Impact Assessment Manual* document sets ground-borne vibration annoyance criteria for general assessments. The criteria vary by the type of building being subjected to the vibrations, and the overall number of vibration events occurring each day. Category 1 buildings are considered buildings where vibration would interfere with operation, even at levels that are below human detection. These include buildings with sensitive equipment, such as research facilities and recording studios. Category 2 buildings include residential lands and buildings were people sleep, such as hotels and hospitals. Category 3 buildings consist of institutional land uses with primary daytime uses. The FTA standards vary for "frequent" events (occurring more than 70 times per day such as a rapid transit project), "occasional" events (occurring between 30 to 70 times per day) and "infrequent" events (occurring less than 30 times per day). The FTA's vibration annoyance criteria are summarized in *Table 5.7-3*, *FTA Ground-Borne Vibration Impact Criteria for General Assessment*.

Table 5.7-3
FTA GROUND-BORNE VIBRATION IMPACT CRITERIA FOR GENERAL ASSESSMENT

Vibration Land Use Category/Type	Frequent Events	Occasional Events	Infrequent Events
Category 1 – Buildings with sensitive equipment	65 VdB	65 VdB	65 VdB
Category 2 – Buildings where people sleep	72 VdB	75 VdB	80 VdB
Category 3 – Institutional buildings	75 VdB	78 VdB	83 VdB
Source: FTA, 2018			

STATE OF CALIFORNIA GUIDELINES

California Building Standards Code

The California Building Standards Code is contained in Title 24 of the California Code of Regulations and consists of 11 different parts that set various construction and building requirements. Part 2, California Building Code, Section 1207, Sound Transmission, establishes sound transmission standards for interior walls, partitions, and floor/ceiling assemblies. Specifically, Section 1207.4 establishes that interior noise levels attributable to exterior noise sources shall not exceed 45 dBA DNL or CNEL (as set by the local General Plan) in any habitable room.

California Green Building Standards Code

The California Green Building Standards Code is Part 11 to the California Building Standards Code. Chapter 5, Nonresidential Mandatory Standards, Section 5.507 establishes the following requirements for non-residential development that may be applicable to the proposed Specific Plan:

> 5.507.4.1.1 sets forth that buildings exposed to a noise level of 65 dB L_{eq} (1-hour) during any hour of operation shall have exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composting sound transmission class (STC) rating of at least 45 (or an outdoor indoor transmission class (OITC) of 35), with exterior windows of a minimum STC of 40.

Section 5.507.4.2 sets forth that wall and roof assemblies for buildings exposed to a 65 dBA L_{eq} pursuant to Section 5.507.4.1.1, shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed 50 dBA Leq in occupied areas during any hour of operation. This requirement shall be documented by preparing an acoustical analysis documenting interior sound levels prepared by personnel approved by the architect or engineer of record.

California Department of Transportation (Caltrans)

The California Department of Transportation's (Caltrans) *Transportation and Construction Vibration Guidance Manual* provides a summary of vibration criteria that have been reported by researchers, organizations, and governmental agencies (Caltrans, 2013b). Chapters Six and Seven of this manual summarize vibration detection and annoyance criteria from various agencies and provide Caltrans' recommended guidelines and thresholds for evaluating potential vibration impacts on buildings and humans from transportation and construction projects. These thresholds are summarized in *Table 5.7-4*, *Caltrans' Vibration Threshold Criteria for Building Damage*, and *Table 5.7-5*, *Caltrans' Vibration Threshold Criteria for Human Response*.

Table 5.7-4
CALTRANS VIBRATION THRESHOLD CRITERIA FOR BUILDING DAMAGE

Structural Integrity	Maximum PPV (in/sec)	
	Transient	Continuous
Extremely fragile buildings, ruins, monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some older buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial and commercial structures	2.00	0.50
Source: Caltrans, 2013b		

Table 5.7-5
CALTRANS VIBRATION THRESHOLD CRITERIA FOR HUMAN RESPONSE

Human Response	Maximum PPV (in/sec)	
	Transient	Continuous
Barely perceptible	0.035	0.012
Distinctly perceptible	0.24	0.035
Strongly perceptible	0.90	0.10
Severely perceptible	2.00	0.40
Source: Caltrans, 2013b		

LOS ANGELES COUNTY VIBRATION GUIDELINES

Section 12.08.560 of the *Los Angeles County Noise Control Ordinance* limits vibration levels from a source to other properties of 0.01 in/sec PPV.

LOCAL GUIDELINES

Duarte Comprehensive General Plan 2005 – 2020

The *California Government Code* requires that a noise element be included in the general plan of each county and City in the state. The Noise Element of the *Duarte General Plan* evaluates sources of noise and provides goals and policies that ensure that noise from various sources does not create an unacceptable noise environment. Chapter 4, Noise Element, of the *Duarte General Plan* includes the following goals and policies that are relevant to the proposed project:

Noise Goal 1: To reduce noise impacts from transportation sources.

Policies:

N1.1.1: Ensure noise mitigation measures are included in the design of new developments.

N 1.1.2: Encourage the State Department of Transportation (Caltrans) to continue Programs that lead to the reduction of the noise levels on I-210 and I-605.

N 1.1.3: Continue the City's beautification program along arterials to help reduce noise levels.

N 1.1.4: Encourage acoustical materials in all new residential and commercial developments where noise levels exceed the compatibility standards outlined in the Noise Element.

N 1.1.5: Limit construction, delivery, and through truck traffic to designated routes.

N 1.1.6: Ensure Community Noise Equivalent Levels (CNEL) for noise sensitive land uses meet or exceed normally acceptable levels, as defined by State of California standards.

N 1.1.7: The City should encourage, support, and enforce all State and Federal legislation designed to abate and control noise pollution.

N 1.1.8: The City should encourage the use of rubberized asphalt city streets.

Noise Goal 2: Develop measures to control non-transportation noise impacts.

Policies:

N 2.1.1: Continuously review the Noise Ordinance to ensure noise-generating uses are adequately addressed.

N 2.1.2: Strive to resolve existing and potential conflicts between noise generating uses and human activities.

N 2.1.3: Reduce noise from rock quarrying operations.

N 2.1.4: Prohibit significant noise generating activities from locating adjacent to residential neighborhoods and near schools.

N 2.1.5: Evaluate the noise impacts from projects and existing uses in adjacent cities and work cooperatively with these cities to develop mitigation measures that will improve ambient noise conditions in Duarte.

Noise Goal 3: To establish land uses which are compatible with noise levels within the community.

N 3.1.1: Establish a system of locating land uses according to the maximum noise levels they generate.

N 3.1.2: Enforce limits set by the State to control noise levels, particularly those governing motor vehicles.

N 3.1.3: Ensure that construction noise does not cause an adverse impact to the residents of the City.

N 3.1.4: Minimize noise and light spillage onto other residential properties.

The Noise Element also identifies noise sensitive land uses and noise sources, and defines areas of noise impact for the purpose of developing programs to ensure that City of Duarte residents will be protected from excessive noise intrusion. *Table 5.7-6*, *Noise and Land Use Compatibility* (Table N-1 of the *General Plan*), shows the City's exterior and interior noise compatibility standards.

Table 5.7-6
NOISE AND LAND USE COMPATIBILTY CRITERIA

Land Use Category	Community Noise Exposure (L_{dn} or CNEL, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential - Low Density, Single-Family, Duplex, Mobile Homes	50 - 60	55 - 70	70-75	75-85
Residential - Multiple Family	50 - 65	60 - 70	70 - 75	70 – 85
Transient Lodging - Motel, Hotels	50 - 65	60 - 70	70 - 80	80 – 85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 - 70	60 - 70	70 - 80	80 – 85
Auditoriums, Concert Halls, Amphitheaters	NA	50 - 70	NA	65 – 85
Sports Arenas, Outdoor Spectator Sports	NA	50 - 75	NA	70 – 85
Playgrounds, Neighborhood Parks	50 - 70	NA	67.5 - 75	72.5 – 85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 - 70	NA	70 - 80	80 – 85
Office Buildings, Business Commercial and Professional	50 - 70	67.5 - 77.5	75 - 85	NA
Industrial, Manufacturing, Utilities, Agriculture	50 - 75	70 - 80	75 - 85	NA
NA: Not Applicable				

Table 5.7-6
NOISE AND LAND USE COMPATIBILTY CRITERIA

Land Use Category	Community Noise Exposure (L_{dn} or CNEL, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Normally Acceptable – Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements. Conditionally Acceptable – New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice. Normally Unacceptable – New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Clearly Unacceptable – New construction or development should generally not be undertaken.				
Source: City of Duarte, *2005*				

Duarte Municipal Code

Title 9, Public Peace and Safety, Chapter 9.68, Noise Regulations, of the *Duarte Municipal Code* prohibits unnecessary, excessive, and annoying noises from all sources subject to the City's police power. The *Municipal Code* declares that at certain levels, noises are unfavorable to the public health and welfare of the citizenry and, in the public interest, such noise levels shall be systematically proscribed.

Municipal Code Section 9.68.050 (Ambient Base Noise Levels) sets forth that it is unlawful for any person within the City to make, cause, or allow to be produced noise which is received on property occupied by another person in a designated zone in excess of the standards listed in *Table 5.7-7*, *City of Duarte Municipal Code Noise Standards*.

Table 5.7-7
CITY OF DUARTE MUNICIPAL CODE NOISE STANDARDS

Noise Zone(A)	Day (7 AM to 9 PM)	Night (9 PM to 7 AM)
R-1 and R-2(B)	55 dBA	45 dBA
R-3 and R-4(B)	55 dBA	50 dBA
Commercial	60 dBA	55 dBA
Industrial and Light Manufacturing	70 dBA	70 dBA
(A) At the boundary line between a residential property and a commercial and manufacturing property, the noise level of the quieter zone shall be used. (B) Per Section 9.68.020(q) of the *Municipal Code,* R-1 refers to single family residential zones while R-2, R-3, and R-4 refer to multiple residential zones.		
Source: City of Duarte, 2019		

Per the *Municipal Code*, the standards listed in Table 5.7-7 shall be adjusted using the corrections listed in *Table 5.7-8*, *City of Duarte Municipal Code Noise Standard Corrections.*

Table 5.7-8
CITY OF DUARTE MUNICIPAL CODE NOISE STANDARD CORRECTIONS

Noise Condition	Correction
Repetitive impulsive noise, pure tones and sound with cyclically varying amplitude	-5 dB
Steady whine, screech, or hum	-5 dB
Noise occurring more than 5 but less than 15 minutes per hour (daytime only)	+5 dB
Noise occurring more than 1 but less than 5 minutes per hour (daytime only)	+10 dB
Noise occurring less than 1 minute per hour (daytime only)	+15 dB
Source: City of Duarte, 2019	

Municipal Code Section 9.68.120 (Construction of Building and Projects*)* sets forth that is unlawful for any person within a residential zone, or within a radius of 500 feet, to operate equipment or perform any outside construction or repair work on buildings, structures, or projects or to operate any pile-driver, power shovel, pneumatic hammer, derrick, power hoist, or any other construction type device (between the hours of 10:00 PM of one day and 7:00 AM of the next day) in such a manner that a reasonable person of normal sensitiveness residing in the area is caused discomfort or annoyance unless beforehand a permit has been obtained from the planning and zoning division.

Municipal Code Section 9.68.160 (Machinery, equipment, fans and air conditioning*)* sets forth that is unlawful for any person to operate any machinery, equipment, pump, fan, air conditioning apparatus, or similar mechanical device (between the hours of 10:00 PM of one day and 7:00 AM of the following day), use of which is attended by loud or unusual noises.

5.7.3 ENVIRONMENTAL SETTING

This section describes the existing noise and vibration setting of the proposed project.

EXISTING NOISE AND VIBRATION ENVIRONMENT

Located in the south-central portion of the City of Duarte, the approximately 19.08-acre planning area is generally configured in an east-west orientation and is bounded by Fairdale Avenue to the west, Interstate 210 (I-210) to the north, Highland Avenue to the east, and the Metro Gold Line to the south. The existing planning area currently consists of four parcels under separate ownerships, developed with a mix of industrial uses totaling approximately 313,955 square feet.

- The southernmost parcel, parcel 8528-011-023, is approximately 6.60 acres in size, abuts the Metro Gold Line, and is developed with an approximately 128,466-square-foot warehousing building.
- The west-central parcel, parcel 8528-011-023, is approximately 7.63 acres in size, and is developed with an approximately 114,599-square-foot industrial building.
- The east-central parcel, parcel 8528-011-906, is approximately 1.37 acres in size, and is currently a Metro Gold Line parking lot. This parcel is vacant.
- The northernmost parcel, parcel 8528-001-024, is approximately 3.32 acres in size, and is developed with an approximately 70,890-square-foot warehouse building.

The planning area is generally surrounded by other, light industrial land uses. As described previously, the site is adjacent to the Duarte Metro Gold Line Station and I-210. Interstate 605 (I-605) is approximately 0.4 miles to the southeast. The nearest airport is the San Gabriel Valley Airport, located approximately 4.6 miles to the southwest.

The *General Plan* Noise Element identifies that the major sources of noise in Duarte are transportation related. Highland Avenue, Duarte Avenue, and I-210 are specifically identified as major sources of noise in the City (City of Duarte 2005, pgs. 11-12). In addition to the high volume of traffic that travels along I-210, it is elevated above the cityscape and sounds travels farther from it into the City as a result. The eastbound segment of I-210 that runs adjacent to the planning area is elevated approximately 20 feet above it.

At the time the *General Plan* Noise Element was prepared, the Duarte Gold Line Metro Station had not yet been constructed; however, the Gold Line Foothill Extension Pasadena to Montclair FEIR predicted the following noise levels for eastbound and westbound light rail service at residential receptors in the City:

- Eastbound Gold Line noise levels south of the right-of-way were predicted to be 72 DNL or less within approximately 40 feet of the eastbound track, 65 DNL or less within approximately 50 feet of the eastbound track, and less than 60 DNL approximately 100 feet of the eastbound track (MGLFECA 2007, Table 3-11.6).
- Westbound Gold Line noise levels north of the right-of-way were predicted to be 71 DNL or less within approximately 40 feet of the westbound track, 68 DNL or less within approximately 60 feet of the westbound track, and less than 60 DNL approximately 100 feet of the eastbound track (MGLFECA 2007, Table 3-11.6).

The exiting ambient noise and vibration environment at and near the planning area is described in more detail below.

AMBIENT NOISE MEASUREMENTS

Ambient noise level monitoring was conducted for the proposed project on May 7 and 8, 2019 (MIG 2019; see Appendix F). Ambient noise levels were measured with two Larson Davis SoundTrack LxT Type 1 sound level meters; ambient noise measurements were collected in 15-minute intervals. Conditions during the monitoring were generally overcast during the daytime, with a daily high of approximately 65 degrees Fahrenheit and winds light and variable.

The ambient noise monitoring conducted for this EIR included four short-term (ST) and one long-term (LT) measurements at locations selected to:

- Provide direct observations of existing noise sources at an in the vicinity of the planning area;
- Determine typical ambient noise level at an in vicinity of the planning area; and
- Evaluate potential project noise levels at nearby sensitive receptor locations.

The ambient noise monitoring locations and measured sound levels are described below and presented in *Table 5.7-9*, *Existing Ambient Noise Levels in the Project Area (dBA)*.

- **Location ST-1** was located at the southwest corner of Glenford Avenue and Business Center Drive, near the center of the planning area. The ambient noise levels at location ST-1 are considered representative of background daytime noise levels associated with local light-industrial land uses in the area, the I-210, and traffic on Business Center Drive. Location ST-1 was located approximately 410 feet from I-210.
- **Location ST-2** was located at the eastern terminus of Three Ranch Road, adjacent to the planning area's western boundary. The ambient noise levels at location ST-2 are considered representative of background daytime noise levels in the residential community to the west, which are influenced by operation of the Metro Gold Line. Location ST-2 was located approximately 150 feet from the Metro Gold Line right-of-way. A wall that stands approximately eight feet tall separates Three Ranch Road from the planning area.
- **Location ST-3** was located on the western side of Highland Avenue, approximately 50 feet from the Metro Gold Line right-of-way, near the planning area's southern boundary. The ambient noise levels measured at location ST-3 are considered representative of background daytime noise levels associated with vehicular traffic along Highland Avenue and operation of the Metro Gold Line.
- **Location ST-4** was located at the southwest corner of the Highland Avenue and Business Center Drive intersection, along the eastern boundary of planning area. The ambient noise levels at location ST-4 are considered representative of background daytime noise levels from traffic on Highland Avenue and I-210. Location ST-4 was approximately 410 feet from I-210.
- **Location LT-1** was located along Evergreen Street, approximately 80 feet from I-210. The ambient noise levels measured at location LT-1 are considered representative of 24-hour ambient noise exposure levels along the northern portion of the planning area.

Based on observations made during the ambient noise monitoring, the existing noise environment in the project vicinity consists primarily of transportation noise sources, particularly vehicular traffic on I-210 and rail activity on the Metro Gold Line.

Table 5.7-9
EXISTING AMBIENT NOISE LEVELS IN THE PROJECT AREA (dBA)

Monitoring Site	Duration	Lmin	Lmax	Leq Range			CNEL
				Daytime (7 AM – 7 PM)	Evening (7PM – 10PM)	Nighttime (10 PM – 7 AM)	
ST-1	30 Minutes	55.1	67.7	59.1 – 59.9	--(A)	--(A)	--(A)
ST-2	30 Minutes	49.5	65.6	54.0 – 54.4	--(A)	--(A)	--(A)
ST-3	30 Minutes	52.1	82.2	66.4 – 67.6	--(A)	--(A)	--(A)
ST-4	45 Minutes	58.2	81.0	64.6 – 66.1	--(A)	--(A)	--(A)
LT-1	24-Hours	49.4	88.2	66.4 – 70.6	68.5 – 69.5	64.0 – 71.0	74.6

Source: MIG, 2019 (see Appendix F)

(A) Data is not available for these noise metrics because noise data was not collected for the time period in question or the noise metric was not available for use in this table.

MOBILE SOURCES – EXISTING AND FUTURE TRAFFIC NOISE LEVELS

Existing (2019) traffic noise levels were computed using the U.S. Department of Transportation Federal Highway Administration's Traffic Noise Model (TNM), Version 2.5. The model uses traffic volume, vehicle mix, vehicle speed, roadway geometry, and other variables to compute 24-hour traffic noise levels at user-defined receptor distances from the roadway center. The TNM modeling conducted for this EIR incorporates worst-case assumptions about motor vehicle traffic and noise levels; specifically, calculations are based on "hard" site conditions and do not incorporate any natural or artificial shielding, with the exception of modeling for I-210, which included shielding associated with the sound barrier wall present along a portion of this freeway adjacent to the planning area.

Information on existing average daily traffic volumes was obtained from City traffic speed zone surveys (KOA 2017), the *Transportation Impact Study* prepared for the project (Fehr and Peers, 2019), and Caltrans traffic count information (for I-210; Caltrans, 2018). Traffic noise levels were estimated on a 24-hour, CNEL exposure basis assuming equal hourly distribution of vehicle traffic. The mix of automobiles (95%), medium (2%) and heavy-duty trucks (1%), and motorcycles (2%) assigned to the roadway system was generated using the CARB EMFAC2017 model, which contains vehicle population data by different geographic regions. Vehicles were assumed to travel between 25 and 40 miles per hour depending on the roadway. Existing modeled traffic noise levels can be found in *Table 5.7-10*, *Existing (2019) Traffic Noise Levels*. As shown in *Table 5.7-10*, noise at and near the project area from vehicle traffic ranges from 53.2 dBA to 74.2 dBA. Please refer to Appendix F for detailed information on future baseline traffic noise modeling assumptions.

Table 5.7-10
EXISTING (2019) TRAFFIC NOISE LEVELS

Roadway Segment	Average Daily Traffic (ADT)	dBA @ 100 Feet from Roadway Centerline	Distance in Feet from Roadway Centerline to:		
			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour
Buena Vista Street					
Huntington Drive to Central Avenue	13,800	66.4	437	138	44
Central Avenue to I-210 Westbound Ramp	15,410	63.4	219	69	22
I-210 Westbound On-Ramp to I-210 Eastbound Ramp	14,260	64.9	309	98	31
I-210 Eastbound On-Ramp to Three Ranch Road	12,270	65.4	347	110	35
Three Ranch Road to Duarte Road	12,390	64.4	275	87	28
Central Ave					
East of Mountain Avenue	13,880	66.2	417	132	42
West of Buena Vista Street	5,320	62.3	170	54	17
Buena Vista Street to I-210 WB Off-Ramp	11,350	64.4	275	87	28
I-210 WB Off-Ramp to Duncannon Avenue	11,480	62.3	170	54	17
Duncannon Avenue to Highland Avenue	8,330	64.3	269	85	27
Duarte Road					
Mountain Avenue to Buena Vista Street	11,570	67.4	550	174	55
Buena Vista Street to Cinco Robles Drive	13,080	67.3	537	170	54
Cinco Robles Drive to Village Road	12,240	66.3	427	135	43
Village Road to Highland Avenue	10,350	66.9	490	155	49
Duncannon Avenue					
Central Avenue to Evergreen Street	1,940	53.2	21	7	2
Evergreen Street					
East of Mountain Ave	17,350	67.5	562	178	56
West of Buena Vista Street	6,940	63.3	214	68	21
Duncannon Avenue to Highland Avenue	1,420	55	32	10	3
Highland Avenue					
Huntington Drive to Central Avenue	10,850	62.1	162	51	16
Central Avenue to Evergreen Street	13,590	65.1	324	102	32
Evergreen Street to Business Center Drive	12,240	64.3	269	85	27
Business Center Drive to Duarte Road	11,660	65.3	339	107	34
Huntington Drive					
Buena Vista Street to Highland Avenue	22,310	70.3	1,072	339	107
Highland Avenue to Mount Olive Drive	25,040	70.8	1,202	380	120
Mountain Avenue					
Central Avenue to Evergreen Street	18,140	65.9	389	123	39
Evergreen Street to Duarte Road	14,010	66.3	427	135	43
I-210					
Adjacent to Evergreen Street (without barrier)	263,757	74.2	10,258	3,244	1,026
Adjacent to Evergreen Street (with barrier)	263,757	64.3	1,050	332	105

Notes: ADT = average daily traffic; dBA = A-weighted decibels; CNEL = community noise equivalent level.

Source: Noise modeling conducted by MIG (see Appendix F) based on traffic data within the *Transportation Impact Study,* prepared by Fehr and Peers, dated April 2019.

The *Transportation Impact Study* prepared for the project includes an analysis of future traffic conditions that would occur in 2025 without implementation of the Project. This future baseline scenario assumes traffic would grow in the City by approximately 1.0% compared to existing 2019 conditions.

The future baseline year 2025 traffic noise levels were computed using TNM, Version 2.5 and the same roadway geometry factors assumed for 2019 traffic noise levels. The future vehicle mix was adjusted to account for changes in the vehicle fleet contained within the CARB EMFAC2017 model; the mix of vehicles assigned to the roadway system was assumed to be automobiles (94%), medium (2%) and heavy duty trucks (1%), and motorcycles (3%). Future 2025 modeled traffic noise levels can be found in *Table 5.7-11, Future (2025) Traffic Noise Levels (Projected)*. As shown in *Table 5.7-11*, future noise levels at and near the project area from vehicle traffic would range from 53.5 dBA to 74.7 dBA. Please refer to Appendix F for detailed information on future baseline traffic noise modeling assumptions. The increase in traffic and change in fleet characteristics generally increased noise levels by approximately 0.3 to 1.2 dBA for all modeled roadway segments.

Table 5.7-11
FUTURE 2025 TRAFFIC NOISE LEVELS (PROJECTED)

Roadway Segment	Average Daily Traffic (ADT)	dBA @ 100 Feet from Roadway Centerline	Distance in Feet from Roadway Centerline to:		
			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour
Buena Vista Street					
Huntington Drive to Central Avenue	16,110	67.3	537	170	54
Central Avenue to I-210 Westbound Ramp	17,710	64.2	263	83	26
I-210 Westbound On-Ramp to I-210 Eastbound Ramp	17,270	65.9	389	123	39
I-210 Eastbound On-Ramp to Three Ranch Road	15,850	66.7	468	148	47
Three Ranch Road to Duarte Road	15,980	65.6	363	115	36
Central Ave					
East of Mountain Avenue	14,870	66.7	468	148	66.7
West of Buena Vista Street	5,490	62.6	182	58	62.6
Buena Vista Street to I-210 WB Off-Ramp	12,370	64.9	309	98	64.9
I-210 WB Off-Ramp to Duncannon Avenue	12,010	62.6	182	58	62.6
Duncannon Avenue to Highland Avenue	8,620	64.7	295	93	64.7
Duarte Road					
Mountain Avenue to Buena Vista Street	13,020	68.1	646	204	65
Buena Vista Street to Cinco Robles Drive	16,290	68.5	708	224	71
Cinco Robles Drive to Village Road	15,410	67.5	562	178	56
Village Road to Highland Avenue	11,540	67.6	575	182	58
Duncannon Avenue					
Central Avenue to Evergreen Street	2,000	53.5	22	7	2
Evergreen Street					
East of Mountain Ave	19,140	68.1	646	204	65
West of Buena Vista Street	8,480	64.3	269	85	27
Duncannon Avenue to Highland Avenue	1,470	55.4	35	11	3
Highland Avenue					
Huntington Drive to Central Avenue	11,700	62.6	182	58	18
Central Avenue to Evergreen Street	14,610	65.6	363	115	36
Evergreen Street to Business Center Drive	13,200	64.8	302	95	30

Table 5.7-11
FUTURE 2025 TRAFFIC NOISE LEVELS (PROJECTED)

Roadway Segment	Average Daily Traffic (ADT)	dBA @ 100 Feet from Roadway Centerline	Distance in Feet from Roadway Centerline to:		
			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour
Business Center Drive to Duarte Road	12,610	65.8	380	120	38
Huntington Drive					
Buena Vista Street to Highland Avenue	24,940	71	1,259	398	126
Highland Avenue to Mount Olive Drive	28,660	71.6	1,445	457	145
Mountain Avenue					
Central Avenue to Evergreen Street	20,890	66.7	468	148	47
Evergreen Street to Duarte Road	14,680	66.7	468	148	47
I-210					
Adjacent to Evergreen Street (without barrier)	279,984	74.7	11,510	3,640	1,151
Adjacent to Evergreen Street (with barrier)	279,984	65.1	1,262	399	126

Notes: ADT = average daily traffic; dBA = A-weighted decibels; CNEL = community noise equivalent level.

Source: Noise modeling conducted by MIG (see Appendix F) based on traffic data within the *Transportation Impact Study,* prepared by Fehr and Peers, dated April 2019.

EXISTING METRO GOLD LINE NOISE AND VIBRATION LEVELS

The project area is located adjacent to the Metro Gold Line. Rail-related noise comes from several potential sources. A locomotive engine's propulsion system generates noise from mechanical and electrical systems. The interaction of wheels with the track produces various noises, particularly where the wheel encounters a flaw or defect along smooth wheel / track surfaces. Finally, train horn or bells and railroad crossing warning devices generate short but loud alerts pursuant to federal safety regulations.

The Metro Gold Line is a commuter rail line with eastbound and westbound service at the Duarte Station every seven to 14 minutes Monday through Friday. Peak hourly weekday activity occurs during the morning and eve in g commuter periods when nine eastbound and westbound trains can occur in an hour; typical service involves four to five northbound and southbound trains per hour. During the weekday, service runs nearly 20 hours a day. Weekend service also runs nearly 24 hours a day, with three to five northbound and southbound trains per hour. The Metro Gold Line crosses Highland Avenue at grade, with guards and warning bells provided for safety.

During the ambient noise monitoring, noise levels associated with the Metro Gold Line were observed to be in the range from 68 to 81 dB while passing at distance of approximately 70 feet from the center of the eastbound track (i.e., the northernmost track). The higher noise levels were associated with eastbound trains accelerating from the Duarte Station.

Vibration monitoring was not conducted specifically for the proposed project; however, vibration monitoring was conducted in January 2018 for the nearby South Station Square Project IS/MND in the City of Monrovia (City of Monrovia 2018). The vibration monitoring for the South Station Square Project was conducted approximately 1.8 miles from the proposed project area, at a distance of 20 feet from the track centerline. The results of this monitoring indicate vibration levels generated by the existing Metro Gold Line are less than 0.002 PPV and 61 VdB.

STATIONARY AND OTHER NON-TRANSPORTATION NOISE SOURCES

Non-transportation sources also contribute to the City's existing noise environment. Commercial, residential, and light industrial land uses located near the planning area generate noise from daily operations of landscaping equipment, stationary sources such as heating, ventilation, and air conditioning (HVAC) equipment, business deliveries, solid waste pickup services, etc. Such sources are considered local source of noise that only influence the immediate surroundings.

SENSITIVE RECEPTORS

Noise-sensitive receptors are buildings or areas where unwanted sound or increases in sound may have an adverse effect on people or land uses. Residential areas, motels and hotels, hospitals and health care facilities, school facilities, and parks are examples of noise receptors that could be sensitive to changes in existing environmental noise levels. Sensitive receptors are listed below in *Table 5.7-12*, *Sensitive Receptors*. The distances are measured from the exterior project boundary only and not from individual construction projects/areas within the interior of the project site.

Table 5.7-12
SENSITIVE RECEPTORS

Type of Receptor	Location	Distance from Project Site	Direction from Project Site
Residential	Along Business Center Drive, Denning Avenue, and Glenford Avenue	70	North
	Along Orange Grove Road	740	North, across the I-210
	Along Fairdale Avenue and 3 Ranch Road	30	West
School	Northview Intermediate School	700	North
	Duarte High School	700	Northwest
Public Park	Northview Park	700	North
	Pioneer Park	600	Southwest

In addition, once constructed and occupied, residential receptors associated with the Duarte Station Specific Plan residential buildings would represent new noise-sensitive receptors.

5.7.4 SIGNIFICANCE THRESHOLD CRITERIA

The issues presented in the Initial Study Environmental Checklist (*CEQA Guidelines* Appendix G) have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Generation of excessive groundborne vibration or groundborne noise levels; and/or

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.

TRAFFIC NOISE

A proposed project would normally have a significant offsite traffic noise impact if both of the following criteria are met:

- Project traffic would cause a noise level increase of 3dB or more on a roadway segment adjacent to a noise-sensitive land use.

- The resulting "future with project" noise level exceeds the noise standard for sensitive land uses as identified in the City of Duarte General Plan (refer to *Table 5.7-6*).

STATIONARY NOISE

The project would normally have a significant noise impact if it would:

- Exceed the stationary source noise criteria for the City of Duarte as identified in *Table 5.7-7*, *City of Duarte Municipal Code Noise Standards*.

Based on these significance thresholds and criteria, the proposed project's effects have been categorized as either "no impact," a "less than significant impact," or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

5.7.5 PROJECT IMPACTS AND MITIGATION MEASURES

SHORT-TERM CONSTRUCTION NOISE AND VIBRATION IMPACTS

GRADING AND CONSTRUCTION ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN SIGNIFICANT TEMPORARY NOISE IMPACTS TO NEARBY NOISE SENSITIVE RECEIVERS.

Impact Analysis:

Temporary Construction Noise Impacts

As shown in *Table 3-2*, *Development Scenario*, the project could result in up to 1,400 high-density residential dwelling units, 12,500 square feet of retail/restaurant space, and 100,000 square feet of office space. This development would replace approximately 314,000 square feet of industrial space currently present in the approximately 19.08-acre project area. Since the City has received a preliminary application for a proposed development project located within the Specific Plan area, development of the planning area is anticipated to occur in two phases. Phase 1, which would begin in 2020, consists of developing the two middle parcels (Parcels 2 and 3; see *Figure 3-3*, *Specific Plan Area*) with approximately 700 apartment units, 1,348 parking garage spaces, and 6,250 square feet of retail/commercial use. Phase 2 would consist

of developing the northern- and southernmost parcels with an additional 700 apartment units, 6,250 square feet of retail/commercial use, and 100,000 square feet of commercial space. Although it is unknown when construction of Phase 2 would begin, it is anticipated Phase 2 would be operational by 2025. As such, this analysis assumes construction of Phase 2 would begin in 2022, approximately two years after construction of Phase 1 has begun, and would not overlap with Phase 1 construction activities.

Since project-specific information is not available at this time, potential short-term (construction-related) noise impacts can only be evaluated based on the typical construction activities associated with the residential, commercial, and retail development. Potential construction source noise and vibration levels were developed based on methodologies, reference noise levels, and equipment usage and other operating factors documented and contained in the Federal Highway Administration's (FHWA) Construction Noise Handbook (FHWA 2006), Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment* document (FTA 2018), and Caltrans' *Transportation and Construction Vibration Guidance Manual* (Caltrans, 2013a). Reference levels are noise emissions for specific equipment or activity types that are well documented and for which their usage is common practice in the field of acoustics.

Construction activities associated with potential development projects could include: staging, demolition, site preparation (e.g., land clearing), grading, utility trenching, foundation work (e.g., excavation, pouring concrete pads, drilling for piers), material deliveries (requiring travel along City roads), building construction (e.g., framing, concrete pouring, welding), paving, coating application, and site finishing work. In general, these activities would involve the use of worker vehicles, delivery trucks, dump trucks, and heavy-duty construction equipment such as (but not limited to) backhoes, tractors, loaders, graders, excavators, rollers, cranes, material lifts, generators, and air compressors.

These types of construction activities would generate noise and vibration from the following sources:

- Heavy equipment operations at different work areas. Some heavy equipment would consist of mobile equipment such as a loader and excavator that would move around work areas; other equipment would consist of stationary equipment (e.g., cranes or material hoists/lifts) that would generally operate in a fixed location until work activities are complete. Heavy equipment generates noise from engine operation, mechanical systems, and components (e.g., fans, gears, propulsion of wheels or tracks), and other sources such as back-up alarms. Mobile equipment generally operates at different loads, or power outputs, and produces higher or lower noise levels depending on the operating load. Stationary equipment generally operates at a steady power output that produces a constant noise level.
- Vehicle trips, including worker, vendor, and haul truck trips. These trips would occur on Duarte Road, Highland Avenue, Business Center Drive, and Evergreen Avenue.

Table 5.7-13, *Maximum Noise Levels Generated by Construction Equipment*, indicates the anticipated noise levels of construction equipment at difference distances from equipment work areas.

Table 5.7-13
MAXIMUM NOISE LEVELS GENERATED BY CONSTRUCTION EQUIPTMENT

Equipment	Reference Noise Level at 25 Feet (Lmax)(A)	Percent Usage Factor(B)	Predicted Noise Levels (Leq) at Distance(C)					
			25 Feet	50 Feet	100 Feet	200 Feet	300 Feet	400 Feet
Bulldozer	91	40	87	81	75	71	67	64
Backhoe	86	40	82	76	70	66	62	59
Compact Roller	86	20	79	73	67	63	59	56
Concrete Mixer	91	40	87	81	75	71	67	64
Crane	91	16	83	77	71	67	63	60
Excavator	91	40	87	81	75	71	67	64
Generator	88	50	85	79	73	69	65	62
Pneumatic tools	91	50	88	82	76	72	68	65
Scraper	91	40	88	82	76	72	68	64
Delivery Truck	91	40	87	81	75	71	67	64
Vibratory Roller	86	20	79	73	67	63	59	56

Sources: Caltrans, 2013a and FHWA, 2010.

(A) L_{max} noise levels based on manufacturer's specifications.

(B) Usage factor refers to the amount of time the equipment produces noise over the time period.

(C) Estimate does not account for any atmospheric or ground attenuation factors. Calculated noise levels based on Caltrans, 2009: L_{eq} (hourly) = L_{max} at 50 feet – 20log (D/50) + 10log (UF), where: L_{max} = reference L_{max} from manufacturer or other source; D = distance of interest; UF = usage fraction or fraction of time period of interest equipment is in use.

Construction noise impacts generally occur when construction activities occur in areas immediately adjoining noise-sensitive land uses, during noise-sensitive times of the day, or when construction durations last over extended periods of time. Construction activities associated with the proposed project would occur in multiple phases and may last several years in total. The closest that construction activities could occur to nearby sensitive receptors would be:

- Approximately 25 feet from single family residences on Three Ranch Road, directly adjacent to the Planning Area's western boundary. A six-foot-tall concrete block wall separates these residences from the project sire.
- Approximately 25 feet from single family residences on Denning Avenue, Glenford Avenue, and Business Center Drive, directly adjacent to the site's northern boundary.

The above distances are measured from the edge of the project boundary to the closest sensitive receptor locations (i.e., houses); however, the majority of potential construction activities would occur at distances of 100 to 400 feet or more from the nearest sensitive receptors and would not be expected to interfere with normal residential activities.

With regards to construction noise, the demolition, site preparation, and grading phases typically result in the highest temporary noise levels due to the use of heavy-duty equipment such as dozers, excavators, graders, loaders, scrapers, and trucks. As shown in *Table 5.7-13*, the worst-case Leq and Lmax noise levels associated with the operation of a dozer, excavator, scraper,

etc., are predicted to be approximately 87 and 91 dBA, respectively, at a distance of 25 feet from the equipment operating area. At an active construction site, it is not uncommon for two or more pieces of construction equipment to operate at the same time and in close proximity. The concurrent operation of two or more pieces of construction equipment would result in noise levels of approximately 90 to 94 dBA at a distance of 25 feet from equipment operating areas[1].

The magnitude of each individual future project's temporary and periodic increase in ambient noise levels would be dependent upon a number of project-specific factors that are not known at this time, including: the amount and type of equipment being used; the distance between the area where equipment is being operated and the location of the specific land use, receptor, etc. where noise levels are being evaluated; the time of day construction activities are occurring; the presence or absence of any walls, buildings, or other barriers that may absorb or reflect sound waves, the total duration of the construction activities, and the existing ambient noise levels near construction areas. For example, a noise level of 94 dBA Lmax would be similar to typical Lmax levels measured in and near the planning area, but sustained Leq levels of 90 dBA would be approximately 19 to 36 dBA above daytime ambient conditions in and near the planning area. Typically, sustained construction noise levels of 80 to 85 dBA or higher would require the implementation of construction noise control practices such as staging area restrictions (e.g., siting staging areas away from sensitive receptors), equipment controls (e.g., covered engines and use of electrical hook-ups instead of generators), and/or the installation of temporary noise barriers of sufficient height, size (length or width), and density to achieve targeted noise reductions.

The City's *General Plan* Noise Element, as discussed above in Section 5.7.2, focuses on protecting Duarte citizens from non-transportation noise impacts. Specifically, Policy 3.1.3 focuses on ensuring that construction noise does not cause an adverse impact to the residents of the City. Furthermore, *Municipal Code* Section 9.68.120 limits the hours of construction activity from 7:00 AM to 10:00 PM.

As noted in Section 5.7.2, the *Municipal Code* does not have specific, numeric noise standards (e.g., 90 dB, Leq) for construction noise. Although the *General Plan* sets forth a requirement to assess and minimize noise levels into the development review process, it does not specifically stipulate a requirement for project proponents to minimize potential construction noise levels (e.g., through the use of best management practices or noise control measures such as sound barriers). While all projects in the planning area would be subject to the permissible construction hours established by the *Municipal Code*, construction activities could result in temporary increases in noise levels above ambient conditions of 10 to 30 dBs or more during permissible time frames, which would be perceived by noise-sensitive land uses as doubling or quadrupling of loudness, respectively. This situation is most likely to occur when construction occurs closest to the eastern and northern boundaries, and is considered a potentially significant impact.

The implementation of Mitigation Measure N-1 would reduce construction noise associated with future development by requiring the preparation of a construction noise management plan that would include limiting construction to the less noise sensitive periods of the day (i.e., between the hours of 7:00 AM and 10:00 PM per *Municipal Code* Section 9.68.120) and ensuring that proper operating procedures are followed during construction so that nearby sensitive receptors

[1] As shown in *Table 5.7-13*, a single bulldozer provides a sound level of 87 dBA Leq at a distance of 25 feet; when two identical sound levels are combined, the noise level increases to 90 dBA Leq and when three identical sound levels are combined, the noise level increases to 91 dBA Leq. These estimates assume no shielding or other noise control measures are in place at or near the work areas.

are not adversely affected by noise and vibration. However, the specific details (e.g., timing/duration, sequencing, grading volumes, and exact proximity to receptors, etc.) of future construction activities are not known at this time. As a result, construction has the potential to occur in close proximity to existing sensitive receptors to the west and north. Therefore, despite the implementation of Mitigation Measure N-1, construction noise impacts would remain significant and unavoidable.

Temporary Construction Vibration Impacts

There is the potential that site preparation, grading, foundation construction, and other construction activities associated with development could result in groundborne vibration that would, at worst case, occur approximately 25 feet from existing structures adjacent to the Planning Area. *Table 5.7-14*, *Maximum Vibration Levels Generated by Construction Equipment*, lists the groundborne vibration levels associated with the potential type of construction equipment that would most likely be required during construction.

Table 5.7-14
MAXIMUM VIBRATION LEVELS GENERATED BY CONSTRUCTION EQUIPMENT

Equipment	Peak Particle Velocity (in/sec) (A)			Velocity Decibels (VdB) (B)		
	25 feet	60 feet	100 feet	25 feet	60 feet	100 feet
Large bulldozer	0.089	0.034	0.019	87.0	75.6	68.9
Small bulldozer	0.03	0.011	0.007	58.0	46.6	39.9
Loaded truck	0.076	0.029	0.017	86.0	74.6	67.9
Jackhammer	0.035	0.013	0.008	79.0	67.6	60.9

Sources: Caltrans 2013b and FTA 2018.

(A) Estimated PPV calculated as: PPV(D)=PPV(ref)*(25/D)^1.1 where PPV(D)= Estimated PPV at distance; PPVref= Reference PPV at 25 ft; D= Distance from equipment to receiver; and n= ground attenuation rate (1.1 for dense compacted hard soils).

(B) Estimated Lv calculated as: Lv(D)=Lv(25 feet)-30Log(D/25) where Lv(D)= estimated velocity level in decibels at distance, Lv(25 feet)= RMS velocity amplitude at 25 f; and D= distance from equipment to receiver.

As shown in *Table 5.7-14*, receptors 25 feet away from construction activities could be exposed to groundborne vibration levels of up to 0.089 in/sec PPV and 87 VdB during operation of large bulldozers. Based on Caltrans' transient criteria (see *Table 5.7-4*), these vibration levels would be "barely perceptible." At a distance of 60 feet, heavy equipment operations would result in vibration levels that are below Caltran's barely perceptible threshold criteria. Most construction activities would occur 100 to 400 feet or more from nearby sensitive receptor locations and, therefore, would not result in perceptible vibration levels. Under no circumstances are groundborne vibration levels predicted to exceed Caltrans' vibration damage threshold criteria for historic or older buildings (0.25 in/sec PPV), a threshold considered protective of all nearby buildings, which are presumed to be of more recent construction and thus are not as susceptible to damage from vibration as older, unreinforced structures. Although groundborne vibration from construction activities may be barely perceptible at nearby sensitive receptor locations for short periods of time, this impact would be infrequent and short in duration (lasting a few hours or days as equipment would not operate in the same location for a prolonged amount of time), would not damage buildings or structures, would not result in long-term incompatibility with

existing land uses, and would, therefore, not be excessive. Thus, this impact would be less than significant.

Mitigation Measures

N-1 Individual project applicants shall prepare a construction noise management plan that identifies measures to be taken to minimize construction noise on surrounding sensitive receptors (e.g., residential uses and schools) and includes specific noise management measures to be included into project plans and specifications subject to review and approval by the City. These measures shall include, but not be limited to the following:

- All construction equipment shall be equipped with mufflers and sound control devices (e.g., intake silencers and noise shrouds) no less effective than those provided on the original equipment and no equipment shall have an un-muffled exhaust.
- The City shall require that the contractor maintain and tune-up all construction equipment to minimize noise emissions.
- Stationary equipment shall be placed to maintain the greatest possible distance to the sensitive receptors.
- All equipment servicing shall be performed to maintain the greatest possible distance to the sensitive receptors.
- During construction, electrical hook-ups shall be provided in work areas to avoid the use of stationary, diesel- or other alternatively fueled power generators
- Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electronically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible.
- Select demolition methods to minimize vibration, where possible (e.g., sawing masonry into sections rather than demolishing it by pavement breakers).
- Construction truck traffic, including soil hauling, equipment deliveries, potential concrete deliveries, and other vendor deliveries shall follow designated delivery routes prepared for the project, which are anticipated to include Duarte Road and Highland Avenue. The use of Evergreen Avenue and Business Center Drive for deliveries shall be avoided when feasible.
- Construction activities shall not take place outside of the allowable hours specified by the City's Municipal Code Section *9.68.120* (7:00 AM and 10:00 PM).
- Each project applicant shall provide, to the satisfaction of the City of Duarte Planning Department, a qualified "Noise Disturbance Coordinator." The Disturbance Coordinator shall be responsible for responding to any local complaints about construction noise. When a complaint is received, the Disturbance Coordinator shall notify the City within 24 hours of the complaint and determine the cause of the noise complaint (e.g., starting too early, malfunctioning muffler, etc.) and shall implement reasonable measures to resolve the compliant, as deemed acceptable by the Duarte Planning Department. Notices shall be sent to residential units immediately surrounding the construction site. The notices that are sent and the signs posted at the construction site shall include the contact name and the telephone number for the Noise Disturbance Coordinator.

Level of Significance: Significant Unavoidable Impact.

LONG-TERM NOISE EXPOSURE IMPACTS

THE PROPOSED PROJECT COULD RESULT IN LAND USES THAT MAY BE INCOMPATIBLE WITH THE PROJECT AREA'S EXISTING AMBIENT NOISE ENVIRONMENT.

Impact Analysis:

Existing Ambient Noise Levels

General Plan Noise Element Goal 3 calls for establishing land uses which are compatible with noise levels within the community. As shown earlier in *Table 5.7-9*, the project area is subject to high ambient noise levels that are primarily associated with traffic noise from I-210 and rail noise from the Metro Gold Line. Measured daytime and nighttime hourly noise levels were generally above 65 dBA Leq (as measured at the project area boundary) and did not fluctuate significantly, indicating noise levels associated with I-210 and the Metro Gold Line are consistent throughout the daytime and nighttime periods.

The calculated CNEL at the project area boundary adjacent to I-210 is 74.6 CNEL (see *Table 5.7-9),* while the calculated noise exposure level adjacent to the Metro Gold Line is reported to be approximately 71 DNL north of the right-of-way (MGLFECA 2007, Table 3-11.6). Although these noise levels represent existing conditions, they are not expected to change substantially in the future since traffic volumes on I-210 are already substantial and the Metro Gold Line currently operates with a high level of frequency.

The *General Plan* establishes exterior noise level guidelines for multi-family residential land uses and office buildings, business commercial, and professional land uses (see *Table 5.7-6*). Although the City has received a preliminary application for development, no finalized site plans, grading plans, floor plans, elevations, building orientation diagrams, building material palettes, or mechanical drawings associated with the updated Duarte Station Specific Plan are available at this time to determine specific noise impacts to future residential and non-residential uses. However, the ambient noise measurement data collected for the EIR indicate:

- Exterior noise levels at the northern boundary of the planning area (74.6 CNEL) exceed the *General Plan's* "Conditionally Acceptable" exterior noise guideline for multi-family residential land uses (70 CNEL) and approach the "Normally Unacceptable" exterior noise limit for multi-family residential land uses (75 CNEL). Noise levels at the northern boundary of the planning area would be within the "Conditionally Acceptable" exterior noise guideline for office, business commercial, and professional land uses (77.5 CNEL).

- Exterior noise levels at the southern boundary of the planning area (71 DNL) would be within the normally unacceptable range for multi-family residential land uses but within the conditionally acceptable range for office, business commercial, and professional land uses.

- Exterior noise levels along Highland Avenue adjacent to the planning area's eastern boundary are approximately 64 to 66 CNEL (at a distance of 100 feet from the road center) under 2019 and 2025 conditions (see *Table 5.7-10* and *Table 5.7-11).* These

values are within the *General Plan's* conditionally acceptable levels for multi-family residential land uses, and are considered normally acceptable for office, business commercial, and professional land uses.

- Exterior noise levels along the planning area's eastern boundary are in the range of 54 dBA L_{eq} and are considered to be acceptable for all land use types.

- The preliminary application received by the City for a proposed development project on the two middle parcels (Parcels 2 and 3; see *Figure 3-3*, *Specific Plan Area*) would involve development approximately 400 feet south of I-210 and between 150 feet to 390 feet north of the Metro Gold Line right-of-way. At these distances, noise exposure from I-210 at the northern boundaries of Parcels 2 and 3 are estimated to be approximately 67.6 CNEL; noise exposure from the Metro Gold Line at the southern boundaries of Parcel 2 and 3 are estimated to be 61.1 (Parcel 3) to 65.3 (Parcel 2), although an existing industrial building would block much of the noise associated with the Metro Gold Line until it is removed. These exterior noise values are within the conditionally acceptable noise exposure range for multi-family residential land uses and are considered acceptable for office, business commercial, and professional land uses.

As described above, ambient noise levels are considered to be in the conditionally acceptable to normally acceptable range across the majority of the planning area. Ambient noise levels also exceed the levels at which the California Building Standards Code, California Green Building Standards Code, and the *General Plan* require the preparation of an acoustical analysis documenting compliance with applicable interior noise standards of 45 CNEL in any habitable room (pursuant to the Section 1207.4 of the California Building Code, Part 2, Volume 1) and 50 dBA Leq (1-hour) for any occupied room (pursuant to Section 5.507.4.2 of the California Green Building Standards Code)[2].

Standard construction techniques and materials are commonly accepted to provide a minimum exterior to interior noise attenuation (i.e., reduction) of 22 to 25 dBA with all windows and doors closed, which would result in interior noise levels of approximately 49.6 to 52.6 CNEL dBA for units fronting I-210 and approximately 46 to 49 CNEL for units fronting the Metro Gold Line right-of-way[3]. Since exterior and interior noise levels would exceed applicable City and State standards, this is considered a potentially significant impact.

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[2] Part 2 of the California Building Code, Section 1207, Sound Transmission, establishes sound transmission standards for interior walls, partitions, and floor/ceiling assemblies. Specifically, Section 1207.4 establishes that interior noise levels attributable to exterior noise sources shall not exceed 45 dBA DNL or CNEL (as set by the local General Plan) in any habitable room. Chapter 5 of the California Green Building Standards Code, Section 5.507 sets forth environmental comfort/acoustical control requirements for building assemblies that are prescriptive- based (i.e., assemblies meet certain prescribed exterior to interior noise attenuation levels) or performance-based (i.e., the interior noise environment shall not exceed 50 dBA on an hourly equivalent noise level basis in occupied areas. Both the prescriptive and performance standard contained in the Green Building Standards Code apply to projects located within a 65 CNEL noise contour of an airport, freeway, railroad, industrial source, etc. or otherwise exposed to a noise level of 65 dBA on an hourly Leq basis.

3 The U.S. Department of Housing and Urban Development (HUD) Noise Guidebook and supplement (2009a, 2009b) includes information on noise attenuation provided by building materials and different construction techniques. As a reference, a standard exterior wall consisting of 5/8-inch siding, wall sheathing, fiberglass insulation, two by four wall studs on 16-inch centers, and 1/2-inch gypsum wall board with single strength windows provides approximately 35 dBs of attenuation between exterior and interior noise levels. This reduction may be slightly lower (2-3 dBs) for traffic noise due to the specific frequencies associated with traffic noise. Increasing window space may also decrease attenuation, with a reduction of 10 dBs possible if windows occupy 30% of the exterior wall façade.

To ensure potential noise levels meet applicable standards, the City shall require all development proposals in the project area to implement Mitigation Measure N-2, which requires the preparation of an acoustical analysis to document compliance with exterior and interior noise level requirements. Mitigation Measure N-2 would ensure applicable exterior and interior noise standards are met by development within the project area. Thus, this measure would render the potential for the proposed project to expose people to incompatible noise levels a less than significant impact.

Mitigation Measures:

N-2 Prior to the issuance of a building permit for any development in the project area, the City shall review and approve an acoustical analysis, prepared by or on behalf of the project applicant, and based on the final project design, that:

1) Identifies the exterior noise levels at:
   a. Exterior building facades that face Evergreen Street/I-210, Highland Avenue, and Duarte Road/the Metro Gold Line ROW; and
   b. Exterior recreation areas, including patios, that face and have a line of sight to Evergreen Street/I-210, Highland Avenue, and Duarte Road/the Metro Gold Line ROW.
2) Identifies the final site and building design features that would:
   a. Attenuate exterior building façade noise levels to interior levels that do not exceed 45 CNEL in habitat rooms and 50 dBA Leq (1-hour) in other occupied rooms. Potential noise insulation site and building design features capable of achieving this requirement may include, but are not limited to:
      - Sound barriers
      - Enhanced exterior wall construction/noise insulation design
      - Use of enhanced window, door, and roof assemblies with above average sound transmission class or outdoor/indoor transmission class values
      - Use of mechanical, forced air ventilation systems to permit a window closed condition in residential units.

Level of Significance: Less than Significant with Mitigation Incorporated

LONG-TERM MOBILE NOISE IMPACTS

TRAFFIC GENERATED BY THE PROPOSED PROJECT COULD SIGNIFICANTLY CONTRIBUTE TO EXISTING TRAFFIC NOISE IN THE AREA OR EXCEED THE CITY'S ESTABLISHED STANDARDS.

Impact Analysis:

Off-Site Noise Conditions

Existing 2019 Plus Project Traffic Noise Levels
Existing 2019 plus project traffic noise levels were computed using the same methodology (TNM Version 2.5) and data sources used to calculate existing 2019 and future baseline 2040 traffic noise levels (see *Section 5.7.3*), except that project traffic levels were obtained from the

Transportation Impact Study prepared for the project and entered into the traffic model. *Table 5.7-15*, *Existing Noise Scenario* summarizes the net change in average daily traffic and traffic noise levels (at a distance of 100 feet) that would occur with project implementation. Please refer to Appendix F for detailed existing plus project traffic noise modeling results.

As indicated in *Table 5.7-15*, *Existing 2019 Noise Scenario*, under the "Existing 2019" scenario, noise levels at a distance of 100 feet from the centerline would range from approximately 53.2 dBA to 74.2 dBA. The highest noise levels under "Existing 2019" conditions would be adjacent to Evergreen Street, along the portion of I-210 that does not have a noise barrier. Under the "Existing 2019 Plus Project" scenario, noise levels at a distance of 100 feet from the centerline would range from 53.5 dBA to 74.2 dBA, with the highest noise levels continuing to occur adjacent to Evergreen Street. As shown in *Table 5.7-15*, the proposed project would increase noise levels on the surrounding roadways by a maximum of 0.8 dBA along Highland Avenue between Business Center Drive and Huntington Drive. As stated under the *Significance Criteria*, a significant impact would occur if noise levels increase by 3.0 dBA or more. Therefore, existing plus project noise levels would be less than significant.

Future 2025 Plus Project Traffic Noise levels
Under certain circumstances, an existing plus project analysis can only be analyzed at a hypothetical level, resulting in hypothetical impacts. For example, a project may not be expected to become operational for several years. During the period after the environmental analysis has been prepared but before the project becomes operational, traffic conditions may change due to regional or areawide growth or planned and funded traffic improvements. As another example, a noise barrier may be constructed along a freeway or roadway. In those instances, the "Existing Plus Project" analysis would be less accurate than an analysis that takes into account the reasonably foreseeable interim changes in the environment, versus assuming static environmental conditions.

The "Future 2025" and "Future 2025 Plus Project" conditions were compared to evaluate conditions with additional growth in the City over time. As indicated in *Table 5.7-16 Future 2025 Noise Scenario*, under the "Future 2025" scenario, noise levels at a distance of 100 feet from the centerline would range from approximately 53.5 dBA to 74.7 dBA. Similar to the existing conditions analysis, the highest noise levels under the "Future 2025" and "Future 2025 Plus Project" conditions would occur adjacent to Evergreen Street, along the portion of I-210 that does not have a noise barrier. The proposed project would increase noise levels on the surrounding roadways in 2025 by a maximum of 0.8 dBA along Highland Avenue between Business Center Drive and Huntington Drive. As stated under the *Significance Criteria*, a significant impact would occur if noise levels increase by 3.0 dBA or more. Therefore, future plus project noise levels would be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

Table 5.7-15
EXISTING 2019 ROADWAY NOISE SCENARIO

Roadway Segment	Existing 2019					Existing 2019 Plus Project					Difference in dBA @ 100 feet from Roadway	Potentially Significant Impact?
	ADT	dBA @ 100 Feet from Roadway Centerline	Distance in Feet from Roadway Centerline to:			ADT	dBA @ 100 Feet from Roadway Centerline	Distance in Feet from Roadway Centerline to:				
			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour		
Buena Vista Street												
Huntington Drive to Central Avenue	13,800	66.4	437	138	44	13,800	66.4	437	138	44	0.0	***No***
Central Avenue to I-210 Westbound Ramp	15,410	63.4	219	69	22	15,660	63.5	224	71	22	0.1	***No***
I-210 Westbound On-Ramp to I-210 Eastbound Ramp	14,260	64.9	309	98	31	14,370	64.9	309	98	31	0.0	***No***
I-210 Eastbound On-Ramp to Three Ranch Road	12,270	65.4	347	110	35	13,050	65.7	372	117	37	0.3	***No***
Three Ranch Road to Duarte Road	12,390	64.4	275	87	28	13,400	64.7	295	93	30	0.3	***No***
Central Ave												
East of Mountain Avenue	13,880	66.2	417	132	42	13,880	66.2	417	132	42	0.0	***No***
West of Buena Vista Street	5,320	62.3	170	54	17	5,320	62.3	170	54	17	0.0	***No***
Buena Vista Street to I-210 WB Off-Ramp	11,350	64.4	275	87	28	11,600	64.5	282	89	28	0.1	***No***
I-210 WB Off-Ramp to Duncannon Avenue	11,480	62.3	170	54	17	12,060	62.5	178	56	18	0.2	***No***
Duncannon Avenue to Highland Avenue	8,330	64.3	269	85	27	8,850	64.6	288	91	29	0.3	***No***
Duarte Road												
Mountain Avenue to Buena Vista Street	11,570	67.4	550	174	55	12,110	67.6	575	182	58	0.2	***No***
Buena Vista Street to Cinco Robles Drive	13,080	67.3	537	170	54	14,830	67.8	603	191	60	0.5	***No***
Cinco Robles Drive to Village Road	12,240	66.3	427	135	43	13,980	66.8	479	151	48	0.5	***No***
Village Road to Highland Avenue	10,350	66.9	490	155	49	12,140	67.6	575	182	58	0.7	***No***
Duncannon Avenue												
Central Avenue to Evergreen Street	1,940	53.2	21	7	2	2,080	53.5	22	7	2	0.3	***No***
Evergreen Street												
East of Mountain Ave	17,350	67.5	562	178	56	17,530	67.6	575	182	58	0.1	***No***
West of Buena Vista Street	6,940	63.3	214	68	21	7,060	63.4	219	69	22	0.1	***No***
Duncannon Avenue to Highland Avenue	1,420	55	32	10	3	1,640	55.7	37	12	4	0.7	***No***
Highland Avenue												
Huntington Drive to Central Avenue	10,850	62.1	162	51	16	13,000	62.9	195	62	19	0.8	***No***
Central Avenue to Evergreen Street	13,590	65.1	324	102	32	16,300	65.9	389	123	39	0.8	***No***
Evergreen Street to Business Center Drive	12,240	64.3	269	85	27	14,910	65.1	324	102	32	0.8	***No***
Business Center Drive to Duarte Road	11,660	65.3	339	107	34	13,760	66	398	126	40	0.7	***No***
Huntington Drive												
Buena Vista Street to Highland Avenue	22,310	70.3	1,072	339	107	22,610	70.3	1,072	339	107	0.0	***No***
Highland Avenue to Mount Olive Drive	25,040	70.8	1,202	380	120	26,700	71.1	1,288	407	129	0.3	***No***
Mountain Avenue												
Central Avenue to Evergreen Street	18,140	65.9	389	123	39	18,390	65.9	389	123	39	0.0	***No***
Evergreen Street to Duarte Road	14,010	66.3	427	135	43	14,260	66.4	437	138	44	0.1	***No***
I-210												
Adjacent to Evergreen Street (without barrier)	263,757	74.2	10,258	3,244	1,026	263,805	74.2	10,258	3,244	1,026	0.0	***No***
Adjacent to Evergreen Street (with barrier)	263,757	64.3	1,050	332	105	263,805	64.3	1,050	332	105	0.0	***No***

Notes: ADT = average daily traffic; dBA = A-weighted decibels; CNEL = community noise equivalent level

Source: Noise modeling conducted by MIG (see Appendix F) based on traffic data within the *Duarte Station Specific Plan Transportation Impact Study, prepared by Fehr and Peers, dated April 2019.*

Table 5.7-16
FUTURE 2025 TRAFFIC NOISE SCENARIO

Roadway Segment	Future 2025					Future 2025 Plus Project					Difference in dBA @ 100 feet from Roadway	Potentially Significant Impact?
	ADT	dBA @ 100 Feet from Roadway Centerline	Distance in Feet from Roadway Centerline to: 60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	ADT	dBA @ 100 Feet from Roadway Centerline	Distance in Feet from Roadway Centerline to: 60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour		
Buena Vista Street												
Huntington Drive to Central Avenue	16,110	67.3	537	170	54	16,110	67.3	537	170	54	0.0	***No***
Central Avenue to I-210 Westbound Ramp	17,710	64.2	263	83	26	17,960	64.3	269	85	27	0.1	***No***
I-210 Westbound On-Ramp to I-210 Eastbound Ramp	17,270	65.9	389	123	39	17,380	65.9	389	123	39	0.0	***No***
I-210 Eastbound On-Ramp to Three Ranch Road	15,850	66.7	468	148	47	16,630	66.9	490	155	49	0.2	***No***
Three Ranch Road to Duarte Road	15,980	65.6	363	115	36	16,990	65.9	389	123	39	0.3	***No***
Central Ave												
East of Mountain Avenue	14,870	66.7	468	148	47	14,870	66.7	468	148	47	0.0	***No***
West of Buena Vista Street	5,490	62.6	182	58	18	5,490	62.6	182	58	18	0.0	***No***
Buena Vista Street to I-210 WB Off-Ramp	12,370	64.9	309	98	31	12,730	65	316	100	32	0.1	***No***
I-210 WB Off-Ramp to Duncannon Avenue	12,010	62.6	182	58	18	12,590	62.8	191	60	19	0.2	***No***
Duncannon Avenue to Highland Avenue	8,620	64.7	295	93	30	9,140	64.9	309	98	31	0.2	***No***
Duarte Road												
Mountain Avenue to Buena Vista Street	13,020	68.1	646	204	65	13,560	68.3	676	214	68	0.2	***No***
Buena Vista Street to Cinco Robles Drive	16,290	68.5	708	224	71	18,040	68.9	776	245	78	0.4	***No***
Cinco Robles Drive to Village Road	15,410	67.5	562	178	56	17,150	67.9	617	195	62	0.4	***No***
Village Road to Highland Avenue	11,540	67.6	575	182	58	11,370	67.5	562	178	56	-0.1	***No***
Duncannon Avenue												
Central Avenue to Evergreen Street	2,000	53.5	22	7	2	2,140	53.8	24	8	2	0.3	***No***
Evergreen Street												
East of Mountain Ave	19,140	68.1	646	204	65	19,320	68.2	661	209	66	0.1	***No***
West of Buena Vista Street	8,480	64.3	269	85	27	8,600	64.4	275	87	28	0.1	***No***
Duncannon Avenue to Highland Avenue	1,470	55.4	35	11	3	1,690	56	40	13	4	0.6	***No***
Highland Avenue												
Huntington Drive to Central Avenue	11,700	62.6	182	58	18	13,850	63.4	219	69	22	0.8	***No***
Central Avenue to Evergreen Street	14,610	65.6	363	115	36	17,320	66.3	427	135	43	0.7	***No***
Evergreen Street to Business Center Drive	13,200	64.8	302	95	30	15,870	65.6	363	115	36	0.8	***No***
Business Center Drive to Duarte Road	12,610	65.8	380	120	38	14,710	66.5	447	141	45	0.7	***No***
Huntington Drive												
Buena Vista Street to Highland Avenue	24,940	71	1,259	398	126	25,240	71	1,259	398	126	0.0	***No***
Highland Avenue to Mount Olive Drive	28,660	71.6	1,445	457	145	30,320	71.8	1,514	479	151	0.2	***No***
Mountain Avenue												
Central Avenue to Evergreen Street	20,890	66.7	468	148	47	21,140	66.7	468	148	47	0.0	***No***
Evergreen Street to Duarte Road	14,680	66.7	468	148	47	14,930	66.8	479	151	48	0.1	***No***
I-210												
Adjacent to Evergreen Street (without barrier)	279,984	74.7	11,510	3,640	1,151	280,032	74.7	11,510	3,640	1,151	0.0	***No***
Adjacent to Evergreen Street (with barrier)	279,984	65.1	1,262	399	126	280,032	65.1	1,262	399	126	0.0	***No***

Notes: ADT = average daily traffic; dBA = A-weighted decibels; CNEL = community noise equivalent level

Source: Noise modeling conducted by MIG (see Appendix F) based on traffic data within the *Duarte Station Specific Plan Transportation Impact Study, prepared by Fehr and Peers, dated April 2019.*

LONG-TERM STATIONARY NOISE IMPACTS

IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN A SIGNIFICANT INCREASE IN LONG-TERM STATIONARY AMBIENT NOISE LEVELS.

Impact Analysis: The proposed project would allow for a mix of residential, office, and commercial land uses that are anticipated to be constructed through 2025. Potential noise associated with operational activities of the proposed land uses could include:

- Residential uses
- Delivery Trucks
- Mechanical equipment (air conditioners, trash compactors, emergency generators, etc.)
- Typical parking lot activities (e.g., parking lot traffic and car door slamming)

The potential noise levels generated by these activities and equipment are described below.

Residential Uses

The proposed project would increase the amount of residential dwelling units in the area. Residential developments would include ground-level and rooftop recreational spaces, plus potentially resident amenities such as, but not limited to, fitness centers, pools, pet spas, and storage areas. Recreational spaces and amenities would provide residents recreation and residential services, including areas to sit, eat, and socialize. Noise from these areas may include human speech, music, and play activities. These types of activities and noise sources would be similar to other land uses in the area and would be subject to noise control regulations in the *Municipal Code*. Noise impacts to surrounding uses associated with implementation of the proposed residential uses would be less than significant.

Slow-Moving Trucks (Deliveries)

The proposed project includes office and retail uses that would necessitate occasional truck delivery operations. Multi-family residential development, as well as the proposed non-residential development, would also require garbage collection services and moving vans. By nature of their commercial-based operations, office and retail uses would be located on the perimeter of the planning area, fronting Duarte Road, Highland Avenue, Evergreen Street, or Business Center Drive. This would result in loading docks (if provided) and other delivery areas on the interior of the site.

Typically, small- to medium-sized trucks (two- or three-axle) used to make deliveries or collect garbage can generate a maximum noise level of 75 dBA at a distance of 50 feet for a few minutes or more, presuming a high engine load (i.e., engine revving or acceleration). Although it is anticipated that most, if not all, delivery and garbage collection services would occur on the interior of the site, away from adjacent land uses, it is possible some delivery and garbage collection services could be located adjacent to existing noise sensitive land uses (e.g., existing residential land uses approximately 60 feet to the east of, across Denning Avenue, or directly adjacent to the site's eastern border), resulting in noise levels that exceed the standards contained in Section 9.68.050 of the *Municipal Code*. Thus, sensitive receptors surrounding the project site could be directly exposed to noise from on-site delivery or garbage collection operations created by the proposed project. In addition, on-site delivery or garbage collection services could impact on-site residential receptors. Therefore, Mitigation Measure N-3 is

required to ensure that any potential delivery and/or garbage would be located away from existing or proposed sensitive receptors. Impacts would be mitigated to a less than significant level in this regard.

Mechanical Equipment

Mechanical equipment associated with the proposed residential, office, and commercial land uses could include pool equipment (e.g., pumps), elevators, and individual HVAC units. In addition, proposed parking garages may include fresh air supply or exhaust fans to provide ventilation and promote air flow. Such fans would be required for underground parking levels that do not have fresh air flows.

Pool and elevator equipment would be contained within electrical and machine rooms or other enclosures and would not generate significant on- or off-site noise levels.

Information on the HVAC units that would be used to cool and ventilate conditioned residential, commercial, and office space is not currently known. HVAC systems can range in size from small charge/load units intended to serve to individual dwelling units or small non-residential spaces to large charge/load units intended to serve multiple dwelling units and larger non-residential spaces. The noise levels generated by these systems can range from approximately 40 to 70 dBA at a distance of 50 feet, which could exceed the daytime and/or nighttime standards contained in Section 9.68.050 of the *Municipal Code*. Therefore, Mitigation Measure N-3 would be required to ensure that mechanical equipment is shielded or placed a sufficient distance away to comply with the City's noise standards. Impacts would be mitigated to a less than significant level with the inclusion of this measure.

Specific information on potential parking garage fresh air supply or exhaust fans is also currently not known. The size and noise-generating potential for such systems is contingent on the size of the area requiring air supply, the necessary amount of air turnover needed in the enclosed area, and the location of intakes and exhaust vents; however, due to the size of the area that can require ventilation, such systems can generate noise levels of 75 to 90 dBA at a distance of 50 feet under uncontrolled conditions. These noise levels could exceed the City's daytime and nighttime noise standards contained in the *Municipal Code*. Therefore, Mitigation Measure N-3 would be required to ensure that parking garage ventilation fans are shielded, enclosed, or otherwise noise-controlled to comply with the City's noise standards. Impacts would be mitigated to a less than significant level with the inclusion of this measure.

Parking Areas

Potential parking garages would increase the noise levels at the site by providing additional parking capacity, reflection of sound waves, etc. Noise sources associated with the parking garages (e.g., car horns, doors slamming, cars starting, etc.) are intermittent and would primarily affect on-site receptors. These types of noises would not differ substantially from the noise generated by existing parking activities in the project area, but the frequency of these events would increase with increased parking capacity.

Potential increases in noise resulting from a new parking garage were quantified using the following equations contained in the FTA's *Transit Noise and Vibration Impact Assessment* manual (FTA 2018).

$$\textbf{Leq(h)} = \textbf{SEL}_{ref} + \textbf{C}_N - 36.5$$

and

$$\textbf{C}_N = 10 \times \log(\textbf{N}_A / 1{,}000)$$

Where:

Leq(h) = Hourly Leq at 50 feet
SEL_{ref} = Source Reference Level at 50 feet
C_N = Volume Adjustment (SEL_{ref} is based on 1,000 cars in peak activity hour)
N_A = Number of Automobiles per Hour

According to the FTA, the SEL_{ref} for parking garages is 92 dBA. As indicated in the equation, this SEL_{ref} is based on 1,000 cars per hour during peak time periods. The proposed project would generate much lower activity levels; the *Transportation Impact Study* estimates the the project would generate a total of approximately 374 trips during the AM peak hour, 486 trips during the PM peak hour, and 6,209 total trips throughout the rest of the day (see Chapter 19).

To calculate the Leq and and CNEL at 50 feet from the parking garage, hourly noise levels were first calculated throughout the day using the equations above. The morning peak hour calculations accounted for 374 hourly trips, the evening peak hour calculations accounted for 486 hourly trips, and the remaining 5,349 trips were evenly distributed throughout the daytime (80% of remaining trips, or approximately 285 trips per hour) and nighttime period (20% of remaining trips, or approximately 95 trips per hour). This methodology is considered conservative (i.e., likely to overestimate CNEL) since it likely overestimates activity at the parking garage from the hours of 10:00 PM to 7:00 AM, when a 10 dBA penalty is applied to the hourly noise levels used to calculate the CNEL (see *Section 5.7.1*).

The results of the calculations indicate the parking garage would result in a worst-case hourly Leq value of 53.3 dBA (during the evening peak hour activity), and a CNEL of 54.8 at distance of 50 feet. During the typical nighttime hour, parking garage noise levels could be approximately 46.2 dBA at a distance of 50 feet. These values exceed the nighttime noise standards for single family residential zones contained in Section 9.58.050 of the *Municipal Code*; however, calculated noise levels are also substantially lower (approximately 17 to 25 dBA) than the evening and nighttime ambient noise levels measured at and near the planning area (see *Table 5.7-9*). In general, when two noise levels are 10 dB or more apart, the lower value does not contribute significantly (less than 0.5 dB) to the total noise level. In addition, based on the noise level calculations, nighttime parking garage noise levels would be below the City's 45 dBA nighttime standard if setback a distance of 75 feet or more from perimeter property lines. Accordingly, Mitigation Measure N-4 requires parking structures to have a closed design for exterior walls that face residences and are located within 75 feet of the residences. With the implementation of Mitigation Measure N-4, sensitive receptors would not be exposed to excessive noise from parking areas and a less than significant impact would occur with regard to this impact.

Mitigation Measures:

N-3 Prior to issuance of building permits, a noise assessment shall be prepared for residential, office, commercial, and enclosed parking garage uses to ensure that any loading dock and/or outdoor mechanical equipment (e.g., heating, ventilation, and air conditioning equipment, dock material lifts, garage fresh air supply and exhaust fans, etc.) would not exceed the City's noise limits identified in *Municipal Code* Section 9.68.050. The noise assessment shall identify any noise control measures necessary to comply with the *Municipal Code* Noise Regulations. Individual project applicants shall implement all noise control measures identified in the assessment.

N-4 Prior to site plan approval, the Community Development Director shall confirm that all applicable building plans and specifications include a closed design (i.e., a solid wall) for the walls of parking structures that are within 75 feet of residences. The closed design is only required for walls that face residences.

Level of Significance: Less Than Significant with Mitigation Incorporated.

LONG-TERM VIBRATION IMPACTS FROM METRO GOLD LINE OPERATIONS

IMPLEMENTATION OF THE PROPOSED PROJECT COULD EXACERBATE EXPOSURE OF ON-SITE RECEPTORS TO EXCESSIVE GROUNDBORNE VIBRATION FROM METRO GOLD LINE OPERATIONS.

Impact Analysis:

Approval of the proposed updated Duarte Station Specific Plan would result in the placement of new, sensitive residential land uses in close proximity to the Metro Gold Line. As explained in Section 5.7.3, "Existing Metro Gold Line Noise and Vibration Levels," vibration monitoring was not conducted for the proposed project; however, vibration monitoring was conducted in January 2018 for a different Specific Plan less than two miles to the west (City of Monrovia 2018). This vibration assessment measured groundborne vibration levels 20 feet from the Metro Gold Line track centerline (Veneklassen 2018). The results of the vibration monitoring indicated groundborne vibration from passing Metro Gold Line trains was below 0.002 in/sec PPV and 65 VdB. These vibration levels are below both the Los Angeles County vibration limit of 0.01 in/sec PPV and the FTA's recommended vibration limit of 72 VdB for frequent events where people sleep (see Table 5.7-3).

The proposed project would not result in the placement of structures 20 feet or closer to the Metro Gold Line due to the width of the Metro ROW and City zoning setback requirements. Thus, the operation of the Metro Gold Line would not exacerbate exposure of people to excessive groundborne vibration or groundborne noise levels. This impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.7.6 CUMULATIVE IMPACTS AND MITIGATION MEASURES

Table 4-1, *Cumulative Projects List*, identifies the related projects and other possible development in the area determined as having the potential to interact with the proposed project to the extent that a significant cumulative effect may occur. The following discussions are included per topic area to determine whether a significant cumulative effect would occur.

SHORT-TERM CONSTRUCTION NOISE IMPACTS

DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS COULD RESULT IN SIGNIFICANT SHORT-TERM NOISE IMPACTS TO NEARBY NOISE SENSITIVE RECEIVERS.

Impact Analysis: Construction activities associated with the proposed project and cumulative projects may overlap, resulting in construction noise in the area. However, as analyzed above, construction noise impacts primarily affect the areas immediately adjacent to the construction site. Construction noise for the proposed project was determined to be significant and unavoidable despite implementation of Mitigation Measure N-1 due to the fact that several existing residences adjoin the project site. This project-level impact is due to local receptors and would not contribute cumulatively to construction noise in other areas of the adjacent cities of Duarte, Irwindale, or Azusa. Since construction noise is localized in nature and drops off rapidly from the source, and with implementation of project-specific mitigation measures, cumulative construction-related noise impacts would be less than significant.

Mitigation Measures: Refer to Mitigation Measure N-1. No additional mitigation measures are required.

Level of Significance: Less Than Significant Impact with Mitigation Incorporated.

LONG-TERM CUMULATIVE NOISE IMPACTS

DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS COULD RESULT IN CUMULATIVELY CONSIDERABLE LONG-TERM NOISE IMPACTS.

Impact Analysis:

Cumulative Stationary Noise

Although related cumulative projects have been identified within the project study area, the noise generated by stationary equipment on site cannot be quantified due to the speculative nature of each development. However, each cumulative project would require separate discretionary approval and CEQA assessment, which would address potential noise impacts and identify necessary attenuation measures, where appropriate. Additionally, because noise dissipates as it travels away from its source, noise impacts from stationary sources would be limited to each of the respective sites and vicinities. As no other project sites are located within the immediate vicinity of the proposed project that would involve stationary noise sources, the

proposed project would not contribute to a cumulative stationary noise impact and impacts would be less than significant.

As noted above, with the implementation of Mitigation Measures N-3 and N-4, the proposed project would not result in significant stationary noise impacts. Thus, the proposed project and identified cumulative projects are not anticipated to result in a significant cumulative impact. Cumulative impacts would be less than significant.

Cumulative Mobile Noise

The cumulative mobile noise analysis is conducted in a two-step process. First, the combined effects from both the proposed project and other projects are compared. Second, for combined effects that are determined to be cumulatively significant, the project's incremental effects then are analyzed. A project's contribution to a cumulative traffic noise increase would be considered significant when the combined effect exceeds perception level (i.e., auditory level increase) threshold. The combined effect compares the "cumulative plus project" condition to "existing" conditions. This comparison accounts for the traffic noise increase from the proposed project generated in combination with traffic generated by projects in the cumulative projects list. The following criteria have been utilized to evaluate the combined effect of the cumulative noise increase.

- *Combined Effects*: The cumulative with project noise level ("2025 Plus Project") would cause a significant cumulative impact if a 3 dBA increase over existing conditions occurs and the resulting noise level exceeds the applicable exterior standard at a sensitive use.

Although there may be a significant noise increase due to the proposed project in combination with identified cumulative projects (combined effects), it must also be demonstrated that the project has an incremental effect. In other words, a significant portion of the noise increase must be due to the proposed project. The following criteria have been utilized to evaluate the incremental effect of the cumulative noise increase.

- *Incremental Effects:* The "2025 Plus Project" causes a 1 dBA increase in noise over the "2025 No Project" noise level.

A significant impact would result only if both the combined and incremental effects criteria have been exceeded. Noise by definition is a localized phenomenon that and dissipates drastically as distance from the source increases. Consequently, only proposed projects and growth due to occur in the general vicinity of the project site would contribute to cumulative noise impacts. *Table 5.7-17*, *Cumulative Noise Scenario*, lists the traffic noise effects along roadway segments in the project vicinity for "Existing 2019," "2025 No Project," and "2025 Plus Project," including incremental and net cumulative impacts.

Table 5.7-17
CUMULATIVE NOISE SCENARIO

Roadway Segment	Existing 2019	2025 Without Project	2025 With Project	Combined Effects	Incremental Effects	Cumulatively Significant Impact?
	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	Difference in dBA Between Existing and 2025 With Project	Difference in dBA Between 2025 Without Project and 2025 With Project	
Buena Vista Street						
Huntington Drive to Central Avenue	66.4	67.3	67.3	0.9	0	No
Central Avenue to I-210 Westbound Ramp	63.4	64.2	64.3	0.9	0.1	No
I-210 Westbound On-Ramp to I-210 Eastbound Ramp	64.9	65.9	65.9	1	0	No
I-210 Eastbound On-Ramp to Three Ranch Road	65.4	66.7	66.9	1.5	0.2	No
Three Ranch Road to Duarte Road	64.4	65.6	65.9	1.5	0.3	No
Central Ave						
East of Mountain Avenue	66.2	66.7	66.7	0.5	0	No
West of Buena Vista Street	62.3	62.6	62.6	0.3	0	No
Buena Vista Street to I-210 WB Off-Ramp	64.4	64.9	65	0.6	0.1	No
I-210 WB Off-Ramp to Duncannon Avenue	62.3	62.6	62.8	0.5	0.2	No
Duncannon Avenue to Highland Avenue	64.3	64.7	64.9	0.6	0.2	No
Duarte Road						
Mountain Avenue to Buena Vista Street	67.4	68.1	68.3	0.9	0.2	No
Buena Vista Street to Cinco Robles Drive	67.3	68.5	68.9	1.6	0.4	No
Cinco Robles Drive to Village Road	66.3	67.5	67.9	1.6	0.4	No
Village Road to Highland Avenue	66.9	67.6	67.5	0.6	-0.1	No
Duncannon Avenue						
Central Avenue to Evergreen Street	53.2	53.5	53.8	0.6	0.3	No
Evergreen Street						
East of Mountain Ave	67.5	68.1	68.2	0.7	0.1	No
West of Buena Vista Street	63.3	64.3	64.4	1.1	0.1	No
Duncannon Avenue to Highland Avenue	55	55.4	56	1	0.6	No
Highland Avenue						No
Huntington Drive to Central Avenue	62.1	62.6	63.4	1.3	0.8	No
Central Avenue to Evergreen Street	65.1	65.6	66.3	1.2	0.7	No
Evergreen Street to Business Center Drive	64.3	64.8	65.6	1.3	0.8	No
Business Center Drive to Duarte Road	65.3	65.8	66.5	1.2	0.7	No
Huntington Drive						
Buena Vista Street to Highland Avenue	70.3	71	71	0.7	0	No
Highland Avenue to Mount Olive Drive	70.8	71.6	71.8	1	0.2	No
Mountain Avenue						
Central Avenue to Evergreen Street	65.9	66.7	66.7	0.8	0	No
Evergreen Street to Duarte Road	66.3	66.7	66.8	0.5	0.1	No
I-210						
Adjacent to Evergreen Street (without barrier)	74.2	74.7	74.7	0.5	0	No
Adjacent to Evergreen Street (with barrier)	64.3	65.1	65.1	0.8	0	No

Notes: ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level

Source: Noise modeling conducted by MIG (see Appendix F) based on traffic data within the *Duarte Station Specific Plan Transportation Impact Study,* prepared by Fehr and Peers, dated April 2019.

First, it must be determined whether the Cumulative Plus Project Increase Above Existing Conditions (*Combined Effects*) is exceeded. Per *Table 5.7-17*, this criterion is not exceeded along any of the evaluated roadway segments. Next, under the *Incremental Effects* criteria, cumulative noise impacts are defined by determining if the ambient (2020 No Project) noise level is increased by 1 dB or more. Based on the results of *Table 5.7-17*, no roadway segment would experience an increase of more than 0.8 dBA (Highland Avenue). Therefore, there would not be any roadway segments that would result in significant impacts, as they would not exceed both the combined and incremental effects criteria. The proposed project would not result in long-term mobile noise impacts based on project-generated traffic as well as cumulative and incremental noise levels. Therefore, the proposed project, in combination with cumulative background traffic noise levels, would result in a less than significant cumulative impact.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.7.7 SIGNIFICANT UNAVOIDABLE IMPACTS

With implementation of the proposed Duarte Station Specific Plan Update, significant unavoidable project impacts would occur for short-term construction noise.

All other project and cumulative project noise impacts associated with implementation of the proposed updated Duarte Station Specific Plan are either less than significant or can be mitigated to less than significant levels.

If the City of Duarte approves the updated Duarte Station Specific Plan, the City shall be required to cite its findings in accordance with *CEQA Guidelines* Section 15091 and prepare a Statement of Overriding Considerations in accordance with *CEQA Guidelines* Section 15093.

5.7.8 SOURCES CITED

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List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
ADT	Average Daily Traffic
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dB	Decibel
dBA	Decibels, A-Weighted
dBV / VdB	Decibels, Velocity
Ldn / DNL	Day-Night Noise Level
EIR	Environmental Impact Report
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HVAC	Heating, Ventilation, and Air Conditioning
Hz	Hertz
Leq	Average / Equivalent Noise Level
Lmax	Maximum Noise Level
Lmin	Minimum Noise Level
LT	Long Term (noise measurement)
OITC	Outdoor/Indoor Transmission Class
PPV	Peak Particle Velocity
ROW	Right of Way
ST	Short Term (noise measurement)
STC	Sound Transmission Class
TIs	Transportation Impact study

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5.8 HAZARDS AND HAZARDOUS MATERIALS

This section identifies the potential for the proposed project to expose the public or the environment to hazards and hazardous materials related to existing conditions or new hazards created as a result of the proposed project. Where significant impacts are identified, mitigation measures are provided to reduce these impacts to the extent feasible. This section is based on a *Phase I and II Environmental Site Assessments for 1700 Business Center Drive* by Catalyst Environmental Solutions, and the *East Dock Soil Investigation and Removal Report for 1700 Business Center Drive* prepared by MWH Americas, Inc. Pursuant to Section 15150 of the CEQA Guidelines, these documents are incorporated herein by reference into the SEIR and are included in Appendix G.

For this SEIR, the term "hazardous material" includes any material that, because of its quantity, concentration, or physical, chemical, or biological characteristics, poses a considerable present or potential hazard to human health or safety, or to the environment. It refers generally to hazardous chemicals, radioactive materials, and biohazards materials. "Hazardous waste," a subset of hazardous material, is material that is to be abandoned, discarded, or recycled and includes chemicals, radioactive, and bio-hazardous waste (including medical waste).

5.8.1 REGULATORY SETTING

FEDERAL AND STATE

According to the Federal Environmental Protection Agency (EPA), a "hazardous" waste is defined as one "which because of its quantity, concentrations, or physiochemical or infectious properties, may either increase mortality or produce irreversible or incapacitating illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed" (*U.S. Public Health and Welfare Code* Section 6903). Special handling and management are required for materials and wastes that exhibit hazardous properties. Treatment, storage, transport, and disposal of these materials are highly regulated at both the Federal and State levels. Compliance with Federal and State hazardous materials laws and regulations minimizes the potential risks to the public and the environment presented by these potential hazards, which include, but are not limited to, the following:

- Resources Conservation and Recovery Act (RCRA) – Hazardous waste management
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) – Cleanup of contamination
- Superfund Amendment and Reauthorization Act (SARA) – Cleanup of contamination
- Hazardous Materials Transportation Act (HMTA) – Safe transport of hazardous materials

These laws provide the "cradle to grave" regulation of hazardous wastes. Businesses, institutions, and other entities that generate hazardous waste are required to identify and track their hazardous waste from the point of generation until it is recycled, reused, or disposed of. The primary responsibility for implementing RCRA is assigned to the EPA, although individual states are encouraged to seek authorization to implement some or all RCRA provisions.

The EPA and the California Department of Toxic Substances Control (DTSC) have developed and continue to update lists of hazardous wastes subject to regulation. In addition to the EPA and DTSC, the Regional Water Quality Control Board (RWQCB), Los Angeles Region (Region 4), is the enforcing agency for the protection and restoration of water resources, including remediation of unauthorized releases of hazardous substances in soil and groundwater. Other State agencies involved in hazardous materials management include the Office of Emergency Services, California Department of Transportation (Caltrans), California Highway Patrol (CHP), California Air Resources Board (CARB), and California Department of Resources Recycling and Recovery (CalRecycle). California hazardous materials management laws include, but are not limited to, the following:

- Hazardous Materials Management Act – business plan reporting
- Hazardous Substance Act – cleanup of contamination
- Hazardous Waste Control Act – hazardous waste management
- Safe Drinking Water and Toxic Enforcement Act of 1986 – releases of and exposure to carcinogenic chemicals

Department of Toxic Substances Control

The responsibility for implementation of RCRA was given to California Environmental Protection Agency's (Cal EPA) DTSC in August 1992. The DTSC is also responsible for implementing and enforcing California's own hazardous waste laws, which are known collectively as the Hazardous Waste Control Law. Although similar to RCRA, the California Hazardous Waste Control Law and its associated regulations define hazardous waste more broadly and regulate a larger number of chemicals. Hazardous wastes regulated by California, but not by EPA, are called "non-RCRA hazardous wastes."

State Water Resources Control Board

Brownfields are underutilized properties where reuse is hindered by the actual or suspected presence of pollution or contamination. The goals of the State Water Resources Control Board's (SWRCB) Brownfield Program are to:

- Expedite and facilitate site cleanups and closures for Brownfields sites to support reuse of those sites
- Preserve open space and greenfield
- Protect groundwater and surface water resources, safeguard public health, and promote environmental justice
- Streamline site assessment, clean up, monitoring, and closure requirements and procedures within the various SWRCB site cleanup programs

Site clean-up responsibilities for brownfields primarily reside within four main programs at the SWRCB: the Underground Storage Tank Program, the Site Cleanup Program, the Department of Defense Program, and the Land Disposal Program. These SWRCB cleanup programs are charged with ensuring sites are remediated to protect the State of California's surface and groundwater and return it to beneficial use.

California Air Resources Board

One of the California Air Resources Board's (CARB) major goals is to protect the public from exposure to toxic air contaminants. The California Air Toxics Program establishes the process

for the identification and control of toxic air contaminants and includes provisions to make the public aware of significant toxic exposures and for reducing risk. The Toxic Air Contaminant Identification and Control Act (AB 1807, Tanner 1983) created California's program to reduce exposure to air toxics. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, Connelly 1987) supplements the AB 1807 program by requiring a Statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks.

Under AB 1807, CARB is required to use certain criteria in the prioritization for the identification and control of air toxics. In selecting substances for review, CARB must consider criteria relating to "the risk of harm to public health, amount or potential amount of emissions, manner of, and exposure to, usage of the substance in California, persistence in the atmosphere, and ambient concentrations in the community." AB 1807 also requires CARB to use available information gathered from the AB 2588 program to include in the prioritization of compounds. This report includes available information on each of the above factors required under the mandates of the AB 1807 program. AB 2588 air toxics "Hot Spots" program requires facilities to report their air toxics emissions, ascertain health risks, and to notify nearby residents of significant risks. In September 1992, the "Hot Spots" Act was amended by Senate Bill 1731 which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

Accidental Release Prevention Law

The State's Accidental Release Prevention Law provides for consistency with Federal laws (i.e., the Emergency Preparedness and Community Right-to-Know Act and the Clean Air Act) regarding accidental chemical releases and allows local oversight of both the State and Federal programs. State and Federal laws are similar in their requirements; however, the California threshold planning quantities for regulated substances are lower than the Federal quantities. Local agencies may set lower reporting thresholds or add additional chemicals to the program. The Accidental Release Prevention Law is implemented by the Certified Unified Program Agencies (CUPAs) and requires that any business, where the maximum quantity of a regulated substance exceeds the specified threshold quantity, register with the responsible CUPA as a manager of regulated substances and prepare a Risk Management Plan. A Risk Management Plan must contain an off-site consequence analysis, a five-year accident history, an accident prevention program, an emergency response program, and a certification of the truth and accuracy of the submitted information. Businesses submit their plans to the CUPA, which makes the plans available to emergency response personnel. The Business Plan must identify the type of business, location, emergency contacts, emergency procedures, mitigation plans, and chemical inventory at each location.

Transportation of Hazardous Materials/Wastes

Transportation of hazardous materials/wastes is regulated by *California Code of Regulations* (*CCR*) Title 26. The United States Department of Transportation (DOT) is the primary regulatory authority for the interstate transport of hazardous materials. The DOT establishes regulations for safe handling procedures (i.e., packaging, marking, labeling, and routing). The CHP and Caltrans enforce Federal and State regulations and respond to hazardous materials transportation emergencies. Emergency responses are coordinated as necessary between Federal, State, and local governmental authorities and private persons through a State-mandated Emergency Management Plan.

Worker and Workplace Hazardous Materials Safety

Occupational safety standards exist to minimize worker safety risks from both physical and chemical hazards in the workplace. The California Division of Occupational Safety and Health (Cal/OSHA) is responsible for developing and enforcing workplace safety standards and assuring worker safety in the handling and use of hazardous materials. Among other requirements, Cal/OSHA requires many businesses to prepare Injury and Illness Prevention Plans and Chemical Hygiene Plans. The Hazard Communication Standard requires that workers be informed of the hazards associated with the materials they handle.

REGIONAL

Los Angeles Regional Water Quality Control Board

The Los Angeles RWQCB is the enforcing agency for the protection and restoration of water resources, including remediation of unauthorized releases of hazardous substances in soil and groundwater. The Underground Storage Tank (UST) Section directs environmental cleanup activities at leaking underground storage tank sites. Such sites include active and inactive gasoline stations, agricultural sites, brownfield redevelopment sites, airports, bulk petrochemical storage terminals, pipeline facilities, and various chemical and industrial facilities. The Site Cleanup Section oversees activities at non-UST sites where soil or groundwater contamination have occurred. Many of these sites are former industrial facilities and d y cleaners, where chlorinated solvents were spilled or have leaked into the soil or groundwater.

South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) works with CARB and is responsible for developing and implementing rules and regulations regarding air toxics on a local level. The SCAQMD establishes permitting requirements, inspects emission sources, and enforces measures through educational programs and/or fines.

The SCAQMD also regulates the demolition of buildings and structures that may contain asbestos. The SCAQMD is vested with the authority to regulate airborne pollutants through both inspection and law enforcement and is to be notified 10 days in advance of any proposed demolition or abatement work.

Specifically, SCAQMD Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities) requires work practices that limit asbestos emissions from building demolition and renovation activities, including the removal and disturbance of ACM. Rule 1403 also requires surveys of any facility being demolished or renovated for the presence of all friable and Class I and Class II non-friable ACM.

COUNTY OF LOS ANGELES

Los Angeles County Fire Department

In May 1982, the Los Angeles County Board of Supervisors established the Hazardous Materials Control Program within the Department of Health Services. Originally, the program focused on the inspection of businesses that generate hazardous waste, but has since expanded to include hazardous materials inspections, criminal investigations, site mitigation oversight, and emergency

response operations. On July 1, 1991, the program was transferred to the Los Angeles County Fire Department (LACFD) and its name changed to the Health Hazardous Materials Division (HHMD).

The HHMD's mission is to protect the public health and the environment throughout Los Angeles County from accidental releases and improper handling, storage, transportation, and disposal of hazardous materials and wastes through coordinated efforts of inspections, emergency response, enforcement, and site mitigation oversight. The Hazardous Materials Specialists are environmental health professionals dedicated to preventing pollution by serving both the public and business communities in Los Angeles County.

The Los Angeles County Fire Department is also the designated CUPA serving the City of Duarte.

Household Hazardous and E-Waste Program

The Los Angeles County Sanitation District, in cooperation with the Los Angeles County Department of Health Services, has established the Household Hazardous and E-Waste (electronic waste) Roundup Program. The Household Hazardous Waste Collection Program provides Los Angeles County residents a legal and cost-free way to dispose of unwanted household chemicals that cannot be disposed of in the regular trash.

CITY OF DUARTE

City of Duarte General Plan

The intent of the *Duarte General Plan* Safety Element is to reduce the potential risk of death, injuries, property damage, and economic and social dislocation resulting from fires, floods, earthquakes, landslides, and other hazards. Other locally relevant safety issues, such as emergency response, hazardous materials spills, and crime reduction, are also included.

SAFETY/HAZARDOUS MITIGATION POLICIES

Safe 6.1.1 Monitor to the greatest extent possible the location of hazardous materials that could adversely impact Duarte residents, and businesses.

Safe 6.1.2 Regulate the delivery, use, and storage of hazardous materials within the city limits according to regulations and guidelines set forth by the Los Angeles County Fire Department.

Duarte Municipal Code

The intent of *Duarte Municipal Code* Section 19.50.030, Hazardous Materials, is to protect local health, safety, and general welfare by ensuring that the design and operational characteristics of a property does not adversely impact neighboring property owners, neighboring property users, or the general public through the accidental or intentional release or use of hazardous materials.

5.8.2 ENVIRONMENTAL SETTING

In 2013, the approximately 19.08-acre Duarte Station Specific Plan area previously comprised three parcels, Parcels 1, 2, and 3. Since 2013, Parcel 2 has undergone a lot split into Parcels 2 and 4 (refer to *Exhibit 3-3*, *Specific Plan Area* in Chapter 3). The four parcels are developed as follows with a mix of industrial uses totaling approximately 313,955 square feet:

- Parcel 1 (Assessor Identification Number [AIN] 8528-011-023), at 1801 Highland Avenue, which abuts the Metro Gold Line station, is approximately 6.60 acres in size and includes a 128,466-square-foot warehouse building occupied by multiple tenants.

- Parcel 2 (AIN 8528-011-025), at 1700 Business Center Drive, located in the center of the plan area, is approximately 7.75 acres in size and includes a 114,599-square-foot industrial building currently occupied by Woodward-Duarte. Parcel 2 under the original Duarte Station Specific Plan and EIR was subsequently split into what are now referred to as Parcels 2 and 4 since approval of the original Specific Plan.

- Parcel 4 (AIN 852-8011-906), located at 1789 Business Center Drive, in the center of the plan area and accessible from Highland Avenue, is approximately 1.41 acres in size and is currently a Metro Gold Line parking lot. The site is vacant.

- Parcel 3 (AIN 8528-011-024), at 1716 Evergreen Street, located in the northern portion of the plan area, is approximately 3.32 acres in size and includes a 70,890-square-foot warehouse building occupied by multiple tenants.

The following is a detailed description of surrounding land uses surrounding the Specific Plan area:

- North: Evergreen Street and the Foothill Freeway (Interstate 210) immediately bound the site to the north, with single-family residential uses located to the north across Business Center Drive.

- West: An approximately 204-unit single-family residential neighborhood is located south of Evergreen Street, east of Buena Vista Street, north of Duarte Road, and west of the project site.

- South: The Metro-owned railroad right-of-way is directly adjacent to the project site. The City of Hope medical are research campus and the Santa Fe Dam Recreational Area, owned by the U.S. Army Corps of Engineers and operated by Los Angeles County Department of Parks and Recreation, is located in the City of Irwindale to the south, across Duarte Road.

- East: The Duarte/Lewis Business Center occupies approximately 40 acres to the east, across Highland Avenue, south of I-210 and west of the San Gabriel Freeway (Interstate 605).

CURRENT OPERATIONS

The project site is currently occupied by warehouse/industrial uses and a Metro Gold Line parking lot. *Table 5.8-1*, *Current On-Site Properties*, describes these on-site properties.

Parcel 1 is developed with the Highland Industrial Center, and currently occupied by several industrial uses including Hamlet Paper Company, Galaxy Helmets and Accessories, and Everfocus Electronics Corp (Catalyst 2018a). In 2013, the following other uses were reported in association with this on-site structure: Joshua Tree Imports (2013); Grand Value, Inc. (2013); Quest Diagnostics (2013); Ltd Enterprises (2013); San Gabriel Insulation (2013); and Therapak (2013) (EDR 2013, Catalyst 2018a). Prior to 2013, other uses that have been reported in association with this on-site structure include: Tri Star Electronics (2006-2007); Menie Inc. (2007); The People Movers Inc. (1995-2007); Floorscapes Ltd Co (1999-2007); Everfocus Electronics Corp (2007); Goodman Manufacturing Inc. (2007); American Distributors Inc. (2007); Electronics (2006); Amer Tai Trade (1999); Gibson Inc. (1999); United Suntech Craft Inc. (1999); Cal Liquid Corp Production Facility (1995); Holmes Body Shop Inc. (1995); STK Auto Center (1995); Pioneer (1980-1985); Ronson Packaging Corp (1975); and Ellis Geo E Painter Hrear (1924) (EDR 2013, Catalyst 2018a). Of these uses, Holmes Body Shop Inc. and Pioneer have reported the handling/storage of hazardous materials (EDR 2013, Catalyst 2018a).

Parcel 2 has office and warehouse uses, including Woodward-Duarte (formerly GE Aviation) (Catalyst 2018a). Other uses that have been reported in association with this on-site structure include, but are not limited to: Smiths Aerospace Actuation Systems (2007); Hydraulic Units Inc. (1985-2007); Aerospace Unit (2006); and Dowty Aerospace (1995-2006) (EDR 2013, Catalyst 2018a). Of these uses, Hydraulic Units, Inc. and Woodward-Duarte (formerly GE Aviation) have reported the handling/storage of hazardous materials (EDR 2013, Catalyst 2018a).

Parcel 3 is developed with industrial/warehousing suites. Current reported uses at this property include: Mutiny Crossfit; Quality Precision Cleaning; Element Six; Target Imaging; Grant Products International; and MPK Foods (Catalyst 2018a). In 2013, uses that have been reported in association with this on-site structure include: Studio Lilica; Coastal Composites; Armstrong Engineering; Plain Truth Ministries; Sprint Telephony PCS LP; EAI Holdings LLC; MPK Co. (food distributor); BIOTAB Nutraceuticals, Inc.; and Power Adapter Co. (EDR 2013, Catalyst 2018a). Other uses that have been reported in 2007 in association include: Beauty Plus, Element Six, and Armstrong Engineering (EDR 2013, Catalyst 2018a). No past or current facilities at Parcel 3 have reported the handling/storage or transport of hazardous materials (EDR 2013, Catalyst 2018a).

Parcel 4 is developed with a Metro Gold Line surface parking lot.

Table 5.8-1
Current On-Site Businesses

Parcel Reference	Parcel Address Assessor's Parcel Number[1]	Acreage	Number of On-Site Structures (Total Square Footage)	Reported On-Site Uses[2 3]
1	1801 Highland Avenue 8528-011-023	6.60	One (128,466 sf)	Warehouse occupied by: Hamlet Paper Co Galaxy Helmets and Accessories Everfocus Electronics Corp.
2	1700 Business Center Drive 8528-011-025	7.75	One (114,599 sf)	**Industrial building occupied by Woodward-Duarte (formerly GE Aviation)[4]**
4	1789 Business Center Drive 8528-011-906	1.41	None	Metro Gold Line parking lot

Table 5.8-1
Current On-Site Businesses

Parcel Reference	Parcel Address Assessor's Parcel Number[1]	Acreage	Number of On-Site Structures (Total Square Footage)	Reported On-Site Uses[2] [3]
3	1716 Evergreen Street 8528-011-024	3.32	One (70,890 sf)	Warehouse occupied by: Mutiny Crossfit Quality Precision Cleaning Element Six Target Imaging Grant Products International MPK Foods

Source: Refer to Appendix G, Hazardous Materials Documentation, for sources cited.

Notes:
[1] Los Angeles County Assessor Portal website, accessed July 2019.
[2] Catalyst Environmental Solutions, Phase I Environmental Site Assessment, Former Woodward HRT Facility, 1700 Business Center Drive Duarte, California, June 2018.
[3] **Bold** denotes that this use has reported the handling, storage, and/or transport of hazardous substances.

HISTORICAL USES

The structure on Parcel 2 was constructed in 1964 and the structure on Parcel 1 in 1966. The structure on Parcel 2 also included an addition of a warehouse onto the two-story structure between 1968 and 1976. The on-site structure located on Parcel 3 was constructed in 1978. Prior to development of these on-site structures, the project site consisted of rural residential and agricultural/grazing-related uses since the 1930s or earlier. Parcel 4 was formerly part of Parcel 2 before being separated and designated a Metro Gold Line parking lot in March 2013.

CORTESE LIST (GOVERNMENT CODE 65962.5) AND OTHER REGULATORY DATABASE SEARCHES

Government Code Section 65962.5 requires the local enforcement agency (i.e., DTSC, the SWRCB, or a designee), as designated pursuant to Section 18051 of Title 14 of the *California Code of Regulations* (*CCR*), to compile and maintain a list of all solid waste disposal facilities from which there is a known migration of hazardous waste (called the Cortese List). Subsection (f) of Section 65962.5, as well as Section 21092.6 of CEQA, require certain permit processing and notification procedures for proposed development at any site on this list. On July 27, 2019, a query of all databases maintained by Cal EPA comprising the current Cortese List under *Government Code* Section 65962.5 was conducted (Cal EPA 2019). No parcels in the Specific Plan area or adjacent to the Specific Plan area appear on this list.

In 2013, for the EIR for the original Duarte Station Specific Plan, RBF Consulting conducted an Environmental Data Resources Inc. (EDR) Database Search for the entire Specific Plan area, dated May 7, 2013 (EDR 2013). The results of this EDR search are contained in Appendix G1 of this SEIR. The following regulatory databases were queried as part of this search, in addition to many others where releases of hazardous substances are reported and tracked:

- *CA AST* – The Aboveground Storage Tank database contains a listing of Petroleum Storage Tank Facilities Registered Aboveground Storage Tanks.

- *CA FID UST* – The Facility Inventory Database (FID) contains a historical listing of active and inactive UST locations from the SWRCB.

- *CA ENVIROSTOR* – The DTSC's Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List [NPL]); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

- *FINDS* – The Facility Index System/Facility Registry System (FINDS) database contains both facility information and "pointers" to other sources that contain more detail. EDR includes the following FINDS databases in their report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

- *CA HIST UST* – The HIST UST database contains information on sites where historical underground storage tanks are located.

- *CA LOS ANGELES CO. HMS* – The Street Number List (HMS) includes industrial waste and underground storage tank sites in Los Angeles County.

- *CA NPDES* – National Pollutant Discharge Elimination System (NPDES) Permits Listing is a listing of NPDES permits, including storm water.

- *RCRA LQG* – The RCRA – Large Quantity Generator (LQG) database contains selective information on sites which generate, transport, store, treat, and/or dispose of hazardous waste as defined by RCRA. Large quantity generators generate over 1,000 kilograms (kg) of hazardous waste, or over one kg of acutely hazardous waste per month.

- *RCRA SQG* – The RCRA – Small Quantity Generator (SQG) database contains selective information on sites which generate, transport, store, treat, and/or dispose of hazardous waste as defined by RCRA. Small quantity generators generate less than 1,000 kilograms (kg) of hazardous waste, or over less than one kg of acutely hazardous waste per month. SQGs generate between 100 kg and 1,000 kg of hazardous waste per month.

- *CA SWEEPS UST* – The SWEEPS-UST database maintains information on properties where an underground storage tank is located; however, this database is no longer updated.

- *TRIS* – The Toxic Release Inventory System (TRIS) identifies facilities which release toxic chemicals to the air, water, and land in reportable quantities under SARA Title III Section 313.

- *WDS* – The Waste Discharge System (WDS) database is a listing of sites which have been issued waste discharge requirements.

- *WIP* – The Well Investigation Program (WIP) includes cases listed in the San Gabriel and San Fernando Valley area.

In 2018, Catalyst Environmental Services (Catalyst) conducted a Phase I Environmental Site Assessment (ESA) for Parcel 2 at 1700 Business Center Drive and as part of this report, also conducted an EDR Search for the entire Specific Plan area, which involved the property at 1700 Business Center Drive and all adjacent properties (Catalyst 2018a). Since 2013, the following additional database records were queried through the EDR search:

- *ECHO* – Enforcement and compliance history database by U.S. EPA.

- CA *VCP* – Voluntary Cleanup Program properties by DTSC.

- *ICIS* – Integrated Compliance Information System by U.S. EPA.

- *CA EMI* – Air emissions inventory by the California Air Resources Control Board.

- *CA HAZNET* – Facility and manifest data by Cal EPA.

The results of all recent database searches are summarized in *Table 5.8-2* as well as below. All hazardous waste investigations performed in the Specific Plan area are also summarized below by parcel. Individual reports are contained in Appendix G of this EIR.

Table 5.8-2
Summary of Records Search Results

Parcel Reference	Parcel Address Assessor's Parcel Number[1]	Database Records Results
1	1801 Highland Avenue 8528-011-023	RCRA-SQG, FINDS, ECHO, CA Los Angeles Co. HMS (Holmes Body Shop)
		CA HIST UST, CA SWEEPS UST, CA Los Angeles Co. HMS, CA FID UST (Pioneer Electronics)

Table 5.8-2
Summary of Records Search Results

Parcel Reference	Parcel Address Assessor's Parcel Number[1]	Database Records Results
2	1700 Business Center Drive 8528-011-025	RCRA-SQG, ICIS, FINDS, ECHO (Woodard WRT)
		CA ENVIROSTOR, CA VCP, CA HIST UST, CA NPDES (GE Aviation)
		CA SWEEPS UST, CA HIST UST, CA FID UST, CA HAZNET, CA Los Angeles Co. HMS (Smiths Aerospace)
		CA HAZNET, CA NPDES (Dowty Aerospace)
		CA EMI, CA AST, CA Los Angeles Co. HMS, CA NPDES (Hydraulic Units)
		CA AST (no party listed; likely applies to current operations by Woodard)
4	1789 Business Center Drive 8528-011-906	None
3	1716 Evergreen Street 8528-011-024	None

PARCEL 1 (1801 HIGHLAND AVENUE, 8528-011-023)

Hazardous Materials Use and Hazardous Waste

Records Search Results. Holmes Body Shop at 1801 Highland Avenue has been reported in the RCRA-SQG, FINDS, ECHO, and CA Los Angeles CO. HMS regulatory databases (EDR 2013; Catalyst 2018a). This property has reported the use of hazardous materials at the project site in 1985 and 1996 (EDR 2013; Catalyst 2018a). This property owner was listed as a small generator of hazardous waste and was registered as utilizing underground storage tanks with the County of Los Angeles (EDR 2013; Catalyst 2018a).

Pioneer at 1801 Highland Avenue has been reported in the CA HIST UST, CA FID UST, CA SWEEPS UST, and CA Los Angeles Co. HMS regulatory databases for the presence of USTs used for waste and product in 1966 (EDR 2013; Catalyst 2018a).

Site Investigations and Regulatory Actions. No known Phase I or Phase II Environmental Site Assessments ESAs or surveys for Asbestos Containing Materials (ACM) or Lead-Based Paint (LBP) have been performed on the building on Parcel 1 to date.

PARCEL 2 (1700 BUSINESS CENTER DRIVE, 8528-011-025) AND PARCEL 4 (1789 BUSINESS CENTER DRIVE, 8528-011-906)

Hazardous Materials Use and Hazardous Waste

Records Search Results. Woodward-Duarte (formerly GE Aviation) at 1700 Business Center Drive has been reported in the RCRA-LQG, TRIS, ICIS, FINDS, and ECHO regulatory databases (EDR 2013, Catalyst 2018a). Woodward-Duarte (formerly GE Aviation) has reported the generation of hazardous materials at the project site (EDR 2013, Catalyst 2018a). This facility is also reported to release toxic chemicals to the air, water, and/or land in reportable quantities under SARA Title III Section 313 (EDR 2013, Catalyst 2018a). Two underground storage tanks used to occur on the property (Catalyst 2018a). Two 1,000-gallon aboveground storage tanks (ASTs) occur on the site for storing waste oil (Catalyst 2018a).

GE Aviation has been reported in CA ENVIROSTOR, CA VCP, CA HIST UST, and CA NPDES. Specifically, the site appears on the CA ENVIROSTOR and CA VCP lists due to the voluntary cleanup action to address TPH and tributyl phosphate described in more detail below; the site received a No Further Action Letter by DTSC in 2014.

Hydraulic Units, Inc. at 1700 Business Center Drive has been reported in the CA EMI, CA AST, CA Los Angeles Co. HMS, and CA NPDES databases (EDR 2013, Catalyst 2018a). This on-site use has reported the presence of USTs used for waste and product associated with machine shop activities in 1966 and 1987 (EDR 2013, Catalyst 2018a). This property is listed in the WIP and has reported to discharge waste per regulatory requirements (EDR 2013, Catalyst 2018a).

Smiths Aerospace has been reported on the CA SWEEPS UST, CA HIST UST, CA FID UST, CA HAZNET, and CA Los Angeles Co. HMS regulatory databases (EDR 2013, Catalyst 2018a). Similarly, the site was reported for the presence of USTs.

Finally, Dowty Aerospace has been reported in the CA HAZNET and CA NPDES databases, for the storage of hazardous waste and for holding an NPDES permit for industrial discharges.

Site Investigations and Regulatory Actions. The following reports summarize past investigations and regulatory actions taken on Parcels 2 and 4 of the Specific Plan area, and are described in more detail below:

- *Focused Soil Investigation and Storm Drain Inspection Report, 1700 Business Center Drive* dated October 23, 2012 (MWH Americas, Inc. [MWH], 2012);
- *East Dock Soil Investigation and Removal Report for 1700 Business Center Drive* dated October 2013 (MWH, 2013);
- *No Further Action for Former GE Aviation Company, 1700 Business Center Drive* dated July 17, 2014 (DTSC 2014a) (for a TPH and tributyl phosphate at the East Dock);
- *Clarification to No Further Action for Former GE Aviation Company, 1700 Business Center Drive* dated August 5, 2014 (DTSC 2014b);

- *Phase I Environmental Site Assessment (ESA) of 1700 Business Center Drive (Catalyst 2018)*;

- *Phase II ESA of 1700 Business Center Drive (Catalyst 2018)*; and

- *Draft Phase II Environmental Site Assessment, 1700 Business Center Drive, Duarte, CA dated April 2011 (MHW Americas, Inc. [MHW] 2011) (as an appendix to Catalyst 2018b).*

In addition, the following additional reports are cited in the above reports but were available for direct review for this EIR:

- *Results of Soil Gas Survey, Dowty Aerospace, Inc., 1700 Business Center Drive, Duarte, CA dated June 23, 1997 (Daly Environmental Services 1997)*

- *Draft Phase I Environmental Site Assessment, 1700 Business Center Drive, Duarte, CA dated April 2009 (MHW Americas, Inc. [MHW] 2009)*

In June 2018, Catalyst Environmental Solutions was retained by Woodward, Inc. to conduct a Phase I ESA of 1700 Business Center Drive (Catalyst 2018a) (contained in Appendix G4 of this EIR). This assessment was based on information obtained from the site reconnaissance survey conducted on April 5, 2018, interviews with personnel familiar with the property, regulatory agency information, and an environmental database search by EDR. The following RECs were identified as part of the Phase I ESA conducted by Catalyst (2018a):

- Former USTs: Two waste oil USTs were reportedly removed from the property in December 1985. No records of the UST removal activities have been identified. Accordingly, the potential impacts associated with these former USTs are unknown. The results of a soil gas survey conducted in June 1997 (Daly Environmental Services 1997 cited in Catalyst 2018a) indicated elevated levels of tetrachloroethene (PCE) in the vicinity of the former 2,000-gallon UST. During a 2011 Phase II ESA of the property, one soil boring (SB-19) was installed approximately 20-25 feet east of the former 2,000-gallon UST. The soil sample results from this boring did not indicate elevated levels of volatile organic compounds (VOCs). However, the soil samples were not analyzed for total petroleum hydrocarbons (TPH) which, given the significant use of Skydrol and other oils at the site, is important to assess. In addition, given the coarse subsurface lithology at the site, potential releases would have a strong vertical migration component so, based on its location, any impacts associated with a release from the former 2,000-gallon UST may not have been encountered in this boring. This issue is identified as a REC given the lack of information regarding the UST removal and the results of the soil gas survey which indicate the potential for subsurface impacts associated with the USTs.
- Trench drain in the pump room area (East Dock): The trench drain collects overflow and leaking oil from the pumping system. The results of the soil gas survey conducted in June 1997 (Daly Environmental Services 1997) indicated detectable levels of PCE and Freon 113 in the vicinity of the trench drain. This issue is identified as a REC given the documented impacts in soil gas from the 1997 soil gas survey and the potential for subsurface impacts associated with the significant staining and cracks in the concrete surrounding the drain.
- Former Drainage Infrastructure: In the past, it appears that wash water from the production area was captured in floor drains and directed to holding tanks (likely the former USTs).

During the site visit, neither the floor drain system, nor the holding tanks were observed. Per Woodward personnel, the floor drain system and the holding tanks had been previously removed; however, no specific information regarding the removal was available. This issue is identified as a REC given the lack of information on the current status of the drains and the June 2018 potential for subsurface impacts associated with leakage through cracks, joints, and connections in the drainage infrastructure.

- Transformers: Three transformers are located in the southeast corner of the facility. Visible staining was observed on the sides of the transformers. The transformers were not labelled as to PCB content, and no PCB testing has reportedly been conducted on the transformers. This issue is identified as a REC given the lack of information regarding the transformers and potential for leakage of PCB-containing fluids to impact the subsurface.

The following historical RECs (HRECs) were identified as part of the Phase I ESA:

- Soil impacted with elevated concentrations of petroleum hydrocarbons and tributyl phosphate was discovered in the east dock area in July 2012. Subsequently, MWH Americas, Inc. conducted a soil investigation in August 2012 (MWH 2012). The results indicated concentrations of petroleum hydrocarbons and tributyl phosphate above applicable cleanup criteria. Accordingly, in November 2012, MWH Americas excavated approximately 50 cubic yards of impacted soil and conducted additional site assessment activities in February and March 2013 (MWH 2013). The results of the soil removal and additional investigation were used to support a request for a Preliminary Endangerment Assessment (PEA)-equivalency review and closure, which was subsequently approved by the California Department of Toxic Substances Control as indicated in their "No Further Action (NFA)" letter dated July 17, 2014. The PEA-equivalent documentation and NFA letter are contained in Appendices G2 and G3 of this EIR.

No controlled RECs were identified as part of the Phase I ESA (Catalyst 2018a). Controlled RECs are where the contamination has been addressed but where there is some sort of control or use restriction over the site. The 2018 Phase I ESA identified the following *de minimis* conditions: localized surficial staining, potential for leaks or spills from stored waste, lack of secondary containment, and condensate from the cooling tower appearing to discharge into the sanitary sewer system and onto the ground surface (Catalyst 2018a).

A Phase II Environmental Site Assessment for 1700 Business Center Drive was subsequently completed in July 2018 by Catalyst Environmental Solutions (Catalyst 2018b). The Phase II ESA was conducted between July 5-6, 2018 and involved the installation of six soil borings and the collection of 12 soil samples for laboratory analysis. The objective of the scope of work was to further investigate the RECs identified in the June 2018 Phase I ESA for the site (Catalyst 2018a). In addition to the soil borings, the scope of work involved investigating the current status and condition of the former drainage infrastructure inside the facility, which was reportedly abandoned by filling with concrete. The findings indicate the following:

- Trench Drain in the Pump Room Area (East Dock): No analytes were detected above applicable regulatory screening levels in the soil samples collected from the two soil borings installed in adjacent to the trench drain.
- Transformers: No analytes were detected above applicable regulatory screening levels in the soil samples collected from the two soil borings installed adjacent to the transformers.
- Former USTs: The geophysical survey in the reported locations of the former USTs did not identify the USTs or any anomalies in these areas. Accordingly, based on the available

information, it appears the USTs have likely been removed from the site as reported in historical information for the site. Regarding the soil sampling, no analytes were detected above applicable regulatory screening levels in the soil samples collected from the borings installed in the reported locations of the former USTs.

- Former Drainage Infrastructure: Based on anecdotal information from site personnel, the former infrastructure was abandoned by filling with concrete and is no longer used for drainage. During the field activities, a former floor drain associated with the drainage infrastructure was identified and found filled with concrete, which appears to confirm the information reported from site personnel. Further, the 2011 Phase II investigation conducted at the site (MWH 2011 cited in Catalyst 2018b) included the installation of three soil borings that appear to be situated in the vicinity of the former drainage infrastructure along the western side of the building. The analytical results for soil samples collected from these borings were all below applicable screening levels.

Asbestos Containing Material (ACM)

An assessment of suspected ACMs was conducted by Shaw Environmental, Inc. throughout 1700 Business Center Drive in 2007 (Shaw 2007). The assessment included the collection of 74 bulk samples of various materials, including floor tiles and associated mastic, ceiling panels and tiles, pipe-fitting insulation, plaster, gypsum board and joint compound, and texture coating on metal siding. The assessment results indicated the presence of asbestos in the following materials:

- 12"x12" cream/ rust floor tile
- Pipe fitting insulation (large pipes)
- Pipe fitting insulation (small pipes)
- Texture coating on exterior metal siding
- Joint compound applied on gypsum board
- Sprayed-applied acoustic ceiling material
- Roofing material under foam (presume asbestos-containing material)
- Cementitious pipe (transite)

Removal of ACM prior to demolition is recommended per SCAQMD procedures (Shaw 2007).

According to the Catalyst Phase I ESA (2018a), ACMs were reportedly removed from pipe insulation in air handler rooms and floor tile in early 2006 (ERM 2006 cited in Catalyst 2018a). However, no documentation of the ACM removal was found during the preparation of the 2018 Phase I ESA (Catalyst 2018a). In addition, an assessment of suspected ACMs was conducted throughout the site in 2007 (Catalyst 2018a). This issue has been identified as a REC given the identified presence of ACMs at the property.

Lead-Based Paint (LBP)

Lead-based paint sampling and testing have not been completed for the building at 1700 Business Center Drive (Catalyst 2018a).

PARCEL 3 (1716 EVERGREEN STREET, 8528-011-024)

Records Search Results. The property at 1716 Evergreen Street does not appear on any database or records searches conducted by EDR in 2013, or in 2018, in the Specific Plan area

(EDR 2013, Catalyst 2018a). No past or current facilities at Parcel 3 have reported the handling/storage or transport of hazardous materials (EDR 2013, Catalyst 2018a).

Site Investigations and Regulatory Actions. No known Phase I ESAs, Phase II ESAs, or surveys for ACM or LBP have been performed on the building on Parcel 3 to date.

5.8.3 SIGNIFICANCE THRESHOLD CRITERIA

The issues presented in the Initial Study Environmental Checklist (*CEQA Guidelines* Appendix G) have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (refer to Section 8.0, Effects Found Not to Be Significant);
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area (refer to Section 8.0, Effects Found Not To Be Significant);
- Substantially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (refer to Section 8.0, Effects Found Not to Be Significant);
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires (refer to Section 8.0, Effects Found Not to Be Significant);

Based on these standards, the effects of the proposed project have been categorized as either a "less than significant impact" or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

5.8.4 PROJECT IMPACTS AND MITIGATION MEASURES

CONSTRUCTION-RELATED ACCIDENTAL RELEASE OF HAZARDOUS MATERIALS

SHORT-TERM CONSTRUCTION ACTIVITIES ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT COULD CREATE A SIGNIFICANT HAZARD TO THE PUBLIC OR ENVIRONMENT THROUGH ACCIDENT CONDITIONS INVOLVING THE RELEASE OF HAZARDOUS MATERIALS.

Impact Analysis: One of the means through which human exposure to hazardous substances could occur is through accidental release. Incidents that result in an accidental release of hazardous substances into the environment can cause contamination of soil, surface water, and/or groundwater, in addition to any toxic fumes that might be generated. Human exposure of contaminated soil or water can have potential health effects based on a variety of factors, such as the nature of the contaminant and the degree of exposure. Construction activities associated with development of the proposed project could release hazardous materials into the environment through reasonably foreseeable upset and accident conditions.

Implementation of the proposed project is anticipated to result in the demolition of the three existing on-site structures and the construction of new residential and non-residential uses. Also, one or more buildings could be repurposed for a non-industrial use (adaptive reuse). Thus, development within the plan area may result in the disturbance of existing contaminated building materials, soil, and/or groundwater associated with existing and past on-site uses. Site disturbance, demolition/renovation, and/or construction within these areas could result in the disturbance of existing hazardous materials associated with structures, soil, and/or groundwater.

Structures

The existing on-site structures were constructed between 1964 and 1978. Thus, the potential for asbestos-containing materials (ACMs) or lead-based paints (LBPs) to be present in association with on-site building materials is likely. Demolition of on-site structures could expose construction personnel and the public to ACMs or LBPs. Federal and State regulations govern the renovation and demolition of structures where ACMs and LBPs are present. All demolition that could result in the release of ACMs or LBPs must be conducted according to Federal and State standards.

The National Emission Standards for Hazardous Air Pollutants (NESHAP) mandates that building owners conduct an asbestos survey to determine the presence of ACMs before the commencement of any remedial work, including demolition (included as Mitigation Measure HAZ-1). If ACM material is found, abatement of asbestos would be required before any demolition activities. If paint is separated from building materials (chemically or physically) during demolition of the structures, the paint waste would be required to be evaluated independently from the building material by a qualified environmental professional (included as Mitigation Measure HAZ-2). If LBP is found, abatement would be required to be completed by a qualified Lead Specialist before any demolition activities. Compliance with Mitigation Measures HAZ-1 and HAZ-2, as well as SCAQMD Rule 1403, would reduce these potential impacts to less than significant levels.

Other hazardous substances could also be encountered during demolition/renovation activities in association with on-site building materials. Existing operations within the plan area include the use, handling, and storage of hazardous substances. These substances could have contaminated existing drains, flooring, walls, ceiling tiles, etc., and could impact construction worker safety during building disturbance activities. An environmental professional with Phase II/site characterization experience would be required to conduct an inspection of existing structures prior to site disturbance activities to determine whether or not hazardous substances and/or heavy metals have the potential to be present in on-site building materials (i.e., sinks,

drains, piping, walls, ceiling tiles, etc.) (included as Mitigation Measure HAZ-3). Should the potential exist, prior to disturbance of on-site buildings, a Phase II/site characterization specialist would be required to conduct testing of building materials that have the potential to contain hazardous substances, both currently and historically. Should contamination be present in on-site building materials, those materials would be required to be disposed of at an approved landfill facility. Compliance with Mitigation Measure HAZ-3 would reduce these potential impacts to less than significant levels.

Underground Storage Tanks

Multiple USTs are reported to exist on site. Future development associated with implementation of the Specific Plan would be required to comply with the Los Angeles County Fire Department Health Hazard Management Division's Underground Storage Tank Program, including obtaining the appropriate permit(s) for UST removal (included as Mitigation Measure HAZ-4). When a UST is closed, the owner must submit soil/groundwater testing results to rule out the presence of regulated hazardous materials with a closure letter. Upon implementation of Mitigation Measure HAZ-4, the applicant(s) would also be required to confirm that the removed USTs have not contaminated groundwater. If groundwater contamination, as a result of the removed USTs, is present above regulatory thresholds, then the applicant would be required to remediate the groundwater appropriately, as required by the HHMD. Therefore, with implementation of Mitigation Measure HAZ-4, potential accidental conditions during construction, as a result of the removal of on-site USTs, would be reduced to less than significant levels.

Historical Agricultural Activities

The project site has been historically utilized for agricultural purposes (prior to the 1960s). Therefore, a combination of several commonly used pesticides (i.e., DDD, DDT and DDE), which are now banned, may have been used throughout the project site, particularly from the 1940s through the 1960s. The historical use of agricultural pesticides may have resulted in pesticide residues of certain persistence in soil at concentrations that are considered to be hazardous based on established federal regulatory levels. The primary concern with historical pesticide residues is human health risk from inadvertent ingestion of contaminated soil, particularly by children. The presence of moderately elevated pesticide residuals in soil presents potential health and marketplace concerns.

Development within the plan area could expose construction workers during site disturbance activities, and the public during operations to hazardous materials. Future development associated with implementation of the Specific Plan would be required to conduct soil sampling, as determined by a qualified Phase II/site characterization specialist (included as Mitigation Measure HAZ-5). The sampling would determine if pesticide concentrations exceed established regulatory requirements and would identify further site characterization and remedial activities, if necessary. Should further site characterization/remedial activities be required, these activities would be required to be conducted per the applicable regulatory agency requirements, as directed by the HHMD. With implementation of Mitigation Measure HAZ-5, impacts pertaining to historical agricultural uses would be reduced to less than significant levels.

Potential Groundwater Contamination

Groundwater underlying the plan area has the potential to be contaminated as a result of both on-site and off-site activities. On-site activities that may have compromised on-site groundwater

include, but are not limited to, current and past spills, hazardous materials storage area(s), ASTs, and/or USTs.

Construction workers could be exposed to hazardous substances during grading/excavation activities should groundwater be encountered. A Phase II/site characterization specialist would be required to conduct appropriate sampling to determine whether or not contaminated groundwater is present. Should contaminated groundwater be present, preparation of a worker safety plan would be required to ensure construction worker safety during grading/excavation activities (included as Mitigation Measure HAZ-6). Compliance with Mitigation Measure HAZ-6 would reduce potential impacts in this regard to less than significant levels.

Transport of Hazardous Materials

Excavation/grading activities and/or site disturbance of existing building materials may result in the off-site transport and disposal of hazardous substances in the event that these substances are encountered. Off-site transport and disposal of hazardous substances would be short term in nature, only occurring during demolition/renovation or grading/excavation activities, and would be subject to Federal, State, and local health and safety regulations that protect public safety. Handling, transport, and disposal of these substances are regulated by the DTSC, CalEPA, CalOSHA, and HHMD. Future construction contractors would also be subject to the requirements of the CalOSHA and HHMD governing removal actions. DTSC regulations require specific hazardous materials handling methods, truck haul routes, and schedules to minimize potential exposure during hazardous materials removal actions. With adherence to the requirements of affected regulatory agencies regarding the handling, transport, and disposal of hazardous materials, implementation of the proposed project would not create a significant hazard to the public or the environment. As such, impacts related to the temporary off-site hauling and disposal of hazardous building materials during demolition would be less than significant.

Railroad Right-of-Way

Parcel 1 adjoins the Metro-owned railroad right-of-way, which trends along the southern boundary of the plan area. Active and inactive railroad beds frequently have concentrations of petroleum products and lead elevated above natural background conditions. Petroleum product concentrations and lead concentrations are derived from drippings from rail vehicles and flaked paint, respectively. Wooden railroad ties may contain preservatives (i.e., creosote), some of which may contain hazardous constituents. Track switch locations often have elevated levels of petroleum hydrocarbons. Inorganic and organic herbicides, along with diesel fuel, may have been used for vegetation control. As the proposed project would not involve the disturbance of existing or historical railroad rights-of-way, it is unlikely that the proposed project would involve the disturbance of potential hazardous materials in the soil as a result of off-site railroad activities. However, in order to ensure that no hazardous substances associated with the railroad are located on-site, a Phase II/site characterization specialist would be required to conduct appropriate sampling along the southern boundary of the Plan Area for development of Parcel 1 to determine whether or not contaminated soil is present (included as Mitigation Measure HAZ-7). Should contaminated soil be present, the Phase II/site characterization specialist shall recommend appropriate remediation/safety measures in order to ensure worker safety during construction and public health during proposed project operations. With the implementation of Mitigation Measure HAZ-7, impacts in this regard would be reduced to less than significant levels.

Other Construction Related Impacts

Other means by which accidental spills could result during construction of future development include proposed construction equipment. Construction equipment may involve petroleum-based fuel spills. The level of risk associated with this type of spill is not considered significant due to the small volume and low concentration of hazardous materials utilized during the construction phases. The proposed project contractor would be required to use standard construction controls and safety procedures that would avoid and minimize the potential for accidental release of such substances into the environment in the event of a spill. Standard construction practices would be observed such that any materials released would be appropriately contained and remediated as required by local, State, and Federal law. Impacts in this regard would be less than significant.

In addition, Mitigation Measure HAZ-8 would ensure protection of construction workers for inadvertent exposure to hazardous substances during demolition, grading, and construction activities. Therefore, impacts would be less than significant.

Impact Conclusion

Site disturbance/demolition activities could expose workers to a variety of potentially hazardous materials. Implementation of Mitigation Measures HAZ-1 through HAZ-8 would reduce potential impacts from site disturbance/demolition activities that would result in accidental conditions at the project site. If unknown wastes or suspect materials are discovered during construction by the contractor, which he/she believes may involve hazardous wastes/materials, the contractor would be required to complete the following (included as Mitigation Measure HAZ-9):

- Immediately stop work in the vicinity of the suspected contaminant, removing workers and the public from the area
- Notify the City Engineer of the City of Duarte
- Secure the areas as directed by the City Engineer
- Notify the Los Angeles County Fire Department Health Hazard Management Division's (HHMD) Hazardous Waste/Materials Coordinator

With implementation of Mitigation Measures HAZ-1 through HAZ-9 and compliance with applicable Federal, State, and local regulatory requirements pertaining to hazardous materials, potential impacts would be reduced to less than significant levels.

Mitigation Measures:

HAZ-1 Prior to demolition activities, an asbestos survey shall be conducted by an Asbestos Hazard Emergency Response Act (AHERA) and Cal OSHA certified building inspector to determine the presence or absence of asbestos containing-materials (ACMs). If ACMs are located, abatement of asbestos shall be completed before any activities that would disturb ACMs or create an airborne asbestos hazard. Asbestos removal shall be performed by a State certified asbestos containment contractor in accordance with the South Coast Air Quality Management District (SCAQMD) Rule 1403.

HAZ-2 If paint is separated from building materials, chemically or physically, during demolition of the structures, the paint waste shall be evaluated independently from the building material by a qualified environmental professional. If lead-based paint is found, abatement shall be completed by a qualified lead specialist before any activities that

would create lead dust or fume hazard. Lead-based paint removal and disposal shall be performed in accordance with California Code of Regulation Title 8, Section 1532.1, which specifies exposure limits, exposure monitoring and respiratory protection, and mandates good worker practices by workers exposed to lead. Contractors performing lead-based paint removal shall provide evidence of abatement activities to the City's Building Department.

HAZ-3 An environmental professional with Phase II/site characterization experience shall conduct an inspection of existing on-site structures before building renovation/ demolition activities. The inspection shall determine whether or not testing is required to confirm the presence or absence of hazardous substances in building materials (i.e., sinks, drains, piping, flooring, walls, ceiling tiles, etc.). Should testing be required and results determine that hazardous substances are present in on-site building materials, the Phase II/site characterization specialist shall determine appropriate prevention/remediation measures that are required and/or the methods for proper disposal of hazardous waste at an approved landfill facility, if required.

HAZ-4 As applicable, each project applicant shall obtain appropriate permits from the Los Angeles County Fire Department Health Hazard Management Division (HHMD), before removing any existing USTs, per the Underground Storage Tank Program. The applicant shall conduct soil/groundwater testing, as requested by the HHMD. Should contamination be present above regulatory thresholds, then the project applicant shall remediate appropriately, as required by the HHMD. Should the HHMD refer the case to any other regulatory agency (e.g., the Department of Toxic Substances Control, or Regional Water Quality Control Board, etc.), then the applicant shall comply with that agency's requirements as well.

HAZ-5 Prior to issuance of a grading permit, soil sampling shall occur within the portions of the project site that have historically been utilized for agricultural purposes and may contain pesticide residues in the soil, as determined by a qualified Phase II/site characterization specialist. The sampling shall determine if pesticide concentrations exceed established regulatory requirements and shall identify further site characterization and remedial activities, if necessary. Should further site characterization/remedial activities be required, these activities shall be conducted per the applicable regulatory agency requirements, as directed by the Los Angeles County Fire Department Health Hazard Management Division (HHMD).

HAZ-6 Prior to issuance of a grading permit, an environmental consultant with Phase II/site characterization experience shall conduct sampling to confirm whether or not contaminated soil/soil vapor/groundwater underlies the project site. Should contamination above established regulatory levels be identified, the environmental consultant shall recommend remedial activities appropriate for the proposed future development at the site, in consultation with the Los Angeles County Fire Department Health Hazard Management Division (HHMD) and/or other applicable agencies.

HAZ-7 Prior to issuance of a grading permit, a Phase II/site characterization specialist shall conduct appropriate sampling along the southern boundary of the project site (Parcel 1) in order to determine whether or not contaminated soil is present. Should contaminated soil be present, the Phase II/site characterization specialist shall

recommend appropriate remediation/safety measures in order to ensure worker safety during construction and public health during proposed project operations.

HAZ-8 Prior to issuance of a grading permit, the project applicant shall submit a Worker Safety Plan for site disturbance/construction activities, in consultation with California Division of Occupational Safety and Health (Cal/OSHA) and Los Angeles County Fire Department Health Hazard Management Division (HHMD). The Worker Safety Plan shall include safety precautions (e.g., personal protective equipment or other precautions to be taken to minimize exposure to hazardous materials) to be taken by personnel when encountering potential hazardous materials, including potential contaminated groundwater.

HAZ-9 If unknown wastes or suspect materials are discovered during construction by the contractor that are believed to involve hazardous waste or materials, the contractor shall comply with the following:

- Immediately cease work in the vicinity of the suspected contaminant, and remove workers and the public from the area
- Notify the City Engineer of the City of Duarte
- Secure the area as directed by the City Engineer
- Notify the Los Angeles County Fire Department Health Hazard Management Division's (HHMD) Hazardous Waste/Materials Coordinator (or another appropriate agency specified by the City Engineer). The Hazardous Waste/Materials Coordinator shall advise the responsible party of further actions that shall be taken, if required

Level of Significance: Less Than Significant with Mitigation Incorporated.

OPERATIONAL-RELATED IMPACTS

IMPLEMENTATION OF THE PROPOSED PROJECT COULD CREATE A SIGNIFICANT HAZARD DURING USE OPERATIONS TO THE PUBLIC OR ENVIRONMENT THROUGH THE HANDLING, STORAGE, AND/OR USE OF HAZARDOUS MATERIALS, AS WELL AS ACCIDENT CONDITIONS INVOLVING THE RELEASE OF HAZARDOUS MATERIALS.

Impact Analysis: The Duarte Station Specific Plan proposes the future development of residential, mixed-use retail, office, and park/open space land uses; such uses generally would not involve the routine transport, use, or disposal of substantial quantities of hazardous materials. Although herbicides, pesticides, and fertilizers would be utilized on site for landscape maintenance, they would only be utilized periodically and in small quantities. Future commercial uses that may store, handle, and/or transport hazardous materials would be required to procure business plans and adhere to strict procedures enforced by agencies with jurisdiction over businesses or areas that routinely use or handle hazardous materials. During operations, it is anticipated that strict standards established by the U.S. EPA, DTSC, and HHMD would be implemented. Thus, compliance with existing Federal, State, and local standards and regulations would reduce potential impacts associated with implementation of the proposed project to a less than significant level in this regard.

Vapor Intrusion

The intrusion of subsurface vapors into buildings is one of many exposure pathways that must be considered in assessing the risk posed by releases of hazardous chemicals into the environment. Based on the moderate potential for contaminated groundwater underlying the project site or contaminated soil and soil vapor, vapor intrusion into proposed structures as a result of these contamination plumes could occur.

With implementation of Mitigation Measure HAZ-6, a qualified site characterization specialist would be required to conduct updated site characterization at the project site prior to issuance of building permits, in consultation with the HHMD, with regard to potential on-site contaminated groundwater, soil, and soil vapor. Upon completion of site characterization activities, remedial activities, if necessary, would be recommended in consultation with HHMD and/or other applicable agencies. Also, prior to issuance of building permits, vapor intrusion investigations would be required to be conducted by a qualified environmental professional, in consultation with the HHMD (included as Mitigation Measure HAZ-10). Should the environmental professional determine that proposed buildings could be impacted by vapor intrusion, the environmental professional, in consultation with HHMD, would recommend specific design measures to be incorporated into the buildings' design that would reduce these indoor air quality concentrations to below regulatory thresholds, as directed by HHMD. With implementation of Mitigation Measures HAZ-6 and HAZ-10, impacts to persons at the project site as a result of potential vapor intrusion would be reduced to less than significant levels.

Mitigation Measures:

HAZ-10 Prior to issuance of building permits, vapor intrusion investigations shall be conducted by a qualified Environmental Professional, in consultation with the Los Angeles County Fire Department Health Hazard Management Division (HHMD). Should the environmental professional determine that proposed buildings could be impacted by vapor intrusion, the environmental professional, in consultation with the HHMD and/or other applicable regulatory agencies, shall recommend specific design measures to be incorporated into the buildings' design that would reduce these indoor air quality concentrations to below regulatory thresholds.

Level of Significance: Less Than Significant with Mitigation Incorporated.

HAZARDOUS MATERIALS SITES

DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT SITE COULD BE LOCATED ON A HAZARDOUS MATERIALS SITE PER GOVERNMENT CODE SECTION 65962.5 AND COULD CREATE A SIGNIFICANT HAZARD TO THE PUBLIC OR THE ENVIRONMENT.

Impact Analysis: The plan area is not listed in a list of hazardous materials sites compiled pursuant to *Government Code* Section 65962.5 (Cal EPA 2019). Thus, no impact would result in this regard.

Mitigation Measures: No mitigation measures are required.

Level of Significance: No Impact.

5.8.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES

DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS COULD INCREASE THE EXPOSURE OF HAZARDOUS SUBSTANCES TO THE PUBLIC OR THE ENVIRONMENT.

Impact Analysis: Cumulative projects may result in a cumulatively considerable hazardous materials impact, as other projects in proximity to the project site, including those associated with the City of Hope, propose the handling/storage/transport of hazardous substances. However, future on-site residential structures would be located greater than 500 feet up-gradient from these uses. Future residential projects proposed in the Plan Area and in the surrounding area could be exposed to contaminated groundwater resulting from the existing project site. With implementation of Mitigation Measures HAZ-4, HAZ-6 and HAZ-10, impacts in this regard would be reduced to less than significant levels.

The proposed project could also contribute cumulatively, although not significantly, to a hazard involving the transport of hazardous materials during construction and operation. Handling, transport, and disposal of these materials are regulated by the DTSC, CalEPA, CalOSHA, and HHMD. The construction contractor, on a project-by-project basis, would be subject to the requirements of the DTSC governing removal actions. DTSC regulations require specific hazardous materials handling methods, truck haul routes, and schedules to minimize potential exposure during hazardous materials removal actions. Compliance with all applicable Federal and State laws related to the handling/storage/transportation of hazardous materials would reduce the likelihood and severity of accidents during transit, thereby ensuring that a less than significant cumulatively considerable impact would occur as a result of implementation of the proposed project.

Mitigation Measures: Refer to Mitigation Measures HAZ-4, HAZ-6, and HAZ-10. No additional mitigation measures are required.

Level of Significance: Less Than Significant with Mitigation Incorporated.

5.8.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Implementation of the proposed project would result in less than significant project and cumulative impacts related to hazards or hazardous materials during both construction and operation with adherence to the identified mitigation measures and compliance with the applicable Federal, State, and local regulatory requirements. As such, no significant unavoidable impacts would result from implementation of the Duarte Station Specific Plan.

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5.9 HYDROLOGY, DRAINAGE, AND WATER QUALITY

This section analyzes potential project impacts on existing drainage patterns, surface hydrology, and flood control facilities and water quality conditions in the project area. This analysis is based in upon the *Preliminary LID Report* prepared specifically for The Residences at Duarte Station by KHR Associates (2019), included as Appendix H.

Impacts on groundwater supply and other water-supply related issues are discussed in EIR Chapter 5.14 (Water).

5.9.1 REGULATORY SETTING

FEDERAL

Federal Clean Water Act

The Clean Water Act (CWA) Section 404 requires that the discharge of pollutants to "Waters of the U.S." from any point source be effectively prohibited, unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) Permit. Under the NPDES permit program, the EPA established regulations for discharging storm water by municipal and industrial facilities and construction activities.

The NPDES permit is broken up into two Phases: I and II. Phase I requires medium and large cities, or certain counties with populations of 100,000 or more, to obtain NPDES permit coverage for their storm water discharges. Phase II requires regulated small Municipal Separate Storm Sewer Systems (MS4s) in urbanized areas, as well as small MS4s outside the urbanized areas that are designated by the permitting authority, to obtain NPDES permit coverage for their storm water discharges. Polluted storm water run-off is commonly transported through MS4s. This run-off is often untreated and discharged into local water bodies.

National Flood Insurance Program

The National Flood Insurance Program (NFIP) was created by Congress in 1968. It provides a means for property owners to financially protect themselves from flood damage. The NFIP offers flood insurance to homeowners, renters, and business owners if their community participates in the program. Participating communities agree to adopt and enforce ordinances that meet or exceed Federal Emergency Management Agency (FEMA) requirements to reduce the risk of flooding. The City of Duarte is a participating community and must adhere to the NFIP.

STATE

California Porter-Cologne Act

The CWA places the primary responsibility for the control of surface water pollution and for planning the development and use of water resources with the states, although it does establish certain guidelines for the states to follow in developing their programs and allows the EPA to withdraw control from states with inadequate implementation mechanisms.

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act). The Porter-Cologne Act grants the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs) authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites, and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan for its region. The regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its state water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

State Water Resources Control Board

The SWRCB administers water rights, water pollution control, and water quality functions throughout the State, while the RWQCBs conduct planning, permitting, and enforcement activities. For development projects, the NPDES permit is divided into two parts: construction and post-construction. The construction permitting is administered by the SWRCB, while the post-construction permitting is administered by the RWQCB.

Development projects typically result in the disturbance of soil that requires compliance with the NPDES General Permit, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activities (Order No. 2009-0009-DWQ, NPDES Number CAS000002). This Statewide General Construction permit regulates discharges from construction sites that disturb one or more acres of soil. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation results in soil disturbance of at least one acre of total land area must comply with the provisions of this NPDES Permit and develop and implement an effective Storm Water Pollution Prevention Plan (SWPPP). The SWPPP is required to contain a site map(s) which shows the construction site perimeter, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP is required to list Best Management Practices (BMPs) the discharger will use to protect storm water runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Section A of the Construction General Permit describes the elements that must be contained in a SWPPP. A project applicant must submit a Notice of Intent (NOI) to the SWRCB, to be covered by the NPDES General Permit, and prepare the SWPPP before beginning construction. Implementation of the plan starts with the commencement of construction and continues through the completion of the project. Upon completion of the project, the applicant must submit a Notice of Termination (NOT) to the SWRCB to indicate that construction is completed.

REGIONAL/LOCAL

Los Angeles Regional Water Quality Control Board

The SWRCB oversees the nine RWQCBs in California. The City of Duarte is within the jurisdiction of the Los Angeles RWQCB (LARWQCB).

The Municipal Storm Water Permitting Program regulates storm water discharges from municipal separate storm sewer (drain) systems (MS4s). Most of these permits are issued to a group of co-permittees encompassing an entire metropolitan area. The MS4 permits require the discharger to develop and implement a Storm Water Management Plan/Program with the goal of reducing the discharge of pollutants to the maximum extent practicable (MEP). MEP is the performance standard specified in *Clean Water Act* Section 402(p). The management programs specify what BMPs will be used to address certain program areas. The program areas include public education and outreach, illicit discharge detection and elimination, construction and post-construction, and good housekeeping for municipal operations.

To address the requirements of the *Clean Water Act*, the LARWQCB issued a NPDES Permit (*Order No. R4-2012-0175, NPDES Permit No. CAS004001*[1] within the coastal watersheds of Los Angeles County. The new requirements of the Municipal NPDES permit require that proposed projects include a plan (i.e., Standard Urban Storm Water Mitigation Plan [SUSMP], or functional equivalent document) to address potential water quality impacts on-site using Low Impact Development (LID), and that its potential impact on downstream waterbodies (i.e., hydromodification) is evaluated. Since the NPDES permit was adopted November 8, 2012, the County of Los Angeles has not yet updated guidance to address the new permit requirements. The plan (SUSMP or functional equivalent document) created for the proposed project would be required to comply with the future guidance that is currently in development.

The MS4 Permit Order requires development and implementation of a Planning and Land Development Program for all "New Development" and "Redevelopment" projects subject to the Order. The program is intended to accomplish the following objectives:

- Lessen the water quality impacts of development by using smart growth practices such as compact development, directing development towards existing communities via infill or redevelopment, and safeguarding of environmentally sensitive areas

- Minimize the adverse impacts from storm water runoff on the biological integrity of natural drainage systems and the beneficial uses of water bodies in accordance with requirements under CEQA

- Minimize the percentage of impervious surfaces on land developments by minimizing soil compaction during construction, designing projects to minimize the impervious area footprint, and employing Low Impact Development (LID) design principles to mimic predevelopment water balance hydrology through infiltration, evapotranspiration and rainfall harvest and use

[1] Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges Within the Coastal Watersheds of Los Angeles County, Except Discharges Originating from the City of Long Beach (MS4) to the Los Angeles County Flood Control District, the County of Los Angeles, and the 84 incorporated cities (including the City of Duarte)

- Maintain existing riparian buffers and enhance riparian buffers when possible

- Minimize pollutant loadings from impervious surfaces such as roof tops, parking lots, and roadways through the use of properly designed, technically appropriate BMPs (including Source Control BMPs such as good housekeeping practices), LID Strategies, and Treatment Control BMPs

- Properly select, design and maintain LID and Hydromodification Control BMPs to address pollutants that are likely to be generated, reduce changes to pre-development hydrology, assure long-term function, and avoid the breeding of vectors

- Prioritize the selection of BMPs to remove storm water pollutants, reduce storm water runoff volume, and beneficially use storm water to support an integrated approach to protecting water quality and managing water resources

The MS4 Permit Order specifies the criteria or thresholds for determining "New Development" and "Redevelopment Projects." The Redevelopment Projects that are subject to permittee conditioning and approval for the design and implementation of post-construction controls to mitigate storm water pollution, before completion of a project, include the following, among others:

- Land-disturbing activity that results in the creation or addition or replacement of 5,000 square feet or more of impervious surface area on an already developed site

- Where redevelopment results in an alteration to more than 50 percent of impervious surfaces of a previously existing development, and the existing development was not subject to post-construction storm water quality control requirements, the entire project must be mitigated.

- Where redevelopment results in an alteration of less than 50 percent of impervious surfaces of a previously existing development, and the existing development was not subject to post-construction storm water quality control requirements, only the alteration must be mitigated, and not the entire development.

The New Development/Redevelopment Project Performance Criteria for commercial and residential activities include:

- Control pollutants, pollutant loads, and runoff volume from the project by minimizing the impervious surface area and controlling runoff from impervious surfaces through infiltration, bioretention, and/or rainfall harvest and use

- Retain on-site the Stormwater Quality Design Volume (SWQDv) from the 0.75-inch, 24-hour rain event or the 85th percentile, 24-hour rain event, as determined from the Los Angeles County 85th percentile precipitation isohyetal map, whichever is greater

- Design bioretention and biofiltration systems to meet the design specifications provided in NPDES Permit Attachment H, unless approved otherwise by the Regional Water Board Executive Officer

- When evaluating the potential for on-site retention, the maximum potential for evapotranspiration from green roofs and rainfall harvest and use shall be considered.

- If on-site retention, bioretention, and biofiltration systems are infeasible, opportunities for regional ground water replenishment offsite may be permissible.

- Implement hydrologic control measures to prevent accelerated downstream erosion and to protect stream habitat in natural drainage systems (Hydromodification), including one, or a combination of on-site, regional or sub-regional hydromodification control BMPs, LID strategies, or stream and riparian buffer restoration measures.

- Meet the Hydromodification Control Criteria by:

    - Retaining on-site the runoff volume from the 95th percentile, 24-hour storm, or
    - Post-development conditions should not exceed the pre-development conditions for the 2-year, 24-hour rainfall event, or
    - The Erosion Potential (Ep) in the receiving water channel will be approximately one, as determined by a Hydromodification Analysis Study and the equation presented in NPDES Permit Attachment J.

- If the proposed project cannot meet the previously mentioned Hydromodification Control Criteria, then it may satisfy this requirement by implementing the hydromodification requirements in the County of Los Angeles Low Impact Development Manual (2009) for all projects disturbing an area greater than one acre within natural drainage systems, or meet the watershed specific Hydromodification Control Plan, if one is developed for the Los Angeles River.

Low Impact Development

LID is a stormwater management strategy that seeks to mitigate the impacts of runoff and stormwater pollution as close to its source as possible. LID comprises a set of site design approaches and BMPs to address runoff and pollution at the source. The LID practices can effectively remove nutrients, bacteria, and metals while reducing the volume and intensity of stormwater flows.

Permittees that elect to prepare a Watershed Management Program or an Enhanced Watershed Management Program under the MS4 Permit are required to establish an LID ordinance to lessen the impacts of development by using smart growth principles and to integrate LID practices and standards for stormwater pollution mitigation through means of infiltration, evapotranspiration, biofiltration, and rainfall harvest and use for new development and redevelopment projects. Duarte utilizes the County of Los Angeles Department of Public Works Low Impact Development Standards Manual.

City of Duarte Municipal Code

Duarte Municipal Code Chapter 6.15, Stormwater and Urban Runoff Pollution Control, was adopted for the purpose of protecting the health and safety of the residents of the City and County by protecting the beneficial uses, marine and river habitats, and ecosystems of receiving waters within the County from pollutants carried by storm water and non-storm water discharges. The provisions of Chapter 6.15 apply to the discharge, deposit, or disposal of any

stormwater and/or urban runoff to the storm drain system and/or receiving waters within any incorporated areas of the City of Duarte covered by an NPDES municipal storm water permit.

Activities requiring a NPDES construction permit are subject to *Duarte Municipal Code* Section 6.15.021, Control of Pollutants from Construction Activities Requiring General Construction Activity Storm Water Permit. In accordance with Section 6.15.021, the following are required to be retained at the construction site: 1) a copy of the Notice of Intent to Comply with Terms of the General Permit to Discharge Water Associated with Construction Activity; 2) a waste discharge identification number issued by the SWRCB; 3) a Storm Water Pollution Prevention Plan and Monitoring Program Plan for the construction activity requiring the construction permit; and 4) records of all inspections, compliance and noncompliance reports, evidence of self-inspection and good housekeeping practices.

Duarte Municipal Code Section 6.15.023, Control of Pollutants from New Developments, requires new develop projects to be evaluated by the City for its potential to discharge pollutants based on its intended land use. BMPs would be required to be implemented during construction and following project completion.

5.9.2 ENVIRONMENTAL SETTING

EXISTING HYDROLOGY AND DRAINAGE CONDITIONS

Currently, one storm drain—in Highland Avenue—exists adjacent to the project site (KHR 2019). Drainage for the project site consists of surface runoff flowing in a southwesterly direction (KHR 2019). The surface runoff enters an aboveground swale located in the parking area of the most southern building. The runoff is collected through drainage grates in the swale and then outlets into a 30-inch storm drainpipe, which traverses the project site from the east (Highland Avenue) towards Three Ranch Road west of the project site. Los Angeles County Flood Control District has an easement over the existing storm drain. The existing storm drain eventually discharges into Rio Hondo/Sawpit Wash, which is located west of the project site and is ultimately tributary to the Los Angeles River.

FLOODPLAIN MAPPING AND OTHER HYDROLOGIC HAZARDS

The City of Duarte is a participant in the National Flood Insurance Program (NFIP). Communities participating in the NFIP must adopt and enforce minimum floodplain management standards, including identification of flood hazards and flooding risks. Participation in the NFIP allows communities to purchase low cost insurance protection against losses from flooding. According to the Flood Insurance Rate Map, the project site is located within “Zone X,” as shown on FIRM No. 06037C1415F, effective September 26, 2008. Zone X is defined as areas determined to be outside the 0.2 percent change floodplain.

According to the *General Plan* Safety Element (City of Duarte 2007), three major dams in the upper watershed of the San Gabriel River provide flood protection for the City of Duarte. Two of these dams, Cogswell Dam and San Gabriel Dam, were built in San Gabriel Canyon between 1934 and 1937, respectively. A third dam, known as Morris Dam, was constructed in 1934 by the City of Pasadena. According to the Safety Element, there is a fairly low possibly for a severe earthquake to cause flooding due to the failure of Morris, San Gabriel and/or Cogswell dams.

EXISTING STORMWATER QUALITY

The following describes the pollutants typically found in storm water runoff and the contaminants that may be found in existing storm water runoff from the project site.

Nonpoint Source Pollutants

The net effect of urbanization could be an increase in pollutant discharge over naturally occurring conditions. The higher discharge could impact adjacent streams and downstream receiving waters. However, an important consideration in evaluating storm water quality from the proposed project is to assess if it impairs the beneficial uses of the receiving waters. Nonpoint source pollutants have been characterized by the following major categories to assist with determining the pertinent data and its use. Receiving waters can assimilate a limited quantity of various constituents, but there are thresholds beyond which the measured amount becomes a pollutant and results in an undesirable impact. The descriptions of these standard water quality categories provide insight into their impacts on downstream receiving waters.

- *Sediment*. Sediment is made up of tiny soil particles that are washed or blown into surface waters. It is the major pollutant by volume in surface water. Suspended soil particles can cause the water to look cloudy or turbid. The fine sediment particles also act as a vehicle to transport other pollutants including nutrients, trace metals, and hydrocarbons. Construction sites are the largest source of sediment for urban areas under development. Another major source of sediment is streambank erosion, which may be accelerated by increases in peak rates and volumes of runoff due to urbanization.

- *Nutrients*. Nutrients are a major concern for surface water quality, especially phosphorous and nitrogen, which can cause algal blooms and excessive vegetative growth. Of the two, phosphorus is usually the limiting nutrient that controls the growth of algae in lakes. When phosphorus is in its orthophosphorus form, it is readily available for plant growth. The ammonium form of nitrogen can also have severe effects on surface water quality, when it is converted to the nitrate and nitrite forms of nitrogen in a process called nitrification. This process consumes large amounts of oxygen, which can impair the dissolved oxygen levels in water. The nitrate form of nitrogen is very soluble and is found naturally at low levels in water. When nitrogen fertilizer is applied to lawns or other vegetation in excess of plant needs, nitrates can leach below the root zone, eventually reaching ground water. Orthophosphate from auto emissions also contributes phosphorus in areas with heavy automobile traffic. As a general rule of thumb, nutrient discharge is greatest from development sites with the most impervious areas. Other problems resulting from excess nutrients are 1) surface algal scums, 2) water discoloration, 3) odors, 4) toxic releases, and 5) overgrowth of plants. The common chemical measures for nutrients are total nitrogen, organic nitrogen, total Kjeldahl nitrogen (TKN), nitrate, ammonia, total phosphate, and total organic carbon (TOC).

- *Trace Metals*. Trace metals are primarily a concern because of their toxic effects on aquatic life, and their potential to contaminate drinking water supplies. The most common trace metals found in urban runoff are led, zinc, and copper. Fallout from automobile emissions is also a major source of lead in urban areas. A large fraction of the trace metals in urban runoff are attached to sediment and this effectively reduces the level that is immediately available for biological uptake and subsequent bioaccumulation.

Metals associated with the sediment settle out rapidly and accumulate in the soils. Also, urban runoff events typically occur over a shorter duration, which reduces the amount of exposure, but could be toxic to the aquatic environment. The toxicity of trace metals in runoff varies with the hardness of the receiving water. As total hardness of the water increases, the threshold concentration levels for adverse effects increases.

- *Oxygen-Demanding Substances*. Aquatic life is dependent on the dissolved oxygen in the water, and when organic matter is consumed by microorganisms then dissolved oxygen is consumed in the process. A rainfall event can deposit large quantities of oxygen demanding substances in lakes and streams. The biochemical oxygen demand of typical urban runoff is on the same order of magnitude as the effluent from an effective secondary wastewater treatment plant. A problem from low dissolved oxygen results when the rate of oxygen-demanding material exceeds the rate of replenishment. Oxygen demand is estimated by direct measure of dissolved oxygen and indirect measures such as biochemical oxygen demand (BOD), chemical oxygen demand (COD), oil and grease, and total organic carbon (TOC).

- *Bacteria*. Bacteria levels in undiluted urban runoff exceed public health standards for water contact recreation almost without exception. Studies have found that total coliform counts exceeded EPA water quality criteria at almost every site and almost every time it rained. The coliform bacteria that are detected may not be a health risk but are often associated with human pathogens.

- *Oil and Grease*. Oil and grease contain a wide variety of hydrocarbons, some of which could be toxic to aquatic life in low concentrations. These constituents initially float on water and create the familiar rainbow-colored film. Hydrocarbons have a strong affinity for sediment and quickly become absorbed in it. The major source of hydrocarbons, primarily crankcase oil and other lubricating agents, in urban runoff is from leaking automobile engines. Hydrocarbon levels are highest in the runoff from parking lots, roads, and service stations. Residential land uses typically have a lower discharge of hydrocarbons; however, the illegal disposal of waste oil into storm drains and urban runoff can be a local problem.

- *Other Toxic Chemicals*. Priority pollutants are generally related to hazardous wastes or toxic chemicals and can sometimes be detected in storm water. Priority pollutant test have been conducted in previous studies of urban runoff, which evaluated the presence of over 120 toxic chemicals and compounds. The scans rarely revealed toxins that exceeded the current safety criteria and were primarily conducted in suburban areas not expected to have many sources of toxic pollutants (with the possible exception of illegally disposed or applied household hazardous wastes). Measures of priority pollutants in storm water include: 1) phthalate (plasticizer compound), 2) phenols and creosols (wood preservatives), 3) pesticides and herbicides, 4) oils and greases, and 5) metals.

Physical Characteristics of Surface Water Quality

The quantity of a material in the environment and its characteristics determine the degree of availability as a pollutant in surface runoff. Standard parameters have been developed to assess the quality of storm water. In an urban environment, the quantity of certain pollutants in the environment is a result of the land use intensity. For instance, a high density of automobile

traffic makes a number of potential pollutants, such as lead and hydrocarbons, more available. The availability of a material, such as fertilizer, is a function of the quantity and the manner in which it is applied. Applying fertilizer in quantities that exceed plant needs leaves the excess nutrients available for loss to surface or ground water.

The physical properties and chemical constituents of water have traditionally served as the primary means for monitoring and evaluating water quality. Evaluating the condition of water through a water quality standard refers to its physical, chemical, or biological characteristics. The lengthy list of storm water quality parameters is classified in multiple ways. Typically, the concentration of an urban pollutant, rather than the annual load of that pollutant, is needed to assess a water quality problem. Some of the physical, chemical, or biological characteristics typically used to evaluate the quality of surface runoff are listed below.

- *Dissolved Oxygen*. Dissolved oxygen in the water has a pronounced effect on the aquatic organisms and the chemical reactions that occur. It is one of the most important biological water quality characteristics in the aquatic environment. The dissolved oxygen concentration of a water body is determined by the solubility of oxygen, which is inversely related to water temperature, pressure, and biological activity. Dissolved oxygen is a transient property that can fluctuate rapidly in time and space and represents the status of the water system at a particular point and time of sampling. The decomposition of organic debris in water is a slow process and the resulting changes in oxygen concentrations also respond slowly. The oxygen demand is an indication of the pollutant load and includes measurements of biochemical oxygen demand or chemical oxygen demand.

- *Biochemical Oxygen Demand (BOD)*. The biochemical oxygen demand (BOD) is a measurement of the oxygen-demanding properties of the biodegradable material in the water. Samples are taken from the field and incubated in the laboratory at 20°C, after which the residual dissolved oxygen is measured. The BOD value commonly referenced is the standard five-day values. These values are useful in assessing stream pollution loads and for comparison purposes.

- *Chemical Oxygen Demand*. The chemical oxygen demand (COD) is a measure of the pollutant loading in terms of complete chemical oxidation using strong oxidizing agents. It can be determined quickly because it does not rely on bacteriological actions as with BOD. COD does not necessarily provide a good index of oxygen demanding properties in natural waters.

- *Total Dissolved Solids (TDS)*. TDS concentration is determined by evaporation of a filtered sample to obtain residue whose weight is divided by the sample volume. The TDS of natural waters varies widely. It is an important indicator of water quality because it affects the ionic bonding strength related to other pollutants such as metals in the water. TDS is also a major determinant of aquatic habitat, affects the saturation concentration of dissolved oxygen, and influences the ability of a water body to assimilate wastes. Eutrophication rates depend on total dissolved solids.

- *pH*. The pH of water is the negative log, base 10, of the hydrogen ion (H+) activity. A pH of 7 is neutral, a pH greater than 7 indicates alkaline water, and a pH less than 7 represents acidic water. In natural water, carbon dioxide reactions are some of the most important in establishing pH. The pH at any one time is an indication of the balance of

chemical equilibrium in water and affects the availability of certain chemicals or nutrients in water for uptake by plants. The pH of water directly affects fish and other aquatic life and generally toxic limits are pH values less than 4.8 and greater than 9.2.

- *Alkalinity*. Alkalinity is the opposite of acidity, representing the capacity of water to neutralize acid. Alkalinity is also linked to pH and is caused by the presence of carbonate, bicarbonate, and hydroxide, which are formed when carbon dioxide is dissolved. A high alkalinity is associated with a high pH and excessive solids. Most streams have an alkalinity concentration of less than 200 mg/l and ranges of 100-200 mg/l seem to support well-diversified aquatic life.

- *Specific Conductance*. The measurement of water's specific conductivity, or its ability to conduct an electric current, is related to the total dissolved ionic solids concentration. Long term monitoring of a water body may show a relationship between specific conductivity and TDS. Its measurement is quick and inexpensive and can be used to approximate TDS. A specific conductivity measurement in excess of 2,000 µohms/cm indicates a TDS level too high for most freshwater fish.

- *Turbidity*. The clarity of water is an important indicator of water quality that relates to the alkalinity of photosynthetic light to penetrate the fluid. Turbidity is also a measure of light that is scattered or absorbed and is caused by suspended clays and other organic particles. It can be used as an indicator of certain water quality constituents such as predicting the sediment concentrations.

- *Nitrogen (N)*. Sources of nitrogen in storm water include organic matter in water bodies or chemical discharges and occur in many forms. Ammonia and nitrate are important nutrients for the growth of algae and other plants. Excessive nitrogen can lead to eutrophication since nitrification consumes dissolved oxygen in the water. Organic Nitrogen breaks down into ammonia, which eventually becomes oxidized to nitrate-nitrogen, a form available for plants. High concentrations of nitrate-nitrogen (N/N) in water can stimulate the growth of algae and other aquatic plants, but if phosphorus (P) is present, only about 0.30 mg/l of nitrate-nitrogen is needed for algal blooms. Some fish life can be affected when nitrate-nitrogen exceeds 4.2 mg/l. There are a number of ways to measure the various forms of aquatic nitrogen. Typical measurements of nitrogen include Kjeldahl nitrogen (organic nitrogen plus ammonia), ammonia, nitrite plus nitrate, nitrite, and nitrogen in plants. The principal water quality criteria for nitrogen focus on nitrate and ammonia.

- *Phosphorus (P)*. Phosphorus is an important component of organic matter. In many water bodies, phosphorus is the limiting nutrient that prevents additional biological activity from occurring. The origin of this constituent in urban storm water discharge is generally from fertilizers and other industrial products. Orthophosphate is soluble and is considered to be the only biologically available form of phosphorus. Since phosphorus is typically found in solid particles and is a significant part of organic material, the concentration of sediment in water is an important component of the phosphorus cycle in streams. The key measurements of phosphorus include detecting orthophosphate and total phosphorus.

EXISTING STORM WATER QUALITY CONDITIONS

No data is known to be available regarding storm water runoff quality from the project site. Thus, in the absence of site-specific data, expected storm water quality can be qualitatively discussed by relating typical pollutants to specific land uses. The project site includes buildings, asphalt parking lots, and partially vegetated soil areas. Existing on-site uses are assumed to generate pollutants, such as suspended solids/sediment, nutrients, heavy metals, pathogens (bacteria/virus), pesticides, oil and grease, toxic organic compounds, and trash and debris.

The project site does not contain any structural BMPs which would potentially decrease the pollutant concentrations in storm water runoff (due to the age of the on-site improvements). Conveying flows over land through vegetation affords some infiltration and biofiltration of runoff and thus, potential pollutant removal. However, a disadvantage to conveying flows over land is that it causes erosion of the soil and thus increases suspended solids in the runoff.

Beneficial Uses, Impairments, and TMDLs

The LARWQCB defined the beneficial uses of its waterbodies in the amended *Water Quality Control Plan, Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (2018)[2]. Beneficial uses are the uses of water necessary for the survival or well-being of humans, plants, and wildlife. If pollutant concentrations in waterbodies cause impairments to their beneficial uses, then the waterbody is placed on the State of California's list of impaired waterbodies (303(d) List) until a TMDL is established for the waterbody (maximum discharge of pollutants). The following beneficial uses have been identified for the Sawpit Wash/Rio Hondo:

- Municipal and Domestic Supply
- Ground Water Recharge
- Water Contact Recreation
- Warm Freshwater Habitat (WARM)
- Wildlife Habitat (WILD)
- Rare, Threatened, or Endangered Species (RARE)
- High Flow Suspension

The Sawpit Wash/Rio Hondo are impaired for bis(2-ethylhexyl) phthalate (DEHP), coliform bacteria, aluminum, fecal coliform, iron, copper, lead, toxicity, trash, zinc, pH, cyanide, and dissolved oxygen. The Rio Hondo confluences with the Los Angeles River approximately 18 miles southwest of the project site, which is on the 2014/2016 303(d) List for ammonia, copper, indicator bacteria, lead, nutrients (algae), oil, and trash.

5.9.3 SIGNIFICANCE THRESHOLD CRITERIA

The issues presented in the Initial Study Environmental Checklist (*CEQA Guidelines* Appendix G) have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

[2] After approval of the 303(d) List portion of the California Integrated Report by the State Water Board, the complete 2014 and 2016 California Integrated Report was submitted to U.S. EPA for final approval of the California 303(d) List. The California 303(d) List was approved by USEPA on April 6th, 2018.

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;

- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin);

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

    - result in a substantial erosion or siltation on- or off-site
    - substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite
    - create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
    - impede or redirect flood flows?

- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; and/or

- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Impacts on groundwater supply and management are discussed in Chapter 5.14 (Water).

Based on these standards, the proposed project's effects have been categorized as either a "less than significant impact" or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

5.9.4 PROJECT IMPACTS AND MITIGATION MEASURES

WATER QUALITY – SHORT-TERM IMPACTS

GRADING, EXCAVATION, AND CONSTRUCTION ACTIVITIES ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT COULD SIGNIFICANTLY IMPACT WATER QUALITY.

Impact Analysis: There are three sources of short-term construction-related storm water pollution associated with development of the proposed project that could impact the beneficial uses of downstream water bodies:

- Handling, storage, and disposal of construction materials containing pollutants
- Maintenance and operation of construction equipment
- Earthmoving activities

These sources, if not controlled, can generate soil erosion and on- and off-site transport via storm run-off or mechanical equipment. Poorly maintained vehicles and heavy equipment leaking fuel, oil, antifreeze, or other vehicle-related fluids on the project site are also common sources of storm water pollution and soil contamination. Implementation of the proposed project has the potential to produce typical pollutants such as nutrients, heavy metals, pesticides and herbicides, toxic chemicals related to construction and cleaning, waste materials including wash water, paints, wood, paper, concrete, food containers, and sanitary wastes, fuel, and lubricants. Generally, standard safety precautions for handling and storing construction materials can adequately reduce the potential pollution of storm water by these materials. These types of standard procedures can be extended to non-hazardous storm water pollutants such as sawdust, concrete washout, and other wastes.

In addition, grading activities can greatly increase erosion processes, leading to impacts on storm drains and sediment loading to storm runoff flows. Two general strategies are recommended to prevent soil materials from entering local storm drains. First, erosion control procedures should be implemented for those areas that must be exposed, and second, the project site should be secured to control off-site transport of pollutants.

To reduce the amount of on-site exposed soil, grading would be limited to the extent feasible, and any graded areas would be protected against erosion once they are brought to final grade. Furthermore, development associated with implementation of the proposed project would be required to comply with the Construction General NPDES Permit. Prior to construction, the General Permit requires the following:

- Electronic submittal of the Permit Registration Documents (PRD) to the SWRCB at least 30 days before the start of construction, which includes submittal of a Notice of Intent (NOI), risk assessment, site map, Storm Water Pollution Prevention Plan (SWPPP), annual fee, and a signed certification statement
- Preparation and implementation of a SWPPP
- Electronic submittal of a Notice of Termination (NOT) to the SWRCB upon completion of construction and stabilization of the site

Construction activities for development associated with implementation of the proposed project would be subject to inspection by the City Public Works/Engineering Department. The General Permit requires that non-storm water discharges from construction sites be eliminated or reduced to the maximum extent practicable, that a SWPPP be developed governing construction activities for the proposed project, and that routine inspections be performed of all storm water pollution prevention measures and control practices being used at the site, including inspections before and after storm events. These are standard regulations that would be applied to all development projects. Thus, potential water quality impacts associated with construction activities would be reduced to a less than significant level.

Mitigation Measures: No mitigation is required with application of standard regulatory requirements.

Level of Significance: Less Than Significant Impact.

LONG-TERM OPERATIONAL IMPACTS

IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN SIGNIFICANT IMPACTS RELATED TO INCREASED RUN-OFF AMOUNTS AND DEGRADED WATER QUALITY.

Impact Analysis: This section analyzes the proposed project conditions and compares them to the existing conditions to determine resultant impacts on drainage, run-off, and water quality.

Proposed Storm Water Drainage

The majority of the project area is currently developed with hardscape and structures, with very limited pervious surface area. Buildout of project area is anticipated to increase landscape coverage throughout the Specific Plan area, and development will be required to include features to capture runoff on site and ensure any discharge meets current RWQCB standards.

For example, the developer of the proposed Residences at Duarte Station project proposes to install a private storm drain system to reduce the quantity of stormwater discharged (Figure 5.9-1, KHR 2019). Stormwater infiltration has been determined to be feasible for the project site. Stormwater infiltration practices operate by capturing and temporarily storing stormwater, before allowing it to infiltrate into the underlying soil. A perforated corrugated metal pipe (CMP) would be installed on the northwesterly and northeasterly corner of the site to store the stormwater mitigation volume captured within the project site for infiltration into the underlying soils. The stormwater would be collected by a proposed private storm drainage system. For each subarea, the stormwater quality design flow would be diverted into a clarifying unit for pretreatment prior to infiltration.

Peak discharges were computed for the estimated 85th percentile, 24-hour rain event hypothetical storm return frequency for this potential development project. The LID report concludes that this could adequately capture and treat runoff generated by buildout of The Residences at Duarte Station project.

Compared to the existing condition, the use of the on-site storage and infiltration tanks would decrease the amount of stormwater discharging into the public storm drain system, and the dry wells would adequately capture and treat runoff generated by the proposed project.

Future development in the remaining Specific Plan area would also likely decrease the amount of imperviousness. Future projects would also require to stormwater capture on site, resulting in a decrease in stormwater discharge. All development would be required to comply with the MS4 permit during operations. Thus, potential run-off impacts would be less than significant.

Water Quality

The long-term operation and maintenance of the proposed project would be a source of pollutants, including suspended solids/sediment, nutrients, heavy metals, pathogens (bacteria/virus), pesticides, oil and grease, toxic organic compounds, trash and debris, and household hazardous wastes. The vegetated areas are likely to produce suspended solids/sediment, nutrients, and pesticides. The beneficial uses of downstream water bodies could be impacted due to development within the plan area. Therefore, development associated with implementation of the proposed project would be required to prepare and implement a plan (i.e., SUSMP or functional equivalent document) in accordance with the guidance to be developed by the NPDES Permit permittees, that includes post-construction

BMPs (such as LID, if feasible) to reduce pollutant loading. This plan, included as Mitigation Measure HYD-1, would be required prior to issuance of a grading permit. The post-construction BMPs may include, but are not limited to:

- Bioretention
- Rainfall harvest and use (i.e., cisterns, rain barrels, planter areas, permeable surfaces, drywells, French drains, etc.)
- Vegetated swales
- Vegetated filter strips
- Green roofs
- Infiltration trenches
- Media filtration
- Permeable surfaces (i.e., porous concrete/asphalt, Hollywood driveways, block pavers, open cell concrete, plastic grid systems, reinforced turf, etc.)
- Other BMPs that may be approved by the City of Duarte or the county-wide program in the future to address the NPDES Permit requirements

Since the Sawpit Wash/Rio Hondo is a hardened channel, the proposed project would not have to include hydromodification controls. Based on the information currently available, the plan should include non-structural and structural BMPs to mitigate the estimated 85th percentile, 24-hour rain event (Office of Water Programs, California State University, Sacramento, 2007). Preparation and compliance with the plan reduce potential water quality impacts to a less than significant level. No mitigation is required.

Mitigation Measures:

HYD-1 Concurrent with Site Plan Review or issuance of a grading permit, whichever comes first, a hydrology review shall be conducted by a Registered Civil Engineer for each development phase to ensure that runoff values for each phase remain at or below existing runoff values in compliance with current State law or other applicable statutes.

Level of Significance: Less Than Significant Impact with Mitigation Incorporated.

LEGEND

SUBAREA BOUNDARY

X
X.XX AC
SUBAREA LABEL

SITE INFORMATION

AREA A

TOTAL AREA: 188,986 S.F. (4.34 ACRES)
MITIGATION VOLUME: 15,844 C.F. (118,521 GAL.)

AREA B

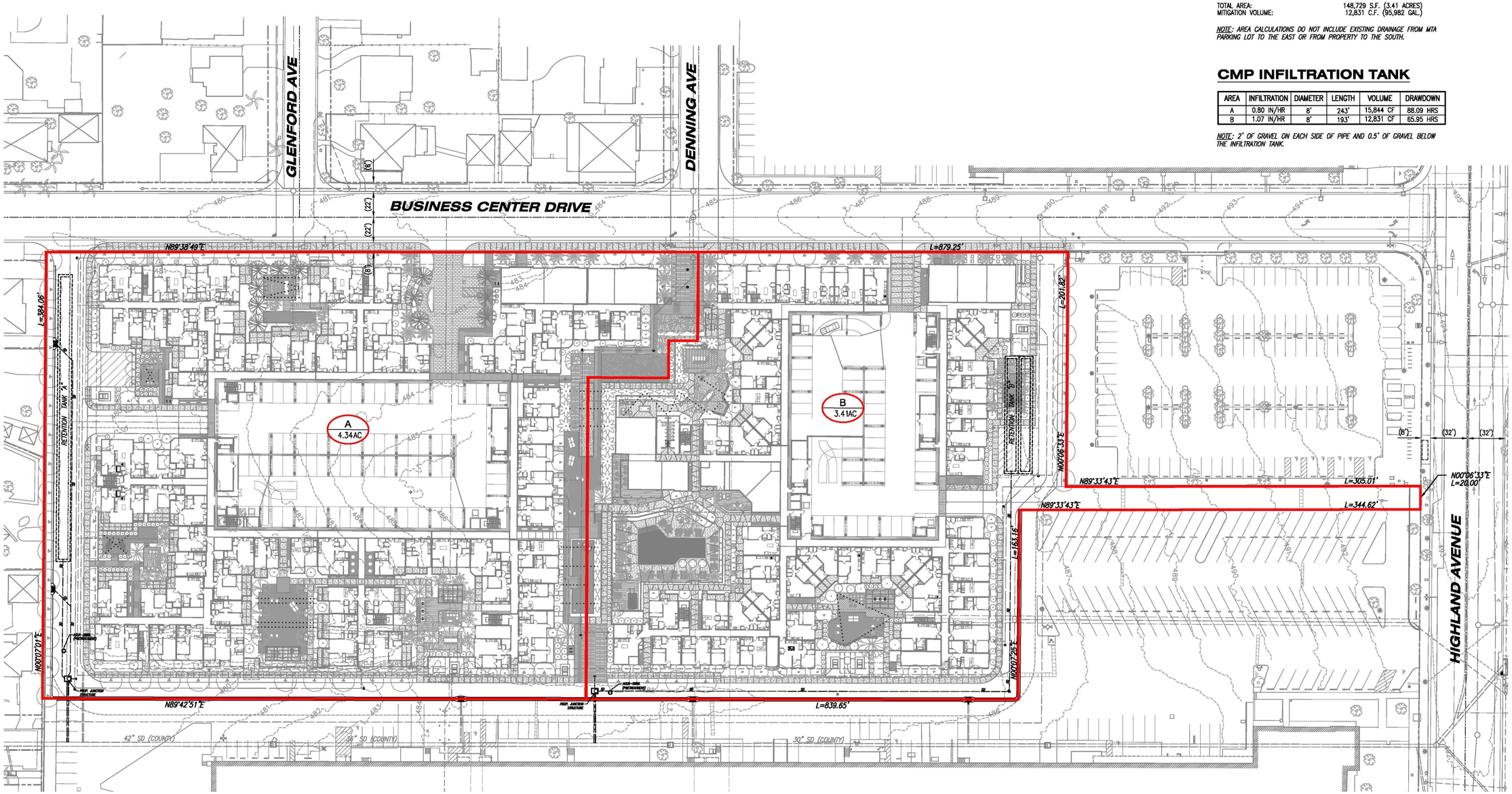
TOTAL AREA: 148,729 S.F. (3.41 ACRES)
MITIGATION VOLUME: 12,831 C.F. (95,982 GAL.)

NOTE: AREA CALCULATIONS DO NOT INCLUDE EXISTING DRAINAGE FROM MTA PARKING LOT TO THE EAST OR FROM PROPERTY TO THE SOUTH.

CMP INFILTRATION TANK

AREA	INFILTRATION	DIAMETER	LENGTH	VOLUME	DRAWDOWN
A	0.80 IN/HR	8'	243'	15,844 CF	88.09 HRS
B	1.07 IN/HR	8'	193'	12,831 CF	65.95 HRS

NOTE: 2' OF GRAVEL ON EACH SIDE OF PIPE AND 0.5' OF GravEL BELOW THE INFILTRATION TANK.



Source: KHR Associates, 2019

0 20 40 80 120
SCALE: 1"=40' DATE: 04/24/19

Figure 5.9-1Preliminary LID/Surface Hydrology Plan, The Residences at Duarte Station

FLOODING AND OTHER HYDROLOGIC HAZARDS

IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN:

- **Placement of housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;**
- **Placement of structures within a 100-year flood hazard area which would impede or redirect flood flows; and/or**
- **Exposure of people or structures to a significant risk of loss, injury or death involving flooding including flooding as a result of the failure of a levee or dam; or**
- **Exposure of people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow.**

The project area is not located within a 100-year flood hazard area. It is, however, located within the inundation areas for the San Gabriel Reservoir and Sawpit Dam. A rupture of these dams (i.e., in the event of an earthquake, seiche, or catastrophic failure during a rain event) could result in inundation of the project area. However, these reservoirs, as well as others in California, are continually monitored by various governmental agencies (such as the State of California Division of Safety of Dams and the U.S. Army Corps of Engineers) to guard against the threat of dam failure. Current design, construction practices, and ongoing programs of review, modification, or total reconstruction of existing dams are intended to ensure that all dams are capable of withstanding the maximum considered earthquake for the site. Therefore, the potential for dam failure is considered low. Also, evacuation plans have been developed in dam inundation areas by the County of Los Angeles Office of Emergency Management in emergency response plans. Therefore, impacts on safety as a result of a dam failure is also considered low. Impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.9.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES

IMPLEMENTATION OF THE PROPOSED PROJECT ALONG WITH OTHER RELATED CUMULATIVE PROJECTS COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS RELATED TO INCREASED RUNOFF AND DEGRADED WATER QUALITY.

Impact Analysis: Implementation of the proposed project along with other related cumulative projects would have the potential to increase runoff and affect water quality during construction and long-term operations.

Higher flows resulting from future development in the watershed would result in drainage and runoff impacts. Runoff from some of the cumulative projects could drain into the conveyance systems used by the proposed project. Although runoff from some of the cumulative projects may not interact with runoff from future development within the plan area, interaction could occur downstream. Future development would be required to account for higher flows within the watershed on a project-by-project basis.

Each individual project would be required to submit individual analyses to their respective jurisdictions for review and approval prior to issuance of grading or building permits. Each analysis must illustrate how peak flows generated from each related project site would be accommodated by the existing and/or proposed storm drainage facilities. The proposed project would result in decreased runoff when compared to existing conditions. Thus, the proposed project would not result in cumulatively considerable impacts associated with drainage and runoff. Impacts would be less than significant.

Cumulative projects have the potential to affect water quality during the construction phase and long-term operations and would contribute storm water flows to the local and regional drainage facilities. Development of the proposed project, along with related cumulative projects, would result in increased potential for short- and long-term operational water quality impacts within the area. However, the project and cumulative development must adhere to NPDES requirements and implement a SWPPP with specific BMPs during construction activities. Additionally, the proposed project and cumulative development must adhere to NPDES requirements and implement a SUSMP with specific BMPs for post-construction conditions. Each project would also be required to comply with existing water quality standards at the time of development review and include BMPs, as necessary. Therefore, the short- and long-term impacts on surface water quality associated with cumulative development would not be cumulatively considerable with adherence to NPDES and *Municipal Code* requirements. Less than significant impacts are anticipated in this regard.

Mitigation Measures: Refer to Mitigation Measures HYD-1. No additional mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.9.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Implementation of the proposed project would result in less than significant project and cumulative impacts related to hydrology and water quality during both construction and operation with adherence to the identified mitigation measure and compliance with and compliance with the applicable Federal, State, and local regulatory requirements. As such, no significant unavoidable impacts would result from implementation of the Duarte Station Specific Plan.

5.9.7 SOURCES CITED

California-American Water Southern Division - Los Angeles County District, *Duarte Station Specific Plan Draft Water Supply Assessment for the Duarte Station Specific Plan*, June 13, 2019

City of Duarte, *Safety Element of the Duarte General Plan*, August 2007.

KHR Associates, *Preliminary LID Report for The Residences at Duarte Station*, April 24, 2019

5.10 FIRE PROTECTION

This section analyzes of the provision of fire protection services based on information provided by the Los Angeles County Fire Department (LACFD). The LACFD maintains ultimate review and approval authority over aspects of the proposed project that relate to fire protection and may identify further recommendations and/or requirements.

5.10.1 REGULATORY SETTING

FIRE HAZARD SEVERITY ZONES

The California Department of Forestry and Fire Protection (CAL FIRE) created Fire Hazard Severity Zones using a computer model that factor in the fire history, existing and potential fuel (natural vegetation), flame length, blowing embers, terrain, and typical weather for an area. The severity of the hazard is based on the likelihood that an area will burn over a 30- to 50-year period without fuel-reduction efforts. Given the results of the modeling, the State identifies an area as a "moderate," "high," or "very high" fire hazard severity zone.

WILDLAND-URBAN INTERFACE FIRE AREA BUILDING STANDARDS

Title 24, Part 2 of *California Code of Regulations* (*CCR*), also known as the *California Building Standards Code* (*CBSC*), addresses building standards for new structures constructed in or near a designated fire hazard severity zone. New buildings located in any fire hazard severity zone must comply with all sections of the current *CBSC*. Specifically, minimum standards are established for materials and to provide a reasonable level of protection from wildfire exposure for buildings in Wildland-Urban Interface (WUI) Fire Areas. Ignition-resistant materials and design are required to reduce the risk from flame or burning embers projected by a vegetation fire.

CALIFORNIA FIRE PLAN

CAL FIRE and the State Board of Forestry (Board) regulate wildland fire protection in California through their annual *Strategic Plan* (*Fire Plan*) (CAL FIRE 2019). The mission of the Board is to lead California in developing policies and programs that serve the public interest in environmentally, economically, socially sustainable forest and rangeland management, and a fire protection system that protects and serves the people of the state. In concert with the mission of the Board, the mission of CAL FIRE is to serve and safeguard the people and protect the property and resources of California. The central goals of the Fire Plan that are critical to reducing and preventing the impacts of fire revolve around both suppression efforts and fire prevention efforts.

DUARTE FIRE CODE

Duarte Municipal Code Chapter 15.04, Fire Prevention Code, adopts as its Fire Code the fire code adopted by Title 32 of the County of Los Angeles municipal code, which in turn adopts the "*California Fire Code.*"

5.10.2 ENVIRONMENTAL SETTING

FIRE PROTECTION

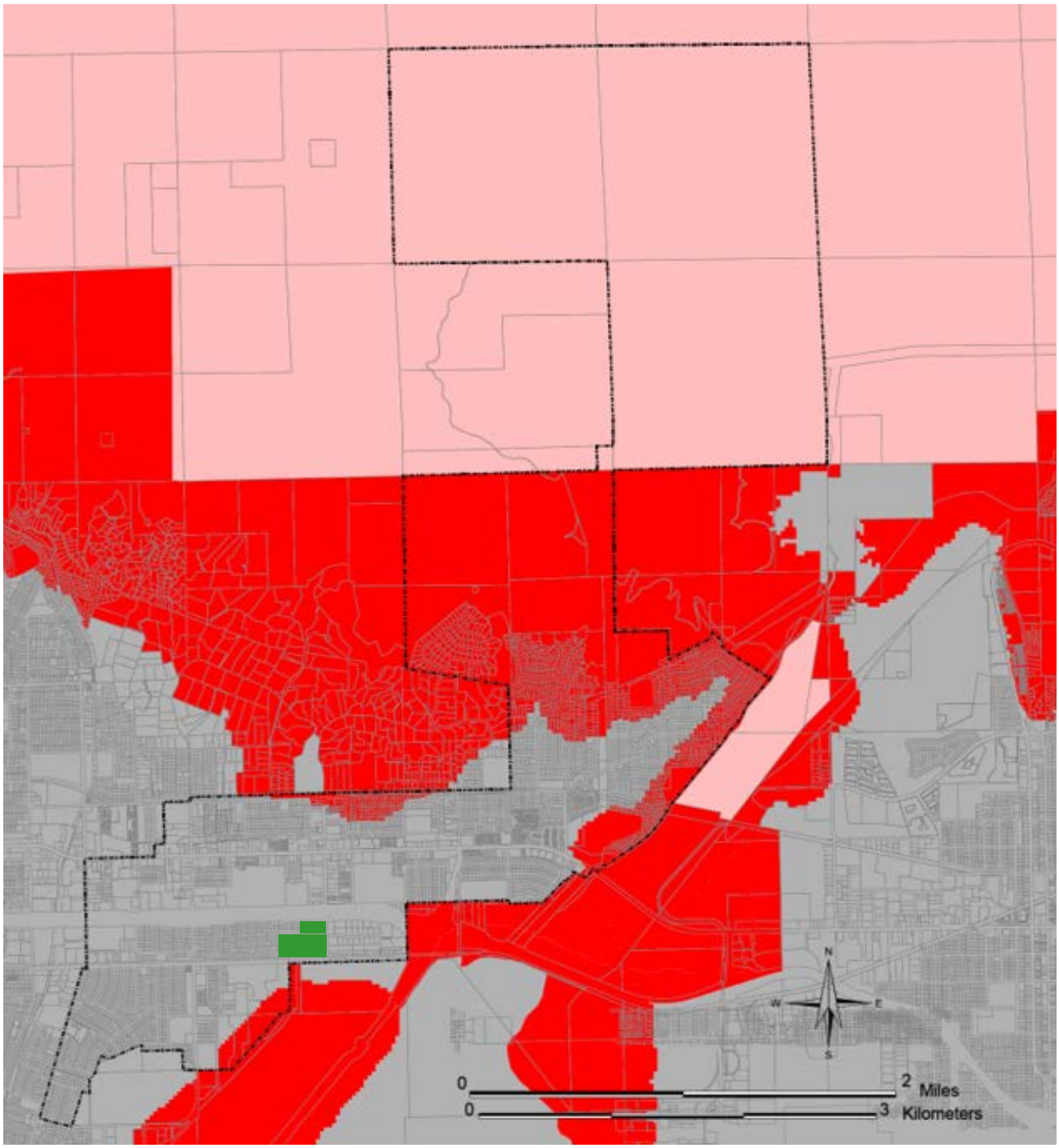
Fire protection and emergency medical services in the City of Duarte are provided by the LACFD. The primary response station for the City is Fire Station 44, Battalion 16, located at 1105 S. Highland Avenue. Fire Station 44 is located less than one-half mile from the project area.

The Insurance Services Office (ISO) collects and analyzes information on a community's public fire protection and assigns a Public Protection Classification from 1 to 10. Class 1 represents the best public protection, and Class 10 indicates no recognized protection. The ratings are based on a variety of factors, including water supply, which are not within the authority of LACFD to regulate. Duarte's current published ISO rating is 3.

FIRE HAZARDS

The City of Duarte *General Plan* includes a Safety Element, which identifies potential safety hazards, including fires, and establishes goals, objectives, and policies to protect life and property from these hazards. The element provides recommendations to minimize the risk to lives and property due to fire hazards and ensures that adequate emergency response can be provided when needed.

Duarte's location at the base of the San Gabriel Mountains creates an urban/wildland interface that makes Duarte more susceptible to wildfires. The project site is not located adjacent to the San Gabriel Mountains or wildland areas. The project site is not located within an area mapped by CAL FIRE or the City as a High or Very High Fire Hazard Severity Zone (VHFHSZ), nor is it in an area of state or federal area of responsibility, however, a very small area mapped as a VHFHSZ is located immediately adjacent to the southwest corner of the property (Figure 5.10-1).



Source: CAL FIRE

Fire Hazard Severity Zones

Local Responsibility Area
- VHFHSZ
- Non-VHFHSZ

State or Federal Responsibility Areas
- VHFHSZ
- Non-VHFHSZ

- City Boundary
- Parcels
- Project Site

Figure 5.10-1 Duarte Very High Fire Hazard Severity Zone Map

FIRE PREVENTION

Development within the City is subject to compliance with all relevant LACFD requirements, which include ingress and egress access for emergency response, access, and fire and life safety requirements during construction, water mains, fire flows and hydrants, access roadways to fire department apparatus and maintenance of access roads and fire sprinkler systems. Specific fire and life safety requirements for construction are addressed at building fire plan check.

5.10.3 SIGNIFICANCE THRESHOLD CRITERIA

The issues presented in the Initial Study Environmental Checklist (*CEQA Guidelines* Appendix G) have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any fire protection services

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, if a project causes one or more of the following to occur:

- Substantially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan

- Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire

- Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment

- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes

Based on these standards, the effects of the proposed project have been categorized as either a “less than significant impact” or a “potentially significant impact.” Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

5.10.4 PROJECT IMPACTS AND MITIGATION MEASURES

FIRE SERVICES

IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN IMPACTS TO FIRE SERVICES.

Impact Analysis: Implementation of the proposed project would allow for increased development within the plan area, including office, retail, restaurant, and residential uses. The increased development could result in an increased demand for fire protection services to the project area. While an increased demand for services may occur, it is not anticipated that project implementation would not result in the need for new or physically altered fire facilities in order to serve the proposed project.[1] It is anticipated that property tax revenue generated by the proposed project would mitigate any impact the proposed project may have on fire department services. Additionally, future development associated with the proposed project would occur in phases over multiple years, based on market demand; thus, any increase in demand for fire protection services would occur gradually as additional development occurs within the area.

The far southwest corner of the proposed project site is located adjacent to a VHFHSZ, however, proposed development would not interfere with emergency response activities in this area. In addition, the Specific Plan area is an infill site surrounded by development with ornamental landscaping; natural fuels are absent for the areas immediately surrounding the Specific Plan area. Therefore, the proposed project would not exacerbate wildland fire risk to residents and employees in the area.

Future development associated with the proposed project would be reviewed on a project-by-project basis and would be required to comply with *Duarte Municipal Code* Chapter 15.04, Fire Prevention Code and fire department requirements such as emergency response access and water requirements. Adherence to the mitigation measures FP-1 through FP-11 representing LACFD development standards, and compliance with the other requirements of the City's *Municipal Code*, would ensure that project implementation would result in a less than significant impact to fire protection services.

Refer to Section 5.8, Hazards and Hazardous Materials, for a discussion of potential hazardous materials.

Mitigation Measures

FP-1 Adequate access to all buildings on the project site shall be provided and properly maintained for emergency vehicles during the building construction process to the satisfaction of the Los Angeles County Fire Department.

FP-2 Adequate water availability shall be provided to service construction activities.

FP-3 Prior to issuance of building permits, a will-serve letter from the California American Water Company shall be obtained by the project applicant, which states that the Water Company can adequately meet water flow requirements.

[1] County of Los Angeles Fire Department, Frank Vidales, Acting Chief, Forestry Division, Prevention Services Bureau, June 12, 2013.

FP-4 The Los Angeles County Fire Department shall review and comment on each individual site plan submitted, prior to approval by the City of Duarte. Any conditions required by the Los Angeles County Fire Department shall be complied with by the project applicant.

FP5 Prior to the issuance of building permits, the project applicant shall provide verification that the project complies with all fire prevention provisions required by the Los Angeles County Fire Department.

FS-6 All new structures shall have automatic fire sprinkler systems.

FS-7 A supervised fire alarm system that meets requirements of the California Fire Code shall be placed in an accessible location with an annunciator.

FS-8 Access to and around structures shall meet Los Angeles County Fire Department and California Fire Code requirements.

FS-9 A water supply system shall be in place to supply fire hydrants and automatic fire sprinkler systems.

FS-10 All traffic signals on public access ways shall include the installation of optical preemption devices.

FS-11 All electric gates within the project shall install emergency opening devices approved by the Los Angeles County Fire Department.

Level of Significance: Less Than Significant Impact With Mitigation Incorporated.

5.10.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES

DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS TO FIRE SERVICES.

Impact Analysis: Adjacent cities of Irwindale and Azusa also receive fire protection services from the LACFD. Implementation of the proposed project and related cumulative projects could increase demand on fire protection services provided by the LACFD. Individual cities have standards for reviewing new development projects to ensure that adequate fire protection services would be available and that fire codes and requirements are met. Each cumulative project would be reviewed on a project-by-project basis for compliance with minimum standards and if necessary, would be required to mitigate to the extent feasible potential impacts to fire protection services associated with the proposed development. As stated, the proposed project would result in less than significant impacts to fire protection services with implementation LACFD development standards. Therefore, development of the proposed project would not result in significant cumulative impacts on fire protection services.

Mitigation Measures: Refer to Mitigation Measures FP-1 through FP-11. No additional mitigation measures are required.

Level of Significance: Less Than Significant Impact With Mitigation Incorporated.

5.10.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Implementation of the proposed project would result in less than significant project and cumulative impacts related to fire protection services and facilities during both construction and operation with adherence to the identified mitigation measures and compliance with the City's Municipal Code and LACFD conditions of approval for individual development projects. As such, no significant unavoidable impacts would result from implementation of the Duarte Station Specific Plan.

5.10.7 SOURCES CITED

California Department of Forestry and Fire Protection (CAL FIRE), 2019 Strategic Plan. January.

City of Duarte, *City of Duarte Comprehensive General Plan 2005-2020*, August 14, 2007.

County of Los Angeles Fire Department, Frank Vidales, Acting Chief, Forestry Division, Prevention Services Bureau, written correspondence, June 12, 2013.

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5.11 POLICE PROTECTION

This section provides analyzes police (law enforcement) services, which is based on information provided by the Los Angeles County Sheriff's Department (LACSD). The City contracts with LACSD for law enforcement services. LACSD maintains ultimate review and approval authority over aspects of proposed development that relate to police protection and may identify further recommendations and/or requirements.

5.11.1 REGULATORY SETTING

CALIFORNIA PENAL CODE

The *California Penal Code* establishes the basis for the application of criminal law in California.

5.11.2 ENVIRONMENTAL SETTING

LACSD provides law enforcement services to the City of Duarte. The Duarte Satellite Station, located at 1042 Huntington Drive, is approximately 1.3 miles northwest of the project site. The satellite station is where officers begin and end their shifts. However, the station does not have dispatch or booking ability. These services are provided through the Temple Station, located at 8838 Las Tunas Drive in Temple City.

LACSD's targets for response times are 60 minutes for routine calls, 20 minutes for priority calls, and 10 minutes for emergency calls. Response times have been reported as 35.4 minutes for routine calls, 6.8 minutes for priority calls and 5.9 minutes for emergency calls.[1] Staffing is determined by the City via an agreement that there are sufficient units to handle workload.

5.11.3 SIGNIFICANCE THRESHOLD CRITERIA

The issues presented in the Initial Study Environmental Checklist (*CEQA Guidelines* Appendix G) have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police services.

Based on these standards, the effects of the proposed project have been categorized as either a "less than significant impact" or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

[1] Los Angeles County Sheriff's Department, Sgt. John L. Carter, Duarte Liaison Sergeant, email correspondence, July 2, 2013.

5.11.4 PROJECT IMPACTS AND MITIGATION MEASURES

POLICE SERVICES

IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN IMPACTS TO POLICE SERVICES.

Impact Analysis: Implementation of the proposed project would allow for increased development within the plan area, including office, retail, restaurant, and residential uses. The increased development could result in an increased demand for police protection services due to more calls. While an increased demand for services may occur, the proposed amended Specific Plan is similar to approved Specific Plan. Therefore, it is not anticipated that project implementation would result in a significant impact, and additional calls for service are not anticipated to require any additional units. Similarly, it is not anticipated that there would be a need for any new construction of facilities under the amended Specific Plan. Future development associated with the proposed project would occur in phases over multiple years, based on market demand; thus, any increase in demand for police protection services would occur gradually as additional development occurs within the area. Through contractual agreements, the City and LACSD would ensure that adequate law enforcement services are available to serve the City. Impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

Level of Impact Significance: Less Than Significant Impact.

5.11.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES

DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS TO POLICE SERVICES.

Impact Analysis: The adjacent cities of Irwindale, Monrovia, and Azusa have their own police departments and thus are not served by LACSD. Development of the proposed project and cumulative projects within the City of Duarte could result in increased demand for LACSD services. Individual development projects would be reviewed on a project-by-project basis to determine potential impacts to law enforcement services as a result of the proposed development. The City would continue to coordinate with the LACSD through their contractual agreement to ensure that adequate personnel and facilities are available to serve the City. Cumulative impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.11.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Implementation of the proposed project would result in less than significant project and cumulative impacts related to police protection services and facilities during both construction

and operation. As such, no significant unavoidable impacts would result from implementation of the Duarte Station Specific Plan.

5.11.7 SOURCES CITED

Los Angeles County Sheriff's Department, Sgt. John L. Carter, Duarte Liaison Sergeant, email correspondence, July 2, 2013.

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5.12 SCHOOLS

This section evaluates impacts of the proposed project on schools within the Duarte Unified School District (DUSD), which serves the Duarte Station Specific Plan area. Information in this section is based upon information provided by DUSD.

5.12.1 REGULATORY SETTING

ASSEMBLY BILL 2926

The State of California has traditionally been responsible for the funding of public schools. To assist in providing facilities to serve students generated by new development projects, the State passed Assembly Bill 2926 (AB 2926) in 1986. This bill allowed school districts to collect impact fees from developers of new residential and commercial/industrial building space. Development impact fees were also referenced in the 1987 Leroy Greene Lease-Purchase Act, which required school districts to contribute a matching share of project costs for construction, modernization, or reconstruction.

5.12.2 ENVIRONMENTAL SETTING

Students residing within the City attend schools within the DUSD. *Table 5.12-1*, *School Information*, indicates the name, location, and distance from the project site for the schools currently serving the project area.

Table 5.12-1
School Information

School	Location	Distance From Project Site (miles)
Andres Duarte Arts Academy	1433 Crestfield Drive	0.75
Duarte High School	1565 E Central Avenue	0.35

Source: Duarte Unified School District, Schoolsite Locator, accessed June 24, 2019.

Table 5.12-2, *School Capacity and Enrollment (2016-2017)*, identifies the capacities and enrollment for the schools that serve the project area.

Table 5.12-2
School Capacity and Enrollment (2016-2017)

School	School Capacity	Current Enrollment	Excess Capacity
Andres Duarte Arts Academy	550	410	140
Duarte High School	1,200	948	252

Source: California Department of Education, School Accountability Report Card: Andres Duarte Arts Academy, 2019; California Department of Education, School Accountability Report Card: Duarte High School, 2019; Peter Castillon, Duarte High School, phone correspondence, June 26, 2019.

As indicated in *Table 5.12-2*, the schools serving the project area currently have excess capacity. The DUSD's master plan includes the modernization and construction of new facilities at existing schools; however, there are no plans to construct new facilities at this time.

5.12.3 SIGNIFICANCE THRESHOLD CRITERIA

The issues presented in the Initial Study Environmental Checklist (*CEQA Guidelines* Appendix G) have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if it:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for school services.

Based on this standard, the effects of the proposed project have been categorized as either a "less than significant impact" or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

5.12.4 PROJECT IMPACTS AND MITIGATION MEASURES

SCHOOLS

IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN IMPACTS TO EXISTING SCHOOL FACILITIES WITHIN THE DUARTE UNIFIED SCHOOL DISTRICT.

Impact Analysis: Development associated with implementation of the proposed project would allow for up to 1,400 new multi-family residential units. The development of these new residential units could result in an associated increase in students attending schools within the DUSD. Generation rates are the most common method used by a school district to project future enrollment.

The 2018 U.S. Census Bureau Community Survey of the City of Duarte estimates that 15.9% of the population of Duarte is between the ages of five and 18 (roughly the ages of the K-12 population; U.S. Census Bureau 2019). The project is estimated to house 4,242 new residents. Using this as an assumption, 15.9% of this population increase would be school-age children, or 674 youth. *Table 5.12-3*, *Estimated Student Generation*, also provides the estimated number of students that could potentially be generated as a result of the proposed project using a student generation rate of 0.55 students per dwelling unit assumed in the General Plan. For the purposes of this analysis, the proposed project is assumed to potentially add 770 students to DUSD facilities.

Table 5.12-3
Estimated Student Generation

Dwelling Unit Type	Student Generation Factor[1]	Residential Units	Students Generated
Multiple-Family	0.55	1,400	770

[1] Duarte General Plan Final EIR, August 2007.

As indicated in *Table 5.12-3*, the proposed project could add 770 new students to the DUSD. As indicated in *Table 5.12-2*, the baseline conditions of DUSD's capacity to serve additional students within the project area has decreased since the adoption of the original EIR for the original Specific Plan, resulting in inadequate existing capacity to serve the proposed project. Additionally, development of the Specific Plan Area is anticipated to occur in phases over multiple years, based on market demand; thus, any increase in demand for school services would occur gradually as additional development is added to the area.

To generate adequate classroom seating and facilities standards, individual development projects would be required to pay statutory fees in place at the time to DUSD in order to compensate for the impacts of development on school capacities.

Payment of fees to school districts is considered full mitigation for project impacts, including impacts related to the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives for schools. Therefore, project applicants would be required to pay the statutory fees following mitigation measure SCH-1, so that space can be constructed, if necessary, at the nearest sites to accommodate the impact of project-generated students, reducing impacts to a less than significant level.

Mitigation Measures:

SCH-1 Individual project applicants shall pay all applicable Development Impact Fees to the Duarte Unified School District prior to issuance of building permits. Proof of fee payment shall be provided to the City of Duarte.

Level of Significance: Less Than Significant Impact.

5.12.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES

DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS TO SCHOOL FACILITIES WITHIN THE DUARTE UNIFIED SCHOOL DISTRICT.

Impact Analysis: DUSD serves students residing within the cities of Duarte and Bradbury, as well as the Los Angeles County area known as South Monrovia Island. As indicated in *Table 4-1*, *Cumulative Projects*, new residential development is anticipated within Duarte. Development of the proposed project and related cumulative projects served by DUSD would potentially generate new students attending DUSD schools. However, individual development projects would be required to pay school impact fees based on the type and size of development proposed. Payment of fees to DUSD is considered full mitigation for project impacts, including

impacts related to the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives for schools. Therefore, individual project applicants would be required to pay the statutory fees following mitigation measure SCH-1, so that space can be constructed, if necessary, at the nearest sites to accommodate the impact of project-generated students. Development associated with implementation of the proposed project would not result in significant cumulative impacts on school services and facilities.

Mitigation Measures: Refer to Mitigation Measure SCH-1. No additional mitigation measures are required.

Level of Significance: Less Than Significant Impact With Mitigation Incorporated.

5.12.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Implementation of the proposed project would result in less than significant project and cumulative impacts related to school services and facilities during both construction and operation with adherence to the identified mitigation measure. As such, no significant unavoidable impacts would result from implementation of the Duarte Station Specific Plan.

5.12.7 SOURCES CITED

California Department of Education. School Accountability Report Card: Andres Duarte Arts Academy, 2019.

_____. School Accountability Report Card: Duarte High School, 2019.

Davis Demographics. School Site Locator: Duarte Unified School District. Accessed June 24, 2019 at http://apps.schoolsitelocator.com/?districtcode=00099.

Duarte General Plan Final EIR. August 2007.

Duarte Unified School District. Official Statement. Election of 2010 General Obligation Bonds, Series E. May 2018.

Peter Castillon. Duarte High School, phone correspondence. June 26, 2019.

United States Census Bureau (U.S. Census Bureau)
2018 Quick Facts. Duarte City. American Community Survey on July 1, 2018. Accessed July 2019. https://www.census.gov/quickfacts/fact/table/duartecitycalifornia/PST045218

5.13 PARKS

The section analyzes potential impacts to parks and recreation facilities that could result from implementation of the proposed project. Information is primarily based upon information provided by the City of Duarte Parks and Recreation Department.

5.13.1 REGULATORY SETTING

Quimby Act (1975)

The Quimby Act allows cities and counties to adopt park dedication standards/ordinances requiring developers to set aside land, donate conservation easements, or pay in lieu fees towards parklands for projects involving subdivisions.

5.13.2 ENVIRONMENTAL SETTING

RECREATION PROGRAMS

The City of Duarte offers a variety of recreation programs for all ages. Programs include family events, healthy choices education, recreation classes, share mentoring, sports, and youth activities. Program offerings are year-round and seasonal.

PARKS AND RECREATION FACILITIES

Table 5.13-1, *Parks and Recreation Facilities*, identifies the closest parks and recreation facilities to the project site. Northview Park, located approximately one-quarter mile north of the project site, is the nearest park for use by residents within the area.

Table 5.13-1
Parks and Recreation Facilities

Park/Facility	Location	Size
Sports Park	1401 Central Avenue	12.25 acres
Duarte Skate Park	1401 Central Avenue	12,000 sf
Northview Park	1433 Highland Avenue	2.02 acres
Duarte Park	1344 Bloomdale Street	2.96 acres
Source: City of Duarte website, Parks, http://www.accessduarte.com/index.php?option=com_content&view=article&id=63&Itemid=231, accessed June 24, 2019.		
sf = square feet.		

5.13.3 SIGNIFICANCE THRESHOLD CRITERIA

The issues presented in the Initial Study Environmental Checklist (Appendix G of the *CEQA Guidelines*) have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; and/or

- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Based on these standards, the effects of the proposed project have been categorized as either a "less than significant impact" or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

5.13.4 PROJECT IMPACTS AND MITIGATION MEASURES

PARKS AND RECREATION FACILITIES

IMPLEMENTATION OF THE PROPOSED PROJECT COULD INCREASE THE USE OF EXISTING PARKS AND RECREATIONAL FACILITIES CREATING THE POTENTIAL FOR PHYSICAL DETERIORATION OF FACILITIES.

Impact Analysis: The City has an established parkland-to-population requirement of 2.5 acres of parkland per 1,000 persons according to the current General Plan. The City's current (2019) population is 21,952 persons[1]. In order to meet the City's parkland-to-population ratio, the City would need 54.9 acres of parkland. The City currently has 53.59 acres of parkland within its jurisdictional boundaries.[2] According to the *General Plan*, the City also leases 26.54 acres from the Duarte Unified School District for recreational purposes, which is used to meet the City's parkland-to-population ratio. Additional recreational opportunities are provided in wilderness areas, utility and floodway easements, bike, equestrian, and hiking trails, and a golf course as well. Thus, with this lease opportunity from Duarte Unified School District, the City is able to meet the parkland-to-population target under the proposed project and impacts would be less than significant.

Finally, the Duarte Station Specific Plan includes a publicly accessible open space to define a promenade-style gathering place and focal point along Highland Avenue; this will include landscaping, hardscape features, and public amenities within a 25-foot wide linear plaza. In addition, design and development standards require a minimum of 200 square feet of group usable open space per residential unit. The Residences at Duarte Station includes rich amenities including two swimming pools, an adventure play area for children, and a variety of play amenities within multi-purpose spaces and dedicated court areas as well. Refer to Appendix J for a full plan set for The Residences at Duarte Station.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

[1] United States Census Bureau. QuickFacts: Duarte city, https://www.census.gov/quickfacts/duartecity california, accessed June 24, 2019.

[2] City of Duarte website, Parks, http://www.accessduarte.com/index.php?option=com_content&view =article&id=63&Itemid=231, accessed June 24, 2019.

5.13.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES

DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS TO PARKS AND RECREATION FACILITIES IN THE CITY.

Impact Analysis: Development associated with implementation of the proposed project and related cumulative projects within the City would increase demand on City parks and recreation facilities. The City is able to meet the parkland-to-population target under the proposed project and impacts would be less than significant. Individual future projects would be required to pay Quimby fees if they involve subdivisions, or requirements for individual projects to pay in lieu fees for parklands or dedication of new parkland may likely be required for future projects. Therefore, cumulative impacts related to the demand for parks and recreation services would be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.13.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Implementation of the proposed project would result in less than significant project and cumulative impacts related to parks and recreational facilities. As such, no significant unavoidable impacts would result from implementation of the Duarte Station Specific Plan.

5.13.7 SOURCES CITED

City of Duarte, *Parks*, http://www.accessduarte.com/index.php?option=com_content&view=article&id=63&Itemid=231, accessed June 24, 2019.

City of Duarte, *City of Duarte Comprehensive General Plan 2005-2020*, August 14, 2007.

City of Duarte, *City of Duarte Municipal Code*, current through Ordinance 888, passed December 11, 2018.

State of California Department of Finance, E-5 Population and Housing Estimates for Cities, Counties, and the State, January 2011-2019, With 2010 Benchmark. Sacramento, California, May 2019

United States Census Bureau. QuickFacts: Duarte city, https://www.census.gov/quickfacts/duartecitycalifornia, accessed June 24, 2019.

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5.14 WATER

This section analyzes projected impacts to water supplies and distribution systems that may result from the implementation of the proposed amended Duarte Station Specific Plan. The purpose of this analysis is to document and describe the existing water supply, water consumption, and distribution infrastructure in the project vicinity, and to evaluate impacts associated with buildout of the amended Specific Plan. Information for this section is based on the *Draft Water Supply Assessment* (contained in Appendix C2) prepared by Water Systems Consulting, Inc. (WSC 2019) for the project and California American Water's (CAW) *2015 Urban Water Management Plan for the Southern Division–Los Angeles County District* (CAW 2016). The 2015 Urban Water Management Plans (UWMPs) for the Upper San Gabriel Valley Municipal Water District (USGVMWD or Upper District) (Stetson Engineers 2016) and Metropolitan Water District (MWD or Metropolitan) (MWD 2016) were also used for the analysis.

5.14.1 REGULATORY SETTING

STATE

Urban Water Management Plan Act

The Urban Water Management Plan Act was passed in 1983 and codified as *California Water Code* Sections 10610 through 10656. Since its passage in 1983, the Act has been amended on several occasions. The UWMP Act requires "every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt, in accordance with prescribed requirements, an urban water management plan." Urban water suppliers must file these plans with the California Department of Water Resources every five years, describing and evaluating reasonable and practical efficient water uses, reclamation, and conservation activities. Noncompliant urban water suppliers are ineligible to receive funding pursuant to Division 24 or Division 26 of the California Water Code, or receive drought assistance from the State, until the UWMP is submitted and deemed complete pursuant to the Act.

Water Conservation Act of 2009

Senate Bill X7-7, the Water Conservation Act of 2009 (WCA) creates a framework for future planning and actions by urban (and agricultural) water suppliers to reduce California's water use. The law requires urban water suppliers to reduce statewide per capita water consumption by 20 percent by 2020. Additionally, the State is required to make incremental progress towards this goal by reducing per capita water use by at least 10 percent by 2015. The legislation requires urban water users to develop consistent water use targets and to use those targets in their UWMPs.

Senate Bill 610

Senate Bill 610 (SB 610) requires preparation of a Water Supply Assessment (WSA) for certain projects.[1] The *Water Code* requires that a WSA be prepared for any "project" which would consist of one or more of the following:[2]

[1] Water Code Sections 10910–10915.

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- A mixed-use project that includes one or more of the projects specified above; or
- A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling unit project.

The project proposes development of approximately 19.08 acres in Duarte with up to 1,400 residential dwelling units, up to 100,00 square feet of office space, and up to 12,500 square feet of retail/restaurant space. As a result, the combination of uses proposed by the project meets criteria set forth in *Water Code* Section 10912(a)(6) for a mixed-use project. Therefore, a WSA has been prepared for the amended Duarte Station Specific Plan (refer to Appendix C2, Water Supply Assessment).

Senate Bill 221

Senate Bill 221 (SB 221)[3] amended State law to improve the link between information on water supply availability and land use at the tentative map preparation phase of a project. SB 610 and SB 221 are companion measures which seek to:

- Promote more collaborative planning between local water suppliers and cities and counties
- Require that detailed information regarding water availability be provided to city and county decision-makers prior to approval of specific large development projects
- Require that this detailed information be included in the administrative record that serves as the evidentiary basis for an approval action by the city or county on such projects
- Recognize local control and decision making regarding the availability of water for projects and the approval of projects

SB 221 pertains only to residential projects and establishes the relationship between the WSA prepared for a project and the project approval under the Subdivision Map Act.

[2] Water Code Section 10910(b).
[3] Business and Professions Code Section 11010 and Government Code Section 66473.4.

Sustainable Groundwater Management Act (SGMA)

On September 16, 2014, Governor Jerry Brown signed into law a three-bill legislative package composed of Assembly Bill (AB) 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley), collectively known as the Sustainable Groundwater Management Act (SGMA) that requires "management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results."

SGMA requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans. For critically over-drafted basins, that will be 2040. For the remaining high and medium priority basins, 2042 is the deadline. SGMA requires local agencies to adopt Groundwater Sustainability Plans (GSPs) for crucial groundwater basins in California.

When water users within a basin are in dispute over legal rights to the water, a court can issue a ruling known as an adjudication. Adjudications can cover an entire basin, a portion of a basin, or a group of basins and all non-basin locations between. The court decree defines the area of adjudication as well as who the extractors (owners) are, how much groundwater those well owners can extract, and identifies a "Watermaster" who will ensure that the basin or portion of the basin is managed in accordance with the court's decree. Under SGMA, the Watermaster must report periodically to the court.

Efficiency Standards

Title 24 of the *California Administrative Code* contains the California Building Standards, including the *California Plumbing Code* (Part 5), which promotes water conservation. Title 20 addresses public utilities and energy and includes appliance efficiency standards that promote water conservation. In addition, a number of State laws listed below require water-efficient plumbing fixtures in structures:

- Title 20, *California Administrative Code* Section 1604(g), establishes efficiency standards that give the maximum flow rate of all new showerheads, lavatory faucets, sink faucets, and tub spout diverters.

- Title 20, *California Administrative Code* Section 1606, prohibits the sale of fixtures that do not comply with established efficiency regulations.

- Title 24, *California Administrative Code* Sections 25352(i) and (j), address pipe insulation requirements, which can reduce water used before hot water reaches equipment or fixtures. Insulation of water-heating systems is also required.

- *Health and Safety Code* Section 17921.3 requires low-flush toilets and urinals in virtually all buildings.

REGIONAL

2015 Urban Water Management Plan for California-American Water's Southern Division – Los Angeles County District

The City of Duarte receives water service from California American Water (CAW). CAW operates three division offices. Duarte is located under the Southern Division, which incorporates the Los Angeles County District. This district consists of Baldwin Hills, Duarte, and San Marino service areas. In compliance with the Urban Water Management Planning Act, CAW prepared the *2015 Urban Water Management Plan for the Southern Division – Los Angeles County District* (*2015 UWMP*) dated June 2016.

CITY OF DUARTE

Duarte Municipal Code

Duarte Municipal Code Chapter 19.40, Landscaping, requires water conservation measures be addressed through landscape and irrigation design. Projects are required to comply with applicable provisions of the Water-Efficient Landscape Worksheet and Landscape Irrigation and Maintenance.

5.14.2 ENVIRONMENTAL SETTING

URBAN WATER MANAGEMENT PLAN

The project site is located within the water service area of the CAW's Los Angeles County District. The Los Angeles County District has three service areas: the Baldwin Hills, Duarte, and San Marino water service areas. The water systems within these three service areas are not interconnected with each other and have independent water supplies (WSC 2019). In 2018, the Los Angeles County District of CAW provided water to approximately 28,112 connections and served a population of approximately 102,759. In 2018, this population represented one percent of the population of Los Angeles County (WSC 2019).

The Duarte water service area encompasses approximately 6,459 acres. The Duarte water service area spans both sides of I-210 immediately west of the I-210/I-605 interchange. The San Gabriel River runs along the eastern border of the Duarte water service area. In 2018, CAW's Duarte water service area provided water to approximately 7,500 connections and 29,500 customers in the cities of Azusa, Bradbury, Duarte, Irwindale, and Monrovia.

According to the Southern California Association of Governments' 2016 growth projections (SCAG 2016), CAW's Duarte water service area is expected to serve a population of 29,625 in 2020 and 32,024 by the year 2040.

Water Sources

CAW obtains its water supply for the Duarte water service area within the Los Angeles County District from: 1) imported water from the Upper San Gabriel Valley Municipal Water District (USGVMWD), 2) groundwater from the Main San Gabriel Basin (MSGB), and 3) surface water from the MSGB obtained from the San Gabriel River. USGVMWD obtains its water supply from

the Metropolitan Water District of Southern California (MWD). The amount of demand not supplied by groundwater allocations is met by purchasing supplemental water from a wholesaler for direct potable use or untreated raw water as replacement water for the groundwater basin due to over-pumping. Untreated raw surface water is used to meet irrigation demands or to replenish the groundwater basin. *Table 5.14-1*, *Duarte System Water Supplies (Acre-Feet Per Year)*, shows the current and projected supplies for the Duarte system (WSC 2019).

Table 5.14-1
Duarte System Water Supplies (Acre-Feet Per Year)

Source	2015	2020	2025	2030	2035	2040
Groundwater - MSGB	2,770	2,622	2,622	2,622	2,622	2,622
Surface Water Recharged to MSGB	1,246	1,672	1,672	1,672	1,672	1,672
Surface Water for Irrigation	426	0	0	0	0	0
Upper District Replacement Water	987	2,805	3,048	3,242	3,450	3,592
Total	**5,429**	**7,099**	**7,342**	**7,536**	**7,744**	**7,886**

Source: WSC 2019 (see Appendix C2)

Groundwater. CAW has adjudicated rights to the MSGB. The MSGB is managed by the MSGB Watermaster. Management includes regulating the amount of water pumped from the Basin for all pumpers while responsibly managing the groundwater supply. MSGB sets limits on surface water allocation from the San Gabriel River. Groundwater producers in the MSGB are allowed to exceed their safe yield allocation, provided they pay an assessed replenishment fee to the MSGB Watermaster. Most years, the MSGB is over pumped because total demand from the various producers, including CAW, exceeds the available safe yield established by the Watermaster. The Watermaster uses the funds generated from the replenishment fees to purchase replacement water from wholesale agencies that have access to imported water. The authorized wholesaler of imported water for CAW's Duarte system is the USGVMWD.

The Duarte water service area is classified as an "integrated producer," which includes an adjudicated right to 1.84634 percent of the operating safe yield (OSY) of the MSGB, which is determined on an annual basis. The MSGB Watermaster's *Five-Year Water Quality and Supply Plan 2018-2019 to 2022-2023* serves as the groundwater management plan for the MSGB (WSC 2019). According to the *Five-Year Water Quality and Supply Plan 2018-2019 to 2022-2023*, in 2019, the OSY of the MSGB is projected as 150,000 acre-feet per year (AFY) (WSC 2019). In 2020, the OSY is projected to be 140,000 AFY, followed by 130,000 AFY in following years. The 10-year average OSY is 142,000 AFY. The Duarte water service area's allocation is calculated as 2,400 AFY starting in 2019.

The amount of water that parties of the MSGB adjudication judgement may extract from the MSGB is not restricted; however, the MSGB judgement provides a means for replacing all annual extractions in excess of a party's annual right with supplemental water (WSC 2019). If a producer extracts water in excess of its portion of the annual OSY, it must pay a replacement water assessment, which is used by the Watermaster to purchase supplemental water through the USGVMWD, as well as the San Gabriel Valley Municipal Water District and Three Valleys Municipal Water District (WSC 2019).

From 2011 to 2018, groundwater has accounted for 86 to 96 percent of total water supply for the Duarte water service area, with the remainder supplied by surface water and imported water (WSC 2019). CAW's active wells serving the Duarte water service area pumped from 5,002 to 6,475 AFY between 2011 and 2018; production averaged 5,778 AFY (WSC 2019). From 2020 to 2040, 7,099 to 7,886 AFY are projected to be pumped for the Duarte water service area (WSC 2019).

Surface Water. CAW has surface water diversion rights from the San Gabriel River that are fixed at an annual allocation of 1,672 AFY (WSC 2019).

Supplemental Water. CAW obtains wholesale water from the USGVMWD, a member agency of the MWD. MWD acquires water from the Colorado River Aqueduct and the California State Water Project (SWP) and distributes treated and untreated water to its member agencies. Untreated water is used for groundwater replenishment. In 2015, the total amount of supplemental water obtained by CAW was 987 AFY. Between 2,805 and 3,592 AFY of supplemental water is projected to be used between 2020 and 2040 (WSC 2019). While imported water has historically been available for parties that exceed their portion of the OSY, drought-mandated cutbacks from the SWP and Colorado River Aqueduct have limited to availability of imported water (WSC 2019).

Future Water Supply Projects/Programs

Other than rehabilitation and replacement of existing infrastructure, there are currently no planned future projects to bring new supply sources to the Duarte water service area.

The USGVMWD, in coordination with MWD, is working to expand its existing recycled water program to include the South El Monte Recycled Water Expansion Project and the La Puente Valley County Water District Recycled Water Project, as well as the Indirect Reuse Replenishment Project (IRRP). The IRRP will replenish the Main San Gabriel Groundwater Basin with up to 10,000 acre-feet annually with highly treated recycled water. The project is currently in the permitting phase. It is anticipated that the IRRP will help the USGVMWD to improve supply reliability within the MSGB.

Opportunities for use of recycled water also exist for the Duarte service area through the County Sanitation Districts of Los Angeles County (LACSD). MWD and LACSD are developing a multi-phased program called the Regional Recycled Water Program to explore the potential of a water purification project to beneficially reuse water currently discharged to the Pacific Ocean for recharge of regional groundwater basins (WSC 2019). The program could generate up to 150 million gallons per day of purified water for groundwater replenishment in several basins, including the MSGB (WSC 2019)

Transfer Opportunities

CAW leases unused portions of other purveyor's allocations in the MSGB when available. Typically, these opportunities are available when other purveyors experience well contamination or other production interruptions. While this supply is available sometimes, it is not considered a reliable source and is not quantifiable as a projected future supply source (WSC 2019).

WATER FACILITIES

According to CAW, 12-inch water mains are located in Evergreen Street and Highland Avenue. A 12-inch water main is also located in Business Center Drive west of Highland Avenue. Smaller diameter lines (4-inch) are located in Denning Avenue and Glenford Avenue; refer to *Exhibit 5.14-1*, *Water Infrastructure Plan*.

The project area is located within the Scott Pressure Zone, which has a hydraulic gradient line (HGL) of 691 feet given the pad elevation of the water reservoir that supplies water to this pressure zone. The HGL at the project area is approximately 684 feet due to pressure losses within the piping distribution system from the reservoir or booster pump station to the project area. The elevations of the site range from 496 to 479 feet. Therefore, pressure ranges between 81 to 88 pounds per square inch (psi).

5.14.3 SIGNIFICANCE THRESHOLD CRITERIA

The issues presented in the Initial Study Environmental Checklist (*CEQA Guidelines* Appendix G) have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Require or result in the relocation or construction of new or expanded water facilities, the construction of which would cause significant environmental effects;
- Not have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years;
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin; or
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Based on these significance thresholds and criteria, the proposed project's effects have been categorized as either "no impact," a "less than significant impact," or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

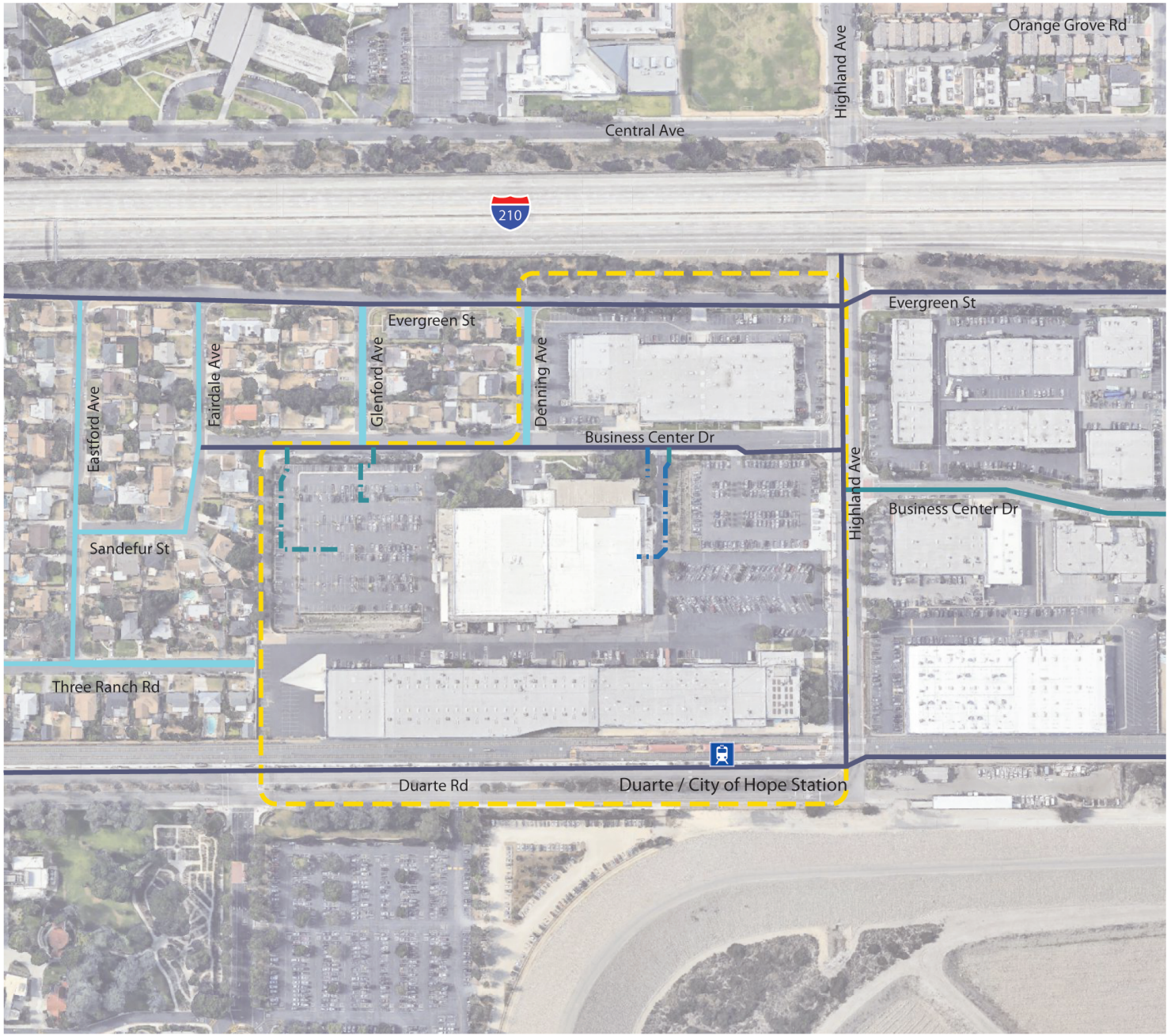


Figure 5.14-1 Water Infrastructure Plan

Duarte Station Specific Plan Subsequent EIR

MIG

5.14.4 PROJECT IMPACTS AND MITIGATION MEASURES

WATER FACILITIES

IMPLEMENTATION OF THE PROPOSED PROJECT COULD REQUIRE OR RESULT IN THE CONSTRUCTION OF NEW WATER FACILITIES OR EXPANSION OF EXISTING FACILITIES, THE CONSTRUCTION OF WHICH COULD CAUSE SIGNIFICANT ENVIRONMENTAL EFFECTS.

Impact Analysis: Implementation of the proposed project would result in increased water demand compared to existing conditions and compared with the previously approved Duarte Station Specific Plan, as discussed in more detail below under impacts on water supply.

New proposed water supply infrastructure within the Specific Plan area is anticipated to include water line connections to the existing off-site system, as shown in *Exhibit 5.14-1,* to support The Residences at Duarte Station development.

For future proposed developments in the Specific Plan area, additional site-specific hydraulic analysis would be required to determine water flow capacity and storage requirements to serve the future proposed development (Mitigation Measure WAT-1). For example, the existing pipe within Denning Avenue may require upsizing depending on the usage and fire flow requirements of the adjacent parcel. Private meters and backflow devices would also be required for domestic water service and/or separate fire lines. Current fire regulations require all buildings to be equipped with a fire sprinkler system, including residential homes. Fire flow requirements are based upon building size and building construction type. Future site plans would be required to be reviewed by the Los Angeles County Fire Department to obtain fire flow and storage volume requirements based upon the tenant type, building size, and building type. Once the flows and durations are determined, verification from CAW would be required to ensure adequate pumping or storage capacity is available to achieve the CAW's requirements for individual developments. If fire flow and storage capacity are inadequate, the project applicant would be required to implement additional improvements or pay a fair share in-lieu fee for such improvements (Mitigation Measure WAT-2). Any improvements to flow capacity and storage, however, would be expected to occur in previously disturbed areas and would not be expected to be significant such that they would result in a substantial adverse effect on the environment. Therefore, with implementation of mitigation measures WAT-1 and WAT-2, potential impacts would be reduced to a less than significant level.

As noted above, CAW has issued a can and will serve letter for The Residences at Duarte Station project, shown in Appendix C1. The letter indicates that additional improvements may be required to CAW's water supply infrastructure to provide water service for the project. The last infrastructure capacity study was completed by CAW in 2012. Therefore, an updated capacity study should be prepared by CAW to determine what infrastructure improvements would be required to serve the entire Duarte water service area and should determine fair share costs that should be allocated to each of CAW's constituents for those infrastructure improvements. Mitigation measure WAT-3 requires project applicants for development in the Duarte Station Specific Plan to pay their fair share of in-lieu fees for water supply infrastructure improvements identified in CAW's updated capacity study for the Duarte water service area. With implementation of mitigation measure WAT-3, project impacts on CAW's water supply infrastructure would be less than significant.

Mitigation Measures:

WAT-1 Prior to approval of building permits, individual project applicants shall conduct a hydraulic analysis in coordination with CAW to determine flow capacity, pumping, and storage requirements to provide water service to the proposed development. The project applicant shall implement the improvements or pay a fair share of an in-lieu fee for those improvements in accordance with CAW requirements. Such payment shall be made prior to issuance of occupancy permits.

WAT-2 Prior to approval of building permits, individual project applicants shall submit site plans to the Los Angeles County Fire Department to obtain fire flow and storage volume requirements for the proposed development. The project applicant shall submit the fire flow and storage volume requirements to the CAW to determine if adequate fire flow and storage capacity exists to serve the proposed development. If fire flow and storage capacity is found to be inadequate, the project applicant shall design and bond for necessary improvements prior to the issuance of building permits and complete all necessary improvements or pay a fair share of an in-lieu fee for those improvements prior to issuance of occupancy permits.

WAT-3 Prior to issuance of occupancy permits, individual project applicants shall pay their fair share of an in-lieu fee by CAW to implement water supply infrastructure improvements determined to be necessary in a capacity study for projected buildout within CAW's Duarte water service area.

Level of Significance: Less Than Significant Impact with Mitigation Incorporated.

WATER SUPPLIES

IMPLEMENTATION OF THE PROPOSED PROJECT COULD CREATE DEMAND FOR WATER THAT EXCEEDS AVAILABLE WATER SUPPLIES FROM EXISTING ENTITLEMENTS AND RESOURCES, COULD SUBSTANTIALLY DECREASE GROUNDWATER SUPPLIES OR INTERFERE SUBSTANTIALLY WITH GROUNDWATER RECHARGE SUCH THAT THE PROJECT MAY IMPEDE SUSTAINABLE GROUNDWATER MANAGEMENT OF THE BASIN, OR CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF A SUSTAINABLE GROUNDWATER MANAGEMENT PLAN

Impact Analysis: In compliance with SB 610 and SB 221, a WSA has been conducted to verify that sufficient water supply is available from the water provider for the Duarte Station Specific Plan area during normal, single dry, and multiple dry years that will meet the project's projected demand, in addition to existing and planned future uses within the service area.

CAW's 2015 UWMP is assumed to account for the 2013 Duarte Station Specific Plan since the plan was in place at the time of UWMP preparation. Projected water demand from buildout of the 2013 Duarte Station Specific Plan was estimated at 236 AFY (WSC 2019).

Implementation of the amended Duarte Station Specific Plan is estimated to result in an increased water demand of 266 AFY compared to existing conditions, which is 30 AFY greater than originally projected under the 2013 Duarte Station Specific Plan. *Table 5.14-2*, *Estimated Project Water Demand*, quantifies the proposed project's estimated water demand. As indicated

in *Table 5.14-2*, the proposed project is anticipated to demand 237,725 gallons per day (gpd) or 266 AFY, or 30 AFY more than the current approved Duarte Station Specific Plan.

Table 5.14-2
Estimated Project Water Demand

Use	Building (SF)	Dwelling Units	Factor	GPD	AFY
Proposed Project					
Retail/Restaurant	12,500		642 gpd/ksf	8,025	8.99
Office	100,000		113 gpd/ksf	11,300	12.66
Residential		1,400	156 gpd/unit	218,400	244.64
Proposed Total				***237,725***	***266.29***

Notes:
gpd gallons per day
ksf thousand square feet

As shown in Table 5.14-1, *Duarte System Water Supplies*, above, the water supply needs for CAW's Duarte water service area required 5,429 AF in 2015 and are projected to increase to 7,099 AF in 2020, 7,342 AF in 2025, and 7,886 AF in 2040, or increase by 2,457 AF by 2040. The estimated annual demand of the proposed project is 266 AFY, which represents between 3.4 and 3.7 percent of the projected water supply for the Duarte water service area after the year 2020.

Water Supply Reliability During Normal, Single Dry, and Multiple Dry Years

Primary factors that affect water supply reliability of the Los Angeles County District include legal, environmental, water quality, and climatic factors. The legal factors affecting supply include groundwater adjudications and replacement water purchases for excess pumping. Environmental factors related to wholesale supply reliability are reduced deliveries of water from the SWP due to reduced pumping in the Sacramento Delta. Water quality factors influence groundwater production capacity and efficiency, and supplies are always subject to reduction given climatic factors.

The water supply availability in the Duarte water service area was calculated for an average water year based upon historical and projected production between 2014-2023. Drought conditions from 2013 through 2015 reduced the OSY in the MSGB to the lowest it has been since 1973/1974 (WSC 2019). Therefore, production in 2013/2014 was used to calculate a projected single dry year, and production from 2011-2014 was used to calculate a projected water supply for multiple dry years (WSC 2019).

The MSGB has legal factors affecting its reliability due to its adjudication and pumpers excessively pumping requiring replacement water purchases. Some areas of the MSGB have water quality issues limiting production. However, the Duarte system has treated groundwater supplies and thus is not affected by groundwater quality. Climatic factors, such as drought, may reduce available groundwater supplies. In turn, the USGVMWD, as wholesaler, faces the same legal limits as the basin pumpers. As an ultimate user of MWD imported water, the Duarte system can sustain reduced imported water supplies. Climatic factors, such as extended regional drought conditions, may also limit USGVMWD's ability to deliver imported water to the Duarte service area.

Table 5.14-3, *Los Angeles County District Supply Reliability – Duarte Service Area*, shows the Duarte service area's supply reliability in an average, single dry year, and multiple dry years.

Table 5.14-3
Los Angeles County District Supply Reliability – Duarte Service Area

Water Supply Sources	Average/ Normal Water Year	Single Dry Water Year (2021)	Multiple Dry Water Years		
			Year 1 (2021)	Year 2 (2022)	Year 3 (2023)
MSGB[1]	2,668	2,400	2,400	2,400	2,400
Surface Water Recharged to MSGB	1,672	1,672	1,672	1,672	1,672
Surface Water for Irrigation	0	0	0	0	0
Upper District Replacement Water[2]	2,117	2,474	2,474	3,027	3,114
Total Water Supply	*6,457*	*6,546*	*6,546*	*7,099*	*7,186*
% of Normal	100%	101%	101%	110%	111%

Source: WSC 2019
Notes:
[1]The multiple dry years are based on projected safe yield for 2021, 2022, and 2023. The single dry year is based on the 1.84634% of the 2021 MSGB safe yield and the average year is based on 1.84634% of the 2014-2023 MSGB safe yield.
[2]It is assumed that all demand not met by the allocations in the MSGB will be met by purchasing replacement water from the Upper District.

Table 5.14-4, *USGVMWD Wholesale Supply Reliability*, shows the USGVMWD wholesale water supply reliability over a single dry and multiple dry years according to the USGVMWD's UWMP (Stetson Engineers 2016).

Table 5.14-4
USGVMWD Wholesale Water Supply Reliability

Water Supply Sources	2020	2025	2030	2035	2040
Supply totals (AFY)	73,121	72,933	72,440	72,683	72,675
Demand totals (AFY)	63,121	62,933	62,444	62,683	62,675
Difference (AFY)	10,000	10,000	10,000	10,000	10,000
Source: WSP 2019					

In response to multiple group affiliations, statutory requirements, and concern for the region's water supply sustainability, CAW employs multiple tactics to conserve water and reduce groundwater production. The major tactics currently being implemented by CAW include: 1) metering, 2) tiered water rates, 3) plumbing retrofits, 4) public education, 5) large landscape conservation incentives, 6) high-efficiency washing machine rebates, 7) high-efficiency toilet replacement rebates, and 8) implementation of California Urban Water Conservation Council Best Management Practices (BMPs). All of these tactics are currently being implemented or are in the process of being implemented in the near future.

Additionally, the MSGB Watermaster and USGVMWD have multiple ongoing initiatives designed to manage and enhance supply reliability to continue to provide sufficient supply even in dry years. Based on the USGVMWD's 2015 UWMP and the following supply reliability

management plans and actions, it is anticipated that MSGB replacement water will be available from USGVMWD to meet CAW's total projected demands.

The following ongoing water management actions are identified in the MSGB's Annual Report (WSC 2019):

- Establish financial incentives to encourage pre-purchase of supplemental water.
- Proactively purchase replacement water through a cyclic storage mechanism identified in the MSGB judgment.
- Implement the Water Resource Development Assessment by levying a $20 per acre-foot assessment on all production beginning in 2014-15; funds will then be available to purchase supplemental water to store for future shortages, reaching a planned 100,000 acre-feet of imported water in storage over 10 years.
- Increase flexibility for an in-lieu assessment of $10 an acre-foot on all water produced commensurate with groundwater levels. This program pays a water producer the difference in cost to purchase treated surface water in-lieu of purchasing untreated imported water for Basin replenishment after over pumping in order to keep water in groundwater storage.
- Continue coordination on flood control to plan stormwater capture projects.

The following ongoing water management actions are identified in the USGVMWD's 2015 UWMP (WSC 2019):

- Implement the USGVMWD's Water Use Efficiency Plan (WUE Plan) to provide adaptive strategies to meet water demand, reliability, and efficiency goals.
- Implement the Integrated Resources Plan (IRP) to incorporate and enhance demand and supply reliability analyses from the 2010 UWMP and WUE Plan. The IRP also includes an adaptive management strategy that involves implementation of a suite of projects, such as direct and indirect recycled water reuse, stormwater capture, water transfers, and conservation measures, that can be phased over time.
- Develop and implement recycled water programs such as those programs discussed above.

According to their 2015 UWMP, USGVMWD will meet projected water demands under all anticipated hydrologic conditions in the Duarte service area (WSC 2019; Stetson Engineers 2016). Under their 2015 UWMP, MWD also plans on 100 percent supply reliability to USGVMWD, providing the same supply reliability to the Los Angeles County District Duarte service area (WSC 2019, MWD 2016). During single-dry and multiple-dry years, USGVMWD MSGB Replacement purchases are expected to increase to use more imported water to make up for the decrease in local supplies. Metropolitan, USGVMWD, and the MSGB Watermaster have implemented, and will continue to implement, projects to ensure that imported water and groundwater demands can be met under normal, single-dry year, and multiple-dry years (WSC 2019, MWD 2016, Stetson Engineers 2016).

The water demand under the proposed project comprises 3.4 to 3.7 percent of the projected water supply of the Duarte water service area, and 3.7 to 4.1 percent of the water supply over an average year, single dry year, and multiple dry years (see Tables 5.14-1 and 5.14-3). Therefore, the WSA concludes that CAW has sufficient water supply now and through 2040 for the proposed project, based upon the following assessments and conclusions:

- CAW has been identified as the public water supplier for the proposed project.

- The proposed amended Duarte Station Specific Plan is not specifically identified in the 2015 UWMP; however, the original 2013 Duarte Station Specific Plan is and the estimated increased water demand of 30 AFY under the amended Duarte Station Specific Plan is planned to be met through additional imported water and increased groundwater extraction.

- The estimated average annual water demand of the proposed project is approximately 266 AFY, which is equivalent to approximately 3.7 to 4.1 percent of the expected water supply for the Duarte service area through Year 2040 over an average year, single dry year, and multiple dry years.

- In general, CAW's supply is expected to be 100 percent reliable through 2040. MWD plans on 100 percent supply reliability to USGVMWD as a result of initiatives MWD has undertaken in recent years on behalf of its member agencies.

- The MSGB Watermaster continues to coordinate and manage the Main San Gabriel Basin to provide adequate groundwater supply to meet individual and cumulative development within respective service areas and demonstrate a shared responsibility to maintaining groundwater basin balance.

In conclusion, CAW has sufficient supply now and those supplies would be available for the proposed project through 2040; resulting in less than significant impacts.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.14.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES

DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS TO WATER SUPPLIES AND FACILITIES.

Impact Analysis: Increased water demand associated with the proposed project and other related cumulative projects could result in significant cumulative impacts to water supplies and facilities.

As discussed above, implementation of the proposed project would likely require new water service facilities to serve the proposed development. Mitigation has been identified that would reduce these impacts to a less than significant level. The proposed project and cumulative projects would be reviewed on a project-by-project basis to determine if adequate facilities are available within the area to serve the proposed development. Individual development projects would be required to make necessary improvements or make a fair share contribution toward the improvements prior to development. Therefore, cumulative impacts to water facilities would be less than significant in this regard.

Development of the proposed project could result in impacts to fire flow and water storage. Mitigation has been identified that would reduce these impacts to a less than significant level.

The proposed project and cumulative projects served by the Los Angeles County Fire Department would be reviewed on a project-by-project basis to determine the fire flow and storage capacity requirements of the proposed development. Individual development projects would be required to make necessary improvements or make a fair share contribution toward the improvements prior to development. Therefore, cumulative impacts to fire flow and storage capacity would be less than significant in this regard.

CAW's 2015 UWMP assesses water supply taking into consideration groundwater, imported, and surface water supplies. The water supply needs for CAW's Duarte service area required 5,429 AF in 2015 and are projected to increase to 7,099 AF in 2020, 7,342 AF in 2025, and 7,886 AF in 2040, or increase by 2,457 AF by 2040. The estimated annual demand of the proposed project is 266 AFY, which represents approximately 10.8 percent of this total growth.

Future development projects in Duarte and the surrounding cities would be evaluated by the applicable City and CAW on a project-by-project basis to determine impacts to water supplies and infrastructure. The continued assessment of individual projects for impacts to the water supply system would assure projects would only be approved if adequate water supplies exist at the time of their implementation. New development would be required to pay its share of the costs of infrastructure improvements necessary to accommodate the project. CAW would need to ensure their water reclamation facilities and pipeline infrastructure are planned and installed according to their UWMP projections. Additionally, coordination between the cities and CAW would be essential as further development is planned. Therefore, implementation of the proposed project would not result in cumulatively considerable water supply impacts.

Mitigation Measures: Refer to Mitigation Measures WAT-1, WAT-2, and WAT-3. No additional mitigation measures are required.

Level of Significance: Less Than Significant Impact with Mitigation Incorporated.

5.14.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Implementation of the proposed project would result in less than significant project and cumulative impacts related to water demand and facilities, and water supply. As such, no significant unavoidable impacts would result from implementation of the Duarte Station Specific Plan.

5.14.7 SOURCES CITED

California-American Water (CAW), 2016, 2015 Urban Water Management Plan for the Southern Division – Los Angeles County District, June.

Metropolitan Water District of Southern California (MWD), 2016, *2015 Urban Water Management Plan, Draft*. March.

Southern California Association of Governments (SCAG), 2016, Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), Demographics and Growth Forecast Appendix.

Stetson Engineers, Inc. (Stetson Engineers), 2016, *Upper San Gabriel Valley Municipal Water District 2015 Urban Water Management Plan*, June.

Water Systems Consulting, Inc. (WSC), 2019, *Draft Water Supply Assessment for the Duarte Station Specific Plan*, August 13.

5.15 WASTEWATER

This section evaluates impacts of the proposed project on local and regional wastewater collection and treatment facilities. Information is based upon information from the City of Duarte and County Sanitation Districts of Los Angeles County (LACSD).

5.15.1 REGULATORY SETTING

FEDERAL

National Pollutant Discharge Elimination System

As authorized by the Clean Water Act (CWA), the National Pollutant Discharge Elimination System (NPDES) Permit Program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Point sources are discrete conveyances such as pipes or man-made ditches. Industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. In California, the State Water Resources Control Board (SWRCB) administers the NPDES permitting program and is responsible for developing NPDES permitting requirements. The SWRCB works in coordination with the Regional Water Quality Control Boards (RWQCB) to preserve, protect, enhance, and restore water quality. The City is within the jurisdiction of the Los Angeles RWQCB (LARWQCB).

Wastewater originating from the project site is treated at the LACSD's San Jose Creek Water Reclamation Plant, which has a design capacity of 100 million gallons per day (mgd). Water reclamation plants must comply with their current NPDES Permit, which regulates its discharges. The LARWQCB has issued the Waste Discharge Requirements for the Joint Outfall System, San Jose Creek Water Reclamation Plant and the Waste Discharge Requirements for the Joint Outfall System Whittier Narrows Water Reclamation Plant.

Clean Air Act

In 1990, the Clean Air Act (CAA) was dramatically revised and expanded to give the U.S. Environmental Protection Agency (EPA) even broader authority to implement and enforce regulations reducing air pollutant emissions. The CAA also gives the EPA authority to limit emissions of air pollutants coming from such as utilities, among others.

In order for the LACSD to conform to CAA requirements, the design capacities of its facilities are based on the regional growth forecast adopted by the Southern California Association of Governments (SCAG); refer to *Section 7.1,* Growth-Inducing Impacts. Specific SCAG regional growth forecast policies are incorporated into the clean air plans prepared by air quality management districts. The project site is located within jurisdiction of the South Coast Air Quality Management District (SCAQMD), which prepared the Air Quality Management Plan (AQMP) to improve air quality in the South Coast Air Basin. Any expansion of LACSD's facilities must be sized and service phased in a manner that will be consistent with SCAG's regional growth forecast for the County of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. The available capacity of treatment facility, therefore, is limited to levels associated with the approved growth identified by SCAG.

REGIONAL

County Sanitation Districts of Los Angeles County (LACSD)

The LACSD is authorized by the *California Health and Safety Code* to charge a fee for the privilege of connecting (directly or indirectly) to its sewerage system or increasing the strength or quantity of wastewater attributable to a particular parcel or operation already connected. This connection fee is a capital facilities fee that is imposed in an amount sufficient to construct an incremental expansion of the sewerage system to accommodate a proposed project. Payment of a connection fee is required before a permit to connect to the sewer is issued.

As noted above, LACSD must conform to the requirements of the CAA with regard to design capacities of its wastewater treatment facilities.

LOCAL

City of Duarte Municipal Code

Pursuant to *Duarte Municipal Code* Section 6.12.010*,* Adoption of County Ordinance, the City has adopted by reference the *Los Angeles County Code, Title 20, Utilities, Division 2, Sanitary Sewers and Industrial Waste Ordinance* as the sanitary sewer and industrial waste ordinance of the City of Duarte, except as it is amended locally.

Pursuant to *Duarte Municipal Code* Section 16.04.015, Adoption of California Green Building Standards Code, the City has adopted by reference the *2016 California Green Building Standards Code* as set forth in *Title 24 Part II* of the *California Building Standards Code* of the *California Code of Regulations*.

5.15.2 ENVIRONMENTAL SETTING

WASTEWATER FACILITIES

County Sanitation Districts of Los Angeles County (LACSD)

The project site is located within the jurisdictional boundaries of District No. 22 of the LACSD. LACSD has issued a can and will serve letter for The Residences at Duarte Station development under the proposed project; the letter is contained in Appendix C1.

Wastewater flow originating from the project site discharges to local sewer lines before it is conveyed to LACSD's main trunk sewer. The trunk sewer that serves the project area is the Buena Vista Trunk Sewer, located in Three Ranch Road west of Duncannon Avenue. The trunk sewer line is 12 inches in diameter with a design capacity of 1.7 million gallons per day (mgd). The Buena Vista Trunk Sewer had a peak flow of 0.6 mgd when last measured in 2015, according to the LACSD's can and will serve letter.

Wastewater originating from the project site is treated at LACSD's San Jose Creek Water Reclamation Plant. The San Jose Creek Water Reclamation Plant provides primary, secondary, and tertiary treatment for 100 mgd of wastewater. Currently, the San Jose Creek Water

Reclamation Plant processes an average flow of 63.8 mgd (according to LACSD's can and will serve letter), leaving 36.2 mgd of remaining capacity.

City of Duarte and County of Los Angeles Department of Public Works Consolidated Sewer Maintenance District

Local sewer lines are owned by the City. The County of Los Angeles Department of Public Works (LACDPW) Consolidated Sewer Maintenance District is responsible for the operation and maintenance of the local sewers within the City of Duarte.

The following local sewer lines are located adjacent to the project site:

- An 8-inch vitrified clay pipe (VCP) sewer exists within the Evergreen Street right-of-way and south along Glenford Avenue. This line has a minimum slope of 0.4 percent east to west from Highland Avenue to Glenford Avenue. The 8-inch sewer line within Evergreen Street receives flows from the north via an 8-inch line.

- An 8-inch VCP sewer exists within the Business Center Drive right-of-way. This line has a minimum slope of 0.64 percent. It picks up lines from the north along Denning Avenue, Glenford Avenue, and Fairdale Avenue.

- A 12-inch sewer line is contained within Highland Avenue and appears to receive flows from the development to the east along Business Center Drive and from the north from across I-210. The line has a minimum slope of 0.6 percent. The 12-inch sewer line continues south to the trunk sewer in Duarte Road, where it flows westerly with a slope of 1.208 percent. The sewer along East Duarte Road is on the south side of the Metro railroad right-of-way.

EXISTING WASTEWATER GENERATION

Based on a wastewater generation factor of 1,700 gallons per day per acre (gpd/acre) for industrial uses, the existing average wastewater flow from current on-site uses is estimated at 32,436 gpd. To determine peaking rates, a conservative value of 2.5 was multiplied to the average flow rate of 32,436 gpd, for a result of 81,090 gpd or 56.3 gallons per minute (gpm).

5.15.3 SIGNIFICANCE THRESHOLD CRITERIA

The issues presented in the Initial Study Environmental Checklist (Appendix G of the *CEQA Guidelines*) have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Require or result in the relocation or construction of new or expanded wastewater treatment, the construction or relocation of which could cause significant environmental effects; and/or

- Result in a determination by the wastewater treatment provider, which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Based on these standards, the effects of the proposed project have been categorized as either a "less than significant impact" or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

5.15.4 PROJECT IMPACTS AND MITIGATION MEASURES

WASTEWATER CONVEYANCE AND TREATMENT FACILITIES

IMPLEMENTATION OF THE PROPOSED PROJECT COULD GENERATE WASTEWATER THAT EXCEEDS THE CAPACITY OF CONVEYANCE AND TREATMENT FACILITIES SERVING THE PROJECT AREA.

Impact Analysis: Implementation of the proposed project would result in increased wastewater generation requiring conveyance and treatment. *Table 5.15-1*, *Estimated Project Wastewater Generation*, quantifies the proposed project's estimated wastewater generation using LACSD's 2019 typical generation factors.

Table 5.15-1
Estimated Project Wastewater Generation

Facility Description	Acres	Building Area (SF)	Dwelling Units	Flow Factor	Units	Average Flow (gpd)
Existing						
Manufacturing/ Warehouse	19.08			1,700	gpd/acre	32,436
Proposed						
Retail/Restaurant[1]		12,500		662.5	gpd/ksf	8,281.25
Office		100,000		200	gpd/ksf	20,000
Residential			1,400	156	gpd/unit	218,400
Proposed Total						***246,681.25***
Net Change						**+214,245.25**

Notes:
gpd gallons per day
ksf thousand square feet
1Generation factors for restaurant of 1,000 gpd/ksf was averaged with generation factor for shopping center of 325 gpd/ksf for 662.5 gpd/ksf.

As indicated in *5.15-1*, the proposed project is estimated to generate 246,681.25 gpd of wastewater, or 214,245.25 additional gpd of wastewater when compared to existing conditions. To determine peaking rates, a conservative value of 2.5 was multiplied to the 246,681.25 gpd of wastewater for a result of 616,703.125 gpd or 428 gallons per minute (gpm).

Sewer Procedural Manual and the Standard Plans

Wastewater Conveyance

New sewer lines within the Specific Plan area would be constructed to serve the proposed development and would be constructed at the minimum slopes identified in the LACDPW *Sanitary Sewer Procedural Manual* and *Standard Plans.*

Sewer generated within the plan area would discharge into existing sewer pipelines. Existing on-site sewer lines currently connect to the off-site local and regional lines in Evergreen Street, Business Center Drive, Highland Avenue, and Duarte Road. As future development occurs within the plan area, it can utilize existing connection points to off-site lines, as well as modify or add connection points, depending upon the site plan. *Figure 5.15-1*, *Sanitary Sewer Plan*, provides a preliminary sewer plan; however, refined sewer layouts would be submitted as part of site plan submittals for individual development projects.

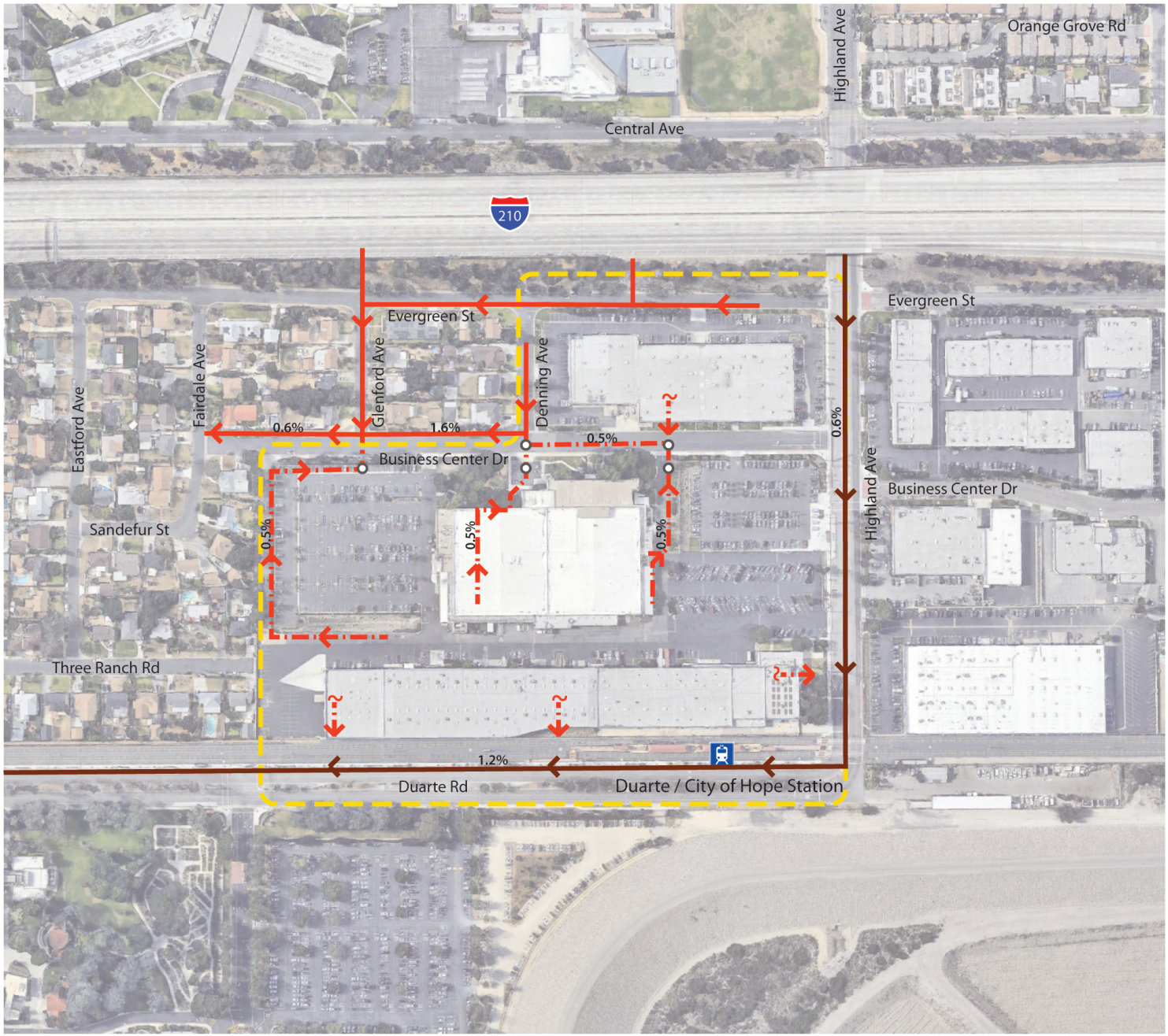
Development of the proposed amended Specific Plan would occur in phases, based on market demand; thus, any increase in demand for wastewater services would occur gradually as additional development is added to the area. However, the increase in flows associated with the proposed project has the potential to require upsizing of both the local and regional lines surrounding the site along Business Center Drive, Highland Avenue, and Duarte Road.

All new development within the Specific Plan area would be reviewed on a project-by-project basis by the City of Duarte, LACDPW, and LACSD, at which time an “area study” would be conducted to determine the available capacity of local and regional sewer lines and LACSD’s facilities to accommodate effluent from new development (refer to Mitigation Measure WW-1). Construction of any new sewers would be required to comply with the LACDPW *Sanitary Sewer Procedural Manual* and *Standard Plans* prior to acceptance into the Consolidated Sewer Maintenance District (refer to Mitigation Measure WW-2).

The City charges new developments a fee to upgrade or extend local sewer lines which would be necessary to accommodate new developments. Additionally, LACDPW reviews new developments and assesses fees based on the maintenance of local sewer lines, which would also be necessary to accommodate new development.

LACSD is authorized by the *California Health and Safety Code* to charge a fee to connect (directly or indirectly) to the sewerage system or increasing the strength or quantity of wastewater attributable to a particular parcel or operation already connected. The connection fee is a capital facilities fee that is imposed in an amount sufficient to construct an incremental expansion of the sewerage system to accommodate the proposed project. Individual development projects would be required to pay the connection fee before a permit to connect to the sewer is issued.

Therefore, implementation of Mitigation Measures WW-1 and WW-2—along with payment of applicable fees to the City, LACDPW and the LACSD—would reduce impacts to a less than significant level.



* Proposed sewer sizing and locations to be determined based on use and intensity.

Figure 5.15-1 Sewer Infrastructure Plan

Duarte Station Specific Plan Subsequent EIR

Wastewater Treatment

Development associated with the implementation of the proposed project would generate increased wastewater flows, placing greater demands on wastewater treatment facilities. The wastewater generated by the proposed project would be collected in LACSD trunk lines and conveyed for treatment to the San Jose Creek Water Reclamation Plant.

In order for LACSD to conform to the requirements of the Federal Clean Air Act (CAA), the design capacities of LACSD's wastewater treatment facilities are based on the regional growth forecast adopted by SCAG. All expansions of facilities must be sized and service phased in a manner that will be consistent with the SCAG regional growth forecast for the Los Angeles County, among others. The available capacity of treatment facilities would, therefore, be limited to levels associated with the approved growth identified by SCAG. LACSD has expressed the intent to provide service up to the levels that are legally permitted.

As indicated in *Section 7.1*, *Growth-Inducing Impacts*, the proposed project, along with other future planned projects in the area, would exceed the growth projections anticipated by SCAG in the *2016 Regional Transportation Plan/Sustainable Communities Strategy*. However, as previously noted, LACSD reviews development projects on a project-by-project basis to determine if adequate capacity exists within the wastewater treatment facilities to serve the development and if LACSD facilities would be impacted. LACSD has issued a Can and Will Serve letter for The Residences at Duarte Station (see Appendix C1). The wastewater amount generated by the proposed project represents less than one percent of the remaining capacity at the San Jose Creek Water Reclamation Plant and would not require the construction of new facilities. Therefore, because each development must obtain a can and will serve letter from LACSD documenting available capacity, project impact would be less than significant impact on the San Jose Creek Water Reclamation Plant and would not exceed wastewater treatment requirements of the RWQCB. Therefore, project implementation would result in a less than significant impact regarding wastewater treatment facilities.

Mitigation Measures:

WW-1 Each development project applicant shall conduct a sewer flow monitoring study and submit the study to the City Engineer for review and approval prior to approval of building permits. The study shall review flows at selected off-site manholes, both upstream and downstream of the point of connection, to determine the capacity of the local and regional system to accept project-related flows. The project applicant shall be responsible to implement the recommendations in the study to ensure that off-site systems operate in accordance with the Los Angeles County Department of Public Works and County Sanitation Districts of Los Angeles County standards.

WW-2 Each development project applicant shall design and construct on-site and off-site sewer lines in compliance with the Los Angeles County Public Works Department and County Sanitation Districts of Los Angeles County standards.

Level of Significance: Less Than Significant Impact with Mitigation Incorporated.

5.15.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES

DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS TO WASTEWATER CONVEYANCE AND TREATMENT FACILITIES.

Impact Analysis: Increased demand for wastewater conveyance and treatment resulting from development of the proposed project and other related cumulative projects could result in significant cumulative impacts. The degree of significance would depend upon the scale and location of the project and the timing of connection to the sewerage system. All future residential and non-residential development within the City would be reviewed on a project-by-project basis by the permitting agency and LACSD to determine the availability of adequate treatment capacity, along with the continuous assessment of capacity flows. Individual development projects would be required to verify that existing capacity exists to convey and treat the potential wastewater generated with the new development. Development projects would be subject to payment of fees prior to connecting to the City's or LACSD's facilities. Similarly, future cumulative development served by LACSD would be reviewed to ensure adequate conveyance and treatment capacity exists to serve the proposed development. Review through the LACSD's and City's development review process would reduce potential cumulative impacts to wastewater facilities to a less than significant level. The proposed project would not result in a significant cumulative impact to wastewater conveyance and treatment facilities. Impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.15.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Implementation of the proposed project would result in less than significant project and cumulative impacts related to wastewater conveyance and treatment during both construction and operation. As such, no significant unavoidable impacts would result from implementation of the amended Duarte Station Specific Plan.

5.15.7 SOURCES CITED

County Sanitation Districts of Los Angeles County (LACSD), Will Serve Letter for the Highland Avenue Apartments. December 19, 2018.

5.16 SOLID WASTE

This section analyzes project solid waste impacts and recommends mitigation measures to reduce the amount of solid waste going into landfills. Specifically, this section compares the solid waste generation of the proposed project with the capacity of the existing landfills that accept waste from municipalities and unincorporated areas within the County.

5.16.1 REGULATORY SETTING

STATE PLANS AND POLICIES

California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989 (Assembly Bill [AB] 939) required every city and county in the State to prepare a Source Reduction and Recycling Element (SRRE) to its Solid Waste Management Plan that identifies how each jurisdiction will meet the mandatory waste diversion goal of 50 percent by and after the year 2000. Subsequent legislation changed the reporting requirements and threshold, restating that source reduction as a priority. The purpose of AB 939 was to "reduce, recycle, and re-use solid waste generated in the state to the maximum extent feasible."

The term "integrated waste management" refers to the use of a variety of waste management practices to safely and effectively handle the municipal solid waste stream with the least adverse impact on human health and the environment. AB 939 established a waste management hierarchy as follows:

- Source Reduction
- Recycling
- Composting
- Transformation
- Disposal

Per Capita Disposal Measurement Act

With the passage of Senate Bill 1016 (the Per Capita Disposal Measurement System), per capita disposal rates are measured by California's Department of Resources Recycling and Recovery (CalRecycle). The new per capita disposal and goal measurement system moves the emphasis from an estimated diversion measurement number to using an actual disposal measurement number as a factor, along with evaluating program implementation efforts. These two factors will help determine each jurisdiction's progress toward achieving its AB 939 diversion goals. The 50 percent diversion requirement will now be measured in terms of per capita disposal expressed as pounds per person per day. The focus is on program implementation, actual recycling, and other diversion programs instead of estimated numbers.

Assembly Bill 341

AB 341 was passed in 2011 requiring 75 percent of all solid waste sources to be reduced, recycled, or composted by 2020. AB 341 requires commercial or public entities, that generate

more than 4 cubic yards of commercial solid waste per week, or multifamily residential dwelling developments of 5 units or more, to arrange for recycling services, on and after July 1, 2012.

The purpose of this law is to reduce greenhouse gas emissions by diverting commercial solid waste from landfills and expand opportunities for recycling in California. Each jurisdiction is required to implement a commercial solid waste recycling program that consists of education, outreach, and monitoring of businesses that is designed to divert commercial solid waste from businesses. CalRecycle will review each jurisdictions program as part of its AB 939 review conducted every two to four years.

Organics Recycling

In October 2014, Governor Brown signed AB 1826 (Chapter 727, Statutes of 2014), requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the State must implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units (although multifamily dwellings are not required to have a food waste diversion program). Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. This law phases in the mandatory recycling of commercial organics over time, while also offering an exemption process for rural counties. In particular, the minimum threshold of organic waste generation by businesses decreases over time, which means that an increasingly greater proportion of the commercial sector will be required to comply.

CITY OF DUARTE

City of Duarte Municipal Code

Solid waste disposal within the City is subject to the requirements established in *Duarte Municipal Code* Chapter 6.14, Solid Waste Disposal. *Municipal Code* Chapter 6.14 adopts Ordinance 11,886 of the County of Los Angeles, entitled “An ordinance establishing the Solid Waste Ordinance of the County of Los Angeles and amending the Administrative Code and Business License Ordinance relating to the regulation of solid waste handling and disposal.” *Los Angeles County Municipal Code* Division 4, Solid Waste, enforces regulations pertaining to the minimum standards for solid waste handling and disposal and creates a fee structure for solid waste facilities, waste collectors, waste recovery operations, and waste collection trucks.

City of Duarte Source Reduction and Recycling Element

To meet the requirements of the California Integrated Waste Management Act, the City of Duarte adopted an SRRE. The SRRE describes policies and programs that will be implemented by the City to achieve waste disposal reductions. Duarte residents are encouraged to attend composting classes, recycle regularly using their blue 60-gallon trash barrels, recycle green waste using their green 60-gallon barrels, and dispose of household hazardous waste products properly. Some of the services provided are curbside collection, senior discounts, free senior/disabled pull-out service, street sweeping, and Christmas tree recycling.

5.16.2 ENVIRONMENTAL SETTING

Burrtec Waste Industries, Inc. provides contracted solid waste collection service to the City of Duarte, including the project site. Residential refuse collection, including recyclables and green waste, is automated and provided once a week. Burrtec provides all residential customers with containers for refuse, recyclables, and green waste. Commercial refuse bins and collection vary depending upon the size of bins needed and frequency of collection.

In 2003, the City became a member of the Los Angeles Area Integrated Waste Management Authority (LAAIWMA) regional agency, which allows the City to measure solid waste diversion jointly with the other 13 members of the regional agency. Jointly reporting disposal and diversion rates averages the diversion among the participating jurisdictions. Regional agencies can report diversion and disposal rates as one entity instead of by jurisdiction.

Waste collected from the LAAIWMA is disposed of at a variety of facilities; refer to *Table 5.16-1*, *Disposal Facilities*, which shows the amount of solid waste disposed, permitted throughput, permitted and remaining capacities, and anticipated closure dates for each disposal facility serving the LAAIWMA region. The particular facility used for waste disposal depends upon the nature of the waste stream and limitations on daily disposal tonnage at each facility. In 2018, LAAIWMA disposed of approximately 5,054,530 tons of solid waste. Solid waste collected from the LAAIWMA is primarily disposed of at Sunshine Canyon City/County Landfill (1,280,669 tons), El Sobrante Landfill (991,099 tons), Chiquita Canyon Sanitary Landfill (895,734 tons), and Simi Valley Landfill and Recycling Center (573,024 tons); refer to *Table 5.16-1*.

Table 5.16-1
Disposal Facilities

Facility	Amount Disposed from LAAIWMA (tons)[1]	Permitted Throughput (tons/day)[2]	Permitted Capacity (cubic yards)[2]	Remaining Capacity (cubic yards)[2]	Anticipated Closure Date[2]
American Avenue Disposal Site	6	2,200	32,700,000	29,358,535	8/31/2031
Antelope Valley Public Landfill	272,691	5,548	30,200,000	17,911,225	4/1/2044
Azusa Land Reclamation Co. Landfill	140,941	8,000	80,571,760	51,512,201	1/1/2045
Badlands Sanitary Landfill	16,890	4,800	34,400,000	15,748,799	1/1/2022
Bakersfield Metropolitan (Bena) SLF	608	4,500	53,000,000	32,808,260	4/1/2046
Barstow Sanitary Landfill	1	1,500	80,354,500	71,481,660	5/1/2071
Calabasas Landfill	158,920	3,500	69,300,000	14,500,000	01/01/2029
Chemical Waste Management, Inc.Unit B-17	231	2,000	18,400,000	17,468,595	1/1/2030
Chiquita Canyon Sanitary Landfill	895,734	6,000	63,900,000	8,617,126	11/24/2019
Clean Harbors Buttonwillow LLC	4,938	10,500	13,250,000	N/A	1/1/2040
Covanta Stanislaus, Inc.	N/A	1,700	N/A	N/A	N/A
Commerce Refuse-To-Energy Facility	N/A	1,000	N/A	N/A	N/A
El Sobrante Landfill	991,099	16,054	209,910,000	143,977,170	1/1/2051
Fink Road Landfill	0	2,400	14,640,000	7,184,701	12/1/2023
Frank R. Bowerman Sanitary LF	305,179	11,500	266,000,000	205,000,000	12/31/2053
Guadalupe Sanitary Landfill	44	1,300	28,600,000	11,055,000	1/1/2048
H.M. Holloway Inc.	1,090	2,000	12,600,000	7,522,934	12/1/2030
Kettleman Hills – B18 Nonhaz Codisposal	5	8,000	10,700,000	6,000,000	N/A
Lamb Canyon Sanitary Landfill	49	5,000	19,242,950	38,935,653	4/1/2029
Lancaster Landfill and Recycling Center	17,410	5,100	27,700,000	14,514,648	3/1/2044
Lehigh Southwest Cement Company	5,755	350	N/A	N/A	N/A

Table 5.16-1
Disposal Facilities

Facility	Amount Disposed from LAAIWMA (tons)[1]	Permitted Throughput (tons/day)[2]	Permitted Capacity (cubic yards)[2]	Remaining Capacity (cubic yards)[2]	Anticipated Closure Date[2]
McKittrick Waste Treatment Site	4,189	3,500	5,474,900	769,790	12/31/2059
Mid-Valley Sanitary Landfill	157,041	1,500	49,000	N/A	N/A
Olinda Alpha Sanitary Landfill	225,392	8,000	148,800,000	34,200,000	12/31/2021
Potrero Hills Landfill	2	4,330	83,100,000	13,872,000	2/14/2048
Prima Deshecha Sanitary Landfill	40,141	4,000	172,100,000	134,300,000	12/31/2102
San Timoteo Sanitary Landfill	24,592	2,000	20,400,000	11,402,000	1/1/2043
Savage Canyon Landfill	10,521	3,350	19,337,450	9,510,833	12/31/2055
Scholl Canyon Landfill	3,238	3,400	58,900,000	9,900,000	4/1/2030
Simi Valley Landfill & Recycling Center	573,024	9,250	119,600,000	88,300,000	1/31/2052
Southeast Resource Recovery Facility	N/A	2,240	N/A	N/A	N/A
Sunshine Canyon City / County Landfill	1,280,669	12,100	140,900,000	77,900,000	10/31/2037
Victorville Sanitary Landfill	4,128	3,000	83,200,000	81,510,000	10/1/2047
West Central Landfill	3	700	13,115,844	6,589,044	3/1/2032
Total	**5,054,530**	**160,322**	**1,930,446,404**	**1,161,850,174**	N/A

1. CalRecycle, *Jurisdiction Disposal by Facility*, Disposal during 2018 for Los Angeles Area Integrated Waste Management Authority. Accessed July 4, 2019 at https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Destination/DisposalByFacility.
2. CalRecycle, *Facility/Site Search*. https://www2.calrecycle.ca.gov/swfacilities/Directory/, accessed July 3, 2019.

As indicated in *Table 5.16-1*, there is approximately 61 percent remaining capacity at the disposal facilities currently receiving waste generated from the region.

According to CalRecycle, in 2017 the LAAIWMA disposed of approximately 5,074,708.09 tons of solid waste.[1] This represents 5.6 pounds per resident per day and 13.3 pounds per employee per day, which is less than the target of 7.1 pounds per resident per day and 17.5 pounds per employee per day.[2] For 2017, the LAAIWMA implemented 55 jurisdiction waste diversion programs within the categories of Composting, Facility Recovery, Household Hazardous Waste, Policy Incentives, Public Education, Recycling, Source Reduction, Special Waste Materials, and Transformation.[3] *Table 5.16-2*, *Existing Solid Waste Generation,* shows the estimated solid waste generation associated with the existing development on the project site.

As shown in *Table 5.16-2*, existing development within the project site currently generates 9,993 pounds per day of solid waste before recycling and other waste diversion activities. This represents 6.2 percent of the total permitted throughput of solid waste for the LAAIWMA regional area in 2018 (160,322 tons/day).

[1] CalRecycle, *Jurisdiction Diversion/Disposal Rate Detail, Los Angeles Area Integrated Waste Management Authority*, https://www2.calrecycle.ca.gov/LGCentral/%20DiversionProgram/JurisdictionDiversionDetail/621/Year/2017, accessed July 4, 2019.

[2] CalRecycle, *Jurisdiction Diversion/Disposal Rate Summary (2007-Current), Los Angeles Area Integrated Waste Management Authority*, https://www2.calrecycle.ca.gov/LGCentral/DiversionProgram/JurisdictionDiversionPost2006, accessed July 4, 2019.

[3] CalRecycle, *Diversion Program System, Jurisdiction Waste Diversion Program Summary, 2017, Los Angeles Area Integrated Waste Management Authority*, https://www2.calrecycle.ca.gov/LGCentral/%20DiversionProgram/JurisdictionSummary/621/Year/2017, accessed July 4, 2019.

Table 5.16-2
Existing Solid Waste Generation

Land Use	Existing Development	Generation Rate[1]	Solid Waste Generation (pounds/day)
Industrial	114,599 SF	62.5 lbs/1,000 sf/day	7,162
Warehouse	199,356 SF	1.42/100 sf/day	2,831
Total			**9,993**

DU = dwelling unit; SF= square feet; lbs = pounds

1. Generation rates obtained from the CalRecycle official website, https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates, accessed July 4, 2019.

CalRecycle projected landfill capacity countywide in the *Remaining Lifetime Landfill Capacity Analysis for Los Angeles County* (CalRecycle 2011). Under a "medium growth" scenario, CalRecycle projects 32 million tons of remaining capacity in 2025. Under a "medium growth" scenario, the following assumptions apply: (1) solid waste amounts increase due to population growth and medium economic growth; (2) no new facilities are built beyond those already planned; (3) no increase in recycling; and (4) current State regulations and policies continue without change.

5.16.3 SIGNIFICANCE THRESHOLD CRITERIA

The issues presented in the Initial Study Environmental Checklist (*CEQA Guidelines* Appendix G) have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; and/or

- Comply with Federal, State, and local management and reduction statutes and regulations related to solid waste.

Based on these standards, the effects of the proposed project have been categorized as either a "less than significant impact" or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

5.16.4 PROJECT IMPACTS AND MITIGATION MEASURES

SOLID WASTE

IMPLEMENTATION OF THE PROPOSED PROJECT WOULD GENERATE SOLID WASTE THAT COULD INCREMENTALLY DECREASE THE CAPACITY AND LIFESPAN OF LANDFILLS.

Impact Analysis: Implementation of the proposed project would involve the development of residential and non-residential uses within the plan area. *Table 5.16-3*, *Estimated Net Change in Solid Waste Generation*, shows the estimated net increase in solid waste generation associated with proposed future development.

Table 5.16-3
Estimated Net Change in Solid Waste Generation

Land Use	Proposed Development	Generation Rate[1]	Solid Waste Generation (pounds/day)
Existing			
Industrial	114,599 SF	62.5 lbs/1,000 sf/day	7,162
Warehouse	199,356 SF	1.42/100 sf/day	2,831
		Total	***9,993***
Proposed			
Residential	1,400 DU	8.6 lbs/du/day	12,040
Office	100,000 SF	0.006 lbs/sf/day	600
Retail/Restaurant	12,500 SF	0.046 lbs/sf/day	575
		Total	***13,215***
		Net Change (Proposed less Existing)	**+3,222**

DU = dwelling unit; SF= square feet; lbs = pounds

1. CalRecycle, Waste Characterization, Estimated Solid Waste Generation and Disposal Rates, https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates, accessed July 4, 2019.

As shown in *Table 5.16-3*, development associated with implementation of the proposed project would generate 3,222 more pounds per day of solid waste, or 588 more tons per year, relative to existing uses and before recycling and other waste diversion activities. This represents a 32.2 percent daily increase when compared to existing conditions. Future development within the Specific Plan area would be required to comply with applicable State and local regulations, requiring the amount of waste disposed at landfills to be reduced by at least by at least 75 percent, which would reduce the environmental impact. Thus, impacts associated with solid waste generation would be less than significant.

As stated above, CalRecycle projects 32 million tons of remaining capacity in 2025. Therefore, generation of 588 tons of solid waste would represent a very small percentage of the County's landfill capacity, and landfills with sufficient permitted capacity are available to serve the project's solid waste disposal needs. Therefore, the proposed project would have a less than significant impact on landfill capacity. In addition, the City, working with private providers, will continue to implement a variety of solid waste reduction, recycling, and re-use measures to

meet its obligation under AB 939 and AB 341. These efforts will be coordinated with waste management programs; therefore, future landfill diversion rates may further improve.

Buildout of the Duarte Station Specific Plan would involve the demolition of approximately 313,955 sf of existing structures. However, a large percentage of construction and demolition (C&D) debris can be recycled.

The City of Duarte's Construction and Demolition Waste Diversion Program requires that at least 50 percent of all material generated during a large construction and/or demolition project be diverted from landfilling (i.e. recycled or reused). The proposed project would comply with Federal, State, and local statutes and regulations related to solid waste. Therefore, with implementation of this program, buildout of the project would result in less than significant solid waste impacts due to construction and demolition activities.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.16.5 CUMULATIVE IMPACTS AND MITIGATION MEASURES

DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE DEVELOPMENT COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS RELATED TO SOLID WASTE DISPOSAL SERVICES AND LANDFILL CAPACITY.

Impact Analysis: Development associated with the cumulative projects would result in an overall increase in solid waste generation requiring disposal at landfill facilities. However, individual development projects would be required to comply with State and local regulations requiring the amount of solid waste disposed of at landfills to be reduced by at least 75 percent. The proposed project would not cumulatively contribute to potential solid waste impacts, as development associated with the proposed project would reduce the amount of solid waste requiring disposal at landfill facilities when compared to existing conditions. Thus, impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.16.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Implementation of the proposed project would result in less than significant project and cumulative impacts related to solid waste. As such, no significant unavoidable impacts would result from implementation of the Duarte Station Specific Plan.

5.16.7 SOURCES CITED

City of Duarte, Construction and Demolition Deposit Program Handbook, accessed July 19, 2019 at https://www.accessduarte.com/dept/cd/planning/green.htm.

City of Duarte, *Duarte General Plan Update Final Environmental Impact Report*, August 2007.

City of Duarte, *Refuse and Recycling*, https://www.accessduarte.com/dept/manager_office/refuse_n_recycling/default.htm, accessed July 4, 2019.

CalRecyle, *Countywide Disposal Destination*, Los Angeles County, 2018. Accessed July 3, 2019 at https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Destination/CountywideDisposal.

CalRecycle, *Diversion Program System, Jurisdiction Waste Diversion Program Summary,* 2017, Los Angeles Area Integrated Waste Management Authority, https://www2.calrecycle.ca.gov/LGCentral/%20DiversionProgram/JurisdictionSummary/621/Year/2017, accessed July 4, 2019.

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CalRecycle, *Jurisdiction Diversion/Disposal Rate Detail*, Los Angeles Area Integrated Waste Management Authority, https://www2.calrecycle.ca.gov/LGCentral/%20DiversionProgram/JurisdictionDiversionDetail/621/Year/2017, accessed July 4, 2019.

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CalRecycle. *Remaining Lifetime Landfill Capacity Analysis for Los Angeles County*, 2011. Sacramento, CA. Website accessed on July 19, 2019. http://www.calrecycle.ca.gov/FacIT/Facility/Charts/DisposalGap/19DispLife.pdf.

CalRecycle, *Waste Characterization, Estimated Solid Waste Generation and Disposal Rates*, https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates, accessed July 4, 2019.

6.0 ALTERNATIVES

6.1 INTRODUCTION

CEQA requires that an EIR include an analysis of a range of project alternatives that could feasibly attain most of the basic project objectives, while avoiding or substantially lessening any of the significant effects identified for the proposed project. The Lead Agency must disclose its reasoning for selecting each alternative. The Lead Agency must also identify any alternatives that were considered, but rejected as infeasible during the scoping process, and disclose the reasons for the exclusion. The range of alternatives is governed by a "rule of reason, which requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. Specifically, *CEQA Guidelines* Section 15126.6(a) requires that:

> *"An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selection of a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason."*

CEQA Guidelines Section 15126.6(f)(1) provides the following information regarding the "feasibility" of a project alternative:

> *"Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives."*

Within every EIR, the *CEQA Guidelines* require that a "No Project" Alternative is analyzed. The "No Project" Alternative allows decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. In addition, the identification of an "Environmentally Superior" Alternative is required. The "No Project" Alternative may be the "Environmentally Superior" Alternative to the proposed project based on the minimization or avoidance of physical environmental impacts. However, the "No Project" Alternative must also achieve most of the basic objectives of the projects in order to be considered the "Environmentally Superior" Alternative. Thus, the *CEQA Guidelines* require that if the "Environmentally Superior" Alternative is the "No Project" Alternative, the EIR shall identify a superior alternative from the remaining alternatives analyzed.

To provide background regarding the selection or rejection of a project alternative, the discussion below summarizes project objectives and describes the significant and unavoidable impacts found to occur upon project implementation.

Throughout the following analysis, impacts of the alternatives are analyzed for each of the issue areas examined in Section 5.0 of this EIR. In this manner, each alternative can be compared to the proposed action on an issue-by-issue basis.

6.2 ALTERNATIVES TO BE ANALYZED

This analysis focuses on alternatives capable of eliminating significant adverse environmental effects or reducing them to less than significant levels, even if these alternatives would impede, to some degree, the attainment of the proposed project objectives. The alternatives to the proposed project under consideration within this EIR consist of:

- Existing Zoning/No Project
- All Residential
- Adaptive Reuse

Table 6-1, *Comparison of Proposed Project and Alternatives* compares the proposed project to the alternatives.

Table 6-1
Comparison of Proposed Project and Alternatives

Land Use	Proposed Project Development Scenario	Alternative One: Existing Zoning Alternative/No Project	Alternative Two: All Residential Alternative	Alternative Three: Adaptive Reuse Alternative[1]
Retail/Restaurant (SF)	12,500	12,000		12,500
Office (SF)	100,000	400,000		150,000
High Density Residential (DU)	1,400	475	1,700	700
Warehouse/Industrial (SF)				
Hotel (Rooms)		250		250
TOTAL	**1,400 DU 112,500 SF**	**475 DU 412,000 SF 250 Rooms**	**1,700 DU**	**700 DU 162,500 SF 250 Rooms**

SF = Square Feet; DU = Dwelling Unit
[1]For the purposes of the impact analysis, a total of 162,500 sf would be available for adaptive reuse.

6.3 SUMMARY OF PROJECT GOALS AND OBJECTIVES

As stated above, an EIR must only discuss in detail an alternative that is capable of feasibly attaining most of the basic objectives associated with the action, while at the same time avoiding or substantially lessening any of the significant effects associated with the proposed project. Thus, a summary of the goals and objectives as provided within Section 3.0, Project Description, is restated below.

1. GOAL: A MIXTURE OF LAND USES

a. *Objective*: Develop a flexible mixed-use land use pattern that incorporates residential opportunities with options for retail, office, research and development, and hospitality, and that will effectively complement each other and provide maximum land use efficiency, while providing economic and social benefits to all users.

b. *Objective*: Program retail uses that are neighborhood and transit station serving.

2. GOAL: AN ECONOMICALLY FEASIBLE DEVELOPMENT

a. *Objective*: Provide opportunities for adaptive reuse of existing buildings, and design new non-residential spaces with flexibility to allow for shifts in market demand and allow options throughout various economic cycles and scenarios.

b. *Objective*: Create a range of residential unit types that will be accessible to residents of all income levels.

c. *Objective*: Provide residential opportunities to assist the City of Duarte in meeting its Regional Housing Needs Allocation (RHNA) objectives.

d. *Objective*: Encourage the development of a hotel to create local jobs, support City of Hope lodging needs, provide community meeting space, and increase tax revenues within the community.

3. GOAL: PEDESTRIAN-ORIENTED DEVELOPMENT

a. *Objective*: Create a development pattern that effectively provides for efficient and comfortable pedestrian movement and connectivity throughout the site.

b. *Objective*: Give precedence to pedestrians and foster multimodal transportation with bicycle, pedestrian, and transit access.

c. *Objective*: Provide supportive commercial uses and an active street frontage on Highland Avenue that facilitates a pedestrian friendly experience and links to other centers in the city.

4. GOAL: SUPERIOR URBAN DESIGN

a. *Objective*: Allow for building types that will achieve desired density ranges to establish a critical mass of residents and employees to support the transit station, maximize transit ridership, and support retail spaces and local employment centers.

b. *Objective*: Minimize setbacks to allow buildings to frame and activate the street.

c. *Objective*: Use trees, shrubs and other landscape and hardscape materials along streets to provide shading, screening, and human scale.

d. *Objective*: Promote high quality architectural design to establish a design character that creates an identity in the Duarte Station Specific Plan area.

e. *Objective*: Establish context-based standards and guidelines that address specific design concerns while also allowing for creativity and flexibility in development projects.

5. GOAL: OUTDOOR SPACES

a. *Objective*: Provide outdoor spaces—such as an urban green space, public plaza, promenade, or linear park—that provide a transition between the station and the surrounding transit village uses and facilitates pedestrian movement and/or public gathering.

b. *Objective:* Encourage rooftop open space areas to increase the amount and the quality of open space while taking advantage of quality views from the site.

c. *Objective:* Program outdoor space(s) to accommodate the needs of various user groups, such as residents, employees, commuters, and visitors.

6. GOAL: AWARENESS OF SURROUNDING DEVELOPMENT

a. *Objective*: Provide opportunities for new goods and services uses to support surrounding residents, students, and employees within and around the Duarte Station Specific Plan area.

b. *Objective*: Provide for appropriate transitions with adjacent existing lower-intensity residential uses through height limits, articulation and modulation requirements, design guidelines, and landscape requirements.

c. *Objective:* Upgrade the existing streetscape infrastructure and solidify pedestrian connections between the Plan Area, Duarte Station, and critical areas of interest around the site.

d. *Objective*: Consider the future needs of the City of Hope as part of land use planning.

7. GOAL: SUSTAINABLE DEVELOPMENT PRACTICES

a. *Objective:* Encourage transit-oriented development that supports multimodal opportunities and adhere to Levels of Sustainable Development Practices as prescribed in Chapter 19.52 of the City's Development Code.

b. *Objective:* Ensure that construction and demolition waste is disposed of in accordance with all City regulations and standards.

c. *Objective:* Consider building layout, siting, and building design to not preclude alternative energy production on-site.

d. *Objective:* Maximize energy efficiency through local and state standards, indoor environmental quality, energy-efficient lighting, building orientation, shading, and implementation of LEED principles (or similar) and/or attaining LEED Certification.

e. *Objective:* Reduce heat island effect through site planning and selection of landscape and hardscape materials.

f. *Objective:* Incorporate water-efficient design features such as permeable surfaces, collection devices, biofiltration devices, green rooftops, cisterns, berms and swales, and/or green rooftops.

g. *Objective:* Include drought-tolerant and climate-appropriate landscape within the Specific Plan area.

6.4 SUMMARY OF SIGNIFICANT UNAVOIDABLE IMPACTS

Pursuant to *CEQA Guidelines* Section 15126.6(a), an EIR shall describe a range of reasonable alternatives to the project which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. Only those impacts found significant and unavoidable are relevant in making the final determination of whether an alternative is environmentally superior or inferior to the proposed project.

Based on the analysis provided within Section 5.0, Environmental Analysis of this EIR, the proposed project would result in significant unavoidable impacts in the following environmental issue areas:

Traffic: Project and cumulative project impacts at the following intersection: Buena Vista Street/Duarte Road

Air Quality: Plan Consistency - exceedance of growth assumptions in the SCAQMD *2016 AQMP*

Noise: Project short-term construction noise impacts

6.5 ALTERNATIVE ONE: EXISTING ZONING/NO PROJECT

DESCRIPTION OF ALTERNATIVE

Pursuant to *CEQA Guidelines* Section 15126.6(e)(2), a No Project Alternative must be analyzed within the EIR. The No Project Alternative should discuss what would be reasonably expected to occur in the foreseeable future if the proposed project were not approved, based on current plans and consistent with available infrastructure and community services. In the context of this EIR, the Existing Zoning Alternative is the No Project Alternative in compliance with *CEQA Guidelines* Section 15126.6(e)(2) and assumes that the amended Duarte Station Specific Plan would not be implemented.

The project site would be governed by the existing Duarte Station Specific Plan, which allows 475 residential units, 400,000 square feet (sf) of office space, 12,000 sf of retail, and a 250-room hotel.

Under this alternative, no development is proposed for the site as well. The project site would remain unaltered and the existing on-site industrial uses would continue to operate as they do currently until such time as property owners choose to redevelop the property consistent with the existing adopted Duarte Station Specific Plan.

IMPACT COMPARISON TO THE PROPOSED PROJECT

Land Use

The Existing Zoning Alternative would not require a General Plan or Specific Plan for the site. This alternative would allow less housing than the proposed project, thereby making it more difficult for the City to meet its RHNA allocations for this RHNA cycle and the next. In this regard, land use impacts would be greater under this alternative.

The proposed uses would be similar to those associated with the proposed project, which have been found to be compatible with surrounding land uses and consistent with long-range plans. In this regard, impacts would be similar to the proposed project (less than significant).

Aesthetics

The Existing Zoning Alternative would allow for new development within the Specific Plan area, consistent with the existing Specific Plan. Aesthetic improvements, such as development consistent with development regulations and design standards/guidelines could occur. However, the existing Specific Plan does not respond to current market trends for development; thus, new development is less likely under this alternative than the proposed revised Duarte Station Specific Plan. The Existing Zoning Alternative would not introduce new landscaping and visual improvements associated with new development consistent in architectural character in the form of a promenade along Highland Avenue, which would link pedestrians to the Metro Station and surrounding uses. This alternative is considered environmentally inferior to the proposed project in this regard.

Population and Housing

The Existing Zoning Alternative would allow for fewer housing units but more office space than the proposed project. This alternative could constrain the City's ability to meet its RHNA allocation, as additional housing would be limited to 475 new units. Since this alternative could constrain the City's ability to meet current Housing Element targets and the anticipated RHNA 2021 allocation, this alternative is considered environmentally inferior to the proposed project.

Traffic

On a per acre basis, residential uses generate fewer daily trips than retail, restaurant, and office uses. Therefore, under this alternative, which involves more office, hotel, and retail uses, more daily trips would likely occur compared to the net total trips for the proposed project (including the trip discounts for on-site trip capture, location near transit centers/light rail stations, and pass-by reductions for retail). However, there is the potential that the distribution of project-related trips would vary slightly from the proposed project. With the increase in daily trips, it is estimated that the significant unavoidable impacts at Buena Vista Street/Duarte Road would continue to occur. Mitigation measures would still be required to reduce impacts, as with the proposed project. Thus, the Existing Zoning Alternative would have similar impacts as the proposed project since significant traffic impacts would not be avoided.

Air Quality

Short-term construction and long-term operational (stationary source) impacts would be similar to the proposed project under this alternative, given that existing development within the entire plan area would be removed and the site would be redeveloped with new uses. Long-term operational (mobile source) impacts would be greater given that this alternative would generate more daily trips compared to the proposed project.

Most air quality impacts were identified as less than significant or less than significant with the imposition of mitigation measures for the proposed project, with the exception of project plan consistency with respect to the exceedance of growth assumptions in the SCAQMD *2016 AQMP*, which was determined to be a significant unavoidable impact for the proposed project. This impact would remain under this alternative since development on this site, combined with other projects such as the Duarte Town Center and City of Hope Master Plan, since both employment and housing growth assumptions would be exceeded with implementation of this alternative. This alternative would produce fewer new housing units but more employment than the proposed project. Implementation of the Existing Zoning Alternative would be inconsistent with the regional air quality plan, similar to the proposed project. Because additional traffic may be associated with this alternative, the Existing Zoning Alternative would be considered environmentally inferior to the proposed project.

Greenhouse Gas Emissions

Greenhouse gas emissions from construction and operational activities would occur with the Existing Zoning Alternative to a greater degree than the proposed project due to the increase in daily trips associated with additional office and commercial uses. This alternative's combined construction and operational greenhouse gas emissions would also result in greater significant impacts from a cumulative perspective. Therefore, the Existing Zoning Alternative would be

environmentally inferior to the proposed project regarding greenhouse gas emissions associated with increased mobile emissions.

Noise

Short-term construction and long-term operational (stationary source) impacts would be similar to the proposed project under this alternative, given that the entire plan area could be redeveloped. Long-term traffic noise impacts could be greater given that this alternative generates more daily trips compared to the proposed project. Night-time operational noise could be reduced since the alternative would have fewer residences/residents and thus reduced potential for noise.

For the proposed project, noise impacts were identified as less than significant or less than significant with the imposition of mitigation measures, with the exception of short-term construction impacts, which were concluded to be significant unavoidable impacts. This alternative is anticipated to be similar with respect to construction noise impacts. The Existing Zoning Alternative would be considered comparable to the proposed project.

Hazards and Hazardous Materials

Short-term construction-related impacts involving the potential for accidental release of hazardous materials (i.e., asbestos containing materials, lead-based paints, underground storage tanks) would occur with the Existing Zoning Alternative, as buildings/improvements would be demolished/removed and ground-disturbing activities would occur. Long-term impacts involving accidental release of hazardous materials from spills during storage or transport could occur. The proposed project includes significantly more residential uses, which generally use or produce less hazardous materials than office, research and development, and other commercial uses. All potential impacts associated with the proposed project were concluded to be either less than significant or less than significant with mitigation. Since the Existing Zoning Alternative allows for more office, lab, and commercial uses than the proposed project, the Existing Zoning Alternative could have the potential to produce or use hazardous materials and thus would be considered environmentally inferior to the proposed project.

Hydrology, Drainage, and Water Quality

This alternative would result in similar amounts of impervious surface area on-site. As such, impacts regarding drainage, hydrology, floodplains, and water quality are anticipated to be comparable to the proposed project. Therefore, hydrology and drainage impacts would be remain less than significant (same as the proposed project); however, mitigation measures would still be required to reduce water quality impacts to a less than significant level, in compliance with NPDES permit requirements. Thus, the Existing Zoning Alternative would be considered comparable to the proposed project.

Public Services and Utilities

Relative to the proposed project, this alternative would result in a lower demand for fire and police protection services since fewer residential units would be produced. Use of water and wastewater facilities would be comparable since facilities would be sized to accommodate demand. The alternative would generally result in higher demand for electricity and natural gas, as well as higher solid waste generation, than the proposed project due to the additional allowed commercial and office uses. As is the case with the proposed project, all public service and utility impacts

would be less than significant with implementation of applicable mitigation measures, including payment of fees to affected agencies. Thus, the Existing Zoning Alternative would be considered generally comparable to the proposed project with respect to public services and facilities impacts.

ABILITY TO MEET PROJECT GOALS

Under the Existing Zoning Alternative, the proposed residential, retail, restaurant, and office uses could be developed, but in varying degrees of intensity compared to the proposed project.

1. GOAL: A MIXTURE OF LAND USES

a. *Objective*: Develop a flexible mixed-use land use pattern that incorporates retail, office, hospitality, and residential opportunities that will effectively complement each other and provide maximum land use efficiency, while providing economic and social benefits to all users.

b. *Objective*: Program retail uses that are neighborhood- and transit-station serving.

The Existing Zoning Alternative meets the goal of allowing for a mix of land uses and allows for retail uses that are neighborhood and transit-station serving, meeting Objectives a and b. However, the proposed project updates the specific plan allowances for uses to be consistent with current market trends. Thus, while this alternative meets the objectives, the proposed project is more likely to encourage development consistent with the City's goals for a transit-oriented station area.

2. GOAL: AN ECONOMICALLY FEASIBLE DEVELOPMENT

a. *Objective*: Provide opportunities for adaptive reuse of existing buildings, and design new non-residential spaces with flexibility to allow for shifts in market demand and allow options throughout various economic cycles and scenarios.

b. *Objective*: Create a range of residential unit types that will be accessible to residents of all income levels.

c. *Objective*: Provide residential opportunities to assist the City of Duarte in meeting its Regional Housing Needs Allocation (RHNA) objectives.

d. *Objective*: Encourage the development of a hotel to create local jobs, support City of Hope lodging needs, provide community meeting space, and increase tax revenues within the community.

The Existing Zoning Alternative partially meets this goal, as range of residential types would be provided for, as well as hotel uses. Thus, the Existing Zoning Alternative meets Objectives b, c and d. However the Existing Zoning Alternative would not easily accommodate the flexible adaptive reuse of existing buildings. Thus, the Existing Zoning Alternative does not meet Objective a.

3. GOAL: PEDESTRIAN-ORIENTED DEVELOPMENT

a. *Objective*: Create a development pattern that effectively provides for efficient and comfortable pedestrian movement and connectivity throughout the site.

b. *Objective*: Give precedence to pedestrians and foster multimodal transportation with bicycle, pedestrian, and transit access.

c. *Objective*: Provide supportive commercial uses and an active street frontage on Highland Avenue that facilitates a pedestrian friendly experience and links to other centers in the city.

The Existing Zoning Alternative meets Objectives a and b of the goal. The existing Specific Plan includes provisions that foster multimodal transportation and that increase connectivity to and throughout the site. However, the Existing Zoning Alternative would not meet Objective c, as the existing plan does not require specific attention paid to Highland Avenue.

4. GOAL: SUPERIOR URBAN DESIGN

a. *Objective*: Allow for building types that will achieve desired density ranges to establish a critical mass of residents and employees to support the transit station, maximize transit ridership, and support retail spaces and local employment centers.

b. *Objective*: Minimize setbacks to allow buildings to frame and activate the street.

c. *Objective*: Use trees, shrubs and other landscape and hardscape materials along streets to provide shading, screening, and human scale.

d. *Objective*: Promote high quality architectural design to establish a design character that creates an identity in the Duarte Station Specific Plan area.

e. *Objective*: Establish context-based standards and guidelines that address specific design concerns while also allowing for creativity and flexibility in development projects.

The Existing Zoning Alternative would meet all objectives of this goal.

5. GOAL: OUTDOOR SPACES

a. *Objective*: Provide outdoor spaces—such as an urban green space, public plaza, promenade, or linear park—that provide a transition between the station and the surrounding transit village uses and facilitates pedestrian movement and/or public gathering.

b. *Objective:* Encourage rooftop open space areas to increase the amount and the quality of open space while taking advantage of quality views from the site.

c. *Objective:* Program outdoor space(s) to accommodate the needs of various user groups, such as residents, employees, commuters, and visitors.

The alternative would meet Objectives a and c of this goal, as plazas and outdoor spaces are included as provisions of the existing Specific Plan. However, the existing specific plan does not encourage outdoor rooftop areas; thus, it does not meet Objective b.

6. GOAL: AWARENESS OF SURROUNDING DEVELOPMENT

a. *Objective*: Provide opportunities for new goods and services uses to support surrounding residents, students, and employees within and around the Duarte Station Specific Plan area.

b. *Objective*: Provide for appropriate transitions with adjacent existing lower-intensity residential uses through height limits, articulation and modulation requirements, design guidelines, and landscape requirements.

c. *Objective:* Upgrade the existing streetscape infrastructure and solidify pedestrian connections between the Plan Area, Duarte Station, and critical areas of interest around the site.

d. *Objective*: Consider the future needs of the City of Hope as part of land use planning.

The Existing Zoning Alternative meets this goal. The existing Specific Plan includes provisions to generally comply with all of the Objectives.

7. GOAL: SUSTAINABLE DEVELOPMENT PRACTICES

a. *Objective:* Encourage transit-oriented development that supports multimodal opportunities and adhere to Levels of Sustainable Development Practices as prescribed in Chapter 19.52 of the City's Development Code.

b. *Objective:* Ensure that construction and demolition waste is disposed of in accordance with all City regulations and standards.

c. *Objective:* Consider building layout, siting, and building design to not preclude alternative energy production on-site.

d. *Objective:* Maximize energy efficiency through local and state standards, indoor environmental quality, energy-efficient lighting, building orientation, shading, and implementation of LEED principles (or similar) and/or attaining LEED Certification.

e. *Objective:* Reduce heat island effect through site planning and selection of landscape and hardscape materials.

f. *Objective:* Incorporate water-efficient design features such as permeable surfaces, collection devices, biofiltration devices, green rooftops, cisterns, berms and swales, and/or green rooftops.

g. *Objective:* Include drought-tolerant and climate-appropriate landscape within the Specific Plan area.

The Existing Zoning Alternative meets this goal. The existing Specific Plan includes provisions to comply with Objectives a through g.

6.6 ALTERNATIVE TWO: ALL RESIDENTIAL

DESCRIPTION OF ALTERNATIVE

Alternative Two would include only high-density residential at a density of up to 90 dwelling units per acre, yielding a total of up to 1,700 dwelling units. It is assumed that this alternative would have similar acreages devoted to recreation/open space and roads as the proposed project.

IMPACT COMPARISON TO THE PROPOSED PROJECT

Land Use

The All Residential alternative would involve new development within the Specific Plan area and would still require an amendment to the General Plan and Duarte Station Specific Plan for the site, similar to the proposed project. The All Residential alternative would create a Specific Plan for future development of the site and would provide for appropriate pedestrian-friendly design to encourage use of the Gold Line as a primary mode of travel, as identified in the Land Use Element. However, this alternative would not provide for a flexible mix of land uses within the plan area as identified in the Land Use Element. Thus, this Alternative would be inconsistent with the Land Use Element. The All Residential alternative is considered environmentally inferior to the proposed project in this regard.

Aesthetics

The All Residential alternative would involve new development within the Specific Plan area and would thereby alter the existing visual character/quality of the site. Aesthetic improvements, such as development consistent with development regulations and design standards/guidelines, would occur, as a revised version of the Duarte Station Specific Plan would be implemented. The All Residential alternative would introduce new landscaping and visual improvements associated with new development consistent in architectural character to the proposed project. This alternative would involve short-term impacts associated with construction activities and introduce new sources of light and glare to the area. Furthermore, this alternative would result in shade and shadow impacts on adjacent residential uses, as the height for the on-site residential buildings would be similar to heights of residential uses for the proposed project. In sum, all aesthetic impacts for this alternative are similar to those of the proposed project. Since this alternative would have the same environmental impacts to aesthetics, the All Residential alternative is considered neither environmentally inferior nor superior to the proposed project.

Population and Housing

The All Residential alternative would involve new development and therefore, would result in new population and housing growth within the City. This alternative would better enable the City's ability to meet its Regional Housing Needs Assessment (RHNA) allocation. Under this alternative, up to 1,700 additional housing units would be developed. However, this alternative would not allow for additional non-residential development; thus, new employment opportunities would not be provided within the City. Under this alternative, no new jobs would be created, and the existing

jobs would be removed. Thus, the All Residential alternative is considered environmentally inferior to the proposed project in this regard.

Traffic

Residential uses generate fewer daily trips compared to retail, restaurant, and office uses. Therefore, under this alternative, fewer daily trips would occur compared to the net total trips for the proposed project, which includes discounts for on-site trip capture, location near transit centers/light rail stations, and pass-by reductions for retail. However, there is the potential that the distribution of project-related trips would vary slightly from the proposed project, given that only residential is proposed. With the reduction in daily trips, it is estimated that the significant unavoidable impacts at Buena Vista Street/Duarte Road would be reduced. Mitigation measures would still be required to reduce impacts to less than significant, as with the proposed project. Thus, the All Residential Alternative would be considered environmentally superior to the proposed project in this regard.

Air Quality

Short-term construction and long-term operational (stationary source) impacts would be similar to the proposed project under this alternative, given that the entire plan area would remove existing uses and develop the entire area with new uses. Long-term operational (mobile source) impacts would be less given that this alternative generates fewer daily trips compared to the proposed project.

Most air quality impacts were identified as less than significant or less than significant with the imposition of mitigation measures for the proposed project, with the exception of project plan consistency with respect to the exceedance of growth assumptions in the SCAQMD *2016 AQMP*, which was determined to be a significant unavoidable impact for the proposed project. This alternative would reduce the impacts associated with inconsistency in employment projections but would increase the impacts associated with inconsistency in residential projections. Therefore, given the decrease in long-term mobile source impacts but increase in inconsistency in projections, the All Residential alternative would be considered neither environmentally superior nor inferior to the proposed project in this regard.

Greenhouse Gas Emissions

Greenhouse gas emissions from construction and operational activities would occur with the All Residential alternative, although to a lesser degree than the proposed project due to the reduction in daily trips associated with the elimination of office and commercial uses. This alternative's combined construction and operational greenhouse gas emissions would also result in fewer significant impacts from a cumulative perspective. Therefore, the All Residential alternative would be environmentally superior to the proposed project regarding greenhouse gas emissions due to decreased mobile emissions.

Noise

Short-term construction and long-term operational (stationary source) impacts would be similar to the proposed project under this alternative, given that the existing uses would be removed and the site redeveloped entirely with residential uses. Long-term mobile source impacts would be less given that this alternative generates fewer daily trips compared to the proposed project.

With regard to other operational noise impacts, all on-site residential activities would be required to comply with the City's noise ordinance, as would be the case for the proposed project. Impacts would be comparable and less than significant.

Most noise impacts were identified as less than significant or less than significant with the imposition of mitigation measures for the proposed project, with the exception of short-term construction impacts, which were concluded to be significant unavoidable impacts. Given the decrease in long-term noise associated with mobile sources, the All Residential alternative would be considered environmentally superior to the proposed project in this regard.

Hazards and Hazardous Materials

Short-term construction-related impacts involving the potential for accidental release of hazardous materials (i.e., asbestos containing materials, lead-based paints, underground storage tanks) would occur with the All Residential alternative, as buildings/improvements would be demolished/removed and ground-disturbing activities would occur. Long-term impacts involving accidental release of hazardous materials from spills during storage or transport would not occur with the All Residential alternative since residential uses generally do not generate large volumes of hazardous materials. The proposed project includes commercial uses, which generally use or produce more hazardous materials than residential uses. Given that only residential uses are included, the All Residential alternative is considered environmentally superior to the proposed project in this regard.

Hydrology, Drainage, and Water Quality

This alternative would result in similar amounts of impervious surface area on site as the proposed project. As such, impacts regarding drainage, hydrology, floodplains, and water quality are anticipated to be comparable to the proposed project. Therefore, hydrology and drainage impacts would remain less than significant, since mitigation measures would be required to reduce water quality impacts to a less than significant level, in compliance with NPDES permit requirements. Thus, the All Residential alternative would be considered neither environmentally superior nor inferior to the proposed project in this regard.

Public Services and Utilities

Relative to the proposed project, this alternative would generally result in a higher demand for fire and police protection services due to a higher population density. Relative to the proposed project, use of water and wastewater facilities and demand for electricity and natural gas could be lower since the alternative would not include more intensive commercial and office uses. The amount of solid waste requiring disposal at local and regional landfills would be slightly less with this alternative. As is the case with the proposed project, all public service and utility impacts would be less than significant with implementation of applicable mitigation measures, including payment of fees to affected agencies. Thus, the All Residential alternative would be considered comparable to the proposed project.

ABILITY TO MEET PROJECT GOALS

1. GOAL: A MIXTURE OF LAND USES

a. *Objective*: Develop a flexible mixed-use land use pattern that incorporates retail, office, hospitality, and residential opportunities that will effectively complement each other and provide maximum land use efficiency, while providing economic and social benefits to all users.

b. *Objective*: Program retail uses that are neighborhood- and transit-station serving.

The All Residential alternative does not meet this goal, as only one land use type would be provided: High Density Residential. With only High Density Residential, there would be no provision for retail uses to support either the surrounding neighborhood or the Gold Line Station, thus not meeting Objective a. In addition, there is no flexibility in the land use mix or the inclusion of complementary land uses, thus not meeting Objective b.

2. GOAL: AN ECONOMICALLY FEASIBLE DEVELOPMENT

a. *Objective*: Provide opportunities for adaptive reuse of existing buildings, and design new non-residential spaces with flexibility to allow for shifts in market demand and allow options throughout various economic cycles and scenarios.

b. *Objective*: Create a range of residential unit types that will be accessible to residents of all income levels.

c. *Objective*: Provide residential opportunities to assist the City of Duarte in meeting its Regional Housing Needs Allocation (RHNA) objectives.

d. *Objective*: Encourage the development of a hotel to create local jobs, support City of Hope lodging needs, provide community meeting space, and increase tax revenues within the community.

The All Residential alternative partially meets this goal, as range of residential types would be provided. Thus, the All Residential alternative meets Objectives b and c. However, the All Residential alternative would not provide for flexible non-residential spaces or a hotel. Thus, the All Residential alternative does not meet Objectives a and d.

3. GOAL: PEDESTRIAN-ORIENTED DEVELOPMENT

a. *Objective*: Create a development pattern that effectively provides for efficient and comfortable pedestrian movement and connectivity throughout the site.

b. *Objective*: Give precedence to pedestrians and foster multimodal transportation with bicycle, pedestrian, and transit access.

c. *Objective*: Provide supportive commercial uses and an active street frontage on Highland Avenue that facilitates a pedestrian friendly experience and links to other centers in the city.

The All Residential alternative meets Objectives a and b of the goal. The Specific Plan would include requirements for interconnectedness throughout the site, with linkage to the Gold Line Station. However, the All Residential alternative would not meet Objective c since no commercial uses would be allowed.

4. GOAL: SUPERIOR URBAN DESIGN

b. *Objective*: Allow for building types that will achieve desired density ranges to establish a critical mass of residents and employees to support the transit station, maximize transit ridership, and support retail spaces and local employment centers.

b. *Objective*: Minimize setbacks to allow buildings to frame and activate the street.

c. *Objective*: Use trees, shrubs and other landscape and hardscape materials along streets to provide shading, screening, and human scale.

d. *Objective*: Promote high quality architectural design to establish a design character that creates an identity in the Duarte Station Specific Plan area.

e. *Objective*: Establish context-based standards and guidelines that address specific design concerns while also allowing for creativity and flexibility in development projects.

The All Residential alternative would meet all objectives of this goal.

5. GOAL: OUTDOOR SPACES

a. *Objective*: Provide outdoor spaces—such as an urban green space, public plaza, promenade, or linear park—that provide a transition between the station and the surrounding transit village uses and facilitates pedestrian movement and/or public gathering.

b. *Objective:* Encourage rooftop open space areas to increase the amount and the quality of open space while taking advantage of quality views from the site.

c. *Objective:* Program outdoor space(s) to accommodate the needs of various user groups, such as residents, employees, commuters, and visitors.

The All Residential alternative would meet this goal as plazas and outdoor spaces would still be included as provisions of the Specific Plan.

6. GOAL: AWARENESS OF SURROUNDING DEVELOPMENT

a. *Objective*: Provide opportunities for new goods and services uses to support surrounding residents, students, and employees within and around the Duarte Station Specific Plan area.

b. *Objective*: Provide for appropriate transitions with adjacent existing lower-intensity residential uses through height limits, articulation and modulation requirements, design guidelines, and landscape requirements.

c. *Objective:* Upgrade the existing streetscape infrastructure and solidify pedestrian connections between the Plan Area, Duarte Station, and critical areas of interest around the site.

d. *Objective*: Consider the future needs of the City of Hope as part of land use planning.

The All Residential alternative partially meets this goal. A Specific Plan would be prepared and would include provisions to generally comply with Objectives b and c. The All Residential alternative would not create a center that provides a mix of good and services available to on-site residents or surrounding residents, students, or employees. The All Residential alternative would provide for future housing available to City of Hope employees but would not consider other future needs of the City of Hope, such as offices or hotel space. Thus, the All Residential alternative does not meet Objectives a and d.

7. GOAL: SUSTAINABLE DEVELOPMENT PRACTICES

a. *Objective:* Encourage transit-oriented development that supports multimodal opportunities and adhere to Levels of Sustainable Development Practices as prescribed in Chapter 19.52 of the City's Development Code.

b. *Objective:* Ensure that construction and demolition waste is disposed of in accordance with all City regulations and standards.

c. *Objective:* Consider building layout, siting, and building design to not preclude alternative energy production on-site.

d. *Objective:* Maximize energy efficiency through local and state standards, indoor environmental quality, energy-efficient lighting, building orientation, shading, and implementation of LEED principles (or similar) and/or attaining LEED Certification.

e. *Objective:* Reduce heat island effect through site planning and selection of landscape and hardscape materials.

f. *Objective:* Incorporate water-efficient design features such as permeable surfaces, collection devices, biofiltration devices, green rooftops, cisterns, berms and swales, and/or green rooftops.

g. *Objective:* Include drought-tolerant and climate-appropriate landscape within the Specific Plan area.

The All Residential alternative meets this goal. A Specific Plan would be prepared and would include provisions to comply with Objectives a through g.

6.7 ALTERNATIVE THREE: ADAPTIVE REUSE

DESCRIPTION OF ALTERNATIVE

Alternative Three would involve the adaptive reuse, or repurposing, of a portion (approximately half) of the existing 313,955 square feet of industrial and warehouse space with office and commercial space, along with construction of 700 new residential units and hospitality uses, including a 250-room hotel. It is assumed that building heights would be the same as existing conditions for the adaptive reuse portions of the site (thus lower than the proposed project) but consistent with heights associated with the proposed project for new construction.

IMPACT COMPARISON TO THE PROPOSED PROJECT

Land Use

The Adaptive Reuse alternative would involve both new development and new uses within the existing buildings within the Specific Plan area. This alternative would continue to require an amendment to the General Plan and Duarte Station Specific Plan to increase the amount of residential development allowed and to provide standards for adaptive reuse. This Alternative would allow less housing at the project site than the proposed project, thereby making it more difficult for the City to meet its RHNA allocations for this RHNA cycle and the next. Therefore, land use impacts would be greater under this alternative, resulting in an environmentally inferior alternative.

Aesthetics

The Adaptive Reuse alternative would involve both new development and adaptive reuse of existing buildings. Therefore, the alternative would alter the existing visual character/quality of the site. This alternative would involve both exterior and interior improvements and repurposing of the land use from industrial to office, retail, and restaurant uses. The Specific Plan associated would include design criteria for adaptive reuse to ensure that new and old buildings are not in design conflict. The Adaptive Reuse alternative would be considered neither environmentally superior nor inferior to the proposed project.

Population and Housing

The Adaptive Reuse alternative would result in new population and housing growth within the City. However, this alternative would allow for fewer housing units than the proposed project (but more office and hotel space). This alternative would constrain the City's ability to meet its RHNA allocation. Under this alternative, additional housing would be limited to 475 new units. Since this alternative would constrain the City's ability to meet the targets of the Housing Element and anticipated upcoming RHNA 2021 allocation, this alternative is considered environmentally inferior to the proposed project in this regard.

Traffic

Under this alternative, daily operational trips are assumed to occur at approximately the same rate as the net total trips for the proposed project. The same discounts for on-site trip capture, location near transit centers/light rail stations, and pass-by reductions for retail were taken for

both. Given that similar uses are proposed, it is anticipated the distribution of project-related trips would be similar to that of the proposed project. There would continue to be significant unavoidable impacts at Buena Vista Street/Duarte Road. Mitigation measures would still be required to reduce impacts to less than significant, as with the proposed project. Additional intersections may be impacted by this alternative. Thus, Alternative 3 would be considered environmentally inferior to the proposed project in this regard.

Air Quality

Long-term operational (stationary source) impacts would be similar to the proposed project under this alternative, given that this alternative would generate similar daily trips. Short-term construction impacts would be slightly less, given that only a portion of the plan area would redeveloped with new uses.

For the proposed project, air quality impacts were identified as less than significant or less than significant with the imposition of mitigation measures for the proposed project, with the exception of project plan consistency with respect to the exceedance of growth assumptions in the SCAQMD *2016 AQMP*, which was determined to be a significant unavoidable impact for the proposed project. This impact would remain under this alternative. This alternative, combined with other projects within the City such as the Duarte Town Center and the City of Hope Master Plan, would result in both employment and housing growth assumptions being exceeded. Housing growth assumptions would be exceeded to a lesser degree than with the proposed project; employment growth assumptions would be exceeded beyond those of the proposed project. Implementation of the Adaptive Reuse alternative would be inconsistent with the regional air quality plan, similar to the proposed project. The Adaptive Reuse alternative would be considered comparable in impact to the proposed project.

Greenhouse Gas Emissions

Greenhouse gas emissions from construction activities for the Adaptive Reuse alternative would be lower than those of the proposed project because of the decrease in construction activities associated with adaptive reuse of existing buildings. Greenhouse gas emissions from operations would be similar to the proposed project. Therefore, the Adaptive Reuse alternative would be environmentally superior to the proposed project because of lower greenhouse gas emissions.

Noise

Long-term operational (stationary source) impacts would be similar to the proposed project under this alternative. Short-term construction impacts would be slightly less, given that some buildings may be retained for adaptive reuse (and thus have a shorter construction period). Most noise impacts were identified as less than significant or less than significant with the imposition of mitigation measures for the proposed project, with the exception of short-term construction impacts, which were concluded to be significant unavoidable impacts. This alternative is anticipated to be similar with respect to construction noise impacts or slightly reduced. The Adaptive Reuse alternative would be considered environmentally superior to the proposed project in this regard.

Hazards and Hazardous Materials

Short-term construction-related impacts involving the potential for accidental release of hazardous materials (i.e., asbestos containing materials, lead-based paints, underground storage tanks) could occur with the Adaptive Reuse alternative since some buildings would be demolished and ground-disturbing activities would occur. The risk of long-term impacts involving accidental release of hazardous materials from spills during storage or transport would be greater under the Adaptive Reuse alternative due to the presence of more commercial uses. Therefore, the Adaptive Reuse alternative is considered environmentally equivalent to the proposed project with regard to construction impacts, but inferior to the proposed project over the long term.

Hydrology, Drainage, and Water Quality

This alternative would result in similar amounts of impervious surface area on site. As such, impacts regarding drainage, hydrology, floodplains, and water quality are anticipated to be comparable to the proposed project. Therefore, hydrology and drainage impacts would remain less than significant. As with the proposed project, mitigation measures would be required to reduce water quality impacts to a less than significant level, in compliance with NPDES permit requirements. Thus, the Adaptive Reuse alternative would be considered neither environmentally superior nor inferior to the proposed project.

Public Services and Utilities

Relative to the proposed project, this alternative would generally result in a lower demand for fire and police protection services due to a lower population density. Relative to the proposed project, use of water and wastewater facilities and demand for electricity and natural gas could be higher lower since the alternative would include more intensive commercial and office uses. The amount of solid waste requiring disposal at local and regional landfills with this alternative would be comparable to the proposed project. As is the case with the proposed project, all public service and utility impacts would be less than significant with implementation of applicable mitigation measures, including payment of fees to affected agencies. Thus, the Adaptive Reuse alternative would be considered neither environmentally inferior or superior to the proposed project.

ABILITY TO MEET PROJECT GOALS

1. **GOAL: A MIXTURE OF LAND USES**

    a. *Objective*: Develop a flexible mixed-use land use pattern that incorporates retail, office, hospitality, and residential opportunities that will effectively complement each other and provide maximum land use efficiency, while providing economic and social benefits to all users.

    b. *Objective*: Program retail uses that are neighborhood- and transit-station serving.

The Adaptive Reuse alternative meets this goal by allowing for a mix of uses well suited to a transit station environment.

2. GOAL: AN ECONOMICALLY FEASIBLE DEVELOPMENT

a. *Objective*: Provide opportunities for adaptive reuse of existing buildings, and design new non-residential spaces with flexibility to allow for shifts in market demand and allow options throughout various economic cycles and scenarios.

b. *Objective*: Create a range of residential unit types that will be accessible to residents of all income levels.

c. *Objective*: Provide residential opportunities to assist the City of Duarte in meeting its Regional Housing Needs Allocation (RHNA) objectives.

d. *Objective*: Encourage the development of a hotel to create local jobs, support City of Hope lodging needs, provide community meeting space, and increase tax revenues within the community.

The Adaptive Reuse alternative meets this goal by allowing for adaptive reuse, residential opportunities, and hospitality uses.

3. GOAL: PEDESTRIAN-ORIENTED DEVELOPMENT

a. *Objective*: Create a development pattern that effectively provides for efficient and comfortable pedestrian movement and connectivity throughout the site.

b. *Objective*: Give precedence to pedestrians and foster multimodal transportation with bicycle, pedestrian, and transit access.

c. *Objective*: Provide supportive commercial uses and an active street frontage on Highland Avenue that facilitates a pedestrian friendly experience and links to other centers in the city.

The Adaptive Reuse alternative partially meets this goal. It will be more difficult with the Adaptive Reuse \alternative to create sufficient pedestrian pathways through the Specific Plan area given the existing size and building length of existing buildings. No new pedestrian connection to the Gold Line Station would be feasible unless a portion of an existing building is removed; thus, this alternative does not meet Objective a. However, this alternative meets Objectives b and c, with the support of a Specific Plan that would be drafted to support these objectives.

4. GOAL: SUPERIOR URBAN DESIGN

a. *Objective*: Allow for building types that will achieve desired density ranges to establish a critical mass of residents and employees to support the transit station, maximize transit ridership, and support retail spaces and local employment centers.

b. *Objective*: Minimize setbacks to allow buildings to frame and activate the street.

c. *Objective*: Use trees, shrubs and other landscape and hardscape materials along streets to provide shading, screening, and human scale.

d. *Objective*: Promote high quality architectural design to establish a design character that creates an identity in the Duarte Station Specific Plan area.

e. *Objective*: Establish context-based standards and guidelines that address specific design concerns while also allowing for creativity and flexibility in development projects.

The Adaptive Reuse alternative partially meets this goal. Because some of the existing structures on the site would remain the same and no new development would occur, there would be less opportunity for achieving desired density ranges. However, allowing office, retail, and restaurant uses in this location would maximize transit ridership and support retail spaces, which partially satisfies Objective a. Furthermore, since this alternative keeps the existing mid-century industrial structures, it would not promote a design character for the area nor would it minimize setbacks along secondary frontages. Thus, the Adaptive Reuse alternative does not meet Objectives b and d.

5. GOAL: OUTDOOR SPACES

a. *Objective*: Provide outdoor spaces—such as an urban green space, public plaza, promenade, or linear park—that provide a transition between the station and the surrounding transit village uses and facilitates pedestrian movement and/or public gathering.

b. *Objective:* Encourage rooftop open space areas to increase the amount and the quality of open space while taking advantage of quality views from the site.

c. *Objective:* Program outdoor space(s) to accommodate the needs of various user groups, such as residents, employees, commuters, and visitors.

The Adaptive Reuse alternative meets the goal. While portions of the existing layout of the site would largely remain the same, additional outdoor spaces would be provided through the proposed pedestrian promenade along Highland. (The existing buildings are set back with adequate space to support the promenade, and development of the promenade would be required with a change of use to office.) Rooftop open space areas could be provided. Existing truck loading spaces may be reconfigured into vehicle parking areas, with remaining space programmed for outdoor open spaces. Thus, the Adaptive Reuse alternative meets Objectives a, b, and c.

6. GOAL: AWARENESS OF SURROUNDING DEVELOPMENT

a. *Objective*: Provide opportunities for new goods and services uses to support surrounding residents, students, and employees within and around the Duarte Station Specific Plan area.

b. *Objective*: Provide for appropriate transitions with adjacent existing lower-intensity residential uses through height limits, articulation and modulation requirements, design guidelines, and landscape requirements.

c. *Objective:* Upgrade the existing streetscape infrastructure and solidify pedestrian connections between the Plan Area, Duarte Station, and critical areas of interest around the site.

d. *Objective*: Consider the future needs of the City of Hope as part of land use planning.

The Adaptive Reuse alternative partially meets this goal. For portions of the site associated with adaptive reuse, Objective b may not be achieved. This alternative would, however, provide desired services to the residents, students, and employees in the surrounding area and the City of Hope. In addition, there is adequate space between the building façade and the right-of-way to provide the required pedestrian promenade, thus updating the streetscape infrastructure and solidifying the pedestrian connections. Thus, the Adaptive Reuse alternative meets Objectives a, c, and d, but does not meet Objective b.

7. GOAL: SUSTAINABLE DEVELOPMENT PRACTICES

a. *Objective:* Encourage transit-oriented development that supports multimodal opportunities and adhere to Levels of Sustainable Development Practices as prescribed in Chapter 19.52 of the City's Development Code.

b. *Objective:* Ensure that construction and demolition waste is disposed of in accordance with all City regulations and standards.

c. *Objective:* Consider building layout, siting, and building design to not preclude alternative energy production on-site.

d. *Objective:* Maximize energy efficiency through local and state standards, indoor environmental quality, energy-efficient lighting, building orientation, shading, and implementation of LEED principles (or similar) and/or attaining LEED Certification.

e. *Objective:* Reduce heat island effect through site planning and selection of landscape and hardscape materials.

f. *Objective:* Incorporate water-efficient design features such as permeable surfaces, collection devices, biofiltration devices, green rooftops, cisterns, berms and swales, and/or green rooftops.

g. *Objective:* Include drought-tolerant and climate-appropriate landscape within the Specific Plan area.

The Adaptive Reuse alternative partially meets this goal, as many efficiencies are provided with the reuse of existing buildings. Adaptive reuse would provide additional employment and use of the site and thus would be considered transit oriented (although not new development). Construction and demolition waste would be minimized with the reuse of buildings. Building layout and site planning may not be able to consider all forms of alternative energy; however, solar production on the existing flat roofs would remain available. Implementing energy efficiency measures may be more difficult within an existing building. Site planning to remove truck loading spaces and replace the spaces with landscaped outdoor areas would reduce heat island effects. Water efficient landscaping would be required with the Adaptive Reuse alternative. Thus, the

Adaptive Reuse alternative meets Objectives a through c and e through g. However, this alternative does not meet Objective d.

6.9 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines Section 15126.6 requires that an EIR must identify an "environmentally superior" alternative, and where the No Project Alternative is identified as environmentally superior, the EIR is then required to identify as environmentally superior an alternative from among the others evaluated.

As noted above, the determination of an environmentally superior alternative is based on the consideration of how the alternative fulfills the project objectives and how the alternative either reduces significant, unavoidable impacts or substantially reduces the impacts to the surrounding environment.

6.9.1 ALTERNATIVE ONE: EXISTING ZONING/NO PROJECT

Compared to the proposed project, the Existing Zoning alternative results in fewer impacts relative to traffic, greenhouse gas emissions, noise, and hazards and hazardous materials. Greater impacts would be anticipated for land use, population and housing, and public services and utilities. Impacts associated with aesthetics, air quality, and hydrology, drainage, and water quality would be equivalent. Significant unavoidable impacts related to traffic, air quality, and noise impacts would also occur with this alternative.

The Existing Zoning would not fully implement the overarching goals of the proposed project to provide a mixture of land use, an economically feasible development, traditional pedestrian-oriented street pattern, and awareness of surrounding development. The goals of superior urban design, outdoor spaces, and sustainable development practices could be achieved.

6.9.2 ALTERNATIVE TWO: ALL RESIDENTIAL

Compared to the proposed project, the All Residential alternative would result in similar impacts relative to aesthetics and hydrology, drainage, and water quality. The All Residential alternative results in fewer impacts to traffic, air quality, greenhouse gas emissions, noise, and hazardous materials. Greater impacts would be anticipated for land use, population and housing, and public services and utilities. Significant unavoidable impacts related to traffic and noise would be reduced, but not eliminated, and impacts related to air quality would remain the same.

The All Residential alternative meets Goals 4, 5, and 7 and does not fully meet Goals 1, 2, 3, and 6.

6.9.3 ALTERNATIVE THREE: ADAPTIVE REUSE

Compared to the proposed project, the Adaptive Reuse alternative would result in similar impacts relative to aesthetics, hazards, and hydrology, drainage, and water quality. The Adaptive Reuse Alternative would result in fewer impacts to air quality, greenhouse gas emissions, noise, and public utilities and services. Greater impacts would be anticipated for land use, population and housing, and traffic. Significant unavoidable impacts related to traffic, air quality, and noise impacts would also occur with this alternative.

The Adaptive Reuse Alternative meets Goals 1, 2, and 5 but does not fully meet Goals 3, 4, 6, and 7.

6.9.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

As noted above, the determination of an environmentally superior alternative is based on the consideration of how the alternative fulfills the project objectives and how the alternative either reduces significant, unavoidable impacts or substantially reduces the impacts to the surrounding environment. In consideration of these factors, the proposed project is selected as the Environmentally Superior Alternative.

Table 6-2, *Comparison of Alternatives*, provides an overview of the alternatives analyzed and a comparison of each alternative's impact in relation to the proposed action.

Table 6-2
Comparison of Impact of Alternatives Relative to the Proposed Project

Impact Area	Alterative One: Existing Zoning Alternative	Alternative Two: All Residential Alternative	Alternative Three: Adaptive Reuse Alternative
Land Use	=	○	○
Aesthetics	○	=	=
Population and Housing	○	○	○
`Traffic	=	◆	○
Reduces Significant Unavoidable Impact?	No	Yes	No
Eliminates Significant Unavoidable Impact?	No	No	No
Air Quality	○	=	=
Reduces Significant Unavoidable Impact?	No	No	No
Eliminates Significant Unavoidable Impact?	No	No	No
Greenhouse Gas Emissions	○	◆	◆
Noise	=	◆	◆
Reduces Significant Unavoidable Impact?	No	Yes	Yes
Eliminates Significant Unavoidable Impact?	No	No	No
Hazardous Materials	○	◆	○
Hydrology, Drainage, and Water Quality	=	=	=
Public Services and Utilities	=	=	=

= Indicates an impact that is equal to the proposed project (neither environmentally superior nor inferior).
○ Indicates an impact that is greater than the proposed project over the long term (environmentally inferior).
◆ Indicates an impact that is less than the proposed project over the long term (environmentally superior).

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7.0 OTHER CEQA CONSIDERATIONS

7.1 GROWTH-INDUCING IMPACTS

CEQA Guidelines Section 15126(d) requires that an EIR "discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." The *CEQA Guidelines* also indicate that it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment. This section analyzes potential growth-inducing impacts, based on the criteria outlined below, as suggested in the *CEQA Guidelines*. In general terms, a project may foster spatial, economic, or population growth in a geographic area, if it meets any one of the following criteria:

- Removal of an impediment to growth (e.g., establishment of an essential public service and provision of new access to an area);
- Fostering of economic expansion or growth (e.g., changes in revenue base and employment expansion);
- Fostering of population growth (e.g., construction of additional housing or employment-generating land uses), either directly or indirectly;
- Establishment of a precedent-setting action (e.g., an innovation, a change in zoning and general plan amendment approval); or
- Development of or encroachment on an isolated or adjacent area of open space (being distinct from an in-fill project).

Should a project meet any one of the above-listed criteria, it may be considered growth inducing. The proposed project's potential growth-inducing impacts are evaluated below against these criteria.

It is noted that the *CEQA Guidelines* require an EIR to "discuss the ways" a project could be growth-inducing and to "discuss the characteristics of some projects that may encourage…activities that could significantly affect the environment." However, the *CEQA Guidelines* do not require that an EIR predict (or speculate) specifically where such growth would occur, in what form it would occur, or when it would occur. The answers to such questions require speculation, which CEQA discourages; refer to *CEQA Guidelines* Section 15145, Speculation.

IMPACT ANALYSIS

The project proposes to amend a Specific Plan to allow for the development of a new mix of uses within the project site.

Removal of an Impediment to Growth

The new land uses anticipated by the proposed project would occur as infill development on a currently developed property. The proposed project does not involve development that would

establish a new essential public service or utility/service system. The proposed amended Specific Plan area is already served by essential public services (i.e., fire and police protection, parks and recreational facilities, schools, and solid waste disposal); an extensive network of utility/service systems (i.e., water, wastewater, electricity, and natural gas); and other infrastructure necessary to accommodate or allow the existing conditions and planned growth. The existing public services and utility/service systems can be readily upgraded and/or extended into the Specific Plan area. The increased demands for public services and utility/service systems would not significantly reduce or impair any existing or future levels of services, either locally or regionally, as concluded in Sections 5.10 through 5.17. Project implementation would not require substantial development of unplanned or unforeseen public services and utility/service systems. Therefore, project implementation would not remove an impediment to growth/foster spatial growth through establishment of an essential public service or expansion to a new area.

Although project implementation would facilitate the installation and construction of transportation improvements necessary to carry out the Specific Plan, as discussed in detail in Section 5.4, Traffic, these improvements would not provide new access to an area since access is already provided by an existing roadway network. Therefore, project implementation would not remove an impediment to growth/foster spatial growth through the provision of new access to an area.

Economic Expansion/Growth

The proposed project would increase the existing housing inventory in Duarte by 1,400 units and add 100,000 square feet (sf) of office space and 12,500 sf of restaurant/retail space, resulting in a potential population growth of 4,625 (4,242 residents and 383 employees). As discussed in Section 5.3, the proposed project could increase the City's existing population by approximately 19.3 percent over existing conditions. The projected population growth is anticipated to increase sales and property taxes, with resultant increases in the City's revenue base. The projected growth in non-residential floor area and employment would foster economic expansion and increase the City's revenue base through increases the City's business license tax, utility user taxes, property taxes, and sales taxes. Therefore, the proposed project is considered growth inducing with respect to economic expansion.

Population, Housing, and Employment Growth

Section 5.3, Population and Housing, identifies the existing population, housing, and employment for the County of Los Angeles (County) and City of Duarte (City), and provides an analysis of potential housing and population impacts that may result from project implementation.

A project could induce population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure). The proposed project's employment growth could result in population growth within the City, as the potential exists that future employees (and their families) would choose to relocate to the City. As concluded in Section 5.3, project implementation could increase the City's population by 4,625 (4,242 residents and 383 employees), or approximately 19.3 percent over existing conditions.

Additional population associated with new residential development within the Specific Plan area has been considered in the *General Plan*. The proposed project is intended to meet the Regional Housing Needs Assessment (RHNA) allocation for Duarte and the goals of the *2014-2021 Housing Element* by providing up to 1,400 dwelling units, some of which would be affordable housing. In addition, as concluded in *Sections 5.10* through *Section 5.17*, existing public services and utility/service systems can be readily upgraded and/or extended into the Specific Plan area to serve the increased population. Project implementation would not require substantial development of unplanned or unforeseen public services and utility/service systems. Individual development projects would be reviewed on a project-by-project basis to determine if existing services and utilities are sufficient or if new and/or upgraded facilities are necessary to serve the development. The increased demands for public services and utility/service systems would not significantly reduce or impair any existing or future levels of services, either locally or regionally. Further, development within the Specific Plan area is anticipated to occur over multiple years based on market demand, which would allow for development of necessary services and infrastructure to serve the anticipated growth. Therefore, impacts would be less than significant.

In addition, and as indicated in *Table 5.3-8*, implementation of the proposed project would increase local employment by approximately 3.61 percent over existing conditions. This employment growth would result in population growth within the City, as the potential exists that future employees (and their families) would choose to relocate to the City. However, estimating the number of these future employees who would choose to relocate to Duarte would be highly speculative since many factors influence personal housing location decisions. Based on the City's vacancy rate of 3.0 percent, 220 dwelling units are available (vacant), as of May 2019. New employees in the Specific Plan area could utilize these vacant dwelling units. However, most new employees are assumed to occupy new residences generated by the project. Therefore, impacts would be less than significant.

Potential growth inducing impacts are also assessed based on a project's consistency with regional growth forecasts. SCAG is the responsible agency for developing and adopting regional growth forecasts for Los Angeles County governments, among others. SCAG provides forecasts through 2040 (SCAG 2016).

As also discussed in Section 5.3, Population and Housing, implementation of the proposed project, along with other City projects that have been approved, would exceed the growth assumptions contained in the 2016-2040 RTP/SCS. As such, the proposed Specific Plan would result in growth in the City that is inconsistent with the underlying assumptions used to develop strategies in the RTP/SCS.

The cumulative projects involve various residential and non-residential development that have the potential to result in population growth in Duarte and each of the respective jurisdictions where the cumulative sites are located. The *Duarte General Plan* assumed additional growth within the City, specifically associated with the Duarte Town Center Specific Plan, in addition to the proposed project. Although the development associated with the proposed project would be greater than anticipated by the *General Plan* and exceeds growth projections under the RTP/SCS, development of the Duarte Station Specific Plan Area would not require substantial development of unplanned or unforeseen public services and utility/service systems. As concluded in Section 5.10 through Section 5.17, existing public services and utility/service systems can be readily upgraded and/or extended into the Specific Plan area to serve the increased population. Development within the Specific Plan area is anticipated to occur over

several years based on market demand, which would allow for development of necessary services and infrastructure to serve the anticipated growth. The proposed project is intended to meet the RHNA allocation for Duarte by providing up to 1,400 dwelling units, some of which would be affordable housing. Finally, as stated above, most new employees in the Specific Plan are assumed to occupy new residences generated by the project. Therefore, cumulative impacts associated with new development under the proposed project would be considered less than significant.

Finally, at the regional level, the emphasis has been placed primarily on achieving a balance of employment and housing opportunities within the subregions. This regional concept, referred to as jobs/housing balance, encourages the designation and zoning of sufficient vacant land for residential uses with appropriate standards to ensure adequate housing is available to serve the needs derived from the local employment base. The jobs/housing ratio can be used as the general measure of balance between a community's employment opportunities and the housing needs of its residents. A rate of 1.0 or greater generally indicates that a city provides adequate employment opportunities, potentially allowing its residents to work within the city. A desirable jobs/housing balance improves regional mobility (traffic), reduces vehicle miles traveled, and improves air quality. Conversely, imbalance between a city's jobs and housing increases commutes, with resultant increases in traffic volumes and air emissions, and overall reduces the quality of life.

Duarte's current jobs/housing ratio (2019) is approximately 0.73, indicating employment opportunities for residents to work within the City are not readily available. With project implementation, the City's jobs/housing ratio would be approximately 0.8. Therefore, project implementation would improve the jobs/housing balance within the City, providing increased housing opportunities for residents. Thus, the forecast population and housing growth attributed to the proposed project is not considered significant in a regional context.

Precedent-Setting Action

The proposed project would require a General Plan Amendment (text changes to the Land Use Element relative to the Duarte Station Specific Plan) and adoption of a revised Specific Plan to allow implementation of the proposed revised Specific Plan. However, given that the Specific Plan's proposed land use and development regulations would apply only within the Specific Plan area, the proposed project would not be considered growth inducing with respect to a precedent-setting action.

Development or Encroachment of Open Space

The proposed project is considered an infill development, as the site is currently developed and is surrounded by urbanized uses. Therefore, the proposed project would not be growth-inducing with respect to development or encroachment into an isolated or adjacent area of open space.

Overall, project implementation would not be considered growth inducing as it would not remove an impediment to growth, foster substantial population or housing growth, establish a precedent-setting action, or develop or encroach on an isolated or adjacent area of open space. Although project implementation could cause SCAG's 2040 population and employment forecasts for the City to be exceeded, additional employment-generating uses would provide employment opportunities to residents, resulting in an improved jobs/housing balance within the

City. Therefore, the population and employment growth attributed to the proposed project is considered less than significant in a regional context.

7.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES THAT WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

According to *CEQA Guidelines* Sections 15126(c) and 15126.2(c), an EIR is required to address any significant irreversible environmental changes that would occur should the proposed Project be implemented. As stated in *CEQA Guidelines* Section 15126.2(c):

> *"[uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter likely, primary impacts and, particularly, secondary impacts [such as highway improvement which provides access to a previously inaccessible area] generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified."*

The proposed project would consume limited, slowly renewable, and non-renewable resources. This consumption would occur during the proposed project's construction phase and would continue throughout its operational lifetime. Future development associated with implementation of the proposed project would require a commitment of resources that would include: 1) building materials, 2) fuel and operational materials/resources, and 3) the transportation of goods and people to and from the project site. Future construction associated with implementation of the proposed project would require the consumption of resources that are not replenishable or which may renew so slowly as to be considered non-renewable. These resources would include the following construction supplies: lumber and other forest products, aggregate materials used in concrete and asphalt, metals, and water. Fossil fuels such as gasoline and oil would also be consumed to power construction vehicles and equipment.

The resources that would be committed during full operation of the proposed amended Specific Plan would be similar to those currently consumed within the City of Duarte. These would include energy resources such as electricity and natural gas, petroleum-based fuels required for vehicle-trips, fossil fuels, and water. Fossil fuels would represent the primary energy source associated with both construction and ongoing operation of the project, and the existing, finite supplies of these natural resources would be incrementally reduced. Full operation of the proposed Specific Plan would occur in accordance with *Title 24*, Part 6 of the *California Code of Regulations*, which sets forth conservation practices that would limit the amount of energy consumed by the project. However, the proposed project's energy requirements would, nonetheless, represent a long-term commitment of essentially non-renewable resources.

Limited use of potentially hazardous materials typical of commercial and office uses, including vehicle maintenance materials, could be used and stored on the project site. The use of these materials would be in small quantities and used, handled, stored, and disposed of in accordance with the manufacturer's instructions and applicable government regulations and standards. Compliance with these regulations and standards would serve to protect against significant and irreversible environmental change resulting from the accidental release of hazardous materials.

In addition, demolition activities would comply with regulatory requirements to ensure that asbestos and lead-based paints are not released into the environment. Compliance with such regulations would serve to protect against a significant and irreversible environmental change resulting from the accidental release of hazardous materials.

In summary, development associated with implementation of the proposed project, both construction and operation, would result in the irretrievable commitment of limited, slowly renewable, and nonrenewable resources, which would limit the availability of these particular resource quantities for future generations or for other uses during the life of the project. However, continued use of such resources would be on a relatively small scale in a regional context. As such, although irreversible environmental changes would result from project implementation, such changes would not be considered significant.

8.0 EFFECTS FOUND NOT TO BE SIGNIFICANT

The City of Duarte conducted an Initial Study in April 2013 to determine significant effects of the original Duarte Station Specific Plan. In the course of this evaluation, certain impacts of the project were found to be less than significant due to the inability of a project of this scope to create such impacts or the absence of project characteristics producing effects of this type. The effects determined not to be significant are not required to be included in primary analysis sections of the original Draft EIR or the Subsequent EIR. In accordance with *CEQA Guidelines* Section 15128, the following section identifies those impacts determined to be less than significant in the Initial Study. A copy of the Initial Study and the explanation for the less than significant conclusions of the following environmental issue areas can be found on the City of Duarte's website at:

https://www.accessduarte.com/civicax/filebank/blobdload.aspx?BlobID=22845

This section also summarizes which impacts were found to be less than significant in the EIR, both with and without the imposition of mitigation measures.

8.1 INITIAL STUDY CONCLUSIONS

AESTHETICS

- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

AGRICULTURAL AND FORESTRY RESOURCES

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
- Conflict with existing zoning for agricultural use, or a Williamson Act contract.
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).
- Result in the loss of forest land or conversion of forest land to non-forest use.
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

BIOLOGICAL RESOURCES

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

CULTURAL RESOURCES

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5.

- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5.

- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

- Disturb any human remains, including those interred outside of formal cemeteries.

GEOLOGY AND SOILS

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

    - Strong seismic ground shaking.

- Seismic-related ground failure, including liquefaction.

- Landslides.

- Result in substantial soil erosion or the loss of topsoil.

- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in an on-site or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

HAZARDS AND HAZARDOUS MATERIALS

- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area.

- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

HYDROLOGY AND WATER QUALITY

- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

- Place within a 100-year flood hazard area structures which would impede or redirect flood flows.

- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

- Inundation by seiche, tsunami, or mudflow.

LAND USE AND PLANNING

- Physically divide an established community.
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

MINERAL RESOURCES

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

NOISE

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.
- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

POPULATION AND HOUSING

- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

TRANSPORTATION/TRAFFIC

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Result in inadequate emergency access.

MANDATORY FINDINGS OF SIGNIFICANCE

- Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.

8.2 EIR CONCLUSIONS

8.2.1 NO IMPACTS OR LESS THAN SIGNIFICANT IMPACTS

LAND USE

Implementation of the proposed project could conflict with a Duarte General Plan land use plan or policy.

Implementation of the proposed project could conflict with the Duarte Municipal Code standards and regulations.

Development associated with implementation of the proposed project and other related cumulative projects could conflict with applicable land use plans, policies, or regulations.

AESTHETICS

Construction activities associated with implementation of the proposed project could result in significant impacts related to temporary degradation of the visual character/quality of the site and its surroundings.

Implementation of the proposed project could result in significant impacts related to the long-term degradation of the visual character/quality of the site and its surroundings – visual character/quality.

Development associated with implementation of the proposed project along with other cumulative projects could result in cumulatively considerable aesthetics impacts.

POPULATION AND HOUSING

Implementation of the proposed project could induce substantial population growth in the City.

Development associated with implementation of the proposed project and other related cumulative projects could induce substantial population and housing growth in the area.

TRAFFIC

Implementation of the proposed project could result in a decrease of the performance or safety of public transit, bicycle, or pedestrian facilities as a result of a conflict with adopted policies, plans, or programs.

AIR QUALITY

Implementation of the proposed project could result in emissions (such as those leading to odor) adversely affecting a substantial number of people.

GREENHOUSE GAS EMISSIONS

Greenhouse gas emissions generated by development associated with implementation of the proposed project could have a significant impact on global climate change.

Implementation of the proposed project could conflict with an applicable greenhouse gas reduction plan, policy, or regulation.

Development facilitated under implementation of the proposed project could energy in a wasteful, inefficient, or necessary way.

Greenhouse gas emissions generated by implementation of the proposed project and other related cumulative projects could have a significant impact on global climate change.

Energy consumed by the implementation of the proposed project could be wasteful, inefficient, or unnecessary.

NOISE

Traffic generated by the proposed project could significantly contribute to existing traffic noise in the area or exceed the city's established standards.

Implementation of the proposed project could expose on-site receptors to excessive groundborne vibration from metro gold line operations.

HAZARDS AND HAZARDOUS MATERIALS

Development associated with implementation of the proposed project site could be located on a hazardous materials site per government code section 65962.5 and could create a significant hazard to the public or the environment.

HYDROLOGY, DRAINAGE, AND WATER QUALITY

Implementation of the proposed project could result in the depletion of groundwater supplies or interference with groundwater recharge.

Implementation of the proposed project could result in:

- placement of housing within a 100-year flood hazard area as mapped on a federal flood hazard boundary or flood insurance rate map or other flood hazard delineation map;
- placement of structures within a 100-year flood hazard area which would impede or redirect flood flows;
- exposure of people or structures to a significant risk of loss, injury or death involving flooding including flooding as a result of the failure of a levee or dam; or
- exposure of people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow.

POLICE PROTECTION

Implementation of the proposed project could result in impacts to police services.

Development associated with implementation of the proposed project and other related cumulative projects could result in cumulatively considerable impacts to police services.

PARKS

Implementation of the proposed project could increase the use of existing parks and recreational facilities creating the potential for physical deterioration of facilities.

Development associated with implementation of the proposed project and other related cumulative projects could result in cumulatively considerable impacts to parks and recreation facilities in the City.

WATER

Implementation of the proposed project could create demand for water that exceeds available water supplies from existing entitlements and resources.

SOLID WASTE

Implementation of the proposed project would generate solid waste that could incrementally decrease the capacity and lifespan of landfills.

Development associated with implementation of the proposed project and other related cumulative development could result in cumulatively considerable impacts related to solid waste disposal services and landfill capacity.

8.2.2 LESS THAN SIGNIFICANT IMPACTS WITH MITIGATION INCORPORATED

AESTHETICS

Implementation of the proposed project could create a new source of light and/or glare, which could affect daytime and/or nighttime views in the area.

TRAFFIC

Implementation of the proposed project could cause a significant increase in traffic at signalized study intersections under future year 2025 conditions when compared to the traffic capacity of the street system.

Implementation of the proposed project could cause a significant increase in traffic at unsignalized study intersections under future year 2025 conditions when compared to the traffic capacity of the street system.

Implementation of the proposed project could result in a hazardous traffic condition associated with neighborhood pass-through traffic.

Development associated with implementation of the proposed project and other related cumulative projects could result in cumulatively considerable impacts related to traffic and circulation.

AIR QUALITY

Implementation of the proposed specific plan could result in a cumulatively considerable increase in non-attainment criteria air pollutants.

Implementation of the proposed project would not expose receptors to substantial pollutant concentrations.

Short-term construction activities associated with implementation of the proposed project and other related cumulative projects could result in air pollutant emission impacts or expose sensitive receptors to substantial pollutant concentrations.

Implementation of the proposed project and other related cumulative projects could result in significant impacts pertaining to operational air emissions.

NOISE

The proposed project could result in land uses that may be incompatible with the project area's existing ambient noise environment.

Implementation of the proposed project could result in a significant increase in long-term stationary ambient noise levels.

HAZARDS AND HAZARDOUS MATERIALS

Short-term construction activities associated with implementation of the proposed project could create a significant hazard to the public or environment through accident conditions involving the release of hazardous materials.

Implementation of the proposed project could create a significant hazard during use operations to the public or environment through the handling, storage, and/or use of hazardous materials, as well as accident conditions involving the release of hazardous materials.

Development associated with implementation of the proposed project and other related cumulative projects could increase the exposure of hazardous substances to the public or the environment.

HYDROLOGY, DRAINAGE, AND WATER QUALITY

Grading, excavation, and construction activities associated with implementation of the proposed project could significantly impact water quality.

Implementation of the proposed project could result in significant impacts related to increased run-off amounts and degraded water quality.

Implementation of the proposed project along with other related cumulative projects could result in cumulatively considerable impacts related to increased runoff and degraded water quality.

FIRE PROTECTION

Implementation of the proposed project could result in impacts to fire services.

Development associated with implementation of the proposed project and other related cumulative projects could result in cumulatively considerable impacts to fire services.

SCHOOLS

Implementation of the proposed project could result in impacts to existing school facilities within the Duarte Unified School District.

Development associated with implementation of the proposed project and other related cumulative projects could result in cumulatively considerable impacts to school facilities within the Duarte Unified School District.

WATER

Implementation of the proposed project could require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Development associated with the proposed project and other related cumulative projects could result in cumulatively considerable impacts to water supplies and facilities.

WASTEWATER

With implementation of the proposed project could generate wastewater that exceeds the capacity of conveyance and treatment facilities serving the project area.

Development associated with implementation of the proposed project and other related cumulative projects could result in cumulatively considerable impacts to wastewater conveyance and treatment facilities.

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9.0 SIGNIFICANT UNAVOIDABLE EFFECTS WHICH CANNOT BE AVOIDED IF THE PROPOSED ACTION IS IMPLEMENTED

The *California Environmental Quality Act* (*CEQA*) *Guidelines* Section 15126(b) requires an Environmental Impact Report (EIR) to "describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications, and the reasons why the project is being proposed, notwithstanding their effect, should be described."

Section 5.0 of this EIR provides a description of the potential environmental impacts of the proposed project and recommends mitigation measures to reduce impacts to a less than significant level, where possible. After implementation of mitigation measures, most of the potentially significant impacts associated with the proposed project would be reduced to less than significant levels. However, the impacts listed below could not be feasibly mitigated and would result in a significant unavoidable impact associated with approval of the proposed revised Duarte Station Specific Plan.

TRAFFIC

- Project and cumulative project impacts at the following intersections:
  - Buena Vista Street/Duarte Road

AIR QUALITY

- Plan Consistency - exceedance of growth assumptions in the SCAQMD *2016 AQMP*

NOISE

- Project short-term construction noise impacts

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10.0 REFERENCES

10.1 LEAD AGENCY AND EIR PREPARER

LEAD AGENCY

City of Duarte
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