The Merge Project

Draft Environmental Impact Report

Prepared for
The City of Eastvale

September 2018

appliedplanning inc

DRAFT ENVIRONMENTAL IMPACT REPORT

for the

The Merge Project
State Clearinghouse Number:
2018061065

Prepared for:

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September 2018

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1.0 EXECUTIVE SUMMARY

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1.1 INTRODUCTION

Consistent with requirements of the California Environmental Quality Act (CEQA), this Draft Environmental Impact Report (DEIR or EIR) evaluates and discloses potential environmental impacts resulting from construction and operation of The Merge (Project). The Project proposes construction and operation of approximately 336,501 square feet of light industrial and 71,100 square feet of commercial/retail uses (407,601 total square feet) within an approximately 26.28-acre site[1] located in the northwest portion of the City of Eastvale.

The Project site is located at the northeast corner of Limonite Avenue and Archibald Avenue. The site comprises current Assessor's Parcel Number (APN) 164-010-019. A Riverside County Flood Control and Water Conservation District (RCFCWCD) flood control channel defines the north Project site boundary. The channel also comprises the shared City of Eastvale/City of Ontario municipal boundary at this location. Archibald Avenue is the site's west boundary; Limonite Avenue is the site's south boundary. The eastern boundary of the site is marked by an existing masonry wall (constructed as part of the residential development to the east). Please refer also to EIR Section 3.0, *Project Description*, and Figure 3.2-1, *Project Location*, for additional information.

This EIR Section summarizes Project background issues, provides a brief description of the Project and its Objectives, and summarizes potential environmental impacts of the proposal. Table 1.11-1, *Summary of Impacts and Mitigation*, presented at the conclusion of this Section, lists these impacts and presents the mitigation measures recommended to eliminate or reduce the effects of those impacts which have been determined to be

[1] Measured in gross acres.

potentially significant. Alternatives to the Project which could reduce the extent or severity of the Project's identified environmental impacts are also briefly described within this Section. For a full description of the Project, its impacts, recommended mitigation measures, and considered Alternatives, please refer to EIR Sections 3.0, 4.0, and 5.0, respectively.

1.2 PROJECT ELEMENTS

Primary elements comprising the Project are summarized below. Please refer also to EIR Section 3.0, *Project Description*.

1.2.1 Site Preparation/Grading

Site preparation and grading activities are assumed to commence in January 2019. It is estimated that site preparation and grading activities would occur over an approximately 3-month period. The preliminary site grading concept indicates that approximately 830 cubic yards of fill would be required to prepare the site for construction. All grading activities would comply with City specifications and requirements.

1.2.2 Building/Facilities Construction/Paving

Construction and finishing of buildings, parking areas, landscape/hardscape, etc., is assumed to commence in April 2019. It is estimated that construction activities would occur over an approximately 16-month period. For the purposes of the EIR analysis, it is assumed that all buildings and supporting facilities would be constructed and operational by the Project Opening Year (2021).

1.2.3 Development Concept

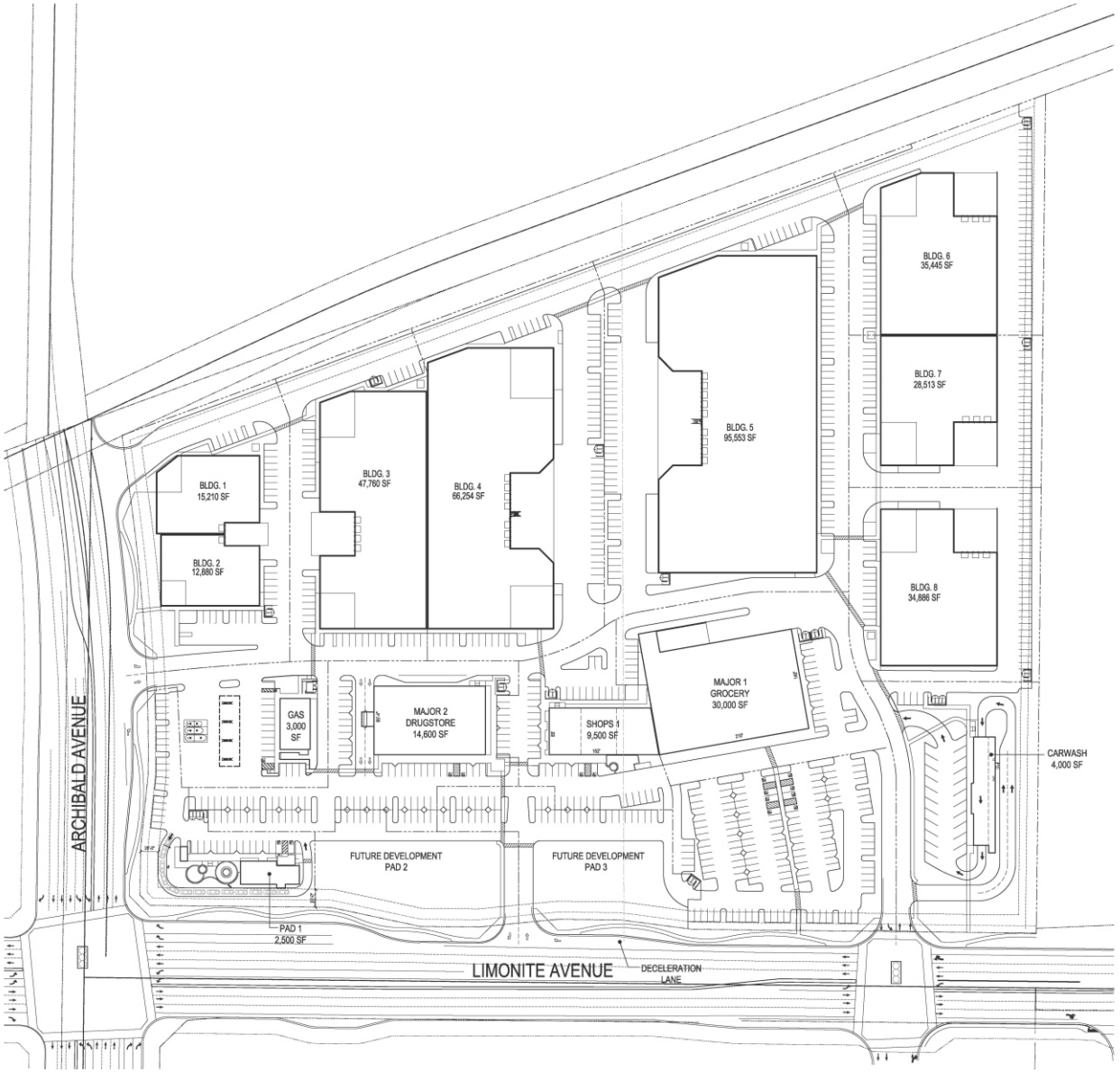
The Project evaluated in this EIR considers the maximum potential development of the subject site, and includes a total of 16 buildings as listed in Table 1.2-1. The evaluated Project includes construction and operation of approximately 336,501 square feet of light industrial and 71,100 square feet of commercial/retail uses (407,601 total square feet) within an approximately 26.28-acre site located in the northwest portion of the City of Eastvale. The Applicant's current development plans propose a lesser development intensity.

Table 1.2-1
The Merge – Building Summary

Land Uses	**Approx. Gross Leasable Area** (Square Feet)
Light Industrial	
Building 1	15,210
Building 2	12,880
Building 3	47,760
Building 4	66,254
Building 5	95,553
Building 6	35,445
Building 7	28,513
Building 8	34,886
Subtotal – Light Industrial Uses	*336,501 Square Feet*
Commercial	
Major 1 - Grocery	30,000
Major 2 – Drug Store	14,600
Shops	9,500
Gas Station	3,000
Car Wash (free standing)	4,000
Outpad 1 - Restaurant	2,500
Outpad 2 - Restaurant	3,000
Outpad 3 – Restaurant/Retail	4,500
Subtotal – Commercial Uses	*71,100 Square Feet*
Project Total	***407,601 Square Feet***

Source: The Merge Project Development Concept, August 2018.

The current Site Plan proposed by the application on file with the City (Figure 1.2-1) shows 14 buildings as opposed to the 16 buildings listed in Table 1.2-1. Two additional buildings (fast food drive-through restaurants on pads adjacent to Limonite Avenue) are not shown on the proposed site plan because the Applicant has not yet submitted applications for these buildings. Applications for these buildings will be filed at a future date. Any future variations or any substantive change to the Project evaluated in this EIR would, at the discretion of the Lead Agency, be subject to subsequent environmental analyses. In any case, ultimate configuration and orientation of the Project uses would be subject to City review and approval.



TABULATIONS

RETAIL PARCEL	+/- 10.8 ACRES
INDUSTRIAL PARCEL	+/- 15.4ACRES
TOTAL PARCELS	+/- 26.2 ACRES
BUILDING AREAS RETAIL:	
CAR WASH (25 DEDICATED STALLS)	4,000 SF
MAJOR 1 (GROCERY)	30,000 SF
MAJOR 2 (DRUGSTORE)	14,600 SF
SHOPS 1 (RETAIL)	9,500 SF
BUILDING P1 (RESTAURANT)	2,500 SF
BUILDING P2 (RESTAURANT)	3,000 SF
BUILDING P3 (RESTAURANT)	4,500 SF
GAS STATION WITH CONVENIENCE STORE	3,000 SF
RETAIL BUILDING TOTAL	71,100 SF
RETAIL BUILDING TOTAL (NOT INCL. CAR WASH)	67,100 SF
TOTAL PARKING REQUIRED (NOT INCL. CAR WASH)	421 STALLS
TOTAL PARKING PROVIDED (NOT INCL. CAR WASH)	430 STALLS
RETAIL BUILDING COVERAGE	15.0%
BUILDING AREAS INDUSTRIAL:	
BUILDING 1	15,210 SF
BUILDING 2	12,880 SF
BUILDING 3	47,760 SF
BUILDING 4	66,254 SF
BUILDING 5	95,553 SF
BUILDING 6	35,445 SF
BUILDING 7	28,513 SF
BUILDING 8	34,886 SF
BUILDING TOTAL	336,501 SF
TOTAL PARKING REQUIRED	242 STALLS
TOTAL PARKING PROVIDED	322 STALLS

N

NOT TO SCALE

Source: Architects Orange (8/10/18)

applied planning inc

Figure 1.2-1
Site Plan Concept

1.2.4 Access and Circulation

All Project access and circulation improvements would be designed and constructed consistent with City design and engineering standards. Roadways adjacent to the Project, site access points, and site-adjacent intersections would be constructed consistent with the identified roadway classifications and respective cross-sections in the City of Eastvale General Plan Circulation Plan.

1.2.4.1 Site Access

Direct access to the Project site would be provided by Limonite Avenue and Archibald Avenue. More specifically, the following Project driveway access improvements are proposed by the Applicant:

- Archibald Avenue and Driveway 1 – Unsignalized right-in/right-out/left-in driveway providing access to both passenger cars and trucks.

- Archibald Avenue and Driveway 2 – Unsignalized right-in/right-out driveway providing access to passenger cars only.

- Limonite Avenue and Driveway 3 – Unsignalized right-in/right-out driveway providing access to passenger cars only.

- Limonite Avenue and Driveway 4 – Signalized full-access driveway providing access to both passenger cars and trucks. This driveway is proposed to align with a future driveway to the south.[2]

Sight distance at each Project access point would be reviewed with respect to applicable Caltrans and City of Eastvale standards at the time of preparation of final grading, landscape and street improvement plans.

[2] Driveway 4 would align with the proposed Walmart driveway located opposite the Project on the south side of Limonite Avenue. The Project or Walmart (whichever development occurs first) would construct the traffic signal improvements at this location. Cost-sharing for signalization of this intersection would be as agreed to by the Project Applicant, developer of the Walmart site, and the City.

1.2.4.2 Site Adjacent Roadway Improvements

Off-site roadway improvements constructed as part of the Project would include the following:

- Archibald Avenue – Construct Archibald Avenue from the northern Project boundary to Limonite Avenue at its ultimate half-section width as a 6-lane Urban Arterial Highway (ultimate 152-foot right-of-way) in compliance with the City of Eastvale General Plan, Circulation Plan, or as otherwise required.[3]

- Limonite Avenue – Construct Limonite Avenue from Archibald Avenue to the eastern Project boundary at its ultimate half-section width as a 6-lane Urban Arterial Highway (ultimate 152-foot right-of-way) in compliance with the City of Eastvale General Plan, Circulation Plan, or as otherwise required.

Any necessary interim lane configurations, striping etc., as may be required by the City, would also be implemented.

1.2.4.3 Pedestrian, Bicycle/Multi-Use Trails, Transit Facilities

Pedestrian Access

Project construction of the ultimate half-section of Archibald Avenue and Limonite Avenue would include curb and gutter and sidewalk improvements consistent with City standards.

[3] The TIA shows that the intersection of Archibald Avenue and Driveway 1 satisfies the City's LOS criteria for acceptable peak hour operations as an unsignalized, right-in/right-out/left-in driveway. In addition, the intersection is not anticipated to meet the peak hour volume or planning level traffic signal warrants based on the future traffic volume forecasts developed for this TIA. However, at some point in the future, additional intersection traffic control at this intersection may be warranted based on conditions at the time.

Bicycle/Multi-Use Trails Access

The Jurupa Community Services District (JCSD) Parks and Recreation Master Plan[4] (JCSD Master Plan) indicates planned Class II bike lanes along Archibald Avenue and Limonite Avenue adjacent to the Project site.[5] The JCSD Master Plan also indicates a planned off-street Class I Multi-Use Trail along the Project north boundary adjacent to the existing Riverside County Flood Control and Water Conservation District (RCFCWCD) flood control channel.

The Applicant would coordinate final Project designs to ensure accommodation of planned or proposed bicycle and/or multipurpose trail facilities. The Project would construct pedestrian access and bicycle facilities improvements consistent with City standards and requirements. On-site Project bicycle amenities would be provided consistent with requirements and guidance provided in the City of Eastvale Zoning Code and the City of Eastvale *Design Standards and Guidelines*.

Transit Accommodations

A future bus stop is proposed on the south (eastbound) side of Limonite Avenue opposite the Project site. The Applicant will coordinate with the City and RTA for provision of crosswalks at the intersections of Archibald Avenue at Limonite Avenue and Driveway 4 at Limonite Avenue, facilitating pedestrian/bicycle access to the future bus stop.

1.2.4.4 Truck Access and Circulation

To plan for and accommodate large trucks that would access the Project, a truck turning template has been overlaid on the Project site plan at each driveway and site adjacent intersection anticipated to be utilized by heavy trucks. The truck turning template allows for estimation of appropriate curb radii, ensuring that trucks would have sufficient space to execute required turning maneuvers. Figure 3.6-3 presented in EIR Section 3.0, *Project*

4 *Jurupa Community Services District Parks and Recreation Master Plan* (RJM Design Group for JCSD) n.d.; Section Two, *Existing Recreation Resources,* Figure 2.8-2, *Planned Trails*. See also: https://www.jcsd.us/services/parks-and-recreation/parks-and-recreation-master-plan

5 The City of Eastvale Bicycle Master Plan (February 2016) recommends provision of a Class IV protected bike lane along Limonite Avenue adjacent to the Project site. See also: http://www.eastvaleca.gov/city-hall/bicycle-master-plan

Description, indicates recommended curb returns that would accommodate a typical WB-67 truck (73.5 feet total length, 53-foot trailer). This would be the longest truck anticipated to access the Project site.

The City would review all final site designs to ensure safe and efficient on-site access. Specifically, final site plan designs would be required to demonstrate adequate truck access to loading docks and include designated truck travel paths (or similar measures) to minimize potential conflicts between truck traffic and commercial-use traffic.

1.2.4.5 Construction Traffic Management Plan

Temporary and short-term traffic detours and traffic disruptions could result during Project construction activities, including construction of access and circulation improvements described above. Accordingly, a construction area traffic management plan (Plan) will be reviewed and approved by the City, and implemented during Project development. Typical elements and information incorporated in the Plan would include, but would not be limited to:

- **Name of on-site construction superintendent and contact phone number.**

- **Identification of Construction Contract Responsibilities** - For example, for excavation and grading activities, describe the approximate depth of excavation, and quantity of soil import/export (if any).

- **Identification and Description of Truck Routes** - The number of trucks and their staging location(s) (if any).

- **Identification and Description of Material Storage Locations (if any).**

- **Location and Description of Construction Trailer (if any).**

- **Identification and Description of Traffic Controls** - Traffic controls shall be provided per the Manual of Uniform Traffic Control Devices (MUTCD) if the

occupation or closure of any traffic lanes, parking lanes, parkways or any other public right-of-way is required. If the right-of-way occupation requires configurations or controls not identified in the MUTCD, a separate traffic control plan must be submitted to the City for review and approval. All right-of-way encroachments would require permitting through the City.

- **Identification and Description of Parking** - Estimate the number of workers and identify parking areas for their vehicles.

- **Identification and Description of Maintenance Measures** - Identify and describe measures taken to ensure that the work site and public right-of-way would be maintained (including dust control).

The Plan would be reviewed and approved by the City prior to the issuance of building permits. The Plan and its requirements would also be provided to all contractors as one required component of the building plan/contract document packages.

1.2.5 Parking

The EIR Project would include a total of 752 spaces – 430 spaces would be provided in support of the Project commercial/retail uses; 322 spaces would be provided in support of the Project light industrial uses. Current Applicant plans on file with the City reflect a reduced overall development intensity when compared to the Project evaluated in this EIR. This may result in reduced parking demands. All parking areas, to include parking stalls, drive aisles, parking lot landscaping, and hardscaping would be designed and constructed consistent with City design and development standards.

1.2.6 Signs

Varied Project sign types are anticipated, including freestanding multi-tenant pylon and monument signs, building tenant signs, and directional and informational signage. All Project signs would conform to standards and requirements of Municipal Code Section 120.05.070 (or a separate Sign Program as approved by the City of Eastvale).

1.2.7 Other Site Improvements

Other site improvements and amenities implemented by the Project would include, but would not be limited to: screen walls, perimeter definition and security fencing, landscape/hardscape improvements, including sidewalks; and decorative/security lighting.

1.2.8 Infrastructure/Utilities

Infrastructure and utilities that would serve the Project site are summarized below.

1.2.8.1 Water/Sanitary Sewer Services

Water and sewer services would be provided to the Project by the Jurupa Community Services District (JCSD). Water and sanitary sewer service extensions to the Project facilities would connect to existing facilities located in adjacent rights-of-way. Existing 24-inch water lines are located within the Limonite Avenue and Archibald Avenue rights-of-way. An existing 21-inch sanitary sewer line is located within Archibald Avenue right-of-way. Project wastewater would be conveyed for treatment to the Western Riverside County Regional Wastewater Authority (WRCRWA) plant. Final locations and alignments of water and sanitary sewer service lines, and connection to existing services would conform to City and JCSD requirements.

1.2.8.2 Storm Water Management System Concept

The Project would implement all drainage improvements and programs necessary to control and treat storm water pollutants. The Project storm water management system concept is described below.

Storm Water Collection and Conveyance

Project storm water runoff would be collected at on-site catch basins and directed to two on-site, below ground, detention basins. Storm water collected at these basins would be released in a controlled manner (not to exceed the design discharge flow of 39.61 cubic feet per second, cfs) to the existing 24-inch Master Drainage Plan (MDP) storm drain (MDP Lateral A-2) located in adjacent Limonite Avenue along the Project south

boundary. Please refer also to the Project Preliminary Drainage Study presented in EIR Appendix H.

1.2.8.3 Solid Waste Management

It is anticipated that Project-generated solid waste would be conveyed by existing service providers to either the El Sobrante Landfill, located in the City of Corona; or to the Lamb Canyon Landfill, located in Riverside County. The California Integrated Waste Management Act of 1989, with certain exceptions, initially required diversion of 50% of all solid waste from landfill disposal or transformation by January 1, 2000. As of July 2012, AB 341 increased the State of California's waste diversion goal from 50 percent to 75 percent. AB 341 legislation also includes mandatory waste recycling measures acting to reduce greenhouse gas emissions.

The City is currently meeting or exceeding all state-mandated solid waste diversion targets. The Project would comply with the California Integrated Waste Management Act and AB 341 as implemented by the City.

Additionally, consistent with Section 5.408 "Construction Waste Reduction, Disposal, and Recycling" of the California Green Building Standards Code (CALGreen Code), as adopted by the City of Eastvale, a minimum of 50 percent of the Project's nonhazardous construction and demolition waste would be recycled or salvaged for reuse. To these ends, a Project Construction Waste Management Plan would be prepared consistent with Section 5.408.1.1 of the CALGreen Code. These measures would collectively reduce Project construction waste and would act to reduce demands on solid waste management resources.

1.2.8.4 Electrical and Communications Services

All on-site electrical and communications services lines and supporting facilities would be constructed underground excluding certain above-ground, pad-mounted appurtenances. Above-ground, pad-mounted facilities would be screened consistent with City standards. All proposed electrical and communications lines and supporting

facilities would be located and constructed consistent with City and purveyor requirements.

Electrical Service

Electrical service would be provided to the Project by Southern California Edison (SCE). As part of the Project, certain existing SCE transmission poles along Archibald Avenue would be removed, and new replacement poles would be installed at locations determined appropriate by SCE and the City. Existing overhead SCE and Frontier Communications lines along Limonite Avenue and Archibald Avenue not relocated to the new transmission poles would be placed underground.

Communications Services

Communications services, including wired and wireless telephone and internet services are available through numerous private providers and would be provided on an as-needed basis. Cable service is currently available from AT&T; phone service (land line) is currently available from Verizon.

1.2.8.5 Natural Gas

Natural gas service would be provided by The Gas Company. It is anticipated that gas service to the Project would be provided via connection to the existing 36-inch gas line located within the adjacent Limonite Avenue right-of-way. Alignment of service lines and connection to existing services would be as required by The Gas Company.

1.2.9 Police, Fire Protection, and Emergency Medical Services

Police, fire protection and emergency medical services are currently available to the Project and are listed below.

- Police Protection Services (Eastvale Police Department, provided via contract with the Riverside County Sheriff's Department from the Jurupa Valley Station).

- Fire Protection and Emergency Medical Services (CAL FIRE/Riverside County Fire Department).

1.2.10 Energy Efficiency/Sustainability

The Project would comply with or would surpass standards established under the California Code Title 24, Part 6 (the California Energy Code) and California Green Building Standards Code (CALGreen; CCR, Title 24, Part 11) as implemented by the City of Eastvale.

1.2.11 Landscaping

Drought-tolerant plants would be used where appropriate. The Project would install recycled water distribution system for landscaping and connect reclaimed water system(s) when available to the Project Site. Project use of reclaimed water for non-potable purposes reduces the Project's potable water demands.

Project landscaping would conform to City requirements and per the recommendations of the Riverside County Airport Land Use Commission (ALUC). A variance to Eastvale Municipal Code Section 120.05.040 is proposed to allow for landscape reductions consistent with the recommendations of the ALUC.

1.3 PROJECT OBJECTIVES

The primary goal of the Project is the development of the subject site with a mix of light industrial and commercial/retail uses. Project Objectives include the following:

- To provide light industrial and commercial/retail uses that serve the local market area and beyond; and that attract new customers and businesses to Eastvale;

- Improve and maximize economic viability of the site through the establishment of light industrial and commercial/retail uses;

- Maximize and broaden the City's sales tax base by providing local and regional tax-generating uses and by increasing property tax revenues;

- Provide light industrial and commercial/retail uses within contemporary energy-efficient buildings, at a location that is readily accessible by patrons and employees;

- Create additional employment-generating opportunities for the residents of Eastvale and surrounding communities.

1.4 DISCRETIONARY APPROVALS AND PERMITS

Discretionary actions, permits and related consultation(s) necessary to approve and implement the Project would include, but are not limited to, the following.

1.4.1 Lead Agency Discretionary Actions and Permits

- CEQA Compliance/EIR Certification. The City must certify the EIR prior to, or concurrent with, any approval of the Project.

- Approval of a General Plan Amendment (Land Use) for approximately 10.8 acres from Light Industrial (LI) to Commercial Retail (CR).

- Approval of a Zone Change for approximately 10.8 acres from Heavy Agricultural (A-2) to General Commercial (C-1/C-P); and for approximately 15.4 acres from Heavy Agricultural (A-2) to Industrial Park (I-P).

- Approval of Major Development Review.

- Approval of Tentative Parcel Map(s).

- Approval of Conditional Use Permits (CUPs) for the sale of alcohol for off-site consumption, and for drive-throughs including restaurants, car washes, and a drugstore pick-up window.

- Approval of a variance to Eastvale Municipal Code Section 120.05.040 to allow for landscape reductions/modifications consistent with Riverside County Airport Land Use Commission recommendations.

- Additionally, the Project would require a number of non-discretionary construction, grading, drainage and encroachment permits from the City to allow implementation of the Project facilities.

1.4.2 Other Consultation and Permits

Anticipated consultation and permits necessary to realize the Project would likely include, but are not limited to the following:

- Consultation with requesting Tribes as provided for under *AB 52, Gatto. Native Americans: California Environmental Quality Act*; and *SB 18, Burton. Traditional tribal cultural places*.

- Permitting by/through the Regional Water Quality Control Board (RWQCB) consistent with requirements of the City's National Pollutant Discharge Elimination System (NPDES) Permit;

- Permitting by/through the South Coast Air Quality Management District (SCAQMD) for certain equipment or land uses that may be implemented within the Project Site;

- Permitting (i.e., utility connection permits) from serving utility providers including but not limited to approval from Jurupa Community Services District for water and wastewater connections;

- Airport Land Use Compatibility Plan compatibility determination from the Riverside County Airport Land Use Commission.

- Other ministerial permits necessary to realize all on- and off-site improvements related to the development of the site.

1.5 INITIAL STUDY/NOTICE OF PREPARATION

The City of Eastvale has determined that the Project has the potential to cause or result in significant environmental impacts, and warranted further analysis, public review, and disclosure through the preparation of an EIR.

A Notice of Preparation (NOP), dated June 28, 2018, was forwarded to the Governor's Office of Planning and Research, State Clearinghouse (SCH), and circulated for public review and comment. The State Clearinghouse established the comment period for the NOP as June 28 through July 27, 2018.

The assigned State Clearinghouse reference for the Project is SCH No. 2018061065. The Notice of Preparation, and all NOP responses are presented in Appendix A of this EIR.

1.6 IMPACTS NOT FOUND TO BE POTENTIALLY SIGNIFICANT

The following discussions identify those environmental issues that have been determined not to be potentially significant, and consistent with *CEQA Guidelines* Section 15143, *Emphasis*, need not be addressed in detail in the EIR. Accordingly, the specific issues listed are not substantively discussed within the body of this EIR. Any related technical studies and references are noted in the following discussions. A complete list of references is provided at the conclusion of the EIR. All cited materials are available at, or can be made available by contacting, the City of Eastvale Planning Department.

Aesthetics

There are no scenic vistas identified in the City of Eastvale General Plan on or near the Project Site. The area surrounding the Project Site is developed with, or is designated for development with, urban/suburban uses. Neither the Project Site nor the surrounding areas contain any unique visual features that could represent a scenic vista.

The Project Site is not located in the vicinity of any highways that have been officially designated or are eligible for official designation as state scenic highway. The nearest scenic highway is State Route (SR-71), which is located approximately five miles to the southwest. The Project Site does not have any scenic resources such as trees, rock outcroppings, or historic buildings.

The Project would be a logical extension of, and visually compatible with, existing similar development in the vicinity. Furthermore, the Project would be subject to the Eastvale Design Standards and Guidelines. Project designs as approved by the City would exhibit high quality and would be visually appealing. The Project final designs as approved by the City would provide screening of potentially intrusive visual elements such as parking areas, loading docks, storage areas, utilities, and rooftop equipment.

The Project would be subject to the standards contained in Eastvale Zoning Code Section 5.5, *Outdoor Lighting*. This section requires that all outdoor lighting fixtures for commercial use undergo development review approval by the City. All outdoor lighting must be fully shielded and/or recessed and directed downward to reduce light trespass to adjoining properties. All lighting must be designated to illuminate at the minimum level necessary for safety and security. Additionally, the height of all pole-mounted lighting fixtures would be limited based on proximity to residential uses. Compliance with these existing City lighting standards would reduce the potential for light and glare to affect adjacent uses and the nighttime sky to levels that would be less-than-significant.

As such, the Project would not result in potentially significant impacts for the following considerations:

- 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;

- Substantially degrade the existing visual character or quality of the site and its surroundings; and

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

Agriculture and Forest Resources

When assessing impacts to agricultural resources, the CEQA checklist requires the consideration of a number of issues to determine whether impacts would result from the approval of the Project. The first consideration is whether the Project would convert lands identified by the State as either Prime Farmland or Unique Farmland or Farmlands of Statewide Importance to non-agricultural uses. CEQA also requires consideration of whether the Project would conflict with zoning for agricultural use or with an existing Williamson Act contract.

The Project site is surrounded by urban development. The site has no existing buildings, and is used for the growing of a variety of crops from time to time. The site is not subject to a Williamson Act contract and does not meet the definition of forest land or timberland. Additionally, no forest lands are located within the Project site or vicinity.

The Project site is zoned Heavy Agricultural (A-2). The Project site is currently designated as "Prime Farmland."[6] However, the City of Eastvale General Plan designates the site as Light Industrial and therefore the City had previously determined via General Plan technical studies, the General Plan EIR and public input, that long-term use of the property should be dedicated to urban uses (as opposed to agricultural uses).

Based on the preceding, the Project would not result in potentially significant impacts for the following considerations:

[6] CA Dept. of Conservation. "DLRP Important Farmland Finder." *California Important Farmland Finder*, CA Dept. of Conservation, 2016, maps.conservation.ca.gov/DLRP/CIFF/.

- Conversion of 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, timberland, or timberland zoned "Timberland Production;"

- Result in the loss of forest land or conversion of forest land to non-forest use; or

- 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

Information presented in this Section is summarized and excerpted from *The Merge Habitat Assessment and Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis* (ELMT Consulting, Inc.) Updated June 2018 (Project Biological Resources Study, Appendix J).

The Project site primarily consists of vacant, undeveloped land that has been subject to a variety of anthropogenic disturbances from agricultural activities and surrounding development. These disturbances have eliminated the natural plant communities that once occurred on the Project site which has resulted in a majority of the site being dominated by non-native vegetation and heavily compacted soils; as a result, it was determined that there are no sensitive biological resources associated with the site.

The Biological Resources Study determined that no special-status plant or wildlife are present on the Project site. Although the Biological Resources Study concluded that burrowing owls are absent from the Project Site, mitigation (BIO-1) is included, requiring

a burrowing owl pre-construction survey be conducted prior to ground disturbance. Additional mitigation (BIO-2) is included to prevent impacts to migrating/nesting birds. Please refer to Table 1.11-1, *Summary of Impacts and Mitigation*.

There are no riparian areas or sensitive vegetation communities within or adjacent to the Project Site. No jurisdictional drainage and/or wetland features were observed within the Project Site during the field survey.

The Santa Ana River is located approximately 2.10 miles to the south of the Project site, which has been identified as a wildlife corridor in the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). However, the site has not been identified as a wildlife corridor or linkage since the site's connection to the Santa Ana River has been eliminated by surrounding residential and recreational developments. As such, development of the Project is not expected to impact wildlife movement opportunities or prevent the Santa Ana River from continuing to function as a wildlife corridor.

The Project site is located within the Eastvale Area Plan of the MSHCP, but not located within any Criteria Cells or MSHCP Conservation Areas. The Project site is located within the designated survey area for burrowing owl and Narrow Endemic Plant Species. No sensitive plant species or suitable habitat for any sensitive plant species exists within the Project site. There are no other applicable local policies or ordinances with respect to biological resources. The Project Applicant would pay requisite MSHCP fees.

Based on the preceding, Project impacts would be less-than-significant, or would be mitigated to less-than-significant levels for the following considerations:

- Potential to 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 Wildlife or US Fish and Wildlife Service;

- Potential to 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 Wildlife or US Fish and Wildlife Service;

- Potential to 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;

- Potential to 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;

- Potential to conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and

- Potential to conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

Mineral Resources

The Project site has no history of use as a mineral resource recovery operation and would not result in the loss of availability of a locally important mineral resources or resource recovery site.

As such, the Project would result in no impacts for the following mineral resources considerations:

- Loss of availability of a known mineral resource that would be of value to the region and to the residents of the state; and

- Loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Population and Housing

Construction of new housing is not a component of the Project. Employment generated by the Project may incidentally contribute to nominal population growth; however, Project-related employment demands would likely be filled by the existing personnel pool within the City of Eastvale and neighboring communities. Further, the Project site is located within an area that is already served by roadways, utilities, and other infrastructure that can indirectly encourage population growth. As such, the Project would not contribute directly or indirectly to substantial population growth. The Project would not displace substantial numbers of existing housing.

Based on the preceding, the Project would have less-than-significant impacts for the following population and housing considerations:

- Induce substantial population growth in the area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through the extension of roads or other infrastructure);

- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; and

- Displace substantial numbers of people necessitating the construction of replacement housing elsewhere.

Recreation

The proposed Project does not include dwelling units and therefore would not result in direct population growth. The Project would not increase the use of existing neighborhood or regional parks or other recreational facilities. As such, this condition

precludes the possibility of the Project causing physical deterioration of recreational facilities. No impacts would occur.

The proposed Project does not include the construction of recreational facilities. This precludes the possibility of the Project causing physical impacts on the environmental as a result of the construction of recreational facilities. No impacts would occur.

On this basis, the Project would result in no impacts for the following considerations:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial deterioration of the facility would occur or be accelerated; and

- Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.

1.7 AREAS OF CONCERN OR CONTROVERSY

Section 15123 of the *CEQA Guidelines* requires that the EIR summary identify areas of potential concern or controversy known to the lead agency, including issues raised by other agencies and the public. Issues of concern were identified by the Lead Agency, through responses to the Project Initial Study/Notice of Preparation (NOP), and other communications addressing the Project and the Project EIR.

Responses to the NOP are presented in EIR Appendix A. Table 1.7-1 lists NOP respondent agencies, organizations, and individuals. A corresponding summary of respondent comments is presented, indicated by *italicized text.* Responses to comments, together with correlating EIR references are indicated in subsequent statements. Unless otherwise noted, all respondent comments are addressed within the body of the EIR.

Table 1.7-1
List of NOP/AB52 Respondents and Summary of Comments/Responses

Respondent	Summary of Comments
State Agencies	
Office of Planning and Research-State Clearinghouse (SCH)	*SCH lists Responsible and Trustee Agencies receiving the NOP. SCH assigns the SCH No. 2018061065 to the Project environmental documents. SCH established the review and comment period for the NOP as June 28 through July 27, 2018.* EIR Appendix A includes a copy of the Project NOP and NOP Responses.
State of California Department of Transportation, District 8 (Caltrans)	*Caltrans has determined that this Project will not have a significant effect on the State Highway System (SHS) and provides no further comment. Contact information is provided.* The commentor will be provided copies of subsequent environmental documents.
Regional Agencies	
South Coast Air Quality Management District (SCAQMD)	*SCAQMD provides detailed guidance regarding the preparation of the Project air quality impact analysis and greenhouse gas analysis. SCAQMD requests that . . . "the DEIR [and] all appendices or technical documents related to the air quality, health risk, and greenhouse gas analyses and electronic versions of all air quality modeling and health risk assessment files" be provided.* The Project Air Quality Impact Analysis (AQIA) and Health Risk Assessment (HRA) are presented in EIR Appendix C. The Project Greenhouse Gas Analysis (GHGA) is presented in EIR Appendix D. Specific topics cited by SCAQMD in their NOP response are addressed in EIR Section 4.3, *Air Quality*; and EIR Section 4.4, *Global Climate Change and Greenhouse Gas Emissions*. The DEIR, modeling data input/output files, technical studies and supporting air quality documentation have been provided to SCAQMD in electronic format(s) as requested.
City/County Agencies	
City of Ontario	*The City of Ontario requests that the EIR Traffic Impact Analysis (TIA) include and reflect certain analyses addressing City of Ontario transportation/traffic facilities.* All potentially affected transportation/traffic facilities located with the City of Ontario have been evaluated within the Project TIA. As requested by the City of Ontario, the EIR and Project TIA address the following: • Where applicable, the San Bernardino County Transportation Authority (SBCTA) Congestion Management Program (CMP) *Guidelines for CMP Traffic Impact Analysis Reports* (Appendix B, 2016 Update) have been followed for the study area intersections located in the City of Ontario. • City of Ontario intersections projected to receive ≥ 50 Project-source peak hour trips have been evaluated. The Project TIA considers effects of related cumulative projects located in the City of Ontario.

Table 1.7-1
List of NOP/AB52 Respondents and Summary of Comments/Responses

Respondent	Summary of Comments
Riverside Transit Agency (RTA)	*RTA recommends that the Project Applicant and Lead Agency consider incorporation of a bus stop along Limonite Avenue to provide for potential future service.* Bus stop facility recommendation(s) provided by RTA are recognized. As part of the City's standard development review process, the need for and appropriateness of transit-related facilities including, but not limited to, bus shelters would be coordinated between the City and the Project Applicant, with input from RTA.
Other Agencies	
Agua Caliente Band of Cahuilla Indians	*The commentor states that the Project site is located outside of their Tribe's Traditional Use Area and defers to other tribes in the area.* Commentor's response is acknowledged.
Soboba Band of Luiseño Indians	*The commentor requests initiation of AB52 consultation with the City of Eastvale.* The City has contacted the Soboba Band of Luiseño Indians representative, and has initiated AB52 consultation.

1.8 EIR TOPICAL ISSUES

Based on the Initial Study analysis, NOP comments, and other public/agency input, the analysis of the EIR addresses the following topics:

- Air Quality;
- Geology and Soils;
- Global Climate Change and Greenhouse Gas Emissions;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use;
- Public Services and Utilities;
- Noise;
- Transportation/Traffic; and
- Cultural Resources/Tribal Cultural Resources.

Additionally, EIR Section 5.0, *Other CEQA Considerations*, presents discussions of other mandatory CEQA topics including:

- Cumulative Impact Analysis;
- Alternatives Analysis;
- Growth-Inducing Impacts of the Proposed Action;
- Significant Environmental Effects;
- Significant and Irreversible Environmental Changes; and
- Energy Conservation.

1.9 SUMMARY OF SIGNIFICANT PROJECT IMPACTS

Implementation of the Project would result in certain impacts determined to be significant. These impacts are discussed in detail in the body of the EIR text under their associated topical headings and are summarized in Table 1.9-1.

Table 1.9-1
Summary of Significant and Unavoidable Impacts

Environmental Topic	Comments
Transportation/ Traffic	To address potentially significant impacts affecting Study Area facilities, the Applicant would pay all requisite fees, offsetting the Project's proportional contributions to cumulative traffic impacts thereby fulfilling the Applicant mitigation responsibilities. Notwithstanding, payment of fees consistent with TUMF, RBBD, and DIF mandates, and fair share fees required under the EIR Mitigation Measures would not ensure timely completion of required improvements at affected Study Area facilities. Moreover, there are no current plans to improve the affected facilities, and the City does not have an existing agreement with extra-jurisdictional agencies regarding the funding of improvements, construction of improvements, or timing of improvements at locations along, or beyond the City corporate boundaries. Thus, while the physical improvements identified in the EIR and TIA would be capable of mitigating potentially significant impacts, these improvements cannot be timely assured. On this basis, pending completion of required improvements, Project impacts at the facilities listed below would be cumulatively considerable, and impacts would be cumulatively significant. **Existing (2018) Conditions:** ***Intersections*** Pending completion of required improvements, the Project's incremental contributions to Existing Conditions cumulative traffic impacts at or affecting the following intersections are considered cumulatively significant and unavoidable: **ID No. — Intersection** 2 — Flight Ave. & Merrill Ave. 4 — Hellman Ave. & Kimball Ave. (improvements currently under construction) 15 — Archibald Ave. & Limonite Ave.

Table 1.9-1
Summary of Significant and Unavoidable Impacts

Environmental Topic	Comments
	Roadway Segments Pending completion of required improvements, the Project's incremental contributions to Existing Conditions cumulative traffic impacts at or affecting the following roadway segments are considered cumulatively significant and unavoidable: **ID No.** — **Roadway Segment** 2 — Limonite Ave. – Sumner Ave. to Hamner Ave. **Opening Year (2021) Conditions:** ***Intersections*** Pending completion of required improvements, the Project's incremental contributions to Opening Year Cumulative traffic impacts at or affecting the following intersections are considered cumulatively significant and unavoidable: **ID No.** — **Intersection** 1 — Grove Ave. & Merrill Ave. 2 — Flight Ave. & Merrill Ave. 3 — Hellman Ave. & Merrill Ave. 4 — Hellman Ave. & Kimball Ave. (improvements currently under construction) 6 — Archibald Ave. & Riverside Dr. 8 — Archibald Ave. & Schaefer Ave. 9 — Archibald Ave. & Ontario Ranch Rd. 11 — Archibald Ave. & Merrill Ave. 12 — Archibald Ave. & Victoria Ln. 15 — Archibald Ave. & Limonite Ave. 16 — Archibald Ave. & 65th St. 17 — Archibald Ave. & Schleisman Rd. 20 — Harrison Ave. & Limonite Ave. 24 — I-15 SB Ramps & Limonite Ave. 25 — I-15 NB Ramps & Limonite Ave. ***Roadway Segments*** Pending completion of required improvements, the Project's incremental contributions to Opening Year Conditions cumulative traffic impacts at or affecting the following roadway segments are considered cumulatively significant and unavoidable: **ID No.** — **Roadway Segment** 2 — Limonite Ave. – Sumner Ave. to Hamner Ave. 3 — Limonite Ave. – Hamner Ave. to I-15 Fwy. 5 — Archibald Ave. – Limonite Ave. to 65th St. ***Freeway Segments*** The Project's incremental contributions to Opening Year Cumulative traffic impacts at or affecting the following freeway segments are considered cumulatively significant and unavoidable: • I-15 Freeway Southbound, South of Limonite Ave. – LOS E AM and PM peak hours.

Table 1.9-1
Summary of Significant and Unavoidable Impacts

Environmental Topic	Comments
	Horizon Year (2040) Conditions: ***Intersections - Without Limonite Avenue Extension*** Pending completion of required improvements, the Project's incremental contributions to Horizon Year traffic impacts at or affecting the following intersections are considered cumulatively significant and unavoidable: **ID No. — Intersection** 1 — Grove Ave. & Merrill Ave. 2 — Flight Ave. & Merrill Ave. 3 — Hellman Ave. & Merrill Ave. 4 — Hellman Ave. & Kimball Ave. 6 — Archibald Ave. & Riverside Dr. 7 — Archibald Ave. & Chino Ave. 8 — Archibald Ave. & Schaefer Ave. 9 — Archibald Ave. & Ontario Ranch Rd. 10 — Archibald Ave. & Eucalyptus Ave. 11 — Archibald Ave. & Merrill Ave. 12 — Archibald Ave. & Victoria Ln. 15 — Archibald Ave. & Limonite Ave. 16 — Archibald Ave. & 65th St. 17 — Archibald Ave. & Schleisman Rd. 20 — Harrison Ave. & Limonite Ave. 21 — Sumner Ave. & Limonite Ave. 22 — Scholar Way & Limonite Ave. 24 — I-15 SB Ramps & Limonite Ave. 25 — I-15 NB Ramps & Limonite Ave. ***Intersections - With Limonite Avenue Extension*** Pending completion of required improvements, the Project's incremental contributions to Horizon Year traffic impacts at or affecting the following intersections are considered cumulatively significant and unavoidable: **ID No. — Intersection** 1 — Grove Ave. & Merrill Ave. 2 — Flight Ave. & Merrill Ave. 3 — Hellman Ave. & Merrill Ave. 4 — Hellman Ave. & Kimball Ave. 5 — Hellman Ave. & Pine Ave. 6 — Archibald Ave. & Riverside Dr. 7 — Archibald Ave. & Chino Ave. 8 — Archibald Ave. & Schaefer Ave. 9 — Archibald Ave. & Ontario Ranch Rd. 10 — Archibald Ave. & Eucalyptus Ave. 11 — Archibald Ave. & Merrill Ave. 12 — Archibald Ave. & Victoria Ln.

Table 1.9-1
Summary of Significant and Unavoidable Impacts

Environmental Topic	Comments
	15 Archibald Ave. & Limonite Ave. 16 Archibald Ave. & 65th St. 17 Archibald Ave. & Schleisman Rd. 20 Harrison Ave. & Limonite Ave. 21 Sumner Ave. & Limonite Ave. 22 Scholar Way & Limonite Ave. 24 I-15 SB Ramps & Limonite Ave. 25 I-15 NB Ramps & Limonite Ave. ***Roadway Segments - Without Limonite Avenue Extension*** Pending completion of required improvements, the Project's incremental contributions to Horizon Year Conditions cumulative traffic impacts at or affecting the following roadway segments are considered cumulatively significant and unavoidable: **ID No. Roadway Segment** 2 Limonite Ave. – Sumner Ave. to Hamner Ave. 3 Limonite Ave. – Hamner Ave. to I-15 Fwy. 5 Archibald Ave. – Limonite Ave. to 65th St. ***Roadway Segments - With Limonite Avenue Extension*** Pending completion of required improvements, the Project's incremental contributions to Horizon Year Conditions cumulative traffic impacts at or affecting the following roadway segments are considered cumulatively significant and unavoidable: **ID No. Roadway Segment** 5 Archibald Ave. – Limonite Ave. to 65th St. ***Freeway Ramp Merge/Diverge Areas*** Pending completion of required improvements, the Project's incremental contributions to Post-2035 Cumulative traffic impacts at or affecting the following freeway merge/diverge areas are considered cumulatively significant and unavoidable: • I-15 Freeway Southbound, On-Ramp at Limonite Ave. (#3) – LOS E AM peak hour only • I-15 Freeway Northbound, Off-Ramp at Limonite Ave. (#6) – LOS E AM peak hour only
Air Quality	**NOx Regional Threshold Exceedance** Project operational-source emissions of nitrogen oxides (NO_x) would exceed applicable South Coast Air Quality Management District (SCAQMD) regional thresholds. This is a Project-level and cumulatively significant impact. **Contributions to Non-Attainment Conditions** The Project is located within ozone and PM_{10}/$PM_{2.5}$ non-attainment areas (NO_x is a precursor to ozone, PM_{10}, and $PM_{2.5}$). Project operational-source NO_x emissions exceedances would therefore result in a cumulatively considerable net increase in criteria pollutants (ozone, PM_{10}, and $PM_{2.5}$) for which the Project region is non-attainment. These are cumulatively significant air quality impacts. **AQMP Inconsistency** The Project land uses are not reflected in land use plans and regional development assumed in the South Coast Air Basin 2016 Air Quality Management Plan (AQMP). On this basis, the Project is assumed to generate operational-source emissions not reflected within the current AQMP regional emissions inventory for the Basin. The Project is

Table 1.9-1
Summary of Significant and Unavoidable Impacts

Environmental Topic	Comments
	therefore considered to be inconsistent with the 2016 AQMP. This is a Project-level and cumulatively significant impact.
GHG Emissions	Project GHG emissions would exceed the SCAQMD screening-level threshold of 3,000 MTCO2e/Year. On this basis, quantified net Project GHG emissions would be cumulatively considerable, and the Project net GHG emissions impact would be cumulatively significant and unavoidable.

As substantiated within this EIR, all other potential environmental effects of the Project would be less-than-significant or are reduced below levels of significance with application of mitigation measures identified herein. A summary of all Project impacts and proposed mitigation measures is presented in EIR Section 1.11, *Summary of Impacts and Mitigation*.

1.10 ALTERNATIVES TO THE PROJECT

Consistent with provisions of the *CEQA Guidelines*, this EIR evaluates alternatives to the Project that would lessen its significant environmental effects while allowing for attainment of the basic Project Objectives. Alternatives to the Project are described and summarized below. Please refer also to the detailed Alternatives Analysis presented in EIR Section 5.0, *Other CEQA Considerations*; 5.2, *Alternatives Analysis.*

Alternatives to the Project evaluated in detail in this EIR include:

- No Project Alternative; and
- Reduced Intensity Alternative.

Several other Alternatives were also considered and rejected. These are:

- Alternative Sites;
- Avoidance of Significant Traffic Impacts Alternative;
- Avoidance of Significant Air Quality Impacts Alternative;
- Avoidance of AQMP Inconsistency Impacts Alternative; and
- Avoidance of Significant GHG Emissions Impacts Alternative.

1.10.1 Description of Alternatives

1.10.1.1 No Project Alternative Overview

The *CEQA Guidelines* specifically require that an EIR include evaluation of a No Project Alternative. The No Project Alternative should make a reasoned assessment as to future disposition of the subject site should the Project under consideration not be developed. In this latter regard, the *CEQA Guidelines* state in pertinent part:

> "If the project is other than a land use or regulatory plan, for example a development project on identifiable property, the "no project" alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this "no project" consequence should be discussed. In certain instances, the no project alternative means "no build" wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment (*CEQA Guidelines*, Section 15126.6 (e)(3)(b))."

In the case considered here, the subject site is a vacant and available property absent any significant environmental or physical constraints. Further, the Project area is fully served by proximate available utilities and supporting public services; and is provided appropriate access. Areas around the subject site are developed with or are being developed with urban uses. The Project area is not substantively constrained by physical conditions or environmental considerations.

Given the availability of infrastructure/services, lack of environmental or physical constraints; and proximity of other urban development, it is considered unlikely that the subject site would remain vacant or in a "No Build" condition. Evaluation of a No Build condition would therefore "analyze a set of artificial assumptions that would be required to preserve the existing physical environment." This is inconsistent with direction provided in *CEQA Guidelines*, Section 15126.6 (e)(3)(b), as presented above. On this basis, a No Build condition is rejected as a potential EIR No Project Alternative.

Evaluated No Project Alternative

In light of the preceding discussions, for the purposes of this Alternatives Analysis, and to provide for analysis differentiated from the Project, the No Project Alternative considered herein assumes development of the Project site allowed under the site's current Light Industrial General Plan Land Use designation. Under the No Project Alternative, it is assumed that the entire 26.28-acre Project site would be developed with light industrial uses. The Project proposes approximately 336,501 square feet of light industrial uses on approximately 15.4 acres, yielding a floor-to-area ratio (FAR) of approximately 0.50. Translated over the entire 26.28-acre site, this would yield approximately 574,237 square feet of light industrial development under the No Project Alternative.

Light industrial uses implemented under the No Project Alternative conform to development anticipated under the AQMP. The No Project Alternative would therefore avoid AQMP inconsistencies otherwise resulting from the Project.

NOx emissions exceedances resulting from the Project would not occur under the No Project Alternative. The No Project Alternative would therefore avoid individually and cumulatively significant NOx emissions impacts and associated non-attainment pollutant contribution impacts otherwise resulting from the Project.

The No Project Alternative would reduce traffic impacts and GHG emissions impacts when compared to the Project. These impacts, while diminished under the No Project

Alternative, would not be reduced to levels that would be less-than-significant, and would therefore remain significant and unavoidable.

1.10.1.2 Reduced Intensity Alternative Overview

The Project would result in certain cumulatively significant traffic impacts (roadway segments and intersections), air quality impacts (operational-source regional NOx threshold exceedance, cumulative contributions to Basin non-attainment conditions, Air Quality Management Plan inconsistency); and GHG emissions impacts (exceedance of SCAQMD screening-level threshold, 3,000 MTCO2e/year). The Reduced Intensity Alternative considered in this EIR is directed at reduction of the Project's significant NOx emissions impacts. This Alternative would also diminish the scope of Project impacts in general. However, there are no feasible means to completely avoid significant impacts otherwise occurring under the Project; or to reduce these impacts to levels that would be less-than-significant.

Evaluated Reduced Intensity Alternative

The Reduced Intensity Alternative considers a development scenario that would reduce Project operational-source NOx emissions. Of the total operational-source NOx emissions generated by the Project, more than 99 percent (by weight) are due to Project-related traffic. The most effective way to reduce NOx emissions, therefore, would be to reduce the total amount of Project-related vehicle travel (expressed as Average Daily Trips [ADT]).[7]

For purposes of the EIR Alternatives Analysis, the Reduced Intensity Alternative is based on an overall reduction in Project trip generation of 25 percent. Project vehicular-source NOx emissions would be reduced proportionally. To achieve the 25 percent reduction in trip generation, the scope of Project uses would be reduced, and/or the types and variety of occupancies proposed by the Project would be modified.

[7] Within the EIR Alternatives Analysis, trip generation and ADT volumes are expressed in terms of Passenger Car Equivalents (PCE).

In addition to a general reduction in operational-source NOx emissions, the Reduced Intensity Alternative would reduce the extent of significant traffic and GHG emissions impacts otherwise occurring under the Project. The Reduced Intensity Alternative would also reduce contributions to Basin pollutant non-attainment conditions, and would reduce the scope of development considered inconsistent with the AQMP. These impacts, would be diminished under the Reduced Intensity Alternative, but would not be reduced to levels that would be less-than-significant. The impacts would therefore remain significant and unavoidable.

1.10.1.3 Alternatives Considered and Rejected

Alternative Sites Considered and Rejected

As stated in the *CEQA Guidelines* §15126.6 (f)(1)(2)(A), the "key question and first step in [the] analysis [of alternative locations] is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR." *CEQA Guidelines* §15126.6 (f) (1) also provides that when considering the feasibility of potential alternative sites, the factors that may be taken into account include: "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). None of these factors establishes a fixed limit on the scope of reasonable alternatives."

As discussed in the body of the Draft EIR and summarized previously in Table 5.2-1, the Project will result in the following significant impacts:

- Cumulatively significant traffic impacts;

- Operational-source NO_x emissions exceeding SCAQMD regional thresholds and related cumulative air quality impacts and nonattainment impacts;

- AQMP inconsistency impacts; and

- Cumulatively significant GHG emissions impacts.

All other potential Project impacts are determined to be either less-than-significant, or less-than-significant after mitigation.

Relocation to an Alternative Site is not likely to achieve any measurable reduction in the Project's traffic impacts. Specifically, implementation of traffic improvements, including intersection signalization and roadway segment widening as envisioned under the City General Plan Circulation Element, are on-going processes undertaken in conjunction with the development of vacant or underutilized properties throughout the City. As such, it is unlikely that a suitable Alternative Site could be identified that would distribute Project trips only to roadways that have already been improved to their ultimate General Plan configurations, thus completely avoiding the Project's cumulatively significant impacts at transportation facilities. Further, there are no feasible alternative sites under control or likely control of the Applicant that would allow for relocation of the Project and associated reassignment of traffic.

Relocation to an Alternative Site would not likely achieve any measurable reduction in the Project's operational-source air quality impacts. Specifically, Project operational-source NOx emissions would exceed the applicable SCAQMD regional threshold. The Project operational-source NOx exceedance is a regional air quality impact. Relocation of the Project anywhere within the South Coast Air Basin would not alter or diminish the significance of this impact.

The AQMP land use inconsistency resulting from the Project could not be feasibly avoided by relocation of the Project to an alternative site. That is, there are no alternative

sites under control or likely control of the Applicant that would allow for relocation of the Project and that would preclude a changes or changes in land use designations.

GHG emissions impacts are by definition cumulative and global in their effects. Relocation of the Project would not alter or diminish the significance of its GHG emissions impacts.

Based on the preceding considerations, analysis of an Alternative Site was not further considered.

Avoidance of Significant Traffic Impacts Alternative Considered and Rejected

Specific improvements identified in the Project TIA (EIR Appendix B) and summarized in Draft EIR Section 4.2 would, to the extent feasible, provide a physical solution to identified potentially significant cumulative traffic impacts. Notwithstanding, timely implementation of improvements required as mitigation for potentially significant cumulative traffic impacts cannot be assured. Impacts are therefore considered cumulatively significant and unavoidable pending completion of the required improvements.

Any viable development of the subject site would generate trips likely affecting some or all of the facilities that would be affected by Project traffic. Additional traffic contributed to the facilities noted previously in this Section would result in cumulatively significant transportation/traffic impacts similar to those occurring under the Project. No feasible mitigation exists that would avoid these impacts or reduce these impacts to levels that would be less-than-significant. However, this impact would be diminished under the EIR Reduced Intensity Alternative.

Avoidance of Significant Air Quality Impacts Alternative Considered and Rejected

Operational-source NOx Threshold Exceedances

Of the total operational-source NOx emissions generated by the Project, more than 99 percent (by weight) are due to Project-related traffic. Responsibility and authority for

regulation of vehicular-source NOx emissions resides with the State of California (CARB, et al.). Neither the Applicant nor the Lead Agency can effect or mandate substantive reductions in vehicular-source NOx emissions, much less reductions that would achieve the SCAQMD regional threshold for NOx emissions. At a minimum, an approximate 73 percent reduction in Project vehicular-source NOx emissions and correlating reductions in Project traffic and Project scope would be required to achieve the SCAQMD operational-source NOx regional emissions threshold. At such a reduction in scope, the Project Objectives would be substantively marginalized and/or not realized in any meaningful sense; and the Project would likely not be further pursued by the Applicant. In terms of its practical application, such a reduction in scope would constitute a "no build" condition.

Based on the preceding, there are no feasible means to or alternatives to avoid this impact or reduce the impact to levels that would be less-than-significant. However, this impact would be diminished under the EIR Reduced Intensity Alternative.

Cumulative Contributions to Basin Pollutant Non-Attainment Conditions

The Project operational-source NOx emissions exceedances noted above would result in cumulatively considerable contributions to existing Basin pollutant non-attainment conditions. For the same reasons noted above, there are no feasible means to or alternatives to avoid this impact or reduce the impact to levels that would be less-than-significant. However, this impact would be diminished under the EIR Reduced Intensity Alternative.

Avoidance of AQMP Inconsistency Impacts Alternative Considered and Rejected

The Project incorporates the necessary City of Eastvale General Plan Land Use and Zoning amendments that would allow for implementation of the Project uses. Because the change in land use designation proposed by the Project allow for greater development intensities and land uses not reflected in the AQMP, the Project is considered to be inconsistent with AQMP emissions assumptions and projected AQMP emissions inventory.

Avoidance of the Project proposed changes in land use designations in order to maintain AQMP consistency would effectively negate the Project in total. There are no alternative locations under control or likely control of the Applicant that would preclude any potential change in land use designations, thereby avoiding potential inconsistencies with the AQMP.

Based on the preceding, there are no feasible means to or alternatives to avoid this impact or reduce the impact to levels that would be less-than-significant. However, the effects of AQMP inconsistency in terms of the AQMP emissions assumptions and projected AQMP emissions inventory would be diminished under the EIR Reduced Intensity Alternative.

Avoidance of Significant GHG Emissions Impacts Alternative Considered and Rejected

The Project cannot feasibly achieve no net increase in GHG emissions, nor can the applicable SCAQMD screening-level threshold (3,000 MTCO2e/year) be achieved. In this regard, the majority (approximately 86.1 percent) of the Project GHG emissions would be generated by Project vehicular traffic. Responsibility and authority for regulation of vehicular-source emissions resides with the State of California (CARB, et al.). Neither the Applicant nor the Lead Agency can effect or mandate substantive reductions in vehicular-source GHG emissions, much less reductions that would achieve no net increase condition or achieve the SCAQMD screening-level 3,000 MTCO2e/year threshold. In effect, all Project traffic would need to be eliminated or be "zero GHG emissions sources" in order to achieve the SCAQMD threshold. There is no feasible means to or alternatives to eliminate all Project traffic, or to ensure that Project traffic would zero GHG emissions sources. Practically, this would constitute a "no build" condition. Based on the preceding, there are no feasible means to or alternatives to avoid this impact or reduce the impact to levels that would be less-than-significant. However, this impact would be diminished under the EIR Reduced Intensity Alternative.

1.10.1.4 Environmentally Superior Alternative

The *CEQA Guidelines* require that the environmentally superior alternative (other than the No Project Alternative) be identified among the Project and other Alternatives considered in an EIR.

Excluding the No Project Alternative as stipulated under CEQA[8], the Reduced Intensity Alternative would likely result in a general reduction in environmental effects when compared to the Project. For the purposes of CEQA, the Reduced Intensity Alternative is identified as the "environmentally superior alternative."

Significant Impacts Diminished but Not Eliminated or Avoided

Environmental impacts would be generally diminished under the Reduced Intensity Alternative. However, significant and unavoidable traffic impacts, operational-source air quality impacts, GHG emissions impacts, and AQMP inconsistency impacts otherwise occurring under the Project would persist. Under the Reduced Intensity Alternative, limited attainment of Project Objectives would be achieved.

1.11 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table 1.11-1 summarizes potential impacts resulting from implementation and operations of the Project. The impacts identified in Table 1.11-1 correspond with environmental topics and impacts discussed in EIR Section 4.0, *Environmental Impact Analysis*. Table 1.11-1 also lists measures proposed to mitigate potentially significant environmental impacts of the Project and indicates the level of significance after application of proposed mitigation.

[8] If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (*CEQA Guidelines* Section 15126.6 (e)(2)).

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
4.1 Land Use			
Physically divide an established community.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.	Less-Than-Significant	No Mitigation Measures Are Required	Less-Than-Significant
Conflict with any applicable habitat conservation plan or natural community conservation plan.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
4.2 Transportation/Traffic			
Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, Streets, highways and freeways, pedestrian and bicycle paths, and mass transit.			

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
Existing Conditions (2018) With-Project			
- Intersection LOS Analysis	Potentially Cumulatively Significant	*4.2.1 Prior to building permit issuance for each building, the Project Applicant shall pay that building's fair share fee amounts toward the construction of City of Eastvale improvements required under Existing With Project Conditions listed in EIR Table 4.2-19. Where intersection improvements require additional through lanes, fees shall also be applied to construction of required through lane/roadway segment improvements.*	***Significant and Unavoidable*** **Remarks:** To address potentially significant impacts affecting Study Area facilities, the Applicant would pay all requisite fees, offsetting the Project's proportional contributions to cumulative traffic impacts thereby fulfilling the Applicant mitigation responsibilities. Notwithstanding, payment of fees consistent with TUMF, RBBD, and DIF mandates, and fair share fees required by EIR Mitigation Measures 4.2.1 through 4.2.3 would not ensure timely completion of required improvements at affected Study Area intersections and roadway segments. Moreover, there are no current plans to improve the affected facilities , and the City does not have an existing agreement with extra-jurisdictional agencies regarding the funding of improvements, construction of improvements, or timing of improvements at locations along, or beyond the City corporate

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
			boundaries. Thus, while the physical improvements identified in the EIR and TIA would be capable of mitigating potentially significant impacts, these improvements cannot be timely assured. Based on the preceding, pending completion of the required improvements, Project contributions to cumulative intersection and roadway segment LOS impacts under Existing With-Project Conditions, Opening Year With-Project Conditions, and Horizon Year With-Project Conditions are recognized as significant and unavoidable.
- Roadway Segment Analysis	Potentially Cumulatively Significant	Please refer to Mitigation Measure 4.2.1.	***Significant and Unavoidable*** **Remarks:** See above.
- Freeway Ramping Queuing Progression	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
- Freeway Mainline, Merge/Diverge Ramp Junction	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
Opening Year (2021) With-Project			
- Intersection LOS Analysis	Potentially Cumulatively Significant	4.2.2 *Prior to building permit issuance for each building, the Project Applicant shall pay that building's fair share fee amounts toward the construction of City of Eastvale improvements required under Opening Year With-Project Conditions listed in EIR Table 4.2-24. Where intersection improvements require additional through lanes, fees shall also be applied to construction of required through lane/roadway segment improvements. The greatest fair share fee shall be paid at each potentially affected facility. Duplicate fees for improvements previously funded under Mitigation Measure 4.2.1 shall not be required.*	***Significant and Unavoidable*** **Remarks:** Per previous mitigation of cumulatively significant Intersection LOS impacts.
- Roadway Segment Analysis	Potentially Cumulatively Significant	Please refer to Mitigation Measure 4.2.2.	***Significant and Unavoidable*** **Remarks:** Per previous mitigation of cumulatively significant Roadway Segment LOS impacts.
- Freeway Ramping Queuing Progression	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
- Freeway Mainline, Merge/Diverge Ramp Junction	Potentially Cumulatively Significant	All freeway facilities within the Study Area are under Caltrans jurisdiction. Mitigation of freeway facilities impacts is addressed through regional improvements plans and programs. No Project mitigation proposed or required.	***Significant and Unavoidable*** **Remarks:** Significant and unavoidable at I-15 Freeway Southbound, South of Limonite Avenue. All other Study Area freeway segments and freeway/merge diverge would

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
			operate at acceptable LOS with anticipated near-term completion of Caltrans-initiated SHS improvements.
Horizon Year (2040) With-Project			
- Intersection LOS Analysis	Potentially Cumulatively Significant (Without and With Limonite Extension)	*4.2.3 Prior to building permit issuance for each building, the Project Applicant shall pay that building's fair share fee amounts toward the construction of City of Eastvale improvements required under Horizon Year With-Project Conditions listed in EIR Tables 4.2-32, 4.2-34. Where intersection improvements require additional through lanes, fees shall also be applied to construction of required through lane/roadway segment improvements. The greatest fair share fee shall be paid at each potentially affected facility. Duplicate fees for improvements previously funded under Mitigation Measures 4.2.1 and 4.2.2 shall not be required.*	***Significant and Unavoidable*** **Remarks:** Per previous mitigation of cumulatively significant Intersection LOS impacts.
- Roadway Segment Analysis	Potentially Cumulatively Significant	Please refer to Mitigation Measure 4.2.3.	***Significant and Unavoidable*** **Remarks:** Per previous mitigation of cumulatively significant Roadway Segment LOS impacts.
- Freeway Ramping Queuing Progression	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
- Freeway Mainline, Merge/Diverge Ramp Junction	Potentially Cumulatively Significant	All freeway facilities within the Study Area are under Caltrans jurisdiction. Mitigation of freeway facilities impacts is addressed through regional	***Significant and Unavoidable*** **Remarks:** Significant and unavoidable at the following freeway merge/diverge areas:

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		improvements plans and programs. No Project mitigation proposed or required.	• I-15 Freeway Southbound, On-Ramp at Limonite Ave. (#3) – LOS E AM peak hour only • I-15 Freeway Northbound, Off-Ramp at Limonite Ave. (#6) – LOS E AM peak hour only All other Study Area freeway segments and freeway/merge diverge would operate at acceptable LOS with anticipated near-term completion of Caltrans-initiated SHS improvements.
Conflict with an applicable congestion management program including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.	Potentially Significant	**CMP Freeway Segments** As discussed previously in this Section, mitigation of freeway facilities impacts (including CMP freeway segment deficiencies) is addressed through regional improvements plans and programs. There are no feasible measures that can be autonomously implemented by the Lead Agency or the Project Applicant. No additional mitigation is proposed or required. **CMP Intersections** Mitigation for CMP intersection deficiencies is coincident with intersection improvements identified herein. No additional mitigation is proposed or required.	***Significant and Unavoidable*** **Remarks:** The Project would pay all requisite fees for improvements at Study Area CMP facilities. However, fee payments would not ensure timely completion of improvements required for mitigation of cumulatively significant impacts within the Study Area. Pending completion of required improvements, Project contributions to impacts affecting Study Area CMP facilities are therefore considered cumulatively significant and unavoidable.

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
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.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or result in inadequate emergency access.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
4.3 Air Quality			
Conflict with or obstruct implementation of the applicable air quality plan (AQMP).	Potentially Significant	No Feasible Mitigation	***Significant and Unavoidable*** **Remarks:** There is no feasible mitigation or alternative that would avoid AQMP inconsistencies resulting from the Project. The 2016 AQMP does not reflect land uses and potential increased development intensities proposed by the Project. For this reason, the Project land uses could generate operational-source air pollutant emissions that are different than or greater than are reflected within the current 2016 AQMP regional emissions inventory for the Basin.

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
			As such, the Project is considered to be inconsistent with applicable AQMP Consistency Criteria. Per SCAQMD criteria, significant impacts at the Project-level are also cumulatively significant.
Violate any air quality standard or contribute substantially to an existing or projected air quality violation.	Potentially Significant. Unmitigated operational-source NOx emissions would exceed SCAQMD regional thresholds.	*4.3.1 The truck access gates and loading docks within the truck court on the Project site shall be posted with signs which state:* • *Truck drivers shall turn off engines when not in use;* • *Diesel delivery trucks servicing the Project shall not idle for more than five (5) minutes; and* • *Telephone numbers of the building facilities manager and the CARB to report violations.* *4.3.2 Final site designs shall incorporate the following:* • *Site design shall allow for trucks to check-in within the facility area to prevent queuing of trucks outside the facility.* • *Signs shall be posted in loading dock areas that instruct truck drivers to shut down the engine after 300 seconds (5 minutes) of continuous idling operation once the vehicle is stopped, the transmission is set to "neutral" or "park", and the parking brake is engaged.*	***Significant and Unavoidable*** **Remarks:** There is no feasible mitigation or alternative that would reduce Project operational-source NOx emissions to levels that would be less-than-significant. Even with application of mitigation, Project operational-source NOx emissions would exceed the SCAQMD regional threshold and would therefore be significant and unavoidable. Per SCAQMD criteria, significant impacts at the Project-level are also cumulatively significant. Without mitigation, all other Project operational-source criteria pollutants would not exceed applicable SCAQMD thresholds.

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		4.3.3 The Final Project site design shall incorporate electric vehicle charging stations. A minimum of 10 charging stations shall be provided, distributed throughout the Project site. *4.3.4 The Final Project site design shall incorporate preferential parking spaces assigned to employee carpool vehicles. A minimum of 20 preferential parking spaces for employee carpools shall be provided, with the majority of these spaces provided in the light industrial portion of the Project site.*	
	Potentially Significant. Unmitigated construction-source PM_{10} emissions would exceed applicable SCAQMD Localized Significance Thresholds(LSTs).	*4.3.5 During site preparation and grading activity, all actively graded areas within the Project site shall be watered at 2.1-hour watering intervals (e.g., 4 times per day) or a movable sprinkler system shall be in place to ensure minimum soil moisture of 12% is maintained for actively graded areas. Moisture content may be verified with use of a moisture probe, or by other means determined acceptable by the Lead Agency.*	Less-Than-Significant
Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors).	Potentially Significant	No Feasible Mitigation	***Significant and Unavoidable*** **Remarks:** The Basin is non-attainment for ozone, PM_{10}, and $PM_{2.5}$. There is no feasible mitigation or alternative that would reduce Project operational-source NOx emissions to levels that would be less-than-significant. Even with

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
			mitigation, Project operational-source NO_x emissions would exceed applicable SCAQMD thresholds. NO_x is an ozone and $PM_{10}/PM_{2.5}$ precursor. Project NOx contributions to existing non-attainment conditions for ozone and $PM_{10}/PM_{2.5}$ would therefore be significant and unavoidable. Per SCAQMD criteria, significant impacts at the Project-level are also cumulatively significant.
Expose sensitive receptors to substantial pollutant concentrations.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
Create objectionable odors affecting a substantial number of people.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
4.4 Global Climate Change and Greenhouse Gas Emissions			
Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Potentially Significant	No Feasible Mitigation	***Significant and Unavoidable*** **Remarks:** There is no feasible mitigation or alternative that would achieve the SCAQMD GHG emissions screening level threshold of 3,000 MTCO2e.[1] Project conformance with Title 24 Energy Efficiency requirements, CalGreen mandates, and other energy

[1] EIR Air Quality Mitigation Measures 4.3.1 through 4.3.4 would generally reduce vehicular-source criteria pollutant emissions. Emissions reductions would however, not be quantifiable, and no credit is taken for any potential reductions. Mitigation Measures 4.3.1 through 4.3.4 would also nominally, but not quantifiably, reduce vehicular-source GHG emissions. GHG impacts would however remain significant.

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
			efficiency measures implemented by the state, as well as conservation measures implemented through City Ordinances (e.g., City of Eastvale Water Conservation Ordinance) would act to generally reduce area-source and energy-source GHG emissions, but would have no substantive effect on mobile-source GHG emissions, the primary contributor to the Project GHG emission impact. Project GHG emissions impacts therefore be significant and unavoidable. Per SCAQMD criteria, significant impacts at the Project-level are also cumulatively significant.
Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
4.5 Noise			
Project construction activities and associated noise would result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
Project construction activities and associated noise would result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
Project vehicular-source noise would result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or other applicable standards of other agencies.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
Project vehicular-source noise would result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
Project operational/area-source noise would result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance,	Potentially Significant	4.5.1 *Minimum 10-foot high screen walls (noise barriers) shall be constructed at the eastern warehouse building loading docks (Buildings 6, 7, and 8), as shown at Figure 4.5-4. The barriers shall provide a weight of at least four pounds per square foot of face area with no decorative cutouts or line-of-sight openings between shielded areas and the roadways, and a minimum transmission loss of 20 dBA. The barriers shall consist of a solid face from top to bottom. All gaps (except for weep holes) should be filled with grout or caulking. The*	Less-Than-Significant

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		noise barriers shall be constructed using the following materials: • *Masonry block;* • *Earthen berm;* • *Or any combination of construction materials capable of the minimum weight of four pounds per square foot and a minimum transmission loss of 20 dBA.*	
		4.5.2 No car wash activities shall be permitted between the hours of 10:00 p.m. and 7:00 a.m.	
Project operational/area-source noise would result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
The Project would result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
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, the project would expose people residing or working in the Project area to excessive noise levels; or 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.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
4.6 Geology and Soils			
Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
Result in substantial soil erosion or the loss of topsoil.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
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 on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
Exposure of 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; or landslides.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
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.	No Impact	No Mitigation Measures Are Required	Not Applicable
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.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
4.7 Hazards and Hazardous Materials			
Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
Result in a safety hazard for people residing or working in the project area due to airport/airstrip operations.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Section 65962.5	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
and, as a result, create a significant hazard to the public or the environment.			
Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
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.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
4.8 Hydrology and Water Quality			
Violate any water quality standards or waste discharge requirements.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
or substantial erosion or siltation on- or off-site; or create or contribute runoff water which would exceed the capacity of the existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or otherwise substantially degrade 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.	No Impact	No Mitigation Measures Are Required	Not Applicable
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.	No Impact	No Mitigation Measures Are Required	Not Applicable
Inundation by seiche, tsunami, or mudflow.	No Impact	No Mitigation Measures Are Required	Not Applicable
4.9 Cultural Resources/Tribal Cultural Resources			
Cause a substantial adverse change in the significance of historic and archaeological resources as defined in §15064.5.	Potentially Significant	*4.9.1 If previously-unidentified archaeologic or historic resources of potential significance are encountered during grading and/or other ground-disturbing activities, a qualified archaeologist shall be contacted to identify and interpret the encountered resources. Monitoring shall be considered complete and may be discontinued at the conclusion of*	Less-Than-Significant

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		grading/ground-disturbing activities, or at an earlier date should the qualified professional determine that on-site activities would not disturb cultural resources of potential significance.	
Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Potentially Significant	4.9.2 *Any excavation exceeding eight feet below the current grade shall be monitored by a qualified paleontologist. If older alluvial deposits are encountered at shallower depths, monitoring shall be initiated once these deposits are encountered. A qualified paleontologist is defined as an individual with an M.S. or a Ph.D. in paleontology or geology who is familiar with paleontological procedures and techniques. A paleontological monitor may be retained to perform the on-site monitoring in place of the qualified paleontologist. The paleontological monitoring program shall be developed in accordance with the provisions of CEQA as well as the proposed guidelines of the Society of Vertebrate Paleontology (2010) and should be developed prior to the ground-altering activities. The paleontological monitor shall have the authority to temporarily halt any Project-related activities that may be adversely impacting potentially significant resources. If paleontological resources are uncovered or otherwise identified, they shall be recovered, analyzed in accordance with standard guidelines, and curated with the appropriate facility.*	Less-Than-Significant

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
Disturb any human remains, including those interred outside of dedicated cemeteries.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: • Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or • A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Potentially Significant	*4.9.3* ***Tribal Monitoring – General.*** *Prior to the issuance of a grading permit, the Project Applicant shall contact the consulting tribes with notification of the proposed grading and shall enter into a Tribal Cultural Resources Treatment and Monitoring Agreement with each Tribe that determines its tribal cultural resources may be present on the site. The agreements shall include, but not be limited to, outlining provisions and requirements for addressing the handling of tribal cultural resources; Project grading and development scheduling; terms of compensation for the Tribal monitors; treatment and final disposition of any tribal cultural resources, including but not limited to sacred sites, burial goods and human remains, discovered on the site; and establishing on-site monitoring provisions and/or requirements for professional Tribal monitors during all ground-disturbing activities. The terms of the agreements shall not conflict with any of these mitigation measures. A copy of the agreement shall be provided to the City of Eastvale Planning Department prior to the issuance of a grading permit.*	Less-Than-Significant

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		4.9.4 ***Tribal Cultural Resources – Archaeological Monitoring.*** *At least 30 days prior to application for a grading permit and before any grading, excavation and/or ground disturbing activities on the site take place, the Project Applicant shall retain a Secretary of Interior Standards-qualified archaeological monitor to monitor all ground-disturbing activities in an effort to identify any unknown archaeological resources. Ground-disturbing activities may include, but are not limited to, pavement removal, pot-holing or auguring, grubbing, weed abatement, boring, grading, excavation, drilling, and trenching. The on-site monitoring would end when the Project site grading and excavation activities are completed, or when the monitor has indicated that the site has a low potential for archeological resources.* *The Project Archaeologist, in consultation with interested Tribes identified in Mitigation Measure 4.9.3, and the Developer, shall develop an Archaeological Monitoring Plan to address the details, timing and responsibility of all archaeological and cultural activities that will occur on the Project site.*	

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		Details in the Plan shall include: *A. Project grading and development scheduling.* *B. The development of a rotating or simultaneous schedule in coordination with the Project Applicant and the Project Archeologist for designated Native American Tribal Monitors from the consulting Tribes during grading, excavation and ground-disturbing activities on the site.* *C. The safety requirements, duties, scope of work, and Native American Tribal Monitors' authority to stop and redirect grading activities in coordination with all Project archaeologists.* *D. The protocols and stipulations that the Developer, Tribes and Project Archaeologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits that shall be subject to a cultural resources evaluation.* *4.9.5* ***Treatment and Disposition of Tribal Cultural Resources****. If tribal cultural resources are inadvertently discovered during ground-disturbing actives for this Project. The following procedures will be carried out for treatment and disposition of the discoveries:* *A. Temporary Curation and Storage. During the course of construction, all discovered resources shall be temporarily curated in a secure location on-site or at the offices of the Project Archaeologist. The removal of any artifacts from*	

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		the Project site will need to be thoroughly inventoried by the Project Archeologist with tribal monitor oversite of the process. *B. Treatment and Final Disposition. The landowner(s) shall relinquish ownership of all cultural resources, including sacred items, burial goods, and all archaeological artifacts and non-human remains as part of the required mitigation for impacts to cultural resources. The landowner shall relinquish the artifacts through one or more of the following methods and provide the City Planning Department with documentation of same:* *a. Reburial on-site. Accommodate the process for on-site reburial of the discovered items with the consulting Tribes. This shall include measures and provisions to protect the future reburial area from any future impacts. Reburial shall not occur until all cataloguing and basic recordation have been completed.* *b. Curation. A curation agreement with an appropriate qualified repository within Riverside County that meets federal standards pursuant to 36 CFR Part 79, and therefore, would be professionally curated and made available to other archaeologists or researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility within Riverside*	

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		County, to be accompanied by payment of the fees necessary for permanent curation. *c. Disposition Dispute. If more than one Tribe is involved with the Project and cannot come to a consensus as to the disposition of cultural materials, they shall be curated at the Western Science Center.* *d. Final Report. At the completion of grading, excavation and ground-disturbing activities on the site, a Phase IV Monitoring Report shall be submitted to the City documenting monitoring activities conducted by the Project Archaeologist and Tribal Monitors within 60 days of completion of grading. This report shall:* • *Document the impacts to the known resources on the property;* • *Describe how each mitigation measure was fulfilled;* • *Document the type of cultural resources recovered and the disposition of such resources;* • *Provide evidence of the required cultural sensitivity training for the construction staff held during the required pre-grade meeting;* • *In a confidential appendix, include the daily/weekly monitoring notes from the archaeologist.* • *All reports produced will be submitted to the City, Eastern Information Center and consulting tribes.*	

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
4.10 Public Services and Utilities			
Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities; or result in the 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 fire or police protection services, schools, parks, or other public facilities.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable

Table 1.11-1
Summary of Impacts and Mitigation

Potential Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable
Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs; Comply with federal, state, and local statutes and regulations related to solid waste.	Less-Than-Significant	No Mitigation Measures Are Required	Not Applicable

2.0 INTRODUCTION

2.0 INTRODUCTION

2.1 OVERVIEW

This Environmental Impact Report (DEIR or EIR) evaluates and discloses potential environmental impacts of The Merge Project (the Project). The evaluated Project includes construction and operation of approximately 336,501 square feet of light industrial and 71,100 square feet of commercial/retail uses (407,601 total square feet) within an approximately 26.28-acre site (gross acres) located in the northwest portion of the City of Eastvale. The Applicant's current development plans propose a lesser development intensity. Elements of the Project are further described at EIR Section 3.0, *Project Description*.

This EIR is an informational document intended to advise decision-makers and the general public of potentially significant environmental impacts of the Project. The EIR also identifies possible ways to preclude or minimize these potentially significant impacts (referred to as mitigation) and describes reasonable alternatives to the Project that may also reduce or avoid significant impacts. Having the authority to take action on the Project, the City of Eastvale will consider the information in this EIR in their evaluations of the proposal. The EIR findings and conclusions regarding environmental impacts do not control the City's discretion to approve, deny, or modify the Project, but instead are presented as information to aid the decision-making process.

2.2 AUTHORIZATION

This EIR has been prepared by the City of Eastvale in accordance with the *Guidelines for the Implementation of the California Environmental Quality Act (Guidelines)*, (Sections 15000-15387 of the California Code of Regulations), and the City *CEQA Guidelines (Guidelines)*. The Merge Project considered in this EIR is a "project," as defined at Section 15378 of

the *Guidelines*. The *Guidelines* stipulate that an EIR must be prepared for any project that may have a significant impact on the environment. Upon its initial environmental review, the City determined that The Merge Project may have a significant adverse impact on the environment and, therefore, the preparation of an EIR was required.

2.3 LEAD AND RESPONSIBLE AGENCIES

CEQA defines a "lead agency" as the public agency which has the principal responsibility for carrying out or approving a Project which may have a significant effect upon the environment. Other agencies, e.g., the California Department of Transportation (Caltrans), the South Coast Air Quality Management District (SCAQMD) or the Regional Water Quality Control Board (RWQCB), having certain authority or responsibility to issue permits for Project implementation, are designated as "responsible agencies." Both the lead agency and responsible agencies must consider the information contained in the EIR prior to acting upon or approving the Project. The City of Eastvale is the lead agency for the proposed Project.

The City's address is:

City of Eastvale
12363 Limonite Avenue, Suite 910
Eastvale, CA 91752
Contact Person: Mr. Eric Norris, Planning Director

2.4 PROJECT APPLICANT

The Project Applicant is:

Orbis Real Estate Partners
280 Newport Center Drive, Suite 240
Newport Beach, CA 92660

2.5 THE EIR PROCESS

When a public agency determines that there is substantial evidence that a project may have a significant effect on the environment, the agency must prepare an EIR before a decision is made to approve or deny the project. The purpose of the EIR is to disclose a project's potential environmental impacts and recommend measures to reduce effects of or avoid potentially significant impacts. The basic content of an EIR includes a description of the project under consideration and its objectives, a description of the existing project site and vicinity environmental conditions, a discussion of the potentially significant environmental effects of the project, recommended measures for reducing these effects, and identification and evaluation of feasible alternatives to the project which may also reduce potentially significant impacts of the proposal.

Typically, EIRs consist of two documents: a Draft EIR, distributed by the lead agency for review and comment by the general public and any interested governmental agencies; and a Final EIR, comprising responses to comments received on, together with any necessary modifications to, the Draft EIR. After the Draft EIR has been circulated for review and the Final EIR has been prepared, the EIR must be certified by the lead Agency as having complied with CEQA and considered by the agency's decision-making body before any action can be taken on a project.

When a public agency receives a complete project application or decides to undertake a project of its own, it first determines if the project is subject to environmental review under CEQA and, if it is, the agency then typically prepares an Initial Study (IS) to determine if the project has the potential to cause significant adverse environmental effects. The IS serves as a tool to help the agency determine if an EIR is needed and also helps determine what issues should be examined in the EIR. An agency may skip the Initial Study process if it is evident in the preliminary assessment of a project that an EIR will be required.

The EIR process is initiated by the distribution of a Notice of Preparation (NOP). Together with the Initial Study, the NOP is sent to agencies and interested individuals

to solicit their suggestions for appropriate issues and types of analysis to be included in the Draft EIR. When preparation of the Draft EIR has been completed, it is circulated to responsible agencies, other affected or interested agencies, and interested members of the public for review and comment. The review period for a Draft EIR is typically 45 days. To provide for appropriate consideration in the Final EIR, all comments and concerns regarding the Draft EIR should be received by the lead agency during this 45-day period.

Responses to comments received on the Draft EIR are prepared by the lead agency and included in the Final EIR. The Final EIR may also contain some additional information about the project's potential impacts and minor corrections or modifications to the Draft EIR. The Final EIR must be certified by the lead agency's decision-making body before, or in conjunction with, any action to approve or deny a project.

CEQA requires that the EIR only address significant adverse impacts. The *CEQA Guidelines* suggest thresholds or standards which define the significance of various types of impacts. The *CEQA Guidelines* also state that the significance of impacts should be considered in relation to their severity and probability of occurrence. However, ultimately, the determination of the significance of impacts is at the discretion of the lead agency. The identification of significant impacts in the EIR does not prevent an agency from approving a project. A project may be approved if the lead agency determines that impacts cannot be feasibly mitigated below a level of significance and if the agency determines that there are important overriding considerations, such as social and economic benefits, which are sufficient to justify approval of the considered project.

2.6 EIR CONTENT AND FORMAT

This Draft EIR is organized into seven Chapters or Sections, each dealing with a separate aspect of the required content of an EIR as described in the *Guidelines*. A summary of the project's impacts and recommended mitigation measures is included in Chapter 1.0. An introduction and general overview of the environmental process and the format of this EIR can be found within Chapter 2.0. Chapter 3.0 contains a complete

description of the Project, including its location, objectives, and physical and operational characteristics. The complete and detailed impact analysis is presented in Chapter 4.0. The topical issues mandated by CEQA dealing with cumulative impacts, alternatives, long-term implications of the Project, and energy conservation are found in Chapter 5.0. Chapter 6.0 lists and defines the acronyms and abbreviations contained in this document. Chapter 7.0 lists the information sources and persons consulted during the environmental analysis process, and presents a list of the persons who prepared the Draft EIR.

Chapter 4.0, *Environmental Impact Analysis*, is the focal component of the Draft EIR. The environmental impact analysis has been organized into a series of sections, each addressing an environmental topic or area of concern identified through the Initial Study process (e.g., Land Use and Planning, Traffic and Circulation, Air Quality, Noise, etc.). To assist the reader in understanding the organization and basis of the analysis, the sections covering each individual environmental topic are typically divided into the following subsections:

- **Reader's Abstract:** An introductory reader's abstract, summarizing content and findings, is provided at the beginning of each topical section.

- **Introduction:** The introduction summarizes the content of the section and references other important studies and reports, such as technical studies appended to the EIR.

- **Setting:** This subsection describes existing environmental conditions that may be subject to change as a result of implementation of the Project. Regulatory settings are also discussed where applicable. Separate descriptions of existing environmental conditions are provided for each environmental topic.

- **Standards of Significance:** Before potential impacts are evaluated, the standards which will serve as the basis for judging significance are presented.

- **Potential Impacts and Mitigation Measures:** This subsection discusses and substantiates potential Project environmental impacts. Based on the standards of significance, impacts are categorized as either potentially significant or less-than-significant. If the impacts are considered to be potentially significant, mitigation measures are proposed to reduce the impacts. At the conclusion of each discussion for a potentially significant impact, a determination is made as to whether the impact can be reduced to a less-than-significant level with the application of feasible mitigation measures. Potentially significant impacts that cannot be mitigated to levels that would be less-than-significant are identified as significant and unavoidable.

The summary presented in Chapter 1.0 provides a comprehensive overview of the Project's environmental impacts. For a more detailed description of Project impacts, it is recommended that the reader review the Project Description (Chapter 3.0), and then read the sections on the topics of interest presented in the environmental impact analysis (Chapter 4.0).

2.7 INTENDED USE OF THIS EIR

This EIR addresses the potential environmental effects of the implementation and operation of the proposed The Merge Project (the Project). The City of Eastvale (City) is the lead agency for the purposes of CEQA because it has the principal responsibility and authority for deciding whether or not to approve the Project, and how it will be implemented. As the lead agency, the City is also responsible for preparing the environmental documentation for the Project in compliance with CEQA.

The lead agency will employ this EIR in its evaluation of potential environmental impacts resulting from, or associated with, approval and implementation of the Project, to include potential effects of the Project's component elements. It is anticipated that this EIR may also be employed by responsible agencies, e.g., the Air Quality Management District(s), Regional Water Quality Control Board(s), *et al*., for their related or dependent environmental analyses.

2.8 DOCUMENTS INCORPORATED BY REFERENCE

Section 15150 of the State *CEQA Guidelines* permits and encourages an environmental document to incorporate, by reference, other documents that provide relevant data. The documents summarized below are incorporated by reference, and the pertinent material is summarized within this EIR, where that information is relevant to the analysis of potential Project impacts. All documents incorporated by reference are available for review at, or can be obtained through, the City of Eastvale Planning Department. Technical studies cited below were specifically developed in conjunction with the Project, and are included in their entirety in the CD-ROM attached to the EIR's back cover.

2.8.1 Eastvale General Plan and Zoning Code

The City of Eastvale General Plan (General Plan) establishes Goals and Policies and provides guidance for future development of the City. The General Plan provides the guidance necessary for successful implementation of General Plan Policies.

The Eastvale General Plan was developed consistent with State of California General Plan Guidelines and contains the following state-mandated elements: Land Use, Circulation, Housing, Conservation, Open Space, Noise, and Safety. The City's General Plan also includes the topics of Design, Economic Development, Healthy Community, and Sustainability. All proposed development projects within the City are evaluated for consistency with the intent and purpose of the applicable General Plan land use designation(s) and related General Plan Policies.

2.8.2 Project Technical Studies/EIR Appendices

Following are summary descriptions of documents and supporting technical studies which are appended to the main body of the Draft EIR. Working titles of these documents generically refer to the Project and its physical attributes, and may not necessarily reflect the currently assigned "The Merge Project" development title.

2.8.2.1 NOP and NOP Responses - EIR Appendix A

The Project Notice of Preparation (NOP) and NOP responses are presented in EIR Appendix A. Based on consultation with the City of Eastvale and the responses to the NOP, the EIR has been focused on the topics of: Land Use and Planning; Transportation/Traffic; Air Quality; Global Climate Change and Greenhouse Gas Emissions; Noise; Geology and Soils; Hazards and Hazardous Materials; Hydrology and Water Quality; Cultural Resources/Tribal Resources; and Public Services and Utilities.

2.8.2.2 Traffic Impact Analysis - EIR Appendix B

The detailed evaluation of Project-related traffic/transportation impacts is documented in *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018 (TIA). The traffic issues related to the Project have been evaluated within the TIA in the context of the California Environmental Quality Act and as directed by the City of Eastvale.

2.8.2.3 Air Quality Impact Analysis - EIR Appendix C

Potential air quality impacts of the Project, including potential short-term construction-source emissions impacts and potential long-term operational-source emissions impacts are assessed within the *The Merge Air Quality Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018 and *The Merge Mobile Source Health Risk Assessment, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018.

2.8.2.4 Greenhouse Gas Analysis - EIR Appendix D

Detailed analysis of the Project's potential Greenhouse Gas and Global Climate Change impacts are presented in *The Merge Greenhouse Gas Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018.

2.8.2.5 Noise Impact Analysis - EIR Appendix E

Potential noise impacts of the Project, including potential short-term construction-source noise impacts and potential long-term operational-source noise impacts are assessed within *The Merge Noise Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 20, 2018.

2.8.2.6 Geotechnical Investigation - EIR Appendix F

An assessment of the soils and geological conditions affecting the Project site and vicinity properties is presented in: *Preliminary Geotechnical Investigation and Percolation Testing, The Merge Retail Development and Industrial Business Park* (Geocon West, Inc.) March 15, 2018. The Geotechnical Investigation also provides recommendations pertaining to geotechnical aspects of constructing the Project.

2.8.2.7 Phase I Environmental Assessment - EIR Appendix G

Potential hazards/hazardous conditions affecting the Project site and surrounding properties are evaluated in: *Phase I Environmental Site Assessment, The Merge, NEC Limonite and Archibald, Eastvale, California* (EBI Consulting) February 5, 2018.

2.8.2.8 Hydrology Study - EIR Appendix H

Hydrology and water quality considerations, respectively, are addressed in *Preliminary Drainage Report, The Merge, Northeast Corner of Archibald Ave. and Limonite Ave., Eastvale* (Kimley-Horn and Associates) July 2018; and *Project Specific Water Quality Management Plan for The Merge* (Kimley-Horn and Associates) June 28, 2018. Additionally, a Will-Serve letter from Jurupa Community Services District (JCSD) demonstrating the JCSD's willingness and ability to provide water service to the Project is provided in Appendix H.

2.8.2.9 Cultural Resources/Tribal Cultural Resources - EIR Appendix I

A Cultural Resources Investigation of the Project site was completed in March 2018 and is presented in: *Cultural Resources Assessment: NEC Archibald and Limonite Project, Eastvale, Riverside County, California* (BCR Consulting LLC) March 12, 2018. This Investigation, prepared by BCR Consulting LLC, includes a visual survey of the Project

site, a review of previous cultural resource studies, and correspondence with Native American tribal representatives.

2.8.2.10 Biological Resources Study - EIR Appendix J

Biological resources considerations are addressed in *The Merge Habitat Assessment and Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis* (ELMT Consulting, Inc.) Updated June 2018.

3.0 PROJECT DESCRIPTION

3.0 PROJECT DESCRIPTION

3.1 OVERVIEW

The proposed The Merge (Project), including all proposed facilities, on- and off-site supporting improvements, and associated discretionary actions comprise the Project considered in this Environmental Impact Report (EIR). The Project proposes construction and operation of approximately 336,501 square feet of light industrial and 71,100 square feet of commercial/retail uses (407,601 total square feet) within an approximately 26.28-acre site (gross acres) located in the northwest portion of the City of Eastvale.

3.2 PROJECT LOCATION

The location of the Project site is presented in Figure 3.2-1. The Project site is located at the northeast corner of Limonite Avenue and Archibald Avenue. The Project site comprises current Assessor's Parcel Number (APN) 164-010-019. A Riverside County Flood Control and Water Conservation District (RCFCWCD) flood control channel defines the north Project site boundary. The channel also comprises the shared City of Eastvale/City of Ontario municipal boundary at this location. Archibald Avenue comprises the Project site west boundary. Limonite Avenue comprises the Project site south boundary. The eastern boundary of the site is marked by an existing masonry wall (constructed as part of the residential development to the east).

3.3 LAND USES

Project site and vicinity land uses are presented in Figure 3.3-1 and are described below.

3.3.1 Project Site

The Project site is surrounded by urban development. The site has no existing buildings, and is used for the growing of a variety of crops from time to time. The Project site is essentially level with no substantive topography or distinctive surface features.

N

NOT TO SCALE

Project Site Boundary

Source: Google Earth; Applied Planning, Inc.

Figure 3.2-1
Project Location

Source: Google Earth; Applied Planning, Inc.

Figure 3.3-1
Vicinity Land Uses

3.3.2 Vicinity Land Uses

North of the Project site, in the City of Ontario, are single-family residential uses. Northwest of the Project site, in the City of Ontario, are agricultural uses. Uses east, west, and south of the Project site are within the City of Eastvale. East of the Project site, properties are being developed with single-family residential uses. Active feed lot/dairy operations exist to the west of the Project site, across Archibald Avenue. South of the Project site, across Limonite Avenue, are vacant properties that have historically supported feed lot/dairy operations. These currently vacant properties are approved for development of retail/commercial uses.[1]

3.4 EXISTING AND PROPOSED LAND USE DESIGNATIONS

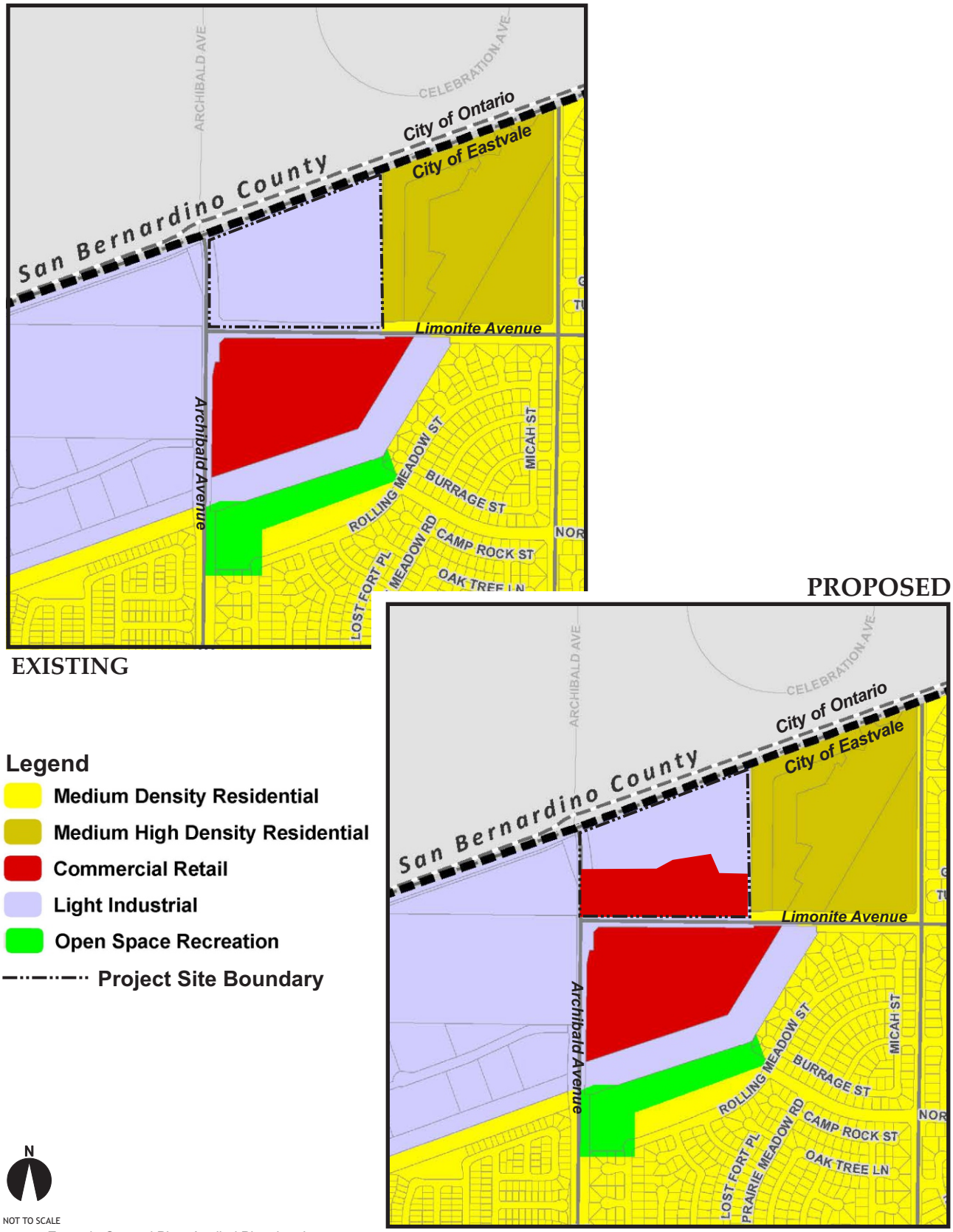
The existing General Plan Land Use designation of the Project site is Light Industrial (LI). The existing Zoning designation of the Project site is Heavy Agricultural (A-2).

To allow for development of the Project commercial/retail uses, approximately 10.8 acres located in the south portion of the Project site would be re-designated as Commercial Retail (CR), with a correlating Zoning designation of General Commercial (C-1/C-P). The remainder of the Project site (approximately 15.4 acres) would retain its current General Plan Land Use designation of Light Industrial (LI) and the Zoning designation would be changed to Industrial Park (I-P), correcting the current General Plan/Zoning designation inconsistency for the affected area and allowing for development of light industrial and commercial uses.

Existing and proposed General Plan Land Use designations are presented in Figure 3.4-1. Existing and proposed Zoning designations are presented in Figure 3.4-2.[2]

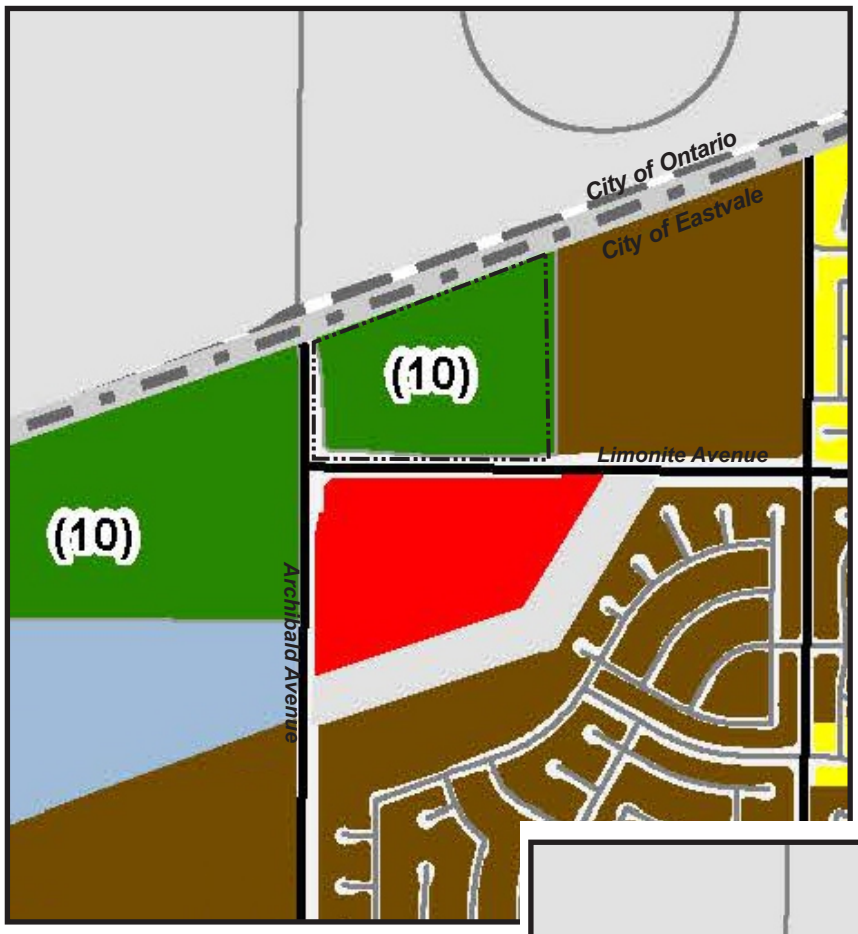
[1] Walmart supercenter and associated retail development.

[2] Proposed Zoning boundaries delineated in Figure 3.4-2 are approximate.



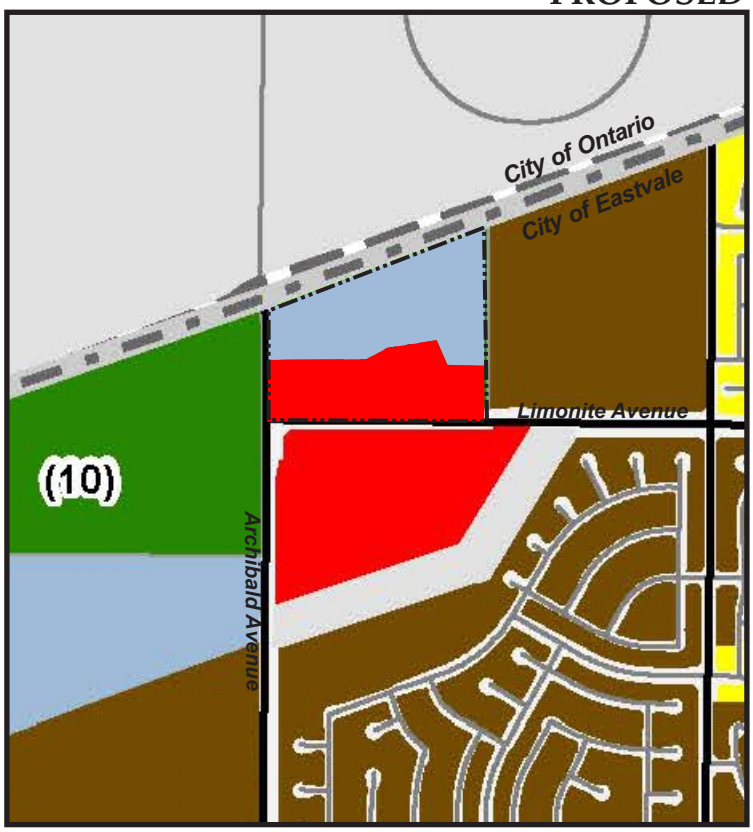
Source: Eastvale General Plan; Applied Planning, Inc.

Figure 3.4-1
Existing and Proposed General Plan Designations



EXISTING

PROPOSED



Legend

- A-2 - Heavy Agriculture
- C-1/C-P - General Commercial
- I-P - Industrial Park
- M-SC - Manufacturing - Service Commercial
- PRD - Planned Residential Developments
- R-1 - One-Family Dwellings
- **Project Site Boundary**

*Numbers in parenthesis on the parcels on this map indicate the minimum required lot size (in acres if applicable) for a particular zone

N

NOT TO SCALE

Source: Eastvale Zoning Map; Applied Planning, Inc.

applied planning inc

Figure 3.4-2
Existing and Proposed Zoning Designations

3.5 AIRPORT LAND USE COMPATIBILITY PLAN CONTEXT

The Project site is located within the Chino Airport Influence Area. The *Riverside County Airport Land Use Compatibility Plan Policy Document* (ALUCP) establishes various policies and compatibility maps for individual ALUCP airports, including Chino Airport (Airport). The location of the Project site within the ALUCP Chino Airport Compatibility Map (Map) is presented in Figure 3.5-1.

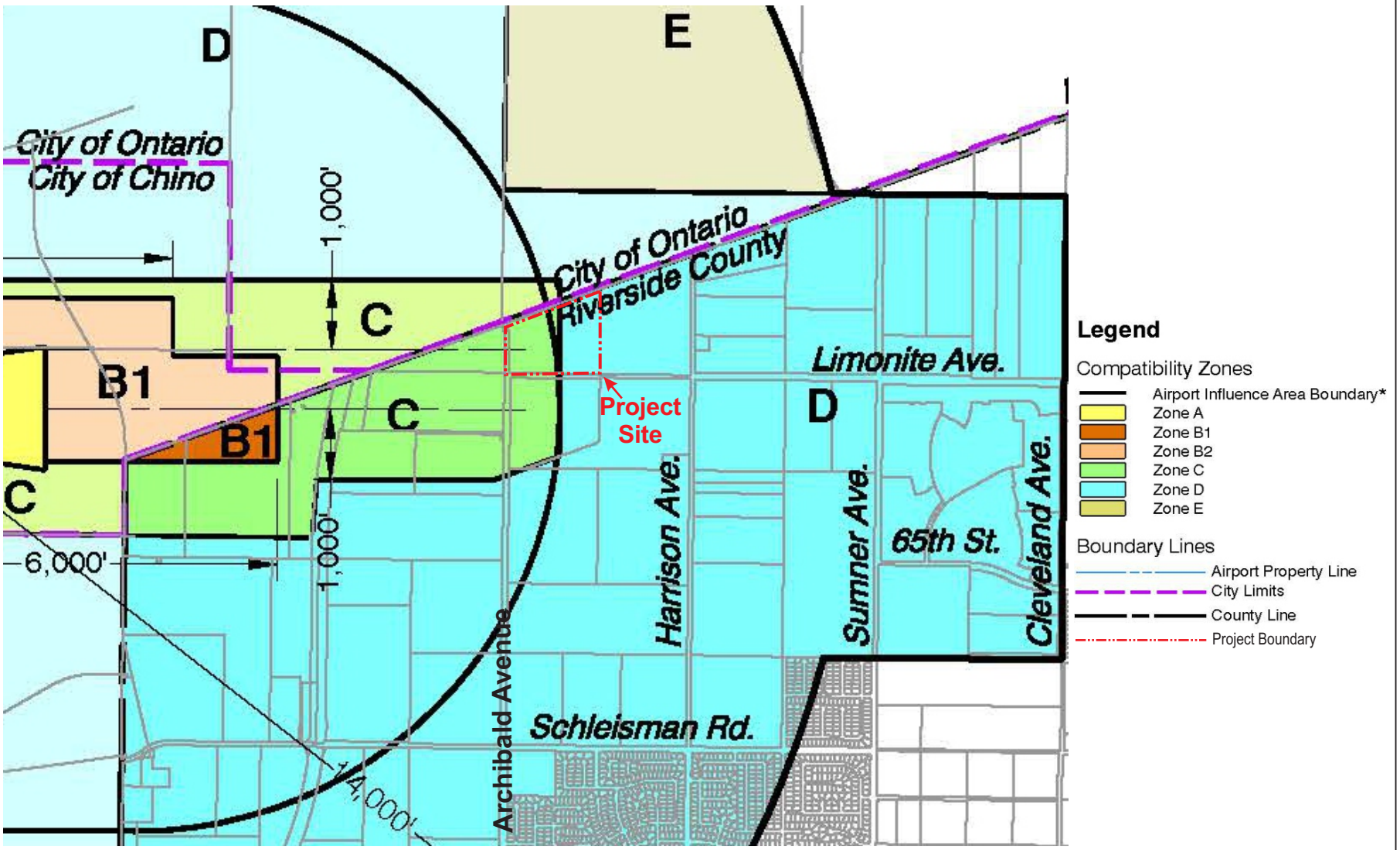
Figure 3.5-1 shows the Influence Area of the Airport and Compatibility Zones surrounding the Airport. The Compatibility Zones define special land use requirements and development limitations. West portions of the Project site lie within Compatibility Zone C; east portions of the Project site lie within Compatibility Zone D.

Riverside County Airport Land Use Commission (ALUC) review is required when a project is located within the boundaries of an Airport Influence Area and the project proposes a legislative action like a General Plan Amendment, Specific Plan Amendment, Zone Change, or Zoning Ordinance. The Project is located within the Chino Airport Influence Area. The Project proposes a General Plan Amendment and Zone Change. Review of the Project by the ALUC is therefore required.

Additionally, because approval of a Zone Change is proposed by the Project, as required under the City of Eastvale Zoning Code, the Eastvale City Council must make a finding that the Project Zone Change is consistent with the most recent adopted version of the ALUCP.

The Project Applicant has submitted the Project plans to the ALUC for that agency's independent review. Prior to approval by the City, the Project Applicant would be required to document review and approval of the Project by the ALUC. Any Project revisions or limitations required by the ALUC would be incorporated in the Project prior approval to by the City.

Please refer also to related discussions presented in EIR Section 4.1, *Land Use and Planning*; and EIR Section 4.7, *Hazards/Hazardous Materials*.



Source: MacDavid Aubort and Associates, Inc. (January 2016); Applied Planning, Inc.

Figure 3.5-1
Riverside County ALUCP Zones

3.6 PROJECT ELEMENTS

3.6.1 Site Preparation/Grading

Site preparation and grading activities are assumed to commence in January 2019. It is estimated that site preparation and grading activities would occur over an approximately 3-month period. The preliminary site grading concept indicates that approximately 830 cubic yards of imported fill would be required to prepare the site for construction. All grading activities would comply with City specifications and requirements.

3.6.2 Building/Facilities Construction/Paving

Construction and finishing of buildings, parking areas, landscape/hardscape, etc., is assumed to commence in April 2019. It is estimated that construction activities would occur over an approximately 16-month period. For the purposes of the EIR analysis, it is assumed that all buildings and supporting facilities would be constructed and operational by the Project Opening Year (2021).

3.6.3 Development Concept

The Project evaluated in this EIR considers the maximum potential development of the subject site, and includes a total of 16 buildings as listed in Table 3.6-1. The evaluated Project includes construction and operation of approximately 336,501 square feet of light industrial and 71,100 square feet of commercial/retail uses (407,601 total square feet) within an approximately 26.28-acre site located in the northwest portion of the City of Eastvale. The Applicant's current development plans propose a lesser development intensity.

Table 3.6-1
The Merge – Building Summary

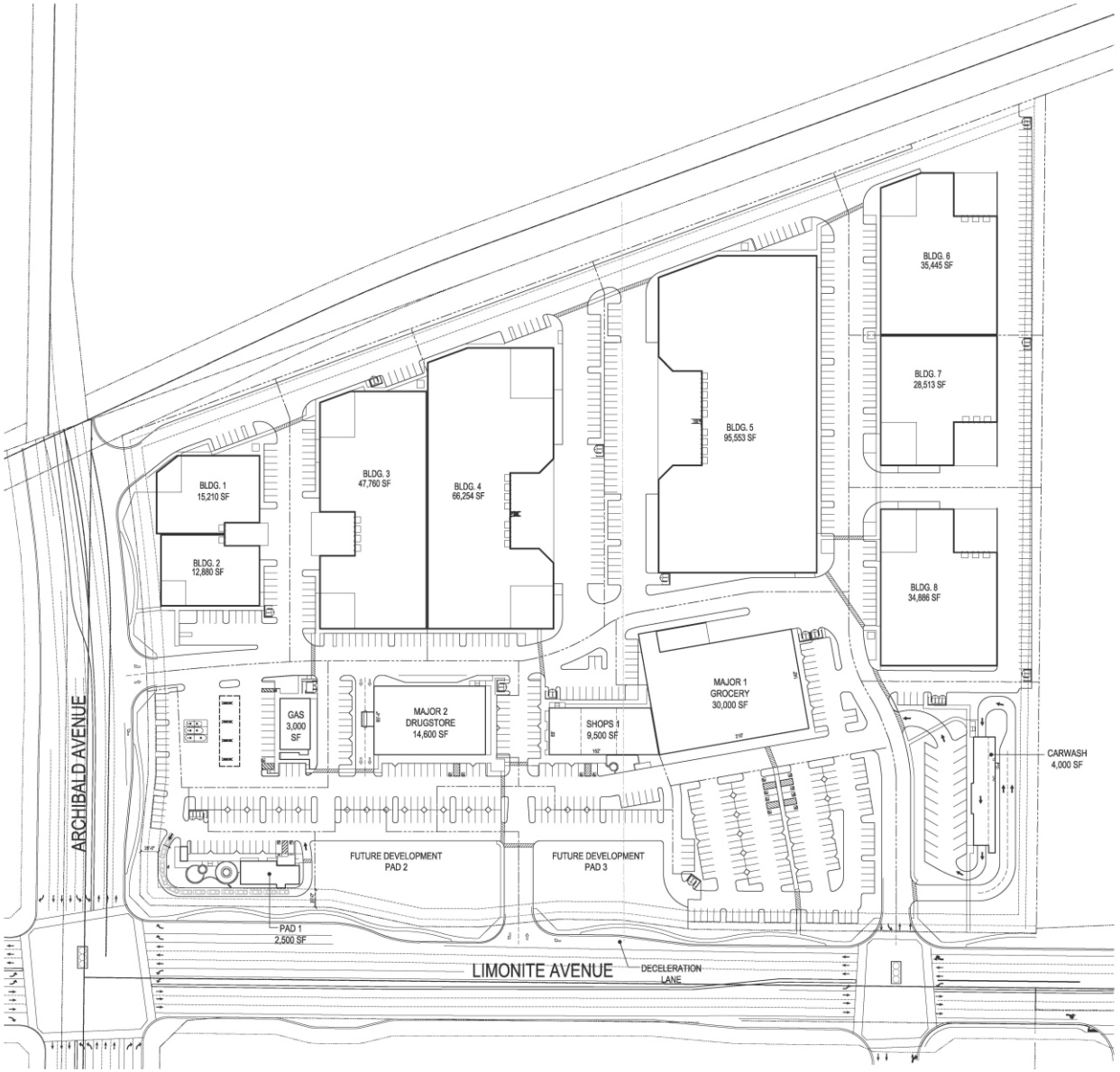
Land Uses	**Approx. Gross Leasable Area** (Square Feet)
Light Industrial	
Building 1	15,210
Building 2	12,880
Building 3	47,760
Building 4	66,254
Building 5	95,553

Table 3.6-1
The Merge – Building Summary

Land Uses	**Approx. Gross Leasable Area** (Square Feet)
Building 6	35,445
Building 7	28,513
Building 8	34,886
Subtotal – Light Industrial Uses	*336,501 Square Feet*
Commercial/Retail	
Major 1 - Grocery	30,000
Major 2 – Drug Store	14,600
Shops	9,500
Gas Station	3,000
Car Wash (free standing)	4,000
Outpad 1 - Restaurant	2,500
Outpad 2 - Restaurant	3,000
Outpad 3 - Restaurant/Retail	4,500
Subtotal – Commercial/Retail Uses	*71,100 Square Feet*
Project Total	***407,601 Square Feet***

Source: The Merge Project Development Concept, August 2018.

The current Site Plan proposed by the application on file with the City (Figure 3.6-1) shows 14 buildings as opposed to the 16 buildings listed in Table 3.6-1. Two additional buildings (fast food drive-through restaurants on pads adjacent to Limonite Avenue) are not shown on the proposed site plan because the Applicant has not yet submitted applications for these buildings. Applications for these buildings will be filed at a future date. Any future variations or any substantive change to the Project evaluated in this EIR would, at the discretion of the Lead Agency, be subject to subsequent environmental analyses. In any case, ultimate configuration and orientation of the Project uses would be subject to City review and approval.



TABULATIONS

RETAIL PARCEL	+/- 10.8 ACRES
INDUSTRIAL PARCEL	+/- 15.4ACRES
TOTAL PARCELS	+/- 26.2 ACRES
BUILDING AREAS RETAIL:	
CAR WASH (25 DEDICATED STALLS)	4,000 SF
MAJOR 1 (GROCERY)	30,000 SF
MAJOR 2 (DRUGSTORE)	14,600 SF
SHOPS 1 (RETAIL)	9,500 SF
BUILDING P1 (RESTAURANT)	2,500 SF
BUILDING P2 (RESTAURANT)	3,000 SF
BUILDING P3 (RESTAURANT)	4,500 SF
GAS STATION WITH CONVENIENCE STORE	3,000 SF
RETAIL BUILDING TOTAL	71,100 SF
RETAIL BUILDING TOTAL (NOT INCL. CAR WASH)	67,100 SF
TOTAL PARKING REQUIRED (NOT INCL. CAR WASH)	421 STALLS
TOTAL PARKING PROVIDED (NOT INCL. CAR WASH)	430 STALLS
RETAIL BUILDING COVERAGE	15.0%
BUILDING AREAS INDUSTRIAL:	
BUILDING 1	15,210 SF
BUILDING 2	12,880 SF
BUILDING 3	47,760 SF
BUILDING 4	66,254 SF
BUILDING 5	95,553 SF
BUILDING 6	35,445 SF
BUILDING 7	28,513 SF
BUILDING 8	34,886 SF
BUILDING TOTAL	336,501 SF
TOTAL PARKING REQUIRED	242 STALLS
TOTAL PARKING PROVIDED	322 STALLS

N

NOT TO SCALE

Source: Architects Orange (8/10/18)

applied planning inc

Figure 3.6-1
Site Plan Concept

3.6.4 Access and Circulation

Access and circulation improvements are schematically presented in Figure 3.6-2. All Project access and circulation improvements would be designed and constructed consistent with City design and engineering standards. Roadways adjacent to the Project, site access points, and site-adjacent intersections would be constructed consistent with the identified roadway classifications and respective cross-sections in the City of Eastvale General Plan Circulation Plan.

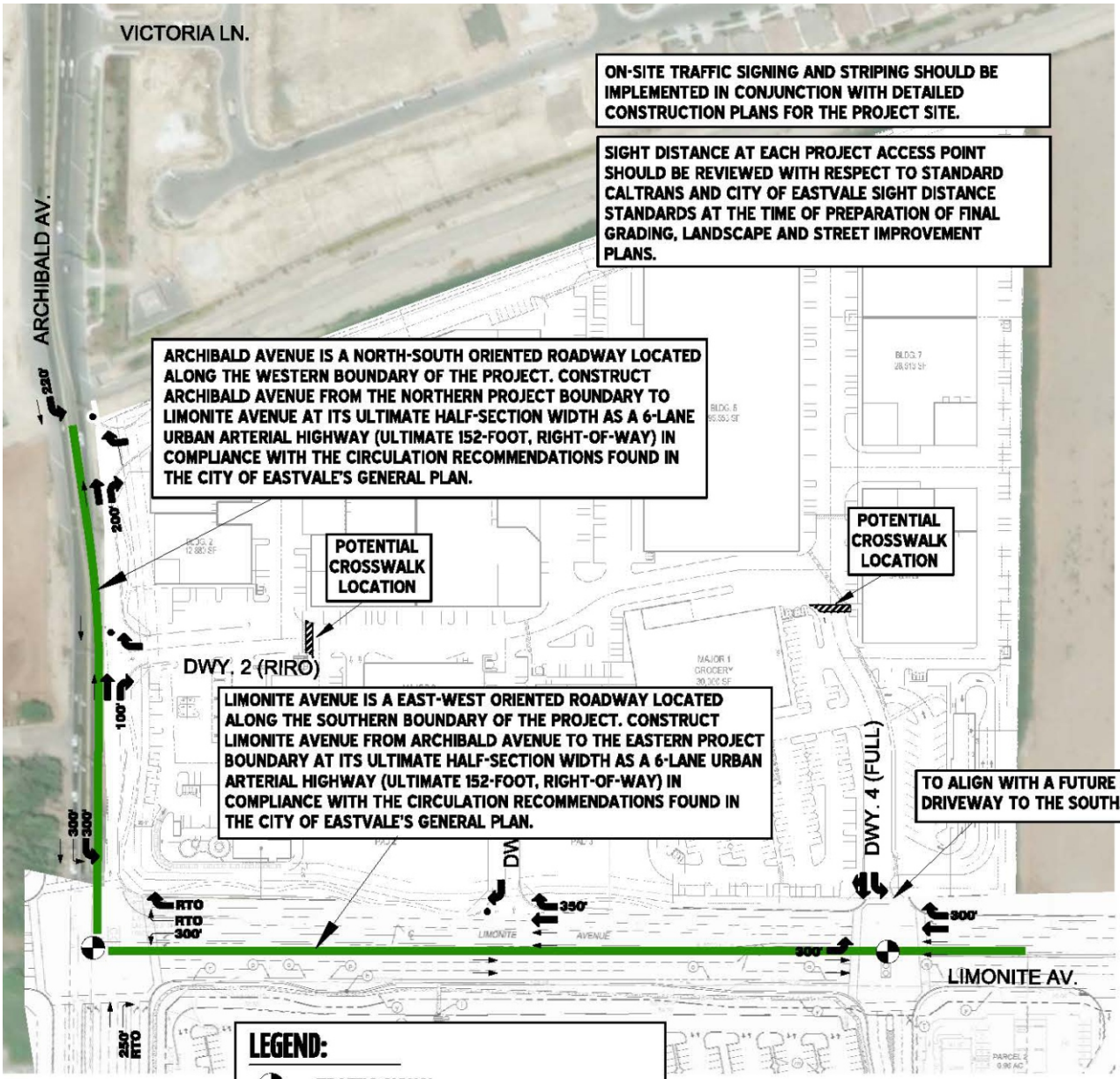
Sight distance at each Project access point would be reviewed for conformance with standard Caltrans and City of Eastvale standards, with City-approved access plans to be incorporated in final Project construction plans.

3.6.4.1 Site Access

Direct access to the Project site would be provided by south adjacent Limonite Avenue and west adjacent Archibald Avenue. More specifically, the following Project driveway access improvements are proposed:

- Archibald Avenue and Driveway 1 – Unsignalized right-in/right-out/left-in driveway providing access to both passenger cars and trucks.
- Archibald Avenue and Driveway 2 – Unsignalized right-in/right-out driveway providing access to passenger cars only.
- Limonite Avenue and Driveway 3 – Unsignalized right-in/right-out driveway providing access to passenger cars only.
- Limonite Avenue and Driveway 4 – Signalized full-access driveway providing access to both passenger cars and trucks. This driveway is proposed to align with a future driveway to the south. [3]

[3] Driveway 4 would align with the proposed Walmart driveway located opposite the Project on the south side of Limonite Avenue. The Project or Walmart (whichever development occurs first) would construct the traffic signal improvements at this location. Cost-sharing for signalization of this intersection would be as agreed to by the Project Applicant, developer of the Walmart site, and the City.



Source: Urban Crossroads, Inc.

Figure 3.6-2
Site Access and Roadway Improvements

Sight distance at each Project access point would be reviewed with respect to applicable Caltrans and City of Eastvale standards at the time of preparation of final grading, landscape and street improvement plans.

3.6.4.2 Site Adjacent Roadway Improvements

Off-site roadway improvements constructed as part of the Project would include the following:

- Archibald Avenue – Construct Archibald Avenue from the northern Project boundary to Limonite Avenue at its ultimate half-section width as a 6-lane Urban Arterial Highway (ultimate 152-foot right-of-way) in compliance with the City of Eastvale General Plan, Circulation Plan, or as otherwise required.[4]

- Limonite Avenue – Construct Limonite Avenue from Archibald Avenue to the eastern Project boundary at its ultimate half-section width as a 6-lane Urban Arterial Highway (ultimate 152-foot right-of-way) in compliance with the City of Eastvale General Plan, Circulation Plan, or as otherwise required.

Any necessary interim lane configurations, striping etc., as may be required by the City, would also be implemented.

3.6.4.3 Pedestrian, Bicycle/Multi-Use Trails, Transit Facilities

Pedestrian Access

Project construction of the ultimate half-section of Archibald Avenue and Limonite Avenue would include curb and gutter and sidewalk improvements consistent with City standards.

[4] The TIA shows that the intersection of Archibald Avenue and Driveway 1 satisfies the City's LOS criteria for acceptable peak hour operations as an unsignalized, right-in/right-out/left-in driveway. In addition, the intersection is not anticipated to meet the peak hour volume or planning level traffic signal warrants based on the future traffic volume forecasts developed for this TIA. However, at some point in the future, additional intersection traffic control at this intersection may be warranted based on conditions at the time.

Bicycle/Multi-Use Trails Access

The Jurupa Community Services District (JCSD) Parks and Recreation Master Plan[5] (JCSD Master Plan) indicates planned Class II bike lanes along Archibald Avenue and Limonite Avenue adjacent to the Project site.[6] The JCSD Master Plan also indicates a planned off-street Class I Multi-Use Trail along the Project north boundary adjacent to the existing Riverside County Flood Control and Water Conservation District (RCFCWCD) flood control channel.

The Applicant would coordinate final Project designs to ensure accommodation of planned or proposed bicycle and/or multipurpose trail facilities. The Project would construct pedestrian access and bicycle facilities improvements consistent with City standards and requirements. On-site Project bicycle amenities would be provided consistent with requirements and guidance provided in the City of Eastvale Zoning Code and the City of Eastvale *Design Standards and Guidelines*.

Transit Accommodations

A future bus stop is proposed on the south (eastbound) side of Limonite Avenue opposite the Project site. The Applicant will coordinate with the City and RTA for provision of crosswalks at the intersections of Archibald Avenue at Limonite Avenue and Driveway 4 at Limonite Avenue, facilitating pedestrian/bicycle access to the future bus stop.

3.6.4.4 Truck Access

To plan for and accommodate large trucks that would access the Project, a truck turning template has been overlaid on the Project site plan at each driveway and site adjacent intersection anticipated to be utilized by heavy trucks. The truck turning template allows for estimation of appropriate curb radii, ensuring that trucks would have sufficient space to execute required turning maneuvers.

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5 *Jurupa Community Services District Parks and Recreation Master Plan* (RJM Design Group for JCSD) n.d.; Section Two, *Existing Recreation Resources,* Figure 2.8-2, *Planned Trails*. See also: https://www.jcsd.us/services/parks-and-recreation/parks-and-recreation-master-plan

6 The City of Eastvale Bicycle Master Plan (February 2016) recommends provision of a Class IV protected bike lane along Limonite Avenue adjacent to the Project site. See also: http://www.eastvaleca.gov/city-hall/bicycle-master-plan

Figure 3.6-3 indicates recommended curb returns that would accommodate a typical WB-67 truck (73.5 feet total length, 53-foot trailer). This would be the longest truck anticipated to access the Project site.

The City would review all final site designs to ensure safe and efficient on-site access. Specifically, final site plan designs would be required to demonstrate adequate truck access to loading docks and include designated truck travel paths (or similar measures) to minimize potential conflicts between truck traffic and commercial-use traffic.

3.6.4.5 Construction Traffic Management Plan

Temporary and short-term traffic detours and traffic disruptions could result during Project construction activities, including construction of access and circulation improvements described above. Accordingly, a construction area traffic management plan (Plan) will be reviewed and approved by the City, and implemented during Project development. Typical elements and information incorporated in the Plan would include, but would not be limited to:

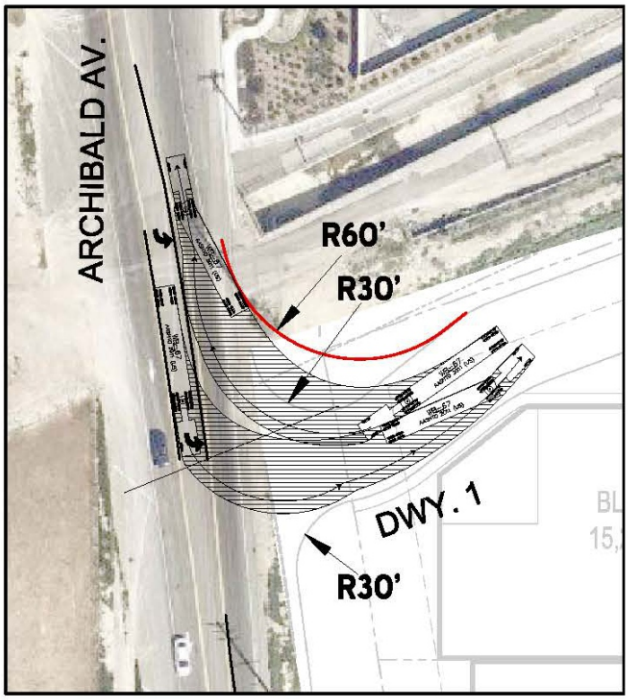
- **Name of on-site construction superintendent and contact phone number.**

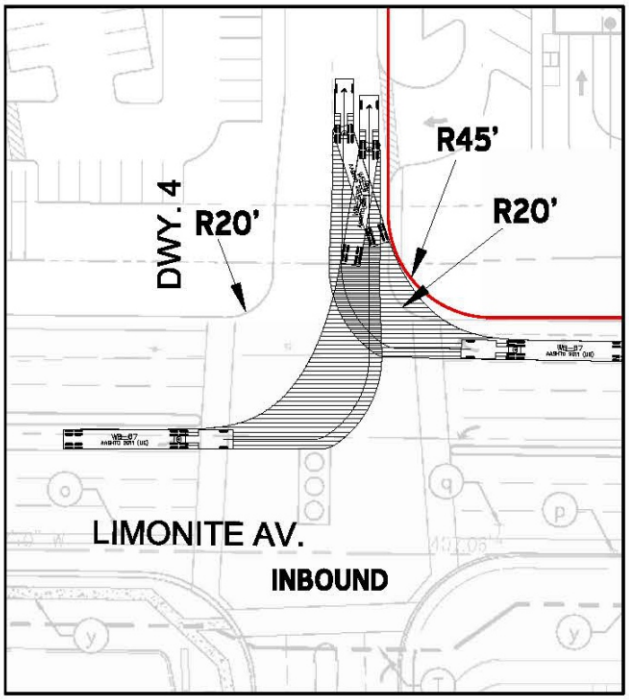
- **Identification of Construction Contract Responsibilities** - For example, for excavation and grading activities, describe the approximate depth of excavation, and quantity of soil import/export (if any).

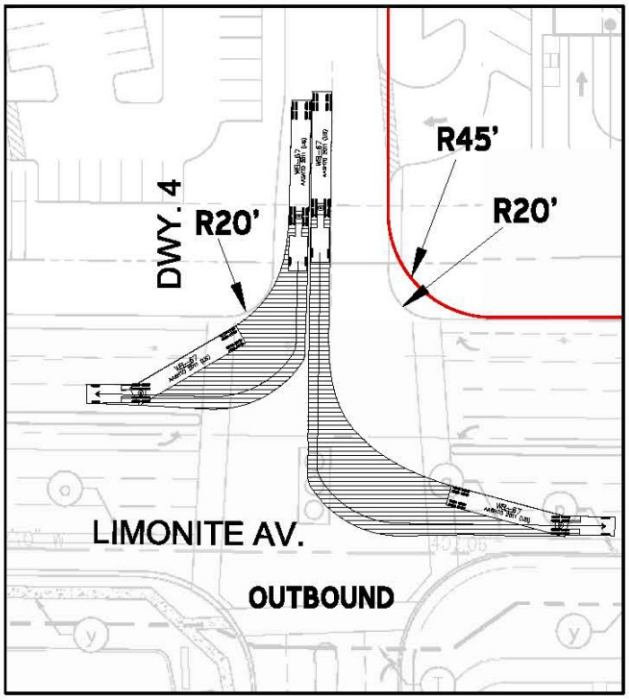
- **Identification and Description of Truck Routes** - The number of trucks and their staging location(s) (if any).

- **Identification and Description of Material Storage Locations (if any).**

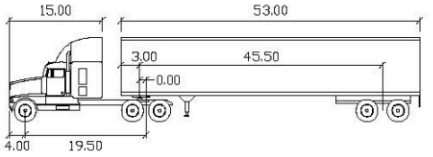
- **Location and Description of Construction Trailer (if any).**







LEGEND:



WB-67 feet

Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 75.0
Trailer Track	: 8.50		

N

NOT TO SCALE

Source: Urban Crossroads, Inc.

Figure 3.6-3
Driveway Truck Access Recommendations

- **Identification and Description of Traffic Controls** - Traffic controls shall be provided per the Manual of Uniform Traffic Control Devices (MUTCD) if the occupation or closure of any traffic lanes, parking lanes, parkways or any other public right-of-way is required. If the right-of-way occupation requires configurations or controls not identified in the MUTCD, a separate traffic control plan must be submitted to the City for review and approval. All right-of-way encroachments would require permitting through the City.

- **Identification and Description of Parking** - Estimate the number of workers and identify parking areas for their vehicles.

- **Identification and Description of Maintenance Measures** - Identify and describe measures taken to ensure that the work site and public right-of-way would be maintained (including dust control).

The Plan would be reviewed and approved by the City prior to the issuance of building permits. The Plan and its requirements would also be provided to all contractors as one required component of the building plan/contract document packages.

3.6.5 Parking

The EIR Project would include a total of 752 spaces – 430 spaces would be provided in support of the Project commercial/retail uses; 322 spaces would be provided in support of the Project light industrial uses. Current Applicant plans on file with the City reflect a reduced overall development intensity when compared to the Project evaluated in this EIR. This may result in reduced parking demands. All parking areas, to include parking stalls, drive aisles, parking lot landscaping, and hardscaping would be designed and constructed consistent with City design and development standards.

3.6.6 Signs

Varied Project sign types are anticipated, including freestanding multi-tenant pylon and monument signs, building tenant signs, and directional and informational signage. All

Project signs would conform to standards and requirements of Municipal Code Section 120.05.070 (or a separate Sign Program as approved by the City of Eastvale).

3.6.7 Other Site Improvements

Other site improvements and amenities implemented by the Project would include, but would not be limited to: screen walls, perimeter definition and security fencing, landscape/hardscape improvements, including sidewalks; and decorative/security lighting.

3.6.8 Infrastructure/Utilities

Infrastructure and utilities that would serve the Project site are summarized below.

3.6.8.1 Water/Sanitary Sewer Services

Water and sewer services would be provided to the Project by the JCSD. Water and sanitary sewer service extensions to the Project facilities would connect to existing facilities located in adjacent rights-of-way. Existing 24-inch water lines are located within the Limonite Avenue and Archibald Avenue rights-of-way. An existing 21-inch sanitary sewer line is located within Archibald Avenue right-of-way. Project wastewater would be conveyed for treatment to the Western Riverside County Regional Wastewater Authority (WRCRWA) plant. Final locations and alignments of water and sanitary sewer service lines, and connection to existing services would conform to City and JCSD requirements.

3.6.8.2 Storm Water Management System Concept

The Project would implement all drainage improvements and programs necessary to control and treat storm water pollutants. The Project storm water management system concept is described below.

Storm Water Collection and Conveyance

Project storm water runoff would be collected at on-site catch basins and directed to two on-site, below ground, detention basins. Storm water collected at these basins would be released in a controlled manner (not to exceed the design discharge flow of 39.61 cubic

feet per second, cfs) to the existing 24-inch Master Drainage Plan (MDP) storm drain (MDP Lateral A-2) located in Limonite Avenue. Please refer also to the Project Preliminary Drainage Study presented in EIR Appendix H.

3.6.8.3 Electrical and Communications Services

All on-site electrical and communications services lines and supporting facilities would be constructed underground excluding certain above-ground, pad-mounted appurtenances. Above-ground, pad-mounted facilities would be screened consistent with City standards. All proposed electrical and communications lines and supporting facilities would be located and constructed consistent with City and purveyor requirements.

Electrical Service

Electrical service would be provided to the Project by Southern California Edison (SCE). As part of the Project, certain existing SCE transmission poles along Archibald Avenue would be removed, and new replacement poles would be installed at locations determined appropriate by SCE and the City. Existing overhead SCE and Frontier Communications lines along Limonite Avenue and Archibald Avenue not relocated to the new transmission poles would be placed underground.

Communications Services

Communications services, including wired and wireless telephone and internet services are available through numerous private providers and would be provided on an as-needed basis. Cable service is currently available from AT&T; phone service (land line) is currently available from Verizon.

3.6.8.4 Natural Gas

Natural gas service would be provided by The Gas Company. It is anticipated that gas service to the Project would be provided via connection to the existing 36-inch gas line located within the adjacent Limonite Avenue right-of-way. Service line alignments and connections to existing services would be as required by The Gas Company.

3.6.9 Police, Fire Protection, and Emergency Medical Services

Police, fire protection and emergency medical services are currently available to the Project and are listed below.

- Police Protection Services (Eastvale Police Department, provided via contract with the Riverside County Sheriff's Department from the Jurupa Valley Station).

- Fire Protection and Emergency Medical Services (CAL FIRE/Riverside County Fire Department).

3.6.10 Energy Efficiency/Sustainability

The Project would comply with or would surpass standards established under the California Code Title 24, Part 6 (the California Energy Code) and California Green Building Standards Code (CALGreen; CCR, Title 24, Part 11).

3.6.11 Landscaping

Drought-tolerant plants would be used where appropriate. The Project would install recycled water distribution system for landscaping and connect reclaimed water system(s) when available to the Project Site. Project use of reclaimed water for non-potable purposes reduces the Project's potable water demands.

Project landscaping would conform to City requirements and per the recommendations of the Riverside County Airport Land Use Commission (ALUC). A variance to Eastvale Municipal Code Section 120.05.040 is proposed to allow for landscape reductions consistent with the recommendations of the ALUC.

3.7 PROJECT OBJECTIVES

The primary goal of the Project is the development of the subject site with a mix of light industrial and commercial/retail uses. Project Objectives include the following:

- To provide light industrial and commercial/retail uses that serve the local market area and beyond; and that attract new customers and businesses to Eastvale;

- Improve and maximize economic viability of the site through the establishment of light industrial and commercial/retail uses;

- Maximize and broaden the City's sales tax base by providing local and regional tax-generating uses and by increasing property tax revenues;

- Provide light industrial and commercial/retail uses within contemporary energy-efficient buildings, at a location that is readily accessible by patrons and employees;

- Create additional employment-generating opportunities for the residents of Eastvale and surrounding communities.

3.8 DISCRETIONARY APPROVALS AND PERMITS

Discretionary actions, permits and related consultation(s) necessary to approve and implement the Project would include, but are not limited to, the following.

3.8.1 Lead Agency Discretionary Actions and Permits

- CEQA Compliance/EIR Certification. The City must certify the EIR prior to, or concurrent with, any approval of the Project.

- Approval of a General Plan Amendment (Land Use) for approximately 10.8 acres from Light Industrial (LI) to Commercial Retail (CR).

- Approval of a Zone Change for approximately 10.8 acres from Heavy Agricultural (A-2) to General Commercial (C-1/C-P); and for approximately 15.4 acres from Heavy Agricultural (A-2) to Industrial Park (I-P).[7]

[7] The Project site is located within the Chino Airport Influence Area. Because amendment to existing Zoning designations is proposed by the Project, as required under the City of Eastvale Zoning Code, the Eastvale City Council must make a finding that the amendment(s) is/are consistent with the most recent adopted version of the Riverside County Airport Land Use Compatibility Plan.

- Approval of Major Development Review.

- Approval of Tentative Parcel Map(s).

- Approval of Conditional Use Permits (CUPs) for the sale of alcohol for off-site consumption, and for drive-throughs including restaurants, car washes, and a drugstore pick-up window.

- Approval of a variance to Eastvale Municipal Code Section 120.05.040 to allow for landscape reductions/modifications consistent with Riverside County Airport Land Use Commission recommendations.

- Additionally, the Project would require a number of non-discretionary construction, grading, drainage and encroachment permits from the City to allow implementation of the Project facilities.

3.8.2 Other Consultation and Permits

Based on the current Project design concept, anticipated consultation and permits necessary to realize the proposal would likely include, but are not limited to the following:

- Consultation with requesting Tribes as provided for under *AB 52, Gatto. Native Americans: California Environmental Quality Act*; and *SB 18, Burton. Traditional tribal cultural places*.

- Permitting by/through the Regional Water Quality Control Board (RWQCB) consistent with requirements of the City's National Pollutant Discharge Elimination System (NPDES) Permit;

- Permitting by/through the South Coast Air Quality Management District (SCAQMD) for certain equipment or land uses that may be implemented within the Project Site;

- Permitting (i.e., utility connection permits) from serving utility providers including but not limited to approval from Jurupa Community Services District for water and wastewater connections;

- Airport Land Use Compatibility Plan compatibility determination from the Riverside County Airport Land Use Commission.

- Other ministerial permits necessary to realize all on- and off-site improvements related to the development of the site.

4.0 ENVIRONMENTAL IMPACT ANALYSIS

4.0 ENVIRONMENTAL IMPACT ANALYSIS

This chapter of the EIR analyzes and describes the potential environmental impacts associated with the adoption and implementation of The Merge Project (Project). The environmental impact analysis has been organized into a series of sections, each addressing a separate environmental topic. Environmental topics addressed in this EIR are presented in the following sections:

Section	Topic
4.1	Land Use and Planning
4.2	Transportation/Traffic
4.3	Air Quality
4.4	Global Climate Change and Greenhouse Gas Emissions
4.5	Noise
4.6	Geology and Soils
4.7	Hazards and Hazardous Materials
4.8	Hydrology and Water Quality
4.9	Cultural Resources/Tribal Cultural Resources
4.10	Public Services and Utilities

Within each of the above topical Sections, the discussion is typically divided into subsections which: describe the "setting" or existing environmental conditions; identify regulations and policies, which through their observance typically resolve many potential environmental concerns; identify thresholds of significance applicable to potential environmental effects of the Project; describe the significance of Project-related environmental effects in the context of applicable significance thresholds; and for impacts which are potentially significant or significant, recommend mitigation measures to

eliminate or reduce their effects. In this latter regard, it is recognized that the intent of the California Environmental Quality Act (CEQA) is to focus on significant, or potentially significant adverse effects of the Project, and therefore, mitigation is proposed only for potential impacts of this magnitude.

As noted above, before potential impacts are evaluated, the standards or thresholds which will serve as the basis for judging the relative significance of impacts are presented. Often thresholds serve as a general guide or gauge for determining an impact's potential relative significance, rather than defining its absolute effects. Subsequent to identification of relevant significance thresholds, potential Project-related effects and impacts are identified and explained. If an impact is considered to be potentially significant, mitigation measures are proposed to avoid the impact, or reduce its effects to the extent feasible. In determining the potential significance of impacts, the adequacy of existing policies and regulations in addressing each impact is taken into consideration. At the conclusion of each discussion for a potentially significant impact, a determination is made as to whether the impact can be reduced to a less-than-significant level with the application of mitigation measures.

In the environmental analysis, the following terms are used to describe the potential effects of the Project:

- **Less-Than-Significant Impacts**: Minor changes or effects on the environment caused by the Project which do not meet or exceed the criteria, standards, or thresholds established to gauge significance are considered to be less-than-significant impacts. Less-than-significant impacts do not require mitigation. In some cases, these impacts may appear to be potentially significant. However, existing public policies, regulations, and procedures adequately address these potential effects, thereby reducing them to a less-than-significant level, without the need for additional mitigation.

- **Potentially Significant Impacts**: Potentially significant impacts are defined as a substantial, or potentially substantial, adverse change in the environment. The *CEQA Guidelines* and various responsible agencies provide guidance for determining the significance of impacts. However, the determination of impact significance is ultimately based on the judgment of the lead agency. Similarly, the establishment of any criteria to be used in evaluating the significance of impacts is the responsibility of the lead agency. Wherever possible, mitigation is proposed in the EIR to avoid or reduce the magnitude of potentially significant impacts.

- **Significant Impacts**: Impacts identified in the EIR which cannot be mitigated below thresholds of significance through the application of feasible mitigation measures are categorized as "significant."

- **Cumulative Impacts**: A discussion of cumulative impacts is provided in Section 5.0 of this environmental analysis. Cumulative impacts refer to the impacts of the Project as they are combined or interact with anticipated impacts of other vicinity projects and physical effects of projected ambient regional growth.

4.1 LAND USE AND PLANNING

4.1 LAND USE AND PLANNING

Abstract

This Section identifies and addresses potential impacts that may result from land use and planning decisions necessary to implement The Merge Project (the Project). Potential land use impacts that may occur due to the type of development proposed, its location or scale are discussed. Specifically, the discussion in this Section seeks to determine whether the Project would:

- *Physically divide an established community;*
- *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or*
- *Conflict with any applicable habitat conservation plan or natural community conservation plan.*

As supported by the analysis presented in this Section, potential land use and planning impacts of the Project are determined to be less-than-significant.

4.1.1 INTRODUCTION

Land use refers to occupation and employment of properties for various purposes such as commerce, industry, open space, community services, infrastructure, and residential uses. Local land use plans, policies, and development regulations control the types, configurations, and intensities of land uses within the community. Changes in land use patterns resulting from new development can affect overall characteristics of an area, and

may result in physical impacts to the environment. This Land Use and Planning Section of the EIR focuses on the Project's consistency with applicable land use plans, policies and regulations, and its potential incompatibilities with land use districts and existing and proposed vicinity development.

4.1.2 SETTING

4.1.2.1 Existing Land Uses

The Project site is surrounded by urban development. The site has no existing buildings, and is used for the growing of a variety of crops from time to time. The Project site is essentially level with no substantive topography or distinctive surface features. Please refer to Figure 3.3-1, *Existing Land Uses*, included in the preceding Section 3.0, *Project Description*.

Vicinity Land Uses

North of the Project site are single-family residential uses located in the City of Ontario. Northwest of the Project site are agricultural uses in the City of Ontario. Uses east, west, and south of the Project site are within the City of Eastvale. East of the Project site, properties are being developed with single-family residential uses. Active feed lot/dairy operations exist to the west of the Project site, across Archibald Avenue. South of the Project site, across Limonite Avenue, are vacant properties that have historically supported feed lot/dairy operations. These currently vacant properties are approved for development of a Walmart superstore and related commercial uses.

4.1.2.2 General Plan Land Use and Zoning Designations

The existing General Plan Land Use designation of the Project site is Light Industrial (LI). The existing Zoning designation of the Project site is Heavy Agricultural (A-2).

Preceding Section 3.0, *Project Description*, illustrates the existing and proposed land use designations of the site. Specifically, existing and proposed Project site General Plan Land Use designations are presented in Figure 3.4-1. Existing and proposed Project site Zoning designations are presented in Figure 3.4-2.

4.1.2.3 Airport Land Use Compatibility Plan Context

The Project site is located within the Chino Airport Influence Area. The *Riverside County Airport Land Use Compatibility Plan Policy Document* (ALUCP) establishes various policies and compatibility maps for individual ALUCP airports, including Chino Airport (Airport). Location of the Project site within the ALUCP Chino Airport Compatibility Map is presented previously in Section 3.0, Figure 3.5-1.

Figure 3.5-1 shows the Influence Area of the Airport and Compatibility Zones surrounding the Airport. The Compatibility Zones define special land use requirements and development limitations. West portions of the Project site lie within Compatibility Zone C; east portions of the Project site lie within Compatibility Zone D.

4.1.3 LAND USE PLANS, GOALS, POLICIES, AND REGULATIONS

The Project would be subject to, and would be required to comply with, applicable land use plans, goals, policies, and regulations, including the City of Eastvale General Plan and Zoning Code. In many instances, compliance with existing policies and regulations eliminates, or substantially reduces, potential environmental effects. Existing policies and regulations, to some extent, also indicate community and regional values and prerogatives relative to environmental concerns.

4.1.3.1 Regional Planning

The Southern California Association of Governments (SCAG) is the federally recognized metropolitan planning organization (MPO) for this region, which encompasses over 38,000 square miles, and comprises representatives of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. SCAG is a regional planning agency and a forum for addressing regional issues concerning transportation, the economy, community development, and the environment. SCAG is also the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews proposed development and infrastructure projects to analyze their potential impacts on regional planning programs. As Southern California's MPO, SCAG cooperates with the Southern California Air Quality Management District (SCAQMD),

the California Department of Transportation (Caltrans), and other agencies in preparing regional planning documents.

In 2016, SCAG adopted the *2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).* The 2016 – 2040 RTP/SCS vision encompasses general principles and themes that collectively work to shape the Southern California region. 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.

4.1.3.2 City of Eastvale General Plan

The City of Eastvale General Plan (General Plan) was developed consistent with State of California General Plan Guidelines, and contains the following State-required elements: Land Use, Circulation, Housing, Conservation, Open Space, Noise, and Safety. The City's General Plan also includes the topics of Design, Economic Development, Healthy Community, and Sustainability. General Plan land use designations direct the general character and intensities of land uses within the City boundaries.

4.1.3.3 Eastvale Zoning Code

Zoning is generally considered the primary tool for implementing a General Plan. In contrast to the long-term, broad-based outlook of the General Plan, zoning is a site-specific device designed to control the locations, densities, and intensities of various land uses. To prevent incompatible land use relationships, the zoning ordinance and accompanying map(s) designate different areas or zones for different types of land uses, and establish standards for development. These standards may specify requirements for lot sizes, lot coverages, building heights, setbacks, parking, landscaping, and other development parameters.

The Eastvale Zoning Code provides zoning definitions and performance standards for all land uses within the City. Prior to issuance of building permits, the City would review

the final Project site plan(s), facilities designs, and operations, to ensure consistency with applicable zoning requirements and performance standards.

4.1.4 STANDARDS OF SIGNIFICANCE

Appendix G of the California Environmental Quality Act Guidelines (*CEQA Guidelines*), as applied by the City of Eastvale, indicates that a Project will normally have a significant effect related to land use if it would:

- Physically divide an established community;

- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or

- Conflict with any applicable habitat conservation plan or natural community conservation plan.

4.1.5 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.1.5.1 Impact Statements

Potential Impact: *Physically divide an established community.*

Impact Analysis: No established communities exist within the Project site, nor does the Project propose or require elements or operations that would divide an off-site community. No residents would be displaced by the Project, nor would the physical arrangement of any neighboring residential communities be modified or divided by the Project. On this basis, the potential for the Project to physically divide an established community is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.*

Impact Analysis:

General Plan and Zoning Consistency

The existing General Plan Land Use designation of the Project site is Light Industrial (LI). The existing Zoning designation of the Project site is Heavy Agricultural (A-2). Please refer to Section 3.4, *Existing and Proposed Land Use Designations*, for amendments proposed by the Project.

SCAG RTP/SCS Consistency

Table 4.1-1 provides the City's analysis of the Project's consistency with the goals of the 2016 – 2040 SCAG Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS).

Table 4.1-1
Consistency with SCAG RTP/SCS Goals

RTP/SCS Goals	Remarks
Goal 1: Align the plan investments and policies with improving regional economic development and competitiveness.	**Consistent**: The Project proposes contemporary urban uses, providing an opportunity for development investment on currently underutilized land.
Goal 2: Maximize mobility and accessibility for all people and goods in the region.	**Consistent**: The transportation network in the Project area has been developed and maintained to meet local and regional transportation demands, and to ensure efficient mobility. Draft EIR Section 4.2, *Traffic and Circulation*, addresses local and regional transportation, traffic, and transit in more detail.

Table 4.1-1
Consistency with SCAG RTP/SCS Goals

RTP/SCS Goals	Remarks
Goal 3: Ensure travel safety and reliability for all people and goods in the region.	**Consistent:** The Project TIA identifies improvements that would promote and facilitate the safe movement of people and goods. All transportation modes within the Project area would be required to comply with incumbent regulatory safety standards.
Goal 4: Preserve and ensure a sustainable regional transportation system.	**Consistent:** The Project TIA assesses all roadways and identifies required improvements to the existing transportation network. The Project would offset its incremental transportation system impacts through payment of requisite transportation/traffic impact fees acting to ensure sustainable local and regional transportation systems.
Goal 5: Maximize the productivity of our transportation system.	**Consistent:** Local and regional transportation systems would be improved and maintained to encourage their efficiency and productivity. The City oversees the improvement and maintenance of all aspects of the public right-of-way on an as-needed basis.
Goal 6: Protect the environment and health of our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking).	**Consistent:** The Project would accommodate and would not interfere with existing or planned bicycle facilities and improvements. The Project would provide a pedestrian access network that internally links onsite uses to the existing off-site pedestrian network.
Goal 7: Actively encourage and create incentives for energy efficiency, where possible.	**Consistent:** EIR Section 3.4.10, *Energy Efficiency/Sustainability*, notes that the Project would comply with or surpass incumbent performance standards established under the Building Energy Efficiency Standards contained in the California Code of Regulations (CCR), Title 24, Part 6 (Title 24, Title 24 Energy Efficiency Standards).
Goal 8: Encourage land use and growth patterns that facilitate transit and non-motorized transportation.	**Consistent:** The Project proposes development with proximate access to local and regional transportation facilities. Intensified development of the Project site in combination with existing proximate urban development acts to focus transit

Table 4.1-1
Consistency with SCAG RTP/SCS Goals

RTP/SCS Goals	Remarks
	ridership base, thereby supporting existing and future transit opportunities.
Goal 9: Maximize the security of our transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	**Consistent:** The City of Eastvale is responsible for monitoring of roadways and transit routes to determine the adequacy and safety of these systems. The City and other local and regional agencies and organizations (e.g., RTA, Caltrans, and SCAG) cooperatively manage these systems. Security situations involving roadways and evacuations would be addressed through City emergency response plans.

Sources: Goal Statements from: 2016–2040 RTP/SCS; Remarks by Applied Planning, Inc.

Riverside County ALUCP Policy Document Considerations

Riverside County Airport Land Use Commission (ALUC) review is required when a project is located within the boundaries of an Airport Influence Area and the project proposes a legislative action like a General Plan Amendment, Specific Plan Amendment, Zone Change, or Zoning Ordinance. The Project is located within the Chino Airport Influence Area. The Project proposes a General Plan Amendment and Zone Change. Review of the Project by the ALUC is therefore required.

Additionally, because approval of a Zone Change is proposed by the Project, as required under the City of Eastvale Zoning Code, the Eastvale City Council must make a finding that the Project Zone Change is consistent with the most recent adopted version of the ALUCP.

The Project Applicant has submitted the Project plans to the ALUC for that agency's independent review. Prior to approval by the City, the Project Applicant would be required to document review and approval of the Project by the ALUC. Any Project revisions or limitations required by the ALUC would be incorporated in the Project prior approval to by the City.

Conclusion

The proposed General Plan Amendment and Zone Change is intended to achieve land use designations that best represent the development and land use activities contemplated by the Project. When a project includes amendments to the applicable land use designation(s), inconsistency with the existing designation(s) is an element of the project itself, which then requires a legislative policy decision of the agency. The request and subsequent approval of a change in designation in this regard does not signify a potential environmental effect. Additionally, the Project would be consistent with goals presented within the General Plan and established by the 2016 – 2040 RTP/SCS.

The Project would be required to conform to applicable ALUCP criteria. To ensure consistency, an independent Riverside County ALUC review process is currently under way, and the Project would be required to comply with any recommendations provided by the ALUC. As a standard City process, an ALUC consistency determination is required before the Project would be considered by the City Council.

On this basis, the potential for the Project to conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Conflict with any applicable habitat conservation plan or natural community conservation plan.*

Impact Analysis: The Project site is located within the Eastvale Area Plan of the Western Riverside County MSHCP. The site is not located within any Criteria Cells or MSHCP Conservation Areas. Based on information presented within *The Merge, Northeast Corner of Archibald Avenue and Limonite Avenue, City of Eastvale, Riverside County, California,*

Habitat Assessment and Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis (ELMT Consulting, Inc.) June 2018, the Project would not conflict with the MSHCP.

Please refer also to the discussion of biological resources previously presented within Section 1.5, *Impacts Not Found to be Potentially Significant*.

No other habitat conservation plan or natural community conservation plan are applicable to the Project site. As such, the Project's potential to conflict with any applicable habitat conservation plan or natural community conservation plan is considered less-than-significant.

Level of Significance: Less-Than-Significant.

4.2 TRANSPORTATION/TRAFFIC

4.2 TRANSPORTATION/TRAFFIC

Abstract

Detailed analysis of the Project's potential transportation/traffic impacts is presented in The Merge Traffic Impact Analysis, City of Eastvale *(Urban Crossroads, Inc.) August 24, 2018 (Project TIA, TIA). Within the TIA, potential transportation/traffic impacts are evaluated under Existing (2018) Conditions, Opening Year (2021) Conditions, and Horizon Year (2040) Conditions without and with the Project. The TIA is provided in EIR Appendix B. This Section summarizes analysis and findings of the TIA, and substantiates whether the Project would:*

- *Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, Streets, highways and freeways, pedestrian and bicycle paths, and mass transit;*

- *Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;*

- *Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities;*

- *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;*

- *Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); and*

- *Result in inadequate emergency access.*

The Project would construct all necessary site access and site adjacent roadway improvements as summarized in the EIR Project Description (please refer to EIR Section 3.0, Project Description*, Section 3.6.4,* Access and Circulation*). Final design and construction of these improvements would be as directed by the City of Eastvale (City) through the Project Conditions of Approval.*

Mitigation responsibilities for traffic impacts at off-site locations are fulfilled by Project Applicant payment of requisite fees[1] to be directed toward the completion of those improvements necessary to achieve acceptable performance standards (e.g., Level of Service, vehicle delay, vehicle densities). Project Applicant payment of fees would however, not ensure timely completion of required off-site improvements. Unless otherwise noted herein, pending completion of required circulation system improvements, Project contributions to deficiencies affecting off-site locations under Existing Conditions, Opening Year Conditions, and Horizon Year would be considered significant and unavoidable.

Caltrans intersections within the Study Area are designated Congestion Management Program (CMP) facilities. Project impacts to these facilities are coincident with the TIA analyses of intersections generally.

The Applicant and City will coordinate Project final designs with RTA to evaluate Project transit access and amenities. The Project would also construct pedestrian access and bicycle facilities improvements consistent with City standards and requirements. On this basis, the potential for the Project to conflict with policies, plans, or programs for public transit, bicycle, or pedestrian facilities, would be less-than-significant.

[1] Certain improvements identified here would be funded through the City of Eastvale Development Impact Fee Program, the Western Riverside Council of Governments (WRCOG) Transportation Uniform Mitigation Fee (TUMF) Program, and/or the Mira Loma Road and Bridge Benefit District (RBBD).

4.2.1 INTRODUCTION

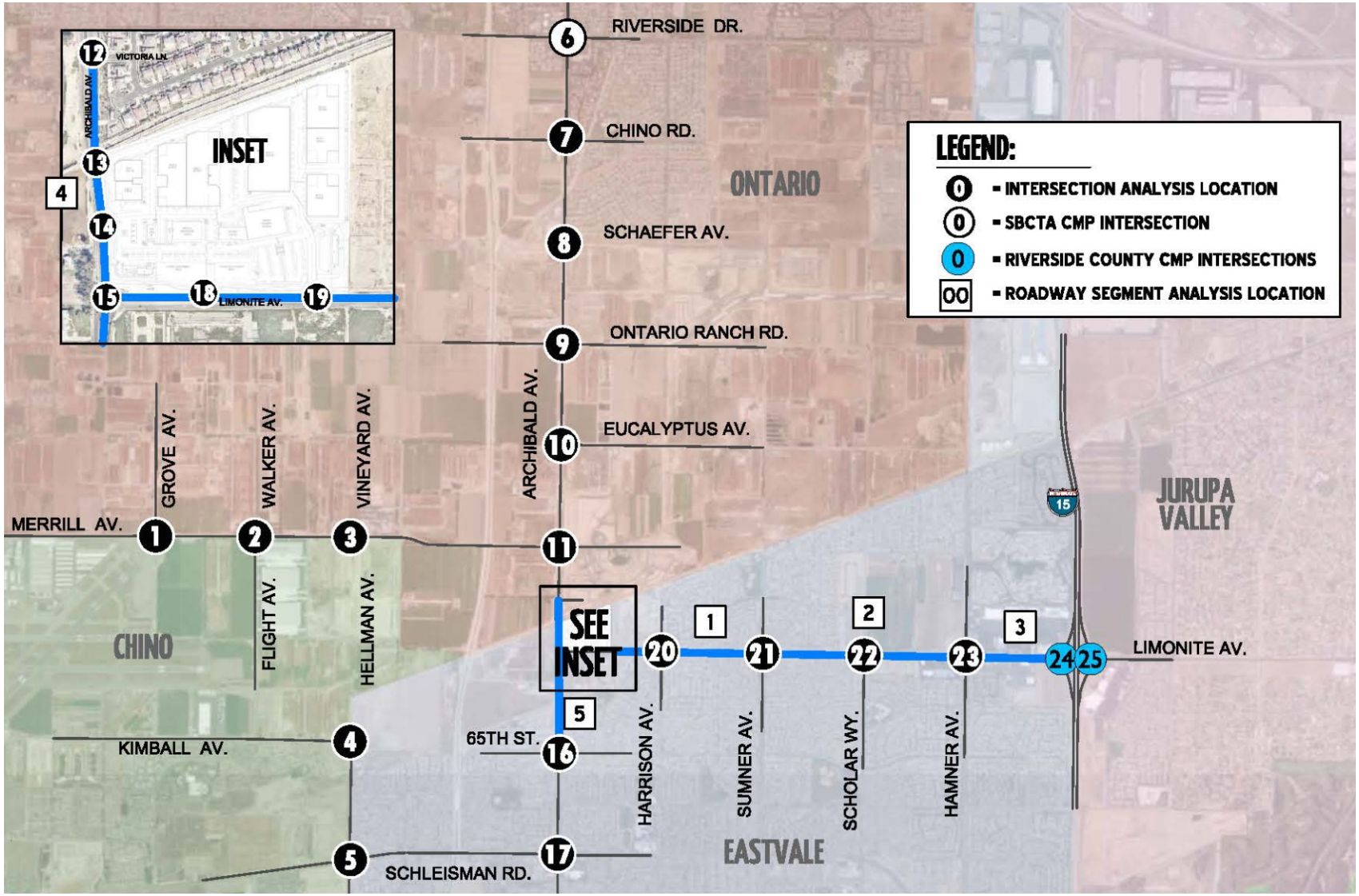
This Section presents existing and future transportation/traffic conditions within the TIA Study Area (Study Area) and identifies potential transportation/traffic impacts resulting from implementation of the Project. Study Area circulation system facilities are discussed, and effects of Project traffic on circulation system Level of Service (LOS) conditions are evaluated. Where the Project would result in, or substantively contribute to, deficient LOS conditions, circulation system improvements are recommended. The detailed evaluation of potential Project-related transportation/traffic impacts is documented in *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) *August 24, 2018* (EIR Appendix B).

4.2.2 STUDY AREA AND METHODOLOGIES

4.2.2.1 Overview

The TIA Study Area is presented in Figure 4.2-1. The TIA was prepared in consultation with the City and in accordance with the City-approved Traffic Study Scoping Agreement (see Appendix 1.1), County of Riverside Traffic Impact Analysis Preparation Guidelines, and the California Department of Transportation (Caltrans) Guide for the Preparation of Traffic Impact Studies.

The Project's traffic analysis uses Level-Of-Service (LOS) analysis methodology to determine the significance of traffic impacts. Approved or planned projects which would be considered as part of the cumulative development setting were also identified. For the purposes of the TIA and the EIR analyses, all Project facilities are assumed to be complete and operational by 2021, the Project Opening Year.



Source: Urban Crossroads, Inc.

Figure 4.2-1
TIA Study Area

Analyses of traffic conditions are presented for Existing (2018) Conditions, Project Opening Year (2021) Conditions, and Horizon Year (2040) Conditions. For the purposes of this analysis, Horizon Year traffic conditions have been evaluated for both without and with the Limonite Avenue Extension between Hellman Avenue and Archibald Avenue (Limonite Avenue Extension). Since the Limonite Avenue Extension is a planned long-range roadway network feature, the "Without Limonite Avenue Extension" scenario presents an analysis of long-term traffic impacts in the unlikely event that the Limonite Avenue extension is not constructed.

4.2.2.2 Intersection Analysis

Intersection Level of Service (LOS)

Traffic operations of roadway intersection facilities are described in terms of Levels of Service (LOS). Intersection analyses employed the Highway Capacity Manual (HCM) 6th Edition methodology. LOS is a qualitative description of traffic flow based on several factors such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS "A," representing completely free-flow conditions, to LOS "F," representing breakdown in traffic flow resulting in stop-and-go conditions. LOS "E" represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow. Tables 4.2-1 and 4.2-2 present LOS for signalized and unsignalized intersections within the Study Area.

Table 4.2-1
Signalized Intersection LOS

Level of Service	Description	Average Control Delay (seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop, and individual cycle failures are noticeable.	35.01 to 55.00

Table 4.2-1
Signalized Intersection LOS

Level of Service	Description	Average Control Delay (seconds)
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	80.01 and up

Source: HCM 2010.

Table 4.2-2
Unsignalized Intersection LOS

Level of Service	Description	Average Control Per Vehicle (seconds)
A	Little or no delays.	0 to 10.00
B	Short traffic delays.	10.01 to 15.00
C	Average traffic delays.	15.01 to 25.00
D	Long traffic delays.	25.01 to 35.00
E	Very long traffic delays.	35.01 to 50.00
F	Extreme traffic delays; intersection capacity exceeded.	50.01 and up

Source: HCM 2010.

Study Area Intersections

A total of 25 intersections in the Study Area were selected for analysis; at those locations where the Project would potentially contribute 50 or more peak hour trips.[2] Table 4.2-3 lists the 25 evaluated intersections and indicates the jurisdiction within which each is located. Riverside County Congestion Management Program (CMP) facilities are also identified.

[2] The 50 peak hour trip criterion is a widely employed traffic engineering protocol used to define the potential area of a given project's traffic impact (i.e., Study Area). This standard is used by Eastvale, the counties of Riverside and San Bernardino, and the cities of Chino and Ontario.

Table 4.2-3
Study Area Intersections

ID	Intersection Location	Jurisdiction	CMP?
1	Grove Ave. & Merrill Ave.	Chino/Ontario	No
2	Flight Ave. & Merrill Ave.	Chino/Ontario	No
3	Hellman Ave. & Merrill Ave.	Chino/Ontario	No
4	Hellman Ave. & Kimball Ave.	Chino/Eastvale	No
5	Hellman Ave. & Pine Ave.	Chino/Eastvale	No
6	Archibald Ave. & Riverside Dr.	Ontario	Yes
7	Archibald Ave. & Chino Ave.	Ontario	No
8	Archibald Ave. & Schaefer Ave.	Ontario	No
9	Archibald Ave. & Ontario Ranch Rd.	Ontario	No
10	Archibald Ave. & Eucalyptus Ave.	Ontario	No
11	Archibald Ave. & Merrill Ave.	Ontario	No
12	Archibald Ave. & Victoria Ln.	Ontario	No
13	Archibald Ave. & Driveway 1 – Future Intersection	Eastvale/Ontario	No
14	Archibald Ave. & Driveway 2 – Future Intersection	Eastvale	No
15	Archibald Ave. & Limonite Ave.	Eastvale	No
16	Archibald Ave. & 65th St.	Eastvale	No
17	Archibald Ave. & Schleisman Rd.	Eastvale	No
18	Driveway 3 & Limonite Ave. – Future Intersection	Eastvale	No
19	Driveway 4 & Limonite Ave. – Future Intersection	Eastvale	No
20	Harrison Ave. & Limonite Ave.	Eastvale	No
21	Sumner Ave. & Limonite Ave.	Eastvale	No
22	Scholar Way & Limonite Ave.	Eastvale	No
23	Hamner Ave. & Limonite Ave.	Eastvale	No
24	I-15 SB Ramps & Limonite Ave.	Caltrans/Eastvale	Yes
25	I-15 NB Ramps & Limonite Ave.	Caltrans/Jurupa Valley	Yes

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.

4.2.2.3 Roadway Segment Analysis

Roadway Segment Capacities

Table 4.2-4 summarizes Study Area roadway segment average daily traffic (ADT) capacities by roadway classification.

Table 4.2-4
Roadway Capacities by Classification

Roadway Classification	Roadway Capacity*
2-Lane Major Collector	16,200
4-Lane Arterial/Urban Arterial	32,300
6-Lane Urban Arterial	48,500

Source: City of Eastvale General Plan
* Reflects LOS D maximum two-way traffic volume (ADT) thresholds from the City of Eastvale General Plan (Table C-1). Listed capacities are considered applicable throughout the Study Area.

Roadway capacities identified in Table 4.2-4 are employed for planning purposes and are affected by factors including intersections (spacing, configuration and control features); roadway access control(s), grades, design geometrics; sight distance limitations; car/truck vehicle mix; and presence of, or accommodations for, pedestrian and bicycle traffic. If the analysis of intersections along the affected roadway segments indicates that the controlling intersections would operate acceptably under peak hour conditions, additional through lane improvements other than those identified at the affected intersections would not be required.

Study Area Roadway Segments

Evaluated Study Area roadway segments were identified in consultation with City of Eastvale staff. Table 4.2-5 identifies evaluated Study Area roadway segments and jurisdiction of each.

Table 4.2-5
Study Area Roadway Segments

ID #	Roadway Segment	Jurisdiction
1	Limonite Ave., Archibald Ave. to Sumner Ave.	Eastvale
2	Limonite Ave., Sumner Ave. to Hamner Ave.	Eastvale
3	Limonite Ave., Hamner Ave. to I-15 Freeway	Eastvale
4	Archibald Ave., Victoria Ln. to Limonite Ave.	Ontario
5	Archibald Ave., Limonite Ave. to 65th St.	Eastvale

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.

4.2.2.4 Freeway Ramp Queuing Analysis

Freeway Ramp Queuing Criteria

Freeway ramp facilities in the Study Area include the freeway-to-arterial interchange of the I-15 Freeway at Limonite Avenue off-ramps. Consistent with Caltrans requirements, the TIA includes an off-ramp queuing analysis to identify any potential freeway ramp storage deficiencies, which could result in "spill back" onto the I-15 Freeway mainline from the noted freeway-to-arterial interchanges.

Storage (turn-pocket) length recommendations at the ramps have been based upon the 95th percentile queue resulting from the vehicle progression analysis. The 95th percentile queue is the maximum back of queue with 95th percentile traffic volumes. The queue length reported is for the lane with the highest queue in the lane group. A vehicle is considered queued whenever it is traveling at less than 10 feet/second. A vehicle will only become queued when it is either at the stop bar or behind another queued vehicle.

Study Area Freeway Ramps

Evaluated Study Area freeway ramp locations were selected in consultation with City of Eastvale staff and reflect Caltrans guidance providing for evaluation of SHS facilities where a given project would contribute 25 or more peak hour trips. Evaluated Study Area freeway ramp locations are listed in Table 4.2-6. All freeway ramps within the Study Area are Caltrans jurisdictional facilities.

Table 4.2-6
Study Area Freeway Ramps

ID #	Freeway Ramp
1	I-15 Freeway – Southbound, Off-Ramp at Limonite Ave. (Diverge)
2	I-15 Freeway – Southbound, Loop On-Ramp at Limonite Ave. (Merge) – Future Ramp
3	I-15 Freeway – Southbound, On-Ramp at Limonite Ave. (Merge)
4	I-15 Freeway – Northbound, On-Ramp at Limonite Ave. (Merge)
5	I-15 Freeway – Northbound, Loop On-Ramp at Limonite Ave. (Merge)
6	I-15 Freeway – Northbound, Off-Ramp at Limonite Ave. (Diverge)

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.

4.2.2.5 Freeway Mainline Segment Analysis

Freeway Mainline Segment LOS

The evaluated Study Area freeway mainline segments are defined by freeway-to-arterial interchange locations. Freeway mainline segment analyses employed the HCM 6th Edition methodology and reflect peak hour directional volumes. Consistent with Caltrans guidelines and preferences, freeway mainline segment LOS performance is based on vehicle densities. Vehicle density is expressed in terms of passenger cars per mile per lane. Table 4.2-7 presents the freeway mainline segment LOS for each density range employed in the TIA.

Table 4.2-7
Freeway Mainline Segment LOS

LOS	Description	Density Range (pc/mi/ln)
A	Free-flow operations in which vehicles are relatively unimpeded in their ability to maneuver within the traffic stream. Effects of incidents are easily absorbed.	0.0 – 11.0
B	Relative free-flow operations in which vehicle maneuvers within the traffic stream are slightly restricted. Effects of minor incidents are easily absorbed.	11.1 – 18.0
C	Travel is still at relative free-flow speeds, but freedom to maneuver within the traffic stream is noticeably restricted. Minor incidents may be absorbed, but local deterioration in service will be substantial. Queues begin to form behind significant blockages.	18.1 – 26.0
D	Speeds begin to decline slightly and flows and densities begin to increase more quickly. Freedom to maneuver is noticeably limited. Minor incidents can be	26.1 – 35.0

Table 4.2-7
Freeway Mainline Segment LOS

LOS	Description	Density Range (pc/mi/ln)
	expected to create queuing as the traffic stream has little space to absorb disruptions.	
E	Operation at capacity. Vehicles are closely spaced with little room to maneuver. Any disruption in the traffic stream can establish a disruption wave that propagates throughout the upstream traffic flow. Any incident can be expected to produce a serious disruption in traffic flow and extensive queuing.	35.1 – 45.0
F	Breakdown in vehicle flow.	>45.0

Source: HCM7.
Notes: pc/mi/ln = passenger cars per mile per lane.

Study Area Freeway Mainline Segments

Study Area freeway mainline segment analysis locations were selected in consultation with City of Eastvale staff, and consistent with Caltrans traffic study guidelines. Per Caltrans guidance, evaluation of freeway segments where a given project would contribute less than 25 peak hour trips is not necessary.

A project's traffic impact to freeway mainline segment operational conditions tends to dissipate with distance from the point of traffic entry to the State Highway System (SHS). Quantitative study of freeway segments beyond those immediately adjacent to the point of traffic entry is typically not required.

Reflecting the above considerations, the TIA evaluated potentially affected freeway segments adjacent to the nearest point(s) of Project traffic entry to the SHS and at which the Project would contribute 25 or more peak hour trips. Study Area freeway mainline segments evaluated in the TIA are listed in Table 4.2-8. All Study Area freeway mainline segments are under Caltrans jurisdiction.

Table 4.2-8
Study Area Freeway Mainline Segments

ID #	Freeway Mainline Segment
1	I-15 Freeway – Southbound, North of Limonite Ave.
2	I-15 Freeway – Southbound, South of Limonite Ave.
3	I-15 Freeway – Northbound, North of Limonite Ave.
4	I-15 Freeway – Northbound, South of Limonite Ave.

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.

4.2.2.6 Freeway Merge/Diverge Ramp Junction Analysis

Freeway merge/diverge measure of effectiveness (MOE) is based on vehicle densities. Vehicle density is expressed in terms of passenger cars per mile per lane. The MOE is calculated based on the existing number of travel lanes, number of lanes at the on and off ramps both at the analysis junction and at upstream and downstream locations (if applicable) and acceleration/deceleration lengths at each merge/diverge point. Table 4.2-9 presents merge/diverge area level of service employed in this analysis.

Table 4.2-9
Freeway Merge/Diverge LOS

Level of Service	Density Range (pc/mi/ln)
A	≤10.0
B	10.0 – 20.0
C	20.0 – 28.0
D	28.0 – 35.0
E	>35.0
F	Demand Exceeds Capacity

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.

Study Area Freeway Merge/Diverge Ramp Junctions

The evaluated Study Area freeway merge/diverge ramp junctions are listed below and are defined by freeway-to-arterial interchange locations. Consistent with Caltrans guidance, the analysis presented here evaluates ramp merge/diverge ramp junction efficiencies locations with respect to the nearest on or off ramp at each interchange.

- I-15 SB Off-Ramp at Limonite Ave.
- I-15 SB On-Ramp at Limonite Ave.
- I-15 NB On-Ramp at Limonite Ave.
- I-15 NB Off-Ramp at Limonite Ave.

4.2.2.7 Jurisdictional Definitions for System Capacity and Operational Standards

Definitions for circulation system facilities capacities established by the City and other potentially affected jurisdictions are presented below. For facilities located outside of the City, this EIR evaluates Project transportation/traffic impacts consistent with performance standards adopted by the agency with jurisdiction over the facility(is) under consideration.

City of Eastvale

According to the Eastvale General Plan, City-maintained roads should (where possible) maintain a peak hour level of service (LOS) "C." LOS "D" may be allowed in commercial and employment areas, and at intersections of any combination of major highways, urban arterials, secondary highways, or freeway ramp intersections (General Plan p. 4-9, Policy C-10).

In light of the Project use types (light industrial, commercial/retail); and the classifications of analyzed roadways and intersections within the TIA Study Area (major highways, urban arterials, secondary highways and freeway ramp intersections); the City has determined that LOS D is the appropriate level of service to be maintained at TIA Study Area intersections and roadway segments generally.

City of Chino

LOS D is the City of Chino minimum acceptable operational condition for intersections and roadway segments (City of Chino General Plan Transportation Element, p. TRA-44).

City of Ontario

City of Ontario roadways and intersections are subject to minimum LOS E operational standards (City of Ontario Policy Plan, Mobility, Policy M1-1).

City of Jurupa Valley

City of Jurupa Valley roadways and intersections are subject to minimum LOS D operational standards (Jurupa Valley General Plan Update, 2017, p. 3-10).

Congestion Management Plan (CMP)

The CMP definition of deficiency is based on maintaining a level of service standard of LOS E or better, except where an existing LOS F condition is identified in the CMP document. Within this analysis, LOS D has nonetheless been conservatively applied as the minimum acceptable operational condition for Study Area CMP facilities.

Caltrans

Caltrans guidelines (excerpted below) were employed in the analysis of Caltrans facilities in the Study Area:

> The LOS for operating State highway facilities is based upon Measures of Effectiveness (MOE) identified in the Highway Capacity Manual (HCM). 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 and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than this target LOS, the existing MOE should be maintained.[3]

Within these analyses, LOS D is considered to be the limit of acceptable traffic operations for Caltrans-maintained facilities.

4.2.2.8 Deficiency Criteria

Respective jurisdictional deficiency criteria for the various Study Area facilities are summarized below. In instances where Project traffic would result in or cause deficient conditions, impacts would be considered potentially significant.

[3] *Guide for the Preparation of Traffic Impact Studies* (State of California, Department of Transportation) December 2002.

City of Eastvale Intersections

Unless otherwise noted (see below), for Study Area intersections within the City of Eastvale or intersections that are under shared jurisdiction with the City of Eastvale, LOS impacts would be considered potentially significant if Project traffic would precipitate any of the following conditions:

- Degradation of intersection LOS from acceptable conditions (LOS D or better) to unacceptable conditions (LOS E or F); or

- If the intersection is already operating at an unacceptable LOS (LOS E or F) and the addition of Project traffic increases the intersection delay by more than 5.0 seconds.

Extra-jurisdictional Intersections

For Study Area intersections located outside the City of Eastvale, intersection LOS impacts would be considered potentially significant if Project traffic would precipitate any of the following conditions:

The Project would contribute 50 or more peak hour trips and cause degradation of intersection LOS from acceptable conditions (LOS D or better for City of Chino, City of Jurupa Valley and CMP facilities; and/or degradation of City of Ontario facilities from acceptable conditions (LOS E or better) to unacceptable conditions (LOS E or F):

- The Project would contribute 50 or more peak hour trips and cause degradation of intersection LOS from acceptable conditions (LOS D or better for City of Chino and City of Jurupa Valley; LOS E for the City of Ontario and CMP facilities) to unacceptable conditions (LOS E or F); or

- The Project would contribute 50 or more trips at an intersection that is already operating at an unacceptable LOS (LOS E or F).

In instances where intersections are under shared jurisdiction, the most conservative LOS deficiency criteria is employed.

City of Eastvale Roadway Segments

For Study Area segments within the City of Eastvale or roadway segments that are under shared jurisdiction with the City of Eastvale, LOS impacts would be considered potentially significant if Project traffic would precipitate any of the following conditions:

- Degradation of roadway segment LOS from acceptable conditions (LOS D or better) to unacceptable conditions (LOS E or F); or

- If the roadway segment is already operating at an unacceptable LOS (LOS E or F) and the addition of Project traffic would increase the roadway segment volume-to-capacity ratio by 0.01 or greater.

Extra-jurisdictional Roadway Segments

One Study Area roadway segment (Segment No. 4 - Archibald Ave., Victoria Ln. to Limonite Ave.) is located in the City of Ontario. For this roadway segment, LOS impacts would be considered potentially significant if Project traffic would precipitate any of the following conditions:

- Degradation of roadway segment LOS from acceptable conditions (LOS E or better) to unacceptable conditions (LOS F); or

- If the roadway segment is already operating at an unacceptable LOS (LOS F) and the addition of Project traffic would increase the roadway segment volume-to-capacity ratio by 0.01 or greater.

Freeway Off-Ramps

Freeway off-ramps with queues exceeding the 95th percentile, resulting in spill back on the serving freeway, would be considered deficient.

Freeway Segments, Freeway Merge/Diverge Areas

For Study Area freeway segments, LOS impacts would be considered potentially significant if Project traffic would precipitate any of the following conditions:

- Degradation of freeway segment or freeway merge diverge area from LOS D or better to LOS E or F; or

- The Project would contribute 25 or more one-way peak hour trips at a freeway segment or merger/diverge area that is already operating at or near capacity.

Other Criteria

Other potential effects of the Project (*italicized*) and applicable deficiency/significance criteria are listed below.

- *Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.*

  Deficiencies in these regards would occur if the Project demonstrably would not or could not conform to applicable policies and programs.

- *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.*

  Deficiencies in these regards would occur if the Project would directly or indirectly have a substantive effect on air traffic patterns that could result in substantial safety risks.

- *Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).*

Deficiencies in these regards would occur if Project design features would be inherently hazardous, would cause or result in substantial hazards, would indirectly or directly result in collocation of incompatible use, or if the Project could not be reasonably designed and constructed to avoid or preclude substantial traffic hazards.

- *Result in inadequate emergency access.*

  Deficiencies in these regards would occur if the Project would inherently impair or obstruct emergency access, or if the Project could not be reasonably designed and constructed to avoid or preclude impairment or obstruction of emergency access.

4.2.3 EXISTING CONDITIONS

4.2.3.1 Overview

The following discussions summarize the existing Study Area roadway network and describe other transportation modes that exist within, or are available to, the Study Area.

4.2.3.2 Existing Roadway System

The major factors affecting access to the Project site are the location of the site and the efficiency of the roadway system serving the site. Efficiency of access is a function of travel time, convenience, directness, and available capacity of the routes utilized in accessing the development.

Regional Access

Interstate 15 (I-15) provides regional access to the City of Eastvale and surrounding communities generally. I-15 interchanges with Limonite Ave. approximately 2.5 miles easterly of the Project. I-15 is currently a six-lane freeway in the Project vicinity, traveling through western Riverside County. Primary access to I-15 to/from the Project would be provided via Limonite Avenue and the Limonite Avenue/I-15 interchange.

Site Access

Direct access to the Project would be provided by existing Limonite Avenue (east – west) and Archibald Avenue (north – south). The Project would construct site adjacent improvements and driveways providing access to these existing streets. Please refer to subsequent discussions of Project access and site-adjacent improvements presented in Section 4.2.5, *Project Improvements*.

4.2.3.3 Alternative Transportation Modes

Alternative transportation modes and services available to the Project site and vicinity are described below.

Bus Services

The Study Area is currently served generally by the Riverside Transit Authority (RTA) RTA Routes 3 and 29. RTA Route 3 runs along portions of Hamner Ave., Limonite Ave., Pats Ranch Road, 68th St., Scholar Way, and Citrus St. RTA Route 29 runs along portions of Limonite Ave., Hamner Ave., 68th St., and Pats Ranch Road.

RTA regularly reviews ridership demands and travel patterns to maintain convenient and efficient bus transportation within its Service Area. Current (2018) RTA bus routes and schedules are available at: http://www.riversidetransit.com/index.php/riding-the-bus/maps-schedules.

Pedestrian/Bicycle/Multi-Use Trail Facilities

Field observations conducted in April 2018 indicate nominal pedestrian and bicycle activity within the Study Area.

Pedestrian access would be facilitated by Project construction of the ultimate half-section of Archibald Avenue and Limonite Avenue to include curb and gutter and sidewalk improvements. All right-of-way improvements, including any temporary or interim improvements would be designed and constructed consistent with City Conditions of Approval.

Bicycle and multi-use trails in the Project area are reflected in the Jurupa Community Services District (JCSD) Parks and Recreation Master Plan[4] (JCSD Master Plan), and City of Eastvale Bicycle Master Plan. The JCSD indicates planned Class II bike lanes along Archibald Avenue and Limonite Avenue adjacent to the Project site.[5] The JCSD Master Plan also indicates a planned off-street Class I Multi-Use Trail along the Project northerly boundary adjacent to the existing Riverside County Flood Control and Water Conservation District flood control channel.

The Project concept does not propose or require facilities or programs that would conflict or interfere with development and implementation planned or proposed bicycle and/or multipurpose trail facilities. The Applicant would coordinate final Project designs to ensure accommodation of planned or proposed bicycle and/or multipurpose trail facilities. On-site Project bicycle amenities would be provided consistent with City of Eastvale requirements.

4.2.3.4 Existing Traffic Volumes

Existing Study Area peak hour traffic volumes were determined by field traffic counts conducted in April 2018 (while schools were in session). The traffic counts included the following vehicle classifications: Passenger Cars, 2-Axle Trucks, 3-Axle Trucks, and 4 or More Axle Trucks. To represent the impact large trucks, buses and recreational vehicles have on traffic flow; all trucks were converted into passenger car equivalents (PCE). By their size alone, trucks and similar size vehicles occupy the same space as two or more passenger cars. In addition, the time it takes for them to accelerate and slow-down is much longer than for passenger cars and varies depending on the type of vehicle and number of axles. For the purpose of this analysis, a PCE factor of 1.5 has been applied to 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for 4+-axle trucks to estimate each turning movement.

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[4] *Jurupa Community Services District Parks and Recreation Master Plan* (RJM Design Group for JCSD) n.d.; Section Two, *Existing Recreation Resources,* Figure 2.8-2, *Planned Trails*. See also: https://www.jcsd.us/services/parks-and-recreation/parks-and-recreation-master-plan

[5] The City of Eastvale Bicycle Master Plan (February 2016) recommends provision of a Class IV protected bike lane along Limonite Avenue adjacent to the Project site. See also: http://www.eastvaleca.gov/city-hall/bicycle-master-plan

Weekday morning (AM) peak traffic conditions are represented by traffic counts conducted for the two-hour period between 7:00 and 9:00 a.m. Weekday evening (PM) peak hour traffic conditions are represented by traffic counts conducted for the two-hour period from 4:00 to 6:00 p.m. The TIA traffic count data is considered representative of peak hour traffic conditions in the Study Area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity that would prevent or limit roadway access and detour routes. Diagrammatic representations of existing intersection traffic volumes are presented at TIA Exhibit 3-15. Raw manual peak hour turning movement traffic count data sheets are provided in TIA Appendix 3.1.

4.2.3.5 Existing Conditions-Intersection Operations

Table 4.2-10 summarizes Existing Conditions (2018) intersection LOS deficiencies within the Study Area. All other Study Area intersections operate acceptably during the peak hour periods. For a complete listing of all existing Study Area intersection LOS conditions, please refer to TIA Table 3-1.

Table 4.2-10
Intersection Deficiencies, Existing Conditions

		Traffic Control	Delay (secs.)		Level of Service		Jurisdiction/ LOS Std.
ID #	Intersection		AM	PM	AM	PM	
2	Flight Ave. & Merrill Ave.	CSS	**61.2**	28.4	**F**	D	Chino/Ontario LOS D
4	Hellman Ave. & Kimball Ave.	AWS	**97.9**	**47.8**	**F**	**E**	Chino/Eastvale LOS D

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: CSS – Cross Street Stop; AWS –All Way Stop; Deficiencies are indicated by **bold** text.

4.2.3.6 Existing Conditions-Roadway Segment Operations

Table 4.2-11 summarizes Existing Conditions (2018) roadway segment LOS deficiencies within the Study Area. All other Study Area roadway operate acceptably during the peak hour periods. For a complete listing of all existing Study Area roadway segment LOS conditions, please refer to TIA Table 3-2.

Table 4.2-11
Roadway Segment Deficiencies, Existing Conditions

ID #	Roadway	Segment Limits	Roadway Section	Capacity (ADT)	Volume (ADT)	V/C	LOS	Jurisdiction/ LOS Std.
2	Limonite Ave.	Sumner Ave. to Hamner Ave.	4D	35,900	33,559	**0.93**	**E**	Eastvale/ LOS D
4	Archibald Ave.	Victoria Ln. to Limonite Ave.	2D	17,950	29,902	**1.67**	**F**	Ontario, Eastvale/ LOS D
5	Archibald Ave.	Limonite Ave. to 65th St.	2D	17,950	29,449	**1.64**	**F**	Eastvale/ LOS D

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: Deficiencies are indicated by **bold** text.

4.2.3.7 Existing Conditions-Freeway Ramp Queuing Operations

Under Existing Conditions (2018), all Study Area freeway ramp queues would perform acceptably. For a complete listing of all existing Study Area roadway segment LOS conditions, please refer to TIA Table 3-3.

4.2.3.8 Existing Conditions-Freeway Mainline Segment Operations

Table 4.2-12 summarizes Existing Conditions (2018) freeway mainline segment LOS deficiencies within the Study Area. All other Study Area freeway mainline segments operate acceptably during the peak hour periods. For a complete listing of all existing freeway mainline segment LOS conditions, please refer to TIA Table 3-4.

Table 4.2-12
Freeway Mainline Segment Deficiencies, Existing Conditions

Mainline Segment	Lanes	Volume (ADT)		Truck %		Vehicle Density		LOS	
		AM	PM	AM	PM	AM	PM	AM	PM
I-15 SB South of Limonite Ave.	3	5,636	5,588	10%	7%	**39.2**	**36.6**	**E**	**E**

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: Deficiencies are indicated by **bold** text.

4.2.3.9 Existing Conditions-Freeway Merge/Diverge Ramp Operations

Table 4.2-13 summarizes Existing Conditions (2018) freeway merge/diverge ramp LOS deficiencies within the Study Area. All other Study Area freeway merge/diverge ramps

operate acceptably during the peak hour periods. For a complete listing of all existing Study Area merge/diverge ramp LOS conditions, please refer to TIA Table 3-5.

Table 4.2-13
Freeway, Merge/Diverge Ramp Deficiencies, Existing Conditions

Freeway Ramp	Lanes	AM Peak Hour		PM Peak Hour	
		Density	LOS	Density	LOS
I-15 SB On-Ramp at Limonite Ave.	3	**40.1**	**E**	38.1	D

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: Deficiencies are indicated by **bold** text.

4.2.4 FUTURE TRAFFIC VOLUMES

The following discussions identify traffic volumes anticipated to be generated by the Project, and traffic attributable to other growth and development within the Study Area.

4.2.4.1 Project Trip Generation

Trip generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Institute of Transportation Engineers (ITE) trip generation rates and equations for different land uses are utilized by the City in determining development-related trip generation characteristics and were employed in the Project TIA in estimating the Project's trip generation.[6] The Project gross trip generation estimates were then adjusted to reflect pass-by trip rates and internal trip capture rates.

Pass-by trips are defined as intermediate stops on the way from an origin to a primary trip destination without a route diversion. Pass-by trips are attracted from traffic passing the site on an adjacent street or roadway that offers direct access to the generator. Pass-by trip reductions for the Project Land Uses have been reviewed and approved by the City.

Internal capture trip reductions account for trips internal to the site. In other words, trips may be made between individual uses on-site and can be made either by walking or using

[6] Project trip generation rates from ITE *Trip Generation* Manual, 10th Edition, 2017.

internal roadways without using external streets. For example, patrons of the proposed retail uses may also access fast food restaurants without leaving the site. Internal capture trip reductions for the Project Land Uses have been reviewed and approved by the City. Project trip generation is expressed as PCE and in terms of actual vehicles in Tables 4.2-14 and 4.2-15, respectively. Project traffic volumes considered in this analysis represent the likely maximum traffic generation and traffic impact condition. The assumptions and methods used to estimate the Project trip generation characteristics are discussed in greater detail in TIA Section 4.1, *Project Trip Generation*.

Table 4.2-14
Project Trip Generation (PCE)

Land Use	Quantity	Metric	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Warehousing	336.501	TSF							
Passenger Cars:			35	10	45	14	37	51	468
Internal Capture (Office to Retail)[3]:			-1	-3	-4	-4	-7	-11	-101
Internal Capture (Office to Restaurant)[3]:			-5	-6	-11	-4	-1	-5	-46
- Net Passenger Car Trips			*29*	*1*	*30*	*6*	*29*	*35*	*321*
Truck Trips:									
2-axle:			2	1	3	1	3	4	29
3-axle:			3	1	4	1	4	5	48
4+-axle:			16	5	21	6	17	23	220
- Total Truck Trips (PCE)			*21*	*7*	*28*	*8*	*24*	*32*	*297*
Warehousing Total[2]:			*50*	*8*	*58*	*14*	*53*	*67*	*618*
Shopping Center	4.750	TSF	3	2	5	9	9	18	179
Internal Capture (Retail to Office)[3]:			0	0	0	0	0	0	-2
Internal Capture (Retail to Restaurant)[3]:			-1	-1	-2	-4	-2	-6	-21
Net External Trips:			2	1	3	5	7	12	156
Pass-by Reduction (PM/Daily: 34%):			0	0	0	-2	-2	-4	-53
Shopping Center Total:			*2*	*1*	*3*	*3*	*5*	*8*	*103*
Supermarket	30.000	TSF	69	46	115	141	136	277	3,203
Internal Capture (Retail to Office)[3]:			-1	-1	-2	-3	-2	-5	-40
Internal Capture (Retail to Restaurant)[3]:			-7	-10	-17	-36	-26	-62	-368
Net External Trips:			61	35	96	102	108	210	2,795
Pass-by Reduction (PM/Daily: 36%):			0	0	0	-37	-37	-74	-1,006
Supermarket Total:			*61*	*35*	*96*	*65*	*71*	*136*	*1,789*
Gasoline/Service Station w/Convenience Mkt.	16	VFP	162	162	324	179	179	358	3,171
Internal Capture (Retail to Office)[3]:			-1	0	-1	-3	-2	-5	-39
Internal Capture (Retail to Restaurant)[3]:			-9	-13	-22	-46	-34	-80	-365
Net External Trips:			152	149	301	130	143	273	2,767
Pass-by Reduction (AM: 62%; PM/Daily: 56%):			-92	-92	-184	-73	-73	-146	-1,549

Table 4.2-14
Project Trip Generation (PCE)

Land Use	Quantity	Metric	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Gasoline/Service Station w/Convenience Mkt. Total:			*60*	*57*	*117*	*57*	*70*	*127*	*1,218*
Pharmacy/Drugstore w/Drive-Thru Window	14.600	TSF	30	26	56	75	75	150	1,594
Internal Capture (Retail to Office)[3]:			0	0	0	-1	0	-1	-20
Internal Capture (Retail to Restaurant)[3]:			-4	-6	-10	-20	-15	-35	-183
Net External Trips:			26	20	46	54	60	114	1,391
Pass-by Reduction (PM/Daily: 49%):			0	0	0	-26	-26	-52	-682
Pharmacy/Drugstore w/Drive-Thru Window Total:			*26*	*20*	*46*	*28*	*34*	*62*	*709*
Fast-Food Restaurant with Drive-Through Window	6.000	TSF	123	118	241	102	94	196	2,826
Internal Capture (Restaurant to Retail)[3]:			-11	-7	-18	-27	-38	-65	-937
Internal Capture (Restaurant to Office)[3]:			-3	-2	-5	-1	-2	-3	-43
Net External Trips:			109	109	218	74	54	128	1,846
Pass-by Reduction (AM: 49%, PM: 50%, Daily: 50%):			-53	-53	-106	-27	-27	-54	-923
Fast-Food Restaurant with Drive-Through Window Total:			*56*	*56*	*112*	*47*	*27*	*74*	*923*
Automated Car Wash	4.000	TSF	N/A	N/A	N/A	28	28	56	568
Fast-Food Restaurant without Drive-Through Window	7.750	TSF	117	78	195	110	110	220	2,683
Internal Capture (Restaurant to Retail)[3]:			-14	-9	-23	-33	-45	-78	-951
Internal Capture (Restaurant to Office)[3]:			-3	-3	-6	-1	-2	-3	-37
Net External Trips:			100	66	166	76	63	139	1,695
Pass-by Reduction (AM: 49%, PM: 50%, Daily: 50%):			-32	-32	-64	-32	-32	-64	-848
Fast-Food Restaurant without Drive-Through Window Total:			*68*	*34*	*102*	*44*	*31*	*75*	*847*
Coffee/Donut Shop with Drive-Through Window	2.500	TSF	113	109	222	54	54	108	2,051
Internal Capture (Restaurant to Retail)[3]:			-7	-5	-12	-16	-22	-38	-722
Internal Capture (Restaurant to Office)[3]:			-2	-2	-4	-1	-1	-2	-38
Net External Trips:			104	102	206	37	31	68	1,291
Pass-by Reduction (AM/PM/Daily: 89%):			-91	-91	-182	-28	-28	-56	-1,149
Coffee/Donut Shop with Drive-Through Window Total:			*13*	*11*	*24*	*9*	*3*	*12*	*142*
Total Net Trips (PCE)			***336***	***222***	***558***	***295***	***322***	***617***	***6,917***

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes:
[1] TSF = thousand square feet
[2] TOTAL NET TRIPS (PCE) = Net Passenger Cars + Total Truck Trips (PCE).
[3] Internal capture calculated from NCHRP 684 Internal Trip Capture Estimation Tool.

As indicated in Table 4.2-14, the Project would generate an estimated net total of 6,917 PCE trip-ends per day on a typical weekday; approximately 558 PCE AM peak hour trips; and approximately 617 PCE PM peak hour trips.

Table 4.2-15
Project Trip Generation (Actual Vehicles)

Land Use	Quantity	Metric	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Warehousing	336.501	TSF							
Passenger Cars:			35	10	45	14	37	51	468
Internal Capture (Office to Retail)[3]:			-1	-3	-4	-4	-7	-11	-101
Internal Capture (Office to Restaurant)[3]:			-5	-6	-11	-4	-1	-5	-46
- Net Passenger Car Trips			*29*	*1*	*30*	*6*	*29*	*35*	*321*
Truck Trips:									
2-axle:			1	0	1	1	2	3	20
3-axle:			2	1	3	1	2	3	24
4+-axle:			5	2	7	2	6	8	73
- Total Truck Trips (Actual Vehicles)			*8*	*3*	*11*	*4*	*10*	*14*	*117*
Warehousing Total[2]:			*37*	*4*	*41*	*10*	*39*	*49*	*438*
Shopping Center	4.750	TSF	3	2	5	9	9	18	179
Internal Capture (Retail to Office)[3]:			0	0	0	0	0	0	-2
Internal Capture (Retail to Restaurant)[3]:			-1	-1	-2	-4	-2	-6	-21
Net External Trips:			2	1	3	5	7	12	156
Pass-by Reduction (PM/Daily: 34%):			0	0	0	-2	-2	-4	-53
Shopping Center Total:			*2*	*1*	*3*	*3*	*5*	*8*	*103*
Supermarket	30.000	TSF	69	46	115	141	136	277	3,203
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Internal Capture (Retail to Restaurant)[3]:			-7	-10	-17	-36	-26	-62	-368
Net External Trips:			61	35	96	102	108	210	2,795
Pass-by Reduction (PM/Daily: 36%):			0	0	0	-37	-37	-74	-1,006
Supermarket Total:			*61*	*35*	*96*	*65*	*71*	*136*	*1,789*
Gasoline/Service Station w/Convenience Mkt.	16	VFP	162	162	324	179	179	358	3,171
Internal Capture (Retail to Office)[3]:			-1	0	-1	-3	-2	-5	-39
Internal Capture (Retail to Restaurant)[3]:			-9	-13	-22	-46	-34	-80	-365
Net External Trips:			152	149	301	130	143	273	2,767
Pass-by Reduction (AM: 62%; PM/Daily: 56%):			-92	-92	-184	-73	-73	-146	-1,549
Gasoline/Service Station w/Convenience Mkt. Total:			*60*	*57*	*117*	*57*	*70*	*127*	*1,218*
Pharmacy/Drugstore w/Drive-Thru Window	14.600	TSF	30	26	56	75	75	150	1,594
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Net External Trips:			26	20	46	54	60	114	1,391
Pass-by Reduction (PM/Daily: 49%):			0	0	0	-26	-26	-52	-682
Pharmacy/Drugstore w/Drive-Thru Window Total:			*26*	*20*	*46*	*28*	*34*	*62*	*709*
Fast-Food Restaurant with Drive-Through Window	6.000	TSF	123	118	241	102	94	196	2,826
Internal Capture (Restaurant to Retail)[3]:			-11	-7	-18	-27	-38	-65	-937
Internal Capture (Restaurant to Office)[3]:			-3	-2	-5	-1	-2	-3	-43
Net External Trips:			109	109	218	74	54	128	1,846

Table 4.2-15
Project Trip Generation (Actual Vehicles)

Land Use	Quantity	Metric	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Pass-by Reduction (AM: 49%, PM: 50%, Daily: 50%):			-53	-53	-106	-27	-27	-54	-923
Fast-Food Restaurant with Drive-Through Window Total:			*56*	*56*	*112*	*47*	*27*	*74*	*923*
Automated Car Wash	4.000	TSF	N/A	N/A	N/A	28	28	56	568
Fast-Food Restaurant without Drive-Through Window	7.750	TSF	117	78	195	110	110	220	2,683
Internal Capture (Restaurant to Retail)[3]:			-14	-9	-23	-33	-45	-78	-951
Internal Capture (Restaurant to Office)[3]:			-3	-3	-6	-1	-2	-3	-37
Net External Trips:			100	66	166	76	63	139	1,695
Pass-by Reduction (AM: 49%, PM: 50%, Daily: 50%):			-32	-32	-64	-32	-32	-64	-848
Fast-Food Restaurant without Drive-Through Window Total:			*68*	*34*	*102*	*44*	*31*	*75*	*847*
Coffee/Donut Shop with Drive-Through Window	2.500	TSF	113	109	222	54	54	108	2,051
Internal Capture (Restaurant to Retail)[3]:			-7	-5	-12	-16	-22	-38	-722
Internal Capture (Restaurant to Office)[3]:			-2	-2	-4	-1	-1	-2	-38
Net External Trips:			104	102	206	37	31	68	1,291
Pass-by Reduction (AM/PM/Daily: 89%):			-91	-91	-182	-28	-28	-56	-1,149
Coffee/Donut Shop with Drive-Through Window Total:			*13*	*11*	*24*	*9*	*3*	*12*	*142*
Total Net Trips (Actual Vehicles)			***323***	***218***	***541***	***291***	***308***	***599***	***6,737***

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes:
[1] TSF = thousand square feet
[2] TOTAL NET TRIPS (Actual Vehicles) = Net Passenger Cars + Total Truck Trips (Actual Vehicles).
[3] Internal capture calculated from NCHRP 684 Internal Trip Capture Estimation Tool.

As indicated in Table 4.2-15, the Project would generate an estimated net total of 6,737 actual vehicle trip-ends per day on a typical weekday; approximately 541 actual vehicle AM peak hour trips; and approximately 599 actual vehicle PM peak hour trips.

4.2.4.2 Project Trip Distribution

The trip distribution process establishes the directional orientation of traffic approaching and departing the site. Trip distribution is influenced by the location of the site in relation to nearby residential, employment and recreational opportunities, and proximity to the regional freeway system. Based on the trip distribution patterns, peak hour trips were assigned at Study Area intersections. Configurations of roadways and land uses within the Study Area would influence trip distribution characteristics over time. The assumptions and methods used to determine the Project trip distribution characteristics are discussed in greater detail in TIA Section 4.2, *Project Trip Distribution.*

4.2.4.3 Opening Year (2021) Traffic Conditions

Per the TIA Scoping Agreement, Opening Year (2021) traffic conditions reflect 3 years of background (ambient) traffic growth at 1.6 percent per year[7] for the period 2018 – 2021, yielding an approximate compounded 4.88 percent increase in traffic when comparing Existing (2018) and Opening Year (2021) traffic conditions. Estimated ambient growth in traffic has been added to existing traffic volumes to account for traffic growth not otherwise assigned to specific related development projects.[8]

To establish Opening Year traffic volumes, the assumed ambient background traffic growth was then added to existing daily and peak hour traffic volumes on Study Area roadways in addition to traffic generated by the development of related projects that have been approved but not yet constructed, and/or for which development applications have been filed and are under consideration by governing agencies. Only certain identified cumulative projects have been approved by the applicable governing agency and would be completed prior to the Project's anticipated opening in 2021. Nonetheless, the TIA conservatively assumes that all cumulative projects would be complete, fully occupied, and generating traffic by the Project Opening Year. Please refer to TIA Table 4-4 for a complete listing of all related development projects considered within the analysis.

4.2.4.4 Horizon Year (2040) Traffic Conditions

Traffic projections for Horizon Year (2040) Conditions were derived from the Riverside Transportation Analysis Model (RivTAM) for Study Area facilities located in Riverside County, and the San Bernardino Transportation Analysis Model (SBTAM) for Study Area facilities located in San Bernardino County.

The Horizon Year conditions analysis is employed to determine if improvements funded through established transportation mitigation fee programs, such as the Western Riverside Council of Governments Transportation Uniform Mitigation Fee (TUMF), City

[7] The assumed 1.6 percent ambient traffic growth rate employed in the TIA is consistent with the projected ambient traffic growth for the County in total and is line with City of Eastvale growth rates reflected in the Southern California Association of Governments (SCAG) *2016 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS)* (SCAG) April 2016.

[8] Related development projects are those approved or anticipated development proposals that would generate traffic interacting with traffic generated by the Project.

of Eastvale Development Impact Fee (DIF) programs, or other approved funding mechanism (e.g., Mira Loma Road and Bridge Benefit District (RBBD), etc.) would accommodate Horizon Year traffic volumes at applicable target LOS. Required improvements beyond those provided for under the above-noted transportation mitigation fee programs improvements are identified as such.

4.2.5 PROJECT IMPROVEMENTS

Project implementation would involve the construction of all necessary supporting access, roadway, and intersection improvements occurring on or adjacent to the Project site. The Project would construct all required access improvements and road/right-of-way improvements. Site access/on-site circulation and site-adjacent improvements that would be implemented as components of the Project are schematically presented in Figure 4.2-2 and are described below.

Direct access to the Project site would be provided by southerly adjacent Limonite Avenue and westerly adjacent Archibald Avenue. More specifically, the following Project driveway access improvements are proposed:

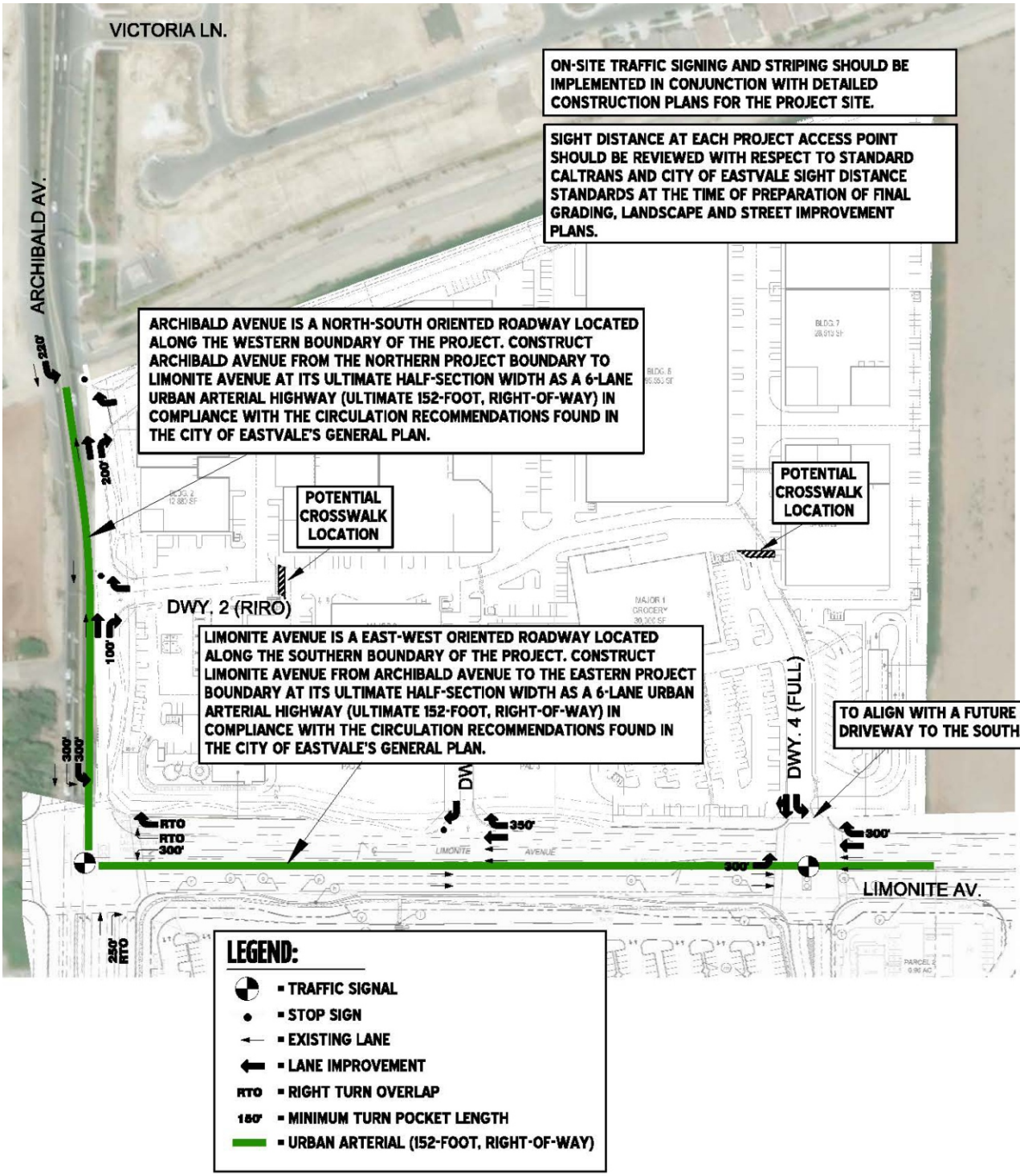
- Archibald Avenue and Driveway 1 – Unsignalized right-in/right-out/left-in driveway providing access to both passenger cars and trucks.

- Archibald Avenue and Driveway 2 – Unsignalized right-in/right-out driveway providing access to passenger cars only.

- Limonite Avenue and Driveway 3 – Unsignalized right-in/right-out driveway providing access to passenger cars only.

- Limonite Avenue and Driveway 4 – Signalized full access driveway providing access to both passenger cars and trucks. This driveway is proposed to align with a potential future driveway to the south. [9]

[9] Driveway 4 would align with the proposed Walmart driveway located opposite the Project on the south side of Limonite Avenue. The Project or Walmart (whichever development occurs first) would construct the traffic signal improvements at this location. Cost-sharing for signalization of this intersection would be as agreed to by the Project Applicant, developer of the Walmart site, and the City.



Source: Urban Crossroads, Inc.

Figure 4.2-2
Site Access and Roadway Improvements

Site adjacent roadway improvements constructed as part of the Project would include the following:

Archibald Avenue – Construct Archibald Avenue from the northern Project boundary to Limonite Avenue at its ultimate half-section width as a 6-lane Urban Arterial Highway (ultimate 152-foot right-of-way) in compliance with the City of Eastvale General Plan, Circulation Plan, or as otherwise required.[10] Any necessary interim lane configurations, striping etc., as may be required by the City would also be implemented.

Limonite Avenue – Construct Limonite Avenue from Archibald Avenue to the eastern Project boundary at its ultimate half-section width as a 6-lane Urban Arterial Highway (ultimate 152-foot right-of-way) in compliance with the City of Eastvale General Plan, Circulation Plan or as otherwise required by City Conditions of Approval. Any necessary interim lane configurations, striping etc., as may be required by the City.

All site-adjacent improvements, driveways, traffic controls, internal circulation improvements proposed by, or required of the Project, to include any temporary or interim improvements would be designed and implemented consistent with the City requirements.

4.2.6 STANDARDS OF SIGNIFICANCE

Consistent with the standards of significance outlined in the *CEQA Guidelines*, the following discussions address the Project's potential to:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to

[10] The TIA shows that the intersection of Archibald Avenue and Driveway 1 satisfies the City's LOS criteria for acceptable peak hour operations as an unsignalized, right-in/right-out/left-in driveway. In addition, the intersection is not anticipated to meet the peak hour volume or planning level traffic signal warrants based on the future traffic volume forecasts developed for this TIA. However, at some point in the future, additional intersection traffic control at this intersection may be warranted based on conditions at the time.

intersections, Streets, highways and freeways, pedestrian and bicycle paths, and mass transit;

- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;

- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities;

- 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;

- Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or

- Result in inadequate emergency access.

4.2.7 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.2.7.1 Introduction

The following discussions focus on topical issues where it has been determined that the Project may result in potentially significant transportation/traffic impacts, based comments received through the NOP process, the analysis presented in this Section and included in the Initial Study.

4.2.7.2 Impact Considerations

Study Area traffic conditions without and with the Project are summarized within the subsequent discussions, followed by identification of the Project's potential impacts to Study Area transportation/circulation systems and facilities.

Under the CEQA topic: "Potential to conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system . . ." potential impacts are identified for Existing and Opening Year Conditions. Sub-topics evaluated under each of these scenarios include:

- Intersection LOS Analysis;
- Roadway Segment Analysis;
- Freeway Ramp Queuing Progression Analysis;
- Freeway Mainline Segment Analysis; and
- Freeway Merge/Diverge Ramp Junction Analysis.

Under the CEQA topic: "Conflict with an applicable congestion management program [CMP] but not limited to a level of service standards and travel demand measures. . ." CMP facilities within the Study Area are identified, and potentially significant Project impacts affecting these facilities are summarized. Project impacts at Study Area CMP facilities are coincident with analyses of Intersection LOS and Freeway Ramp Progression noted above.

Under the CEQA topic: "Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities . . ." the analysis presented summarizes Project design and operational concepts that act to support, and would not conflict with, City and area policies, plans, and programs regarding public transit, bicycle, and pedestrian facilities.

Under the CEQA topic: "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" the analysis presented substantiates that the Project would not substantively affect air traffic patterns.

Under the CEQA topics: "Substantially increase hazards to a design feature . . ." and "Result in inadequate emergency access . . ." the analysis presented summarizes Project

design and operational concepts that act to avoid hazardous conditions and ensure adequate emergency access.

4.2.7.3 Mitigation Considerations

Mitigation or avoidance of potentially significant transportation/circulation system impacts attributable to the Project would be achieved through Project construction of necessary improvements and/or Project fee payments that would be assigned to construction of required improvements.

Site-Adjacent and Site Access Improvements Constructed as Part of the Project

The Project would construct improvements necessary to ensure safe and efficient access and operating conditions along roadways and at intersections adjacent to the Project site. Based on the Project design concepts and consistent with City Conditions of Approval, the Project would construct all necessary access, roadway, and intersection improvements occurring within or adjacent to the Project site.

Other Required Improvements Funded by Fee Assessments and Constructed Consistent with Capital Improvements Programs and in Response to Demonstrated Demands

The Project would also pay all requisite fees directed to the completion of other necessary Study Area traffic improvements at locations where Project traffic would contribute to existing or projected circulation system deficiencies. Required Study Area improvements and associated fee payments are identified for each of the analysis timeframes (Existing, Opening Year, and Horizon Year); fees would, however, be assessed and collected in total prior to Project implementation or as otherwise stipulated by the City.

Improvements under each of the analysis scenarios (Existing, Opening Year, and Horizon Year) tier off the preceding scenario. That is, Opening Year improvements reflect improvements required under Existing Conditions, plus any additional improvements addressing increased traffic demands under Opening Year Conditions. Similarly, Horizon Year improvements reflect improvements required under Opening Year Conditions, plus any additional improvements addressing increased traffic demands

under Horizon Year Conditions. This structure provides the City with an estimated scope of required improvements and an approximate timeframe for their implementation. The final configuration and timing for implementation of improvements identified herein is, however, subject to priorities of the City and other affected jurisdictions.

Fee assessment mechanisms and fee programs applicable to the Project would include: "Fair Share" Fees, Riverside County Transportation Uniform Mitigation Fee (TUMF) Program, Mira Loma Road Bridge Benefit District (RBBD) Program and the City of Eastvale Development Impact Fee (DIF) Program. The Applicant would comply with all fee assessment requirements and fee programs. However, payment of fees would not ensure timely completion of required improvements. Within these discussions, potentially significant transportation/traffic impacts that are addressed through fee payments are considered to remain significant and unavoidable pending completion of required improvements. Transportation/traffic impact fees that would be assessed of the Project, along with a description of fee programs assessment and fee assignment mechanisms are summarized below.

Fair Share Fees

The Project TIA identifies recommended improvements for each potentially impacted intersection or freeway facility within the Study Area and compares these with improvements already identified and included in established fee programs (i.e., TUMF, RBBD, City of Eastvale DIF). If an impacted facility requires improvements other than, or in addition to, those already identified within a regional or local fee program, the Project would contribute a "fair-share" percentage toward the costs of the recommended improvements.

Project fair share traffic volumes at Study Area intersections that would require improvements are identified in Tables 4.2-16 (Without Limonite Avenue Extension), and 4.2-17 (With Limonite Avenue Extension).

Table 4.2-16
Project Fair Share Traffic Volumes-Without Limonite Avenue Extension

ID #	Intersection	Existing	Opening Year (2021)				Horizon Year (2040)			
			Project (2021)	2021 With Project Volume	Net New Traffic	Project % of New Traffic	Project (2040)	2040 With Project Volume	Net New Traffic	Project % of New Traffic
1	Grove Ave. & Merrill Ave.									
	AM:	1,080	59	2,076	996	**5.924%**	54	2,186	1,106	4.882%
	PM:	1,138	65	2,349	1,211	5.367%	59	2,236	1,098	**5.373%**
2	Flight Ave. & Merrill Ave.									
	AM:	1,131	59	2,276	1,145	**5.153%**	64	2,888	1,757	**3.643%**
	PM:	1,132	65	2,547	1,415	4.594%	71	3,102	1,970	3.604%
3	Hellman Ave. & Merrill Ave.									
	AM:	871	59	1,964	1,093	**5.398%**	91	3,147	2,276	3.998%
	PM:	951	65	2,305	1,354	4.801%	100	3,355	2,404	**4.160%**
4	Hellman Ave. & Kimball Ave.									
	AM:	1,087	32	1,642	555	5.766%	37	2,215	1,128	**3.280%**
	PM:	1,106	35	1,712	606	**5.776%**	41	2,574	1,468	2.793%
5	Hellman Ave. & Pine Ave.									
	AM:	3,207	69	4,080	873	**7.904%**	69	3,805	598	**11.538%**
	PM:	3,094	76	4,104	1,010	7.525%	76	4,745	1,651	4.603%
6	Archibald Ave. & Riverside Dr.									
	AM:	3,494	62	5,104	1,610	**3.851%**	52	4,629	1,135	4.581%
	PM:	4,003	73	6,084	2,081	3.508%	61	5,212	1,209	**5.045%**
7	Archibald Ave. & Chino Ave.									
	AM:	1,999	74	3,245	1,246	**5.939%**	59	3,045	1,046	**5.641%**
	PM:	2,016	83	3,553	1,537	5.400%	65	4,287	2,271	2.862%
8	Archibald Ave. & Schaefer Ave.									
	AM:	1,593	75	2,906	1,313	**5.712%**	64	3,307	1,714	**3.734%**
	PM:	1,833	83	3,461	1,628	5.098%	71	4,729	2,896	2.452%
9	Archibald Ave. & Ontario Ranch Rd.									
	AM:	2,956	117	4,898	1,942	**6.025%**	101	5,020	2,064	**4.893%**

Table 4.2-16
Project Fair Share Traffic Volumes-Without Limonite Avenue Extension

ID #	Intersection	Existing	Opening Year (2021)				Horizon Year (2040)			
			Project (2021)	2021 With Project Volume	Net New Traffic	Project % of New Traffic	Project (2040)	2040 With Project Volume	Net New Traffic	Project % of New Traffic
	PM:	3,194	130	5,736	2,542	5.114%	112	6,866	3,672	3.050%
10	Archibald Ave. & Eucalyptus Ave.									
	AM:	2,186	117	3,969	1,783	**6.562%**	106	4,016	1,830	5.792%
	PM:	2,259	130	4,482	2,223	5.848%	118	3,845	1,586	**7.440%**
11	Archibald Ave. & Merrill Ave.									
	AM:	2,806	181	5,366	2,560	**7.070%**	219	5,500	2,694	**8.129%**
	PM:	2,883	201	6,034	3,151	6.379%	241	6,871	3,988	6.043%
12	Archibald Ave. & Victoria Ln.									
	AM:	2,185	181	4,194	2,009	**9.009%**	218	4,679	2,494	**8.741%**
	PM:	2,374	201	4,732	2,358	8.524%	242	5,805	3,431	7.053%
15	Archibald Ave. & Limonite Ave.									
	AM:	2,652	282	4,995	2,343	**12.036%**	274	5,696	3,044	**9.001%**
	PM:	2,967	303	5,829	2,862	10.587%	291	7,080	4,113	7.075%
16	Archibald Ave. & 65th St.									
	AM:	2,298	192	3,603	1,305	**14.713%**	165	4,784	2,486	6.637%
	PM:	2,512	210	4,188	1,676	12.530%	180	4,912	2,400	**7.500%**
17	Archibald Ave. & Schleisman Rd.									
	AM:	4,201	158	5,719	1,518	**10.408%**	143	6,630	2,429	**5.887%**
	PM:	4,183	176	6,077	1,894	9.293%	158	7,007	2,824	5.595%
20	Harrison Ave. & Limonite Ave.									
	AM:	2,119	185	3,821	1,702	**10.870%**	175	3,717	1,598	**10.951%**
	PM:	2,020	206	4,066	2,046	10.068%	194	4,724	2,704	7.175%
21	Sumner Ave. & Limonite Ave.									
	AM:	2,090	175	3,849	1,759	**9.949%**	164	4,917	2,827	**5.801%**
	PM:	2,708	194	4,912	2,204	8.802%	183	6,009	3,301	5.544%
22	Scholar Way & Limonite Ave.									

Table 4.2-16
Project Fair Share Traffic Volumes-Without Limonite Avenue Extension

ID #	Intersection	Existing	Opening Year (2021)				Horizon Year (2040)			
			Project (2021)	2021 With Project Volume	Net New Traffic	Project % of New Traffic	Project (2040)	2040 With Project Volume	Net New Traffic	Project % of New Traffic
	AM:	2,279	164	3,935	1,656	**9.903%**	153	4,217	1,938	**7.895%**
	PM:	2,420	183	4,448	2,028	9.024%	171	4,962	2,542	6.727%
24	I-15 SB Ramps & Limonite Ave.									
	AM:	3,267	106	4,854	1,587	**6.679%**	106	6,075	2,808	3.775%
	PM:	3,532	119	5,428	1,896	6.276%	119	6,600	3,068	**3.879%**
25	I-15 NB Ramps & Limonite Ave.									
	AM:	3,057	66	4,164	1,107	5.962%	66	6,061	3,004	2.197%
	PM:	3,576	74	4,809	1,233	**6.002%**	74	6,741	3,165	**2.338%**

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2
BOLD = Denotes highest fair share percentage.

Table 4.2-17
Project Fair Share Traffic Volumes-With Limonite Avenue Extension

#	Intersection	Existing	Opening Year (2021)				Horizon Year (2040)			
			Project (2021)	2021 With Project Volume	Net New Traffic	Project % of New Traffic	Project (2040)	2040 With Project Volume	Net New Traffic	Project % of New Traffic
1	Grove Ave. & Merrill Ave.									
	AM:	1,080	59	2,076	996	**5.924%**	54	2,017	937	5.763%
	PM:	1,138	65	2,349	1,211	5.367%	59	2,088	950	**6.211%**
2	Flight Ave. & Merrill Ave.									
	AM:	1,131	59	2,276	1,145	**5.153%**	64	2,278	1,147	**5.580%**
	PM:	1,132	65	2,547	1,415	4.594%	71	2,460	1,328	5.346%
3	Hellman Ave. & Merrill Ave.									
	AM:	871	59	1,964	1,093	**5.398%**	91	2,462	1,591	**5.720%**
	PM:	951	65	2,305	1,354	4.801%	100	3,327	2,376	4.209%
4	Hellman Ave. & Kimball Ave.									
	AM:	1,087	32	1,642	555	5.766%	64	3,420	2,333	**2.743%**
	PM:	1,106	35	1,712	606	**5.776%**	70	4,259	3,153	2.220%

Table 4.2-17
Project Fair Share Traffic Volumes-With Limonite Avenue Extension

#	Intersection	Existing	Opening Year (2021)				Horizon Year (2040)			
			Project (2021)	2021 With Project Volume	Net New Traffic	Project % of New Traffic	Project (2040)	2040 With Project Volume	Net New Traffic	Project % of New Traffic
5	Hellman Ave. & Pine Ave.									
	AM:	3,207	69	4,080	873	**7.904%**	27	3,735	528	**5.114%**
	PM:	3,094	76	4,104	1,010	7.525%	29	4,665	1,571	1.846%
11	Archibald Ave. & Merrill Ave.									
	AM:	2,806	181	5,366	2,560	**7.070%**	219	5,088	2,282	**9.597%**
	PM:	2,883	201	6,034	3,151	6.379%	241	6,075	3,192	7.550%
12	Archibald Ave. & Victoria Ln.									
	AM:	2,185	181	4,194	2,009	**9.009%**	218	4,227	2,042	**10.676%**
	PM:	2,374	201	4,732	2,358	8.524%	242	4,985	2,611	9.268%
15	Archibald Ave. & Limonite Ave.									
	AM:	2,652	282	4,995	2,343	**12.036%**	274	6,363	3,711	**7.383%**
	PM:	2,967	303	5,829	2,862	10.587%	292	7,465	4,498	6.492%
16	Archibald Ave. & 65th St.									
	AM:	2,298	192	3,603	1,305	**14.713%**	96	4,105	1,807	**5.313%**
	PM:	2,512	210	4,188	1,676	12.530%	105	4,537	2,025	5.185%
17	Archibald Ave. & Schleisman Rd.									
	AM:	4,201	158	5,719	1,518	**10.408%**	74	7,755	3,554	**2.082%**
	PM:	4,183	176	6,077	1,894	9.293%	82	8,753	4,570	1.794%

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
BOLD = Denotes highest fair share percentage.

Fair share traffic volumes are expressed as a percentage of new traffic volumes that would be generated between Existing and Opening Year Conditions; and between Existing Conditions and Horizon Year Conditions. The Project fair share traffic volumes provide an indication of the relative effects of the Project in the context of traffic that would be generated by other existing uses and anticipated development.

The Project's greatest traffic volume contributions (indicated in **bold**) represent the Project's proportional impacts at affected intersections and would be the basis for fair share fee assessments. Fair share fees would be assessed in instances where the costs of improvements are not otherwise funded through Project payment of TUMF, RBBD, DIF or other established fee assessment mechanisms.

It is noted that in certain instances the TIA and the discussions presented here indicate fair share fees payable to extra-jurisdictional entities. These "fair share" calculations represent the Project's proportional contributions to extra-jurisdictional impacts rather than monies that would be assessed of the Project for construction of extra-jurisdictional improvements. In this latter regard, there does not exist an extra-jurisdictional fee-sharing mechanism between the City of Eastvale and extra-jurisdictional agencies that would provide for construction of extra-jurisdictional improvements; nor do the City or Applicant have plenary control for funding of, or construction of extra-jurisdictional improvements.

Riverside County Transportation Uniform Mitigation Fee (TUMF) Program

The TUMF program is administered by Western Riverside Council of Governments (WRCOG) based on a regional Nexus Study completed in early 2003 and updated in 2009 to address major changes in right of way acquisition and improvement cost factors. The TUMF Program (Program) identifies a network of backbone and local roadways that are needed to accommodate growth of the region through 2035. The Program was established to ensure that new development contributes equitably to construction of area-serving facilities needed to maintain requisite level of services and considered critical to regional mobility.

TUMF assessments are imposed on new residential, industrial, and commercial development through application of the TUMF Ordinance, and assessed fees are collected at the building or occupancy permit stage. TUMF assessments are adjusted on a regular basis to ensure that fees collected keep pace with inflation, and local construction and labor costs. Consistent with the City TUMF Ordinance (Ordinance No. 2017-05 and updates) the Applicant would pay requisite TUMF assessments at the

prevailing rate. Payment of fees consistent with the City TUMF Ordinance is required prior to the issuance of a building permit by the City.

In total, the TUMF Program is anticipated to generate nearly $5 billion for construction of transportation projects for Western Riverside County. Project payment of requisite TUMF assessments satisfies its obligations under the TUMF Ordinance. The Project TUMF payments constitute its "fair share" toward sustaining the regional transportation system. WRCOG is responsible for administration of the TUMF program, to include assignment of fees toward completion of TUMF-funded improvements within the region.

Mira Loma Road and Bridge Benefit District (RBBD) Program

Riverside County established the Mira Loma RBBD to fund traffic improvements necessary to support growth within the Study Area. The Project lies within Zone D of the Mira Loma RBBD. Zone D is generally bounded by the San Bernardino County line to the north and west, Hamner Avenue to the east, and the City of Corona to the south. The Zone D RBBD fee for industrial and commercial use is currently $9,117 per gross acre. Zone D improvements funded by RBBD fee assessments include:

- Limonite Avenue and I-15 Freeway interchange improvements;
- Archibald Avenue widening from River Road to San Bernardino/Riverside County Line, including the landscaped median;
- Limonite Avenue widening from Hamner Avenue to Archibald Avenue, including the landscaped median;
- Schleisman Road from Hamner Avenue to San Bernardino/Riverside County Line, including the landscaped median; and
- Hamner Avenue landscaped median from Bellegrave Avenue to the Santa Ana River.

City of Eastvale Development Impact Fee (DIF) Program

The City has established a Development Impact Fee (DIF) program to impose and collect fees from new residential, commercial and industrial development to fund roadways and intersections necessary to accommodate City growth anticipated under the City General

Plan Circulation Element.[11] The City DIF program would fund construction of facilities that are not part of, or which may exceed improvements identified and covered by, the WRCOG TUMF and RBBD programs. In combination, the WRCOG regional TUMF program, RBBD program, and the City DIF program provide for comprehensive funding and implementation of improvements that would ensure an adequate and interconnected transportation system. Under the City DIF program, the City may grant developers a credit against specific fee components when those developers construct certain facilities identified in the list of improvements funded by the DIF program.

Prioritized use of City DIF monies is established through the City Capital Improvement Program (CIP) overseen by the City Manager and implemented by the City Engineering Department. Periodic traffic counts, review of traffic accidents, and a review of traffic trends throughout the City are also periodically performed by City staff and consultants. The City uses this data to determine the timing of CIP traffic/transportation facilities.

Consistent with City Municipal Code requirements, the Project Applicant would pay the requisite City DIF at the rate(s) then in effect consistent with the City's DIF Ordinance. Payment of fees consistent with the DIF Ordinance is required prior to the issuance of a building permit by the City.

4.2.7.4 Impact Statements

Potential Impact: *Project would conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, Streets, highways and freeways, pedestrian and bicycle paths, and mass transit.*

[11] Payment of DIF is required consistent with City of Eastvale Municipal Code, Chapter 110.28 Development Impact Fee Program, Section 110.28.070.

Impact Analysis:

Existing (2018), Opening Year (2021), and Horizon Year (2040) Traffic Conditions

OVERVIEW

The following discussions summarize traffic conditions within the Study Area reflecting implementation of the Project under Existing Conditions, Opening Year Conditions, and Horizon Year Conditions. For each of the considered scenarios, potentially significant traffic impacts (deficient conditions) are identified. Less-than-significant impacts are noted, and mitigation measures are proposed for those impacts determined to be potentially significant. Improvements are identified for Without Limonite Avenue Extension and With Limonite Avenue Extension scenarios.

EXISTING CONDITIONS (2018) TRAFFIC ANALYSIS

The Existing Conditions (2018) analysis provides an indication of the incremental effects of the Project without the addition of assumed future cumulative traffic growth reflected under the Opening Year scenario. In this manner, instances where Project traffic alone would cause or result in new potentially significant impacts can be identified.

The Existing Conditions With-Project analysis identifies currently deficient LOS conditions to which the Project would contribute additional traffic. Project Driveways, frontage right-of-way improvements, and other facilities to be constructed by the Project (e.g., intersection turn lane improvements at Project Driveways) are assumed to be in place.

In the following analysis of Existing With-Project Conditions, the following subtopics are discussed:

- Intersection LOS Analysis;
- Roadway Segment Analysis;
- Freeway Ramp Queuing Progression Analysis; and
- Freeway Mainline Segment, Freeway Merge/Diverge Ramp Junction Analysis.

Intersection LOS Analysis-Existing With-Project Conditions

Intersections with identified deficiencies under Existing or Existing With-Project Conditions are presented in Table 4.2-18 together with applicable jurisdictional LOS standards.

Table 4.2-18
Intersection Operations
Existing Conditions and Existing Conditions With-Project

ID #	Intersection	Traffic Control	Existing Conditions				Existing Conditions With-Project				Change in Delay (secs.)		Jurisdiction(s)/ LOS Std.
			Delay (secs.)		Level of Service		Delay (secs.)		Level of Service				
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
1	Grove Ave. & Merrill Ave.	AWS	26.4	25.4	D	D	32.8	30.3	D	D	--	--	Chino, Ontario/LOS D
2	Flight Ave. & Merrill Ave.	CSS	**61.2**	28.4	**F**	D	**83.7**	33.0	**F**	D	**22.5**	--	Chino, Ontario/LOS D
3	Hellman Ave. & Merrill Ave.		Future Intersection				Future Intersection				--	--	Chino, Ontario/LOS D
4	Hellman Ave. & Kimball Ave.	AWS	**97.9**	**47.8**	**F**	**E**	**107.3**	**56.3**	**F**	**F**	**9.4**	**8.5**	Chino, Eastvale/LOS D
5	Hellman Ave. & Pine Ave.	TS	22.4	23.6	C	C	22.7	24.2	C	C	--	--	Chino, Eastvale/LOS D
6	Archibald Ave. & Riverside Dr.	TS	48.2	48.9	D	D	49.7	51.9	D	D	--	--	Ontario/LOS E
7	Archibald Ave. & Chino Ave.	TS	14.4	13.6	B	B	14.7	14.1	B	B	--	--	Ontario/LOS E
8	Archibald Ave. & Schaefer Ave.		Future Intersection				Future Intersection				--	--	Ontario/LOS E
9	Archibald Ave. & Ontario Ranch Rd.	TS	25.9	32.3	C	C	26.7	36.1	C	D	--	--	Ontario/LOS E
10	Archibald Ave. & Eucalyptus Ave.	TS	6.4	5.5	A	A	6.5	5.5	A	A	--	--	Ontario/LOS E
11	Archibald Ave. & Merrill Ave.	TS	40.2	35.2	D	D	41.7	44.6	D	D	--	--	Ontario/LOS E
12	Archibald Ave. & Victoria Ln.	CSS	17.7	11.1	C	B	18.6	11.6	C	B	--	--	Ontario/LOS E
13	Archibald Ave. & Driveway 1	**CSS**	Project Improvement				18.5	11.8	C	B	--	--	Eastvale, Ontario/LOS D
14	Archibald Ave. & Driveway 2	**CSS**	Project Improvement				23.1	12.6	C	B	--	--	Eastvale/LOS D
15	Archibald Ave. & Limonite Ave.	TS	44.2	39.4	D	D	**61.3**	**81.2**	**E**	**F**	**17.1**	**41.8**	Eastvale/LOS D
16	Archibald Ave. & 65th St.	TS	25.0	20.4	C	C	26.5	21.1	C	C	--	--	Eastvale/LOS D
17	Archibald Ave. & Schleisman Rd.	TS	29.3	25.6	C	C	32.4	26.4	C	C	--	--	Eastvale/LOS D
18	Driveway 3 & Limonite Ave.	**CSS**	Project Improvement				16.9	12.9	C	B	--	--	Eastvale/LOS D

Table 4.2-18
Intersection Operations
Existing Conditions and Existing Conditions With-Project

ID #	Intersection	Traffic Control	Existing Conditions				Existing Conditions With-Project				Change in Delay (secs.)		Jurisdiction(s)/ LOS Std.
			Delay (secs.)		Level of Service		Delay (secs.)		Level of Service				
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
19	Driveway 4 & Limonite Ave.	**TS**	Project Improvement*				14.3	11.6	B	B	--	--	Eastvale/LOS D
20	Harrison Ave. & Limonite Ave.	TS	22.5	17.8	C	B	23.5	18.0	C	B	--	--	Eastvale/LOS D
21	Sumner Ave. & Limonite Ave.	TS	17.0	18.0	B	B	17.3	18.4	B	B	--	--	Eastvale/LOS D
22	Scholar Way & Limonite Ave.	TS	17.8	15.6	B	B	18.3	15.9	B	B	--	--	Eastvale/LOS D
23	Hamner Ave. & Limonite Ave.	TS	27.5	33.1	C	C	27.9	34.4	C	C	--	--	Eastvale/LOS D
24	I-15 SB Ramps & Limonite Ave.	TS	29.7	27.2	C	C	38.4	35.3	D	D	--	--	Caltrans, Eastvale/LOS D
25	I-15 NB Ramps & Limonite Ave.	TS	27.3	31.2	C	C	33.2	39.1	C	D	--	--	Caltrans, Jurupa Valley/LOS D

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: Delay and LOS deficiencies identified in **BOLD**; CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; **CSS** = Improvement.
* Driveway 4 would align with the proposed Walmart driveway located opposite the Project on the south side of Limonite Avenue. The Project or Walmart (whichever development occurs first) would construct the traffic signal improvements at this location. Cost-sharing for signalization of this intersection would be as agreed to by the Project Applicant, developer of the Walmart site, and the City.

Level of Significance: ***Potentially Cumulatively Significant.*** As indicated in Table 4.2-18, under Existing With-Project Conditions, Project traffic would contribute to existing intersection LOS deficiencies. These are potentially significant cumulative impacts.

Mitigation Measure:

4.2.1 Prior to building permit issuance for each building, the Project Applicant shall pay that building's fair share fee amounts toward the construction of City of Eastvale improvements required under Existing With Project Conditions listed in EIR Table 4.2-19. Where intersection improvements require additional through lanes, fees shall also be applied to construction of required through lane/roadway segment improvements.

Table 4.2-19
Summary of Existing With-Project Intersection Improvements

ID #	Intersection Location	Jurisdiction	Recommended Improvements	Improvements in DIF, RBBD, or TUMF Programs	Project Fair Share %
			Existing With-Project		
2	Flight Ave. & Merrill Ave.	Chino, Ontario	Install a traffic signal	No	5.2
4	Hellman Ave. & Kimball Ave.	Chino, Eastvale	Install a traffic signal (Currently under construction)	No	5.8
15	Archibald & Limonite Ave.	Eastvale	Construct 2nd SB left turn lane	No	12.0
			Construct 2nd WB right turn lane	No	

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: Project "fair share" represents the Project's greatest percentage of total new traffic under the TIA analytic scenarios. Percentages have been rounded to the nearest tenth.

Level of Significance After Mitigation: Less-Than-Significant at Intersection No. 4. ***Significant and Unavoidable*** **at Intersection No. 2, Intersection No. 15.** Table 4.2-20 presents a comparison of Existing With-Project Conditions, without and with recommended improvements.

Table 4.2-20
Summary of Existing With-Project Intersection Conditions
Without and With Recommended Improvements

ID #	Intersection	Traffic Control	Delay (secs.)		Level of Service	
			AM	PM	AM	PM
2	Flight Ave. & Merrill Ave.					
	- Without Improvements	CSS	**83.7**	33.0	**F**	D
	- With Improvements	**TS**	14.9	15.9	B	B
4	Hellman Ave. & Kimball Ave.					
	- Without Improvements	AWS	**107.3**	**56.3**	**F**	**F**
	- With Improvements	**TS**	0.0	0.0	A	A
15	Archibald & Limonite Ave.					
	- Without Improvements	TS	**61.3**	**81.2**	**E**	**F**
	- With Improvements	TS	34.5	29.2	C	C

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: Delay and LOS deficiencies identified in **BOLD**; CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; **CSS** = Improvement

As indicated in Table 4.2-20, completion of recommended improvements would achieve acceptable LOS conditions under Existing With-Project Conditions. The required improvements at Intersection No. 4 (Hellman Ave. & Kimball Ave.) are currently under construction and would reduce Existing + Project impacts to levels that would be less-than-significant.

To address potentially significant impacts affecting Intersection No. 2 (Flight Ave. & Merrill Ave.) and Intersection No. 15 (Archibald & Limonite Ave.) the Applicant would pay all requisite fees, offsetting the Project's proportional contributions to cumulative traffic impacts projected to occur under Existing With-Project Conditions, thereby fulfilling the Applicant mitigation responsibilities.

Notwithstanding, payment of fees consistent with TUMF, RBBD, and DIF mandates, and fair share fees consistent with Mitigation Measure 4.2.1 would not ensure timely completion of required improvements at Intersection No. 2 (Flight Ave. & Merrill Ave.) and Intersection No. 15 (Archibald & Limonite Ave.). Moreover, there are no current plans to improve the affected intersection(s), and the City does not have an existing agreement with extra-jurisdictional agencies regarding the funding of improvements, construction of improvements, or timing of improvements at locations along, or beyond the City corporate boundaries. Thus, while the physical improvements identified would be capable of mitigating potentially significant impacts, these improvements cannot be timely assured.

Based on the preceding, pending completion of the required improvements at Intersection No. 2 (Flight Ave. & Merrill Ave.) and Intersection No. 15 (Archibald & Limonite Ave.), Project contributions to cumulative intersection LOS impacts under Existing With-Project Conditions are recognized as significant and unavoidable.

Roadway Segment LOS Analysis, Existing With-Project Conditions

Roadway segments with identified deficiencies under Existing or Existing With-Project Conditions are indicated in Table 4.2-21 together with applicable jurisdictional LOS standards.

Table 4.2-21
Roadway Segment Operations
Existing Conditions and Existing Conditions With-Project

			Existing Conditions					Existing Conditions With-Project						
ID #	Roadway	Segment Limits	Section	Capacity	ADT	V/C	LOS	Section	Capacity	ADT	V/C	LOS	Change in V/C	Jurisdiction/ LOS Std.
1	Limonite Ave.	Archibald Ave. to Sumner Ave.	4D	35,900	21,999	0.61	B	**5D**	44,917	24,758	0.55	A	--	Eastvale/ LOS D
2		Sumner Ave. to Hamner Ave.	4D	35,900	33,559	**0.93**	**E**	4D	35,900	35,598	**0.99**	**F**	**0.06**	Eastvale/ LOS D
3		Hamner Ave. to I-15 Fwy.	6D	53,900	45,529	0.84	D	6D	53,900	46,839	0.87	D	--	Eastvale/ LOS D
4	Archibald Ave.	Victoria Ln. to Limonite Ave.	2D	17,950	29,902	**1.67**	**F**	**3D**	26,925	32,132	**1.19**	**F**	-0.47	Ontario, Eastvale/ LOS D
5		Limonite Ave. to 65th St.	4U	35,900	29,449	0.82	D	4U	35,900	31,833	0.89	D	---	Eastvale/ LOS D

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: #U- # Lane Undivided. #D- # Lane Divided. V/C and LOS Deficiencies identified in **BOLD**. **5D**, **3D** = improvement. Roadway Section improvements under Opening Year With-Project Conditions reflect site adjacent and continuing lane improvements to be funded/completed by the Project or others. For example, the segment of Limonite Avenue between Sumner Avenue and Hamner Avenue is anticipated to be widened to its ultimate 6-lane facility as sites adjacent to Limonite Avenue develop, such as along the Leal Specific Plan boundary.

Level of Significance: ***Potentially Cumulatively Significant.*** As indicated in Table 4.2-21, under Existing With-Project Conditions, Project traffic would contribute to existing roadway segment LOS deficiencies. These are potentially significant cumulative impacts.

Mitigation Measure: Please refer to Mitigation Measure 4.2.1. Necessary roadway segment improvements would be constructed as part of the Project or would occur concurrent with intersection/lane improvements identified previously in Table 4.2-19. No additional mitigation is required.

Level of Significance After Mitigation: ***Significant and Unavoidable.*** Table 4.2-22 presents a summary of Roadway Segment LOS under Existing With-Project Conditions, with recommended improvements.

Table 4.2-22
Roadway Segment Operations
Existing Conditions With-Project With Improvements

			Existing Conditions With-Project With Improvements						
ID #	Roadway	Segment Limits	Section	Capacity	ADT	V/C	LOS	Change in V/C	Jurisdiction/ LOS Std.
2	Limonite Ave.	Sumner Ave. to Hamner Ave.	**6D**	53,900	35,598	0.66	B	---	Eastvale/ LOS D
4	Archibald Ave.	Victoria Ln. to Limonite Ave.	**3D**	26,925	32,132	**1.19**	**F**	-0.47	Ontario, Eastvale/ LOS D

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: #U- # Lane Undivided. #D- # Lane Divided. V/C and LOS Deficiencies identified in **BOLD**. **6D**, **3D** = improvement. Roadway Section improvements under Opening Year With-Project Conditions reflect site adjacent and continuing lane improvements to be funded/completed by the Project or others. For example, the segment of Limonite Avenue between Sumner Avenue and Hamner Avenue is anticipated to be widened to its ultimate 6-lane facility as sites adjacent to Limonite Avenue develop, such as along the Leal Specific Plan boundary.

As indicated in Table 4.2-22, completion of the identified improvements would achieve acceptable LOS conditions under Existing With-Project Conditions. In this regard, any necessary roadway segment improvements would be completed concurrent with required Existing With Project intersection improvements identified previously herein. In this regard, the analysis of intersections along the affected roadway segments indicates that the controlling intersections would operate acceptably under peak hour conditions, indicating that additional through lane improvements other than those identified at the affected intersections would not be required.

Consistent with Mitigation Measure 4.2.1, the Project Applicant would pay all requisite fees, offsetting the Project's proportional contributions to cumulative roadway segment traffic impacts projected to occur under Existing With-Project Conditions, thereby fulfilling the Applicant mitigation responsibilities.

Notwithstanding, payment of fees consistent with City TUMF and DIF mandates, and fair share fees consistent with Mitigation Measure 4.2.1 would not ensure timely completion of required improvements. Moreover, there are no current plans to improve the affected roadway segment, and the City does not have an existing agreement with extra-jurisdictional agencies regarding the funding of improvements, construction of improvements, or timing of improvements at locations along, or beyond the City

corporate boundaries. Thus, while the physical improvements identified may be capable of mitigating potentially significant impacts, these improvements cannot be timely assured.

Based on the preceding, pending completion of the required improvements, Project contributions to cumulative roadway segment LOS impacts under Existing With-Project Conditions are recognized as significant and unavoidable at the deficient Study Area roadway segments listed in previous Table 4.2-21.

Freeway Ramp Queuing Progression Analysis, Existing With-Project Conditions

Freeway ramp operations were evaluated for all peak hour periods under Existing With-Project Conditions. All Study Area freeway ramps would experience acceptable queue lengths under Existing With-Project Conditions. Please refer also to TIA Table 5-3.

Level of Significance: Less-Than-Significant.

Freeway Mainline Segment Analysis, Freeway Merge/Diverge Ramp Junction Analysis, Existing With-Project Conditions

Under Existing With Project Conditions, there are no additional Study Area freeway mainline segments and ramp merge/diverge junctions that are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during the peak hours in addition to those previously identified for Existing Conditions. The Project is anticipated to contribute less than 25 one-way peak hour trips to the deficient freeway mainline segments and ramp junctions under Existing With Project traffic conditions. As such, the impacts are less than significant. Please refer also to TIA Table 5-4.

OPENING YEAR (2021) TRAFFIC ANALYSIS

Opening Year (2021) traffic volumes and levels of service reflect anticipated conditions at Project completion and opening in the year 2021. The Opening Year (without Project) condition reflects existing (2018) traffic volumes, plus additional background traffic that would be generated by generalized ambient growth within the region as well as traffic generated by known or probable cumulative projects. Cumulative projects comprise

approved or anticipated development proposals that could generate traffic potentially interacting with Project traffic, and utilizing study area roadways and intersections.

In the following analysis of Opening Year With-Project Conditions, the following subtopics are discussed:

- Intersection LOS Analysis;
- Roadway Segment LOS Analysis;
- Freeway Ramp Queuing Progression Analysis;
- Freeway Mainline Segment, Freeway Merge/Diverge Ramp Junction Analysis.

Intersection LOS Analysis – Opening Year With-Project Conditions

Intersections with identified deficiencies under Opening Year Without-Project and Opening Year With-Project Conditions are identified in Table 4.2-23. These are considered potentially significant cumulative impacts resulting from existing traffic, ambient traffic growth within the region, traffic generated by known or probable cumulative projects and traffic generated by the Project. Applicable jurisdictional LOS standards are also noted.

Table 4.2-23
Intersection Operations
Opening Year Conditions and Opening Year Conditions With-Project

ID #	Intersection	Traffic Control	Opening Year Conditions				Opening Year Conditions With-Project				Change in Delay (secs.)		Jurisdiction(s)/ LOS Std.
			Delay (secs.)		Level of Service		Delay (secs.)		Level of Service				
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
1	Grove Ave. & Merrill Ave.	AWS	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	16.0	>25.0	Chino, Ontario/LOS D
2	Flight Ave. & Merrill Ave.	CSS	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	>25.0	>25.0	Chino, Ontario/LOS D
3	Hellman Ave. & Merrill Ave.	**CSS**	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	>25.0	>25.0	Chino, Ontario/LOS D
4	Hellman Ave. & Kimball Ave.	AWS	**42.2**	**35.1**	**E**	**E**	**41.2**	35.0	**E**	D	-1.0	-0.1	Chino, Eastvale/LOS D
5	Hellman Ave. & Pine Ave.	TS	25.9	36.8	C	D	26.1	39.3	C	D	--	--	Chino, Eastvale/LOS D
6	Archibald Ave. & Riverside Dr.	TS	**123.5**	**143.6**	**F**	**F**	**127.1**	**149.9**	**F**	**F**	3.6	6.3	Ontario/LOS E

Table 4.2-23
Intersection Operations
Opening Year Conditions and Opening Year Conditions With-Project

ID #	Intersection	Traffic Control	Opening Year Conditions				Opening Year Conditions With-Project				Change in Delay (secs.)		Jurisdiction(s)/ LOS Std.
			Delay (secs.)		Level of Service		Delay (secs.)		Level of Service				
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
7	Archibald Ave. & Chino Ave.	TS	16.7	17.2	B	B	27.6	18.1	C	B	--	--	Ontario/LOS E
8	Archibald Ave. & Schaefer Ave.	**CSS**	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	>25.0	0.0	Ontario/LOS E
9	Archibald Ave. & Ontario Ranch Rd.	TS	**128.0**	**140.8**	**F**	**F**	**137.4**	**151.7**	**F**	**F**	9.4	10.9	Ontario/LOS E
10	Archibald Ave. & Eucalyptus Ave.	TS	23.9	28.3	C	C	25.4	30.0	C	C	--	--	Ontario/LOS E
11	Archibald Ave. & Merrill Ave.	TS	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	>25.0	>25.0	Ontario/LOS E
12	Archibald Ave. & Victoria Ln.	**TS**	**55.5**	37.0	**E**	D	**60.9**	52.1	**E**	D	5.4	--	Ontario/LOS E
13	Archibald Ave. & Driveway 1	**CSS**	Project Improvement				33.9	18.5	D	C	--	--	Eastvale, Ontario/LOS D
14	Archibald Ave. & Driveway 2	**CSS**	Project Improvement				16.6	13.9	C	B	--	--	Eastvale/LOS D
15	Archibald Ave. & Limonite Ave.	TS	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	**16.2**	**6.4**	Eastvale/LOS D
16	Archibald Ave. & 65th St.	TS	**55.1**	46.4	**E**	D	**70.7**	**59.9**	**E**	**E**	**15.6**	**13.5**	Eastvale/LOS D
17	Archibald Ave. & Schleisman Rd.	TS	**76.4**	**65.6**	**E**	**E**	**86.7**	**76.0**	**F**	**E**	**10.3**	**10.4**	Eastvale/LOS D
18	Driveway 3 & Limonite Ave.	**CSS**	Project Improvement				13.4	11.7	B	B	--	--	Eastvale/LOS D
19	Driveway 4 & Limonite Ave.	**TS**	Project Improvement*				23.7	24.5	C	C	--	--	Eastvale/LOS D
20	Harrison Ave. & Limonite Ave.	TS	53.2	25.5	D	C	**65.9**	26.7	**E**	C	**12.7**	--	Eastvale/LOS D
21	Sumner Ave. & Limonite Ave.	TS	23.6	26.5	C	C	24.4	27.7	C	C	--	--	Eastvale/LOS D
22	Scholar Way & Limonite Ave.	TS	25.8	35.3	C	D	28.0	44.9	C	D	--	--	Eastvale/LOS D
23	Hamner Ave. & Limonite Ave.	TS	44.6	**72.2**	D	**E**	48.4	**76.4**	D	**E**	--	4.2	Eastvale/LOS D
24	I-15 SB Ramps & Limonite Ave.	TS	**61.4**	**55.4**	**E**	**E**	**67.4**	**58.5**	**E**	**E**	--	--	Caltrans, Eastvale/LOS D
25	I-15 NB Ramps & Limonite Ave.	TS	51.7	51.6	D	D	**71.7**	**78.8**	**E**	**E**	--	--	Caltrans, Jurupa Valley/LOS D

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: Delay and LOS deficiencies identified in **BOLD**; CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; **CSS** = Improvement.
* Driveway 4 would align with the proposed Walmart driveway located opposite the Project on the south side of Limonite Avenue. The Project or Walmart (whichever development occurs first) would construct the traffic signal improvements at this location. Cost-sharing for signalization of this intersection would be as agreed to by the Project Applicant, developer of the Walmart site, and the City.

Level of Significance: *Potentially Cumulatively Significant.*

Under Opening Year With-Project Conditions, traffic generated by the Project in combination with traffic from regional growth and related projects would result in potentially significant cumulative impacts at the Study Area intersections listed in Table 4.2-23.

Mitigation Measure:

4.2.2 Prior to building permit issuance for each building, the Project Applicant shall pay that building's fair share fee amounts toward the construction of City of Eastvale improvements required under Opening Year With-Project Conditions listed in EIR Table 4.2-24. Where intersection improvements require additional through lanes, fees shall also be applied to construction of required through lane/roadway segment improvements. The greatest fair share fee shall be paid at each potentially affected facility. Duplicate fees for improvements previously funded under Mitigation Measure 4.2.1 shall not be required.

Table 4.2-24
Summary of Opening Year With Project Intersection Improvements

ID #	Intersection Location	Jurisdiction	Recommended Improvements	Improvements in DIF, RBBD or TUMF Programs	Project Fair Share %
1	Grove Ave. & Merrill Ave.	Chino, Ontario	Install a traffic signal	No	5.9
			SB left turn lane	No	
			EB left turn lane	No	
			2nd EB through lane	No	
			2nd WB through lane	No	
			WB right turn lane	No	
2	Flight Ave. & Merrill Ave.	Chino, Ontario	*Install a traffic signal (same as Existing-With Project)*	No	5.2
			Restripe to provide a NB left turn lane within the painted median	No	
			SB left turn lane	No	
			SB shared through-right turn lane	No	
			EB left turn lane	No	
			2nd EB through lane	No	

Table 4.2-24
Summary of Opening Year With Project Intersection Improvements

ID #	Intersection Location	Jurisdiction	Recommended Improvements	Improvements in DIF, RBBD or TUMF Programs	Project Fair Share %
			2nd WB through lane	No	
3	Hellman Ave. & Merrill Ave.	Chino, Ontario	Install a traffic signal	No	5.4
			NB left turn lane	No	
			NB shared through-right turn lane	No	
			SB left turn lane	No	
			SB shared through-right turn lane	No	
			EB left turn lane	No	
			2nd EB through lane	No	
			EB right turn lane	No	
			WB left turn lane	No	
			2nd WB through lane	No	
4	Hellman Ave. & Kimball Ave.	Chino, Eastvale	*Install a traffic signal (Under Construction – same as Existing-With Project))*	---	5.8
6	Archibald Ave. & Riverside Dr.	Ontario	2nd NB left turn lane	No	3.9
			2nd SB left turn lane	No	
			EB right turn lane	No	
			Modify traffic signal to implement overlap phasing on the WB right turn lane	No	
8	Archibald Ave. & Schaefer Ave.	Ontario	Install a traffic signal	No	5.7
			NB left turn lane	No	
			EB left turn lane	No	
			EB shared through-right turn lane	No	
			WB left turn lane	No	
			WB shared through-right turn lane	No	
9	Archibald Ave. & Ontario Ranch Rd.	Ontario	2nd NB left turn lane	No	6.0
			3rd NB through lane	No	
			3rd SB through lane	No	
			2nd WB through lane	No	
			Modify traffic signal to implement overlap phasing on the NB right turn lane	No	
11	Archibald Ave. & Merrill Ave.	Ontario	2nd NB left turn lane	No	8.1
			3rd NB through lane	No	

Table 4.2-24
Summary of Opening Year With Project Intersection Improvements

ID #	Intersection Location	Jurisdiction	Recommended Improvements	Improvements in DIF, RBBD or TUMF Programs	Project Fair Share %
			3rd SB through lane	No	
			SB right turn lane	No	
			2nd EB left turn lane	No	
			EB free-right turn lane	No	
			Modify traffic signal to implement overlap phasing on the SB right turn lane	No	
12	Archibald Ave. & Victoria Ln.	Ontario	Install a traffic signal	No	
			NB left turn lane	No	
			3rd NB through lane	No	
			SB left turn lane	No	
			3rd SB through lane	No	9.0
			SB right turn lane	No	
			EB shared left-through-right turn lane	No	
15	Archibald Ave. & Limonite Ave.	Eastvale	*2nd SB left turn lane (same as Existing-With Project)*	No	12.0
			2nd WB right turn lane (same as Existing-With Project)	No	
			2nd NB through lane	TUMF/RBBD	
			2nd SB through lane	TUMF/RBBD	
			2nd WB left turn lane	No	
16	Archibald Ave. & 65th St.	Eastvale	3rd NB through lane	TUMF/RBBD	14.7
17	Archibald Ave. & Schleisman Rd.	Eastvale	Modify traffic signal to implement overlap phasing on all approaches	No	10.4
20	Harrison Ave. & Limonite Ave.	Eastvale	3rd WB through lane	TUMF/RBBD	10.6
24	I-15 SB Ramps & Limonite Ave.	Caltrans, Eastvale	Interchange Redesign	TUMF/RBBD	N/A
25	I-15 NB Ramps & Limonite Ave.	Caltrans, Jurupa Valley	Interchange Redesign	TUMF/RBBD	N/A

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: Project "fair share" represents the Project's greatest percentage of total new traffic under the TIA analytic scenarios. Percentages have been rounded to the nearest tenth. I-15 interchange improvements at Intersections 24, 25 are consistent with the planned I-15/Limonite Avenue Interchange Project. The I-15/Limonite Avenue Interchange Project is anticipated to be completed by Year 2019, and would be in place prior to Project opening.

Level of Significance After Mitigation: *Significant and Unavoidable.*

Table 4.2-25 presents a comparison of Opening Year Without-Project and Opening Year With-Project Conditions, reflecting completion of recommended improvements.

Table 4.2-25
Summary of Opening Year With-Project Intersection Conditions
Without and With Recommended Improvements

		Traffic Control	Delay (secs.)		Level of Service	
ID #	Intersection		AM	PM	AM	PM
1	Grove Ave. & Merrill Ave.					
	- Without Improvements	AWS	**>200.0**	**>200.0**	**F**	**F**
	- With Improvements	**TS**	13.4	14.8	B	B
2	Flight Ave. & Merrill Ave.					
	- Without Improvements	CSS	**>200.0**	**>200.0**	**F**	**F**
	- With Improvements	**TS**	34.0	50.6	C	D
3	Hellman Ave. & Merrill Ave.					
	- Without Improvements	**CSS**	**>200.0**	**>200.0**	**F**	**F**
	- With Improvements	**TS**	19.8	22.9	B	C
6	Archibald Ave. & Riverside Dr.					
	- Without Improvements	TS	**127.1**	**149.9**	**F**	**F**
	- With Improvements	TS	62.0	70.1	E	E
8	Archibald Ave. & Schaefer Ave.					
	- Without Improvements	**CSS**	**>200.0**	**>200.0**	**F**	**F**
	- With Improvements	**TS**	21.3	30.1	C	C
9	Archibald Ave. & Ontario Ranch Rd.					
	- Without Improvements	TS	**137.4**	**151.7**	**F**	**F**
	- With Improvements	TS	41.9	62.3	D	E
11	Archibald Ave. & Merrill Ave.					
	- Without Improvements	TS	**>200.0**	**>200.0**	**F**	**F**
	- With Improvements	TS	50.4	76.8	D	E
12	Archibald Ave. & Victoria Ln.					
	- Without Improvements	**TS**	**60.9**	52.1	**E**	D
	- With Improvements	**TS**	15.0	10.6	B	B
15	Archibald Ave. & Limonite Ave.					
	- Without Improvements	TS	**>200.0**	**>200.0**	**F**	**F**
	- With Improvements	TS	32.6	54.7	C	D
16	Archibald Ave. & 65th St.					

Table 4.2-25
Summary of Opening Year With-Project Intersection Conditions
Without and With Recommended Improvements

ID #	Intersection	Traffic Control	Delay (secs.)		Level of Service	
			AM	PM	AM	PM
	- Without Improvements	TS	**70.7**	**59.9**	**E**	**E**
	- With Improvements	TS	25.3	23.9	C	C
17	Archibald Ave. & Schleisman Rd.					
	- Without Improvements	TS	**86.7**	**76.0**	**F**	**E**
	- With Improvements	TS	46.1	32.4	D	C
20	Harrison Ave. & Limonite Ave.					
	- Without Improvements	TS	**65.9**	26.7	**E**	C
	- With Improvements	TS	35.3	26.1	D	C
24	I-15 SB Ramps & Limonite Ave.					
	- Without Improvements	TS	**28.0**	**44.9**	**C**	**D**
	- With Improvements	TS	15.5	17.1	B	B
25	I-15 NB Ramps & Limonite Ave.					
	- Without Improvements	TS	**71.7**	**78.8**	**E**	**E**
	- With Improvements	TS	21.3	19.6	C	B

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: Delay and LOS deficiencies identified in **BOLD**; CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; **CSS** = Improvement; I-15 interchange improvements at Intersections 24, 25 are consistent with the planned I-15/Limonite Avenue Interchange Project. The I-15/Limonite Avenue Interchange Project is anticipated to be completed by Year 2019, and would be in place prior to Project opening.

As indicated in Table 4.2-25, completion of the recommended improvements would achieve acceptable LOS conditions under Opening Year With-Project Conditions.

The Project Applicant would pay all requisite fees, offsetting the Project's proportional contributions to cumulative traffic impacts projected to occur under Opening Year With-Project Conditions, thereby fulfilling the Applicant mitigation responsibilities.

However, payment of fees consistent with TUMF, RBBD, and DIF mandates, and fair share fees consistent with Mitigation Measure 4.2.2 would not ensure timely completion of required improvements. Thus, while the physical improvements identified may be capable of mitigating potentially significant impacts, these improvements cannot be timely assured. Moreover, there are no current plans to improve the affected

intersection(s), and the City does not have an existing agreement with extra-jurisdictional agencies regarding the funding of improvements, construction of improvements, or timing of improvements at locations along, or beyond the City corporate boundaries.

Based on the preceding, pending completion of the required improvements, Project contributions to cumulative intersection LOS impacts under Opening Year With-Project Conditions are recognized as significant and unavoidable at the deficient Study Area intersections listed in previous Table 4.2-25.

Roadway Segment LOS Analysis, Opening Year With-Project Conditions

Roadway segments with identified deficiencies under Opening Year or Opening Year With-Project Conditions are identified in Table 4.2-26 together with applicable jurisdictional LOS standards.

Table 4.2-26
Roadway Segment Operations
Opening Year Conditions and Opening Year Conditions With-Project

ID #	Roadway	Segment Limits	Opening Year Conditions					Opening Year Conditions With-Project						
			Section	Capacity	ADT	V/C	LOS	Section	Capacity	ADT	V/C	LOS	Change in V/C	Jurisdiction/ LOS Std.
1	Limonite Ave.	Archibald Ave. to Sumner Ave.	4D	35,900	36,788	**1.02**	**F**	**5D**	44,917	39,547	0.88	D	--	Eastvale/ LOS D
2		Sumner Ave. to Hamner Ave.	4D	35,900	52,909	**1.47**	**F**	4D	35,900	54,948	**1.53**	**F**	**0.06**	Eastvale/ LOS D
3		Hamner Ave. to I-15 Fwy.	6D	53,900	64,961	**1.21**	**F**	6D	53,900	66,271	**1.23**	**F**	**0.02**	Eastvale/ LOS D
4	Archibald Ave.	Victoria Ln. to Limonite Ave.	2D	17,950	49,958	**2.78**	**F**	**4D**	35,900	52,188	**1.45**	**F**	**--**	Ontario, Eastvale/ LOS D
5		Limonite Ave. to 65th St.	4U	35,900	47,823	**1.33**	**F**	4U	35,900	50,207	**1.40**	**F**	**0.07**	Eastvale/ LOS D

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: #U- # Lane Undivided. #D- # Lane Divided. V/C and LOS Deficiencies identified in **BOLD**. **5D**, **4D** = improvement. Roadway Section improvements under Opening Year With-Project Conditions reflect site adjacent and continuing lane improvements to be funded/completed by the Project or others. For example, the segment of Limonite Avenue between Sumner Avenue and Hamner Avenue is anticipated to be widened to its ultimate 6-lane facility as sites adjacent to Limonite Avenue develop, such as along the Leal Specific Plan boundary.

Level of Significance: ***Potentially Cumulatively Significant.*** As indicated in Table 4.2-26, under Opening Year With-Project Conditions, Project traffic would contribute to projected roadway segment LOS deficiencies. These are potentially significant cumulative impacts.

Mitigation Measure: Please refer to previous Mitigation Measure 4.2.2. Necessary roadway segment improvements would be constructed by the Project or would occur concurrent with intersection/lane improvements identified previously in Table 4.2-24. No additional mitigation is required.

Level of Significance After Mitigation: ***Significant and Unavoidable.***

Table 4.2-27 presents Opening Year With-Project Conditions roadway segment LOS with recommended improvements.

Table 4.2-27
Summary of Opening Year With-Project Roadway Segment Conditions
With Recommended Improvements

#	Roadway	Segment Limits	Roadway Section	LOS Capacity	Opening Year With Project	V/C	LOS	Change in V/C	Jurisdiction/ LOS Std.
1	Limonite Ave.	Archibald Ave. to Sumner Ave.	**6D**	53,900	39,547	0.73	D	--	Eastvale/ LOS D
2		Sumner Ave. to Hamner Ave.	**6D**	53,900	54,948	**1.02**	**F**	-0.45	Eastvale/ LOS D
3	Archibald Ave.	Hamner Ave. to I-15 Freeway	6D	53,900	66,271	**1.23**	**F**	**0.02**	Eastvale/ LOS D
4		Victoria Ln. to Limonite Ave.	**6D**	53,900	52,188	**0.97**	**E**	--	Ontario, Eastvale/ LOS D
5		Limonite Ave. to 65th St.	**6D**	53,900	50,207	**0.93**	**E**	-1.73	Eastvale/ LOS D

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: #U- # Lane Undivided. #D- # Lane Divided. V/C and LOS Deficiencies identified in **BOLD**. **6D** = improvement. Roadway Section improvements under Opening Year With-Project Conditions reflect site adjacent and continuing lane improvements to be funded/completed by the Project or others. For example, the segment of Limonite Avenue between Sumner Avenue and Hamner Avenue is anticipated to be widened to its ultimate 6-lane facility as sites adjacent to Limonite Avenue develop, such as along the Leal Specific Plan boundary.

As indicated in Table 4.2-27, with the exception of the segment of Limonite Avenue from Hamner Ave. to the I-15 Freeway, completion of the Opening Year With-Project improvements would achieve acceptable roadway segment LOS conditions under Opening Year With-Project Conditions. For the roadway segment on Limonite Avenue from Hamner Ave. to the I-15 Freeway, the peak hour intersection operation analysis demonstrates that with completion of the required intersection improvements the controlling intersections on either side of this segment could process peak hour traffic

flows. As such, additional roadway widening has not been recommended for Opening Year with Project traffic conditions.

The Project Applicant would pay all requisite fees, offsetting the Project's proportional contributions to cumulative traffic impacts projected to occur under Opening Year With-Project Conditions, thereby fulfilling the Applicant mitigation responsibilities.

Notwithstanding, payment of fees consistent with City TUMF and DIF mandates, and fair share fees consistent with previous Mitigation Measure 4.2.2 would not ensure timely completion of required improvements. Thus, while the physical improvements identified may be capable of mitigating potentially significant impacts, these improvements cannot be timely assured. Moreover, there are no current plans to improve the affected intersection(s), and the City does not have an existing agreement with extra-jurisdictional agencies regarding the funding of improvements, construction of improvements, or timing of improvements at locations along, or beyond the City corporate boundaries.

Based on the preceding, pending completion of the required improvements, Project contributions to cumulative roadway segment LOS impacts under Opening Year With-Project Conditions are recognized as significant and unavoidable at the deficient Study Area roadway segments listed at previous Table 4.2-27.

Freeway Ramp Progression Analysis, Opening Year With-Project Conditions

Peak hour freeway ramp operations were evaluated under Opening Year With-Project Conditions. All Study Area freeway ramps would experience acceptable queue lengths under Opening Year With-Project Conditions. Please refer to TIA Table 6-3.

Level of Significance: Less-Than-Significant.

Freeway Mainline Segment Analysis, Freeway Ramp Junction Merge/Diverge Analysis – Opening Year With-Project Conditions

Table 4.2-28 summarizes Study Area Opening Year Conditions freeway mainline segment LOS deficiencies Without and With the Project. All other Study Area freeway mainline segments would operate acceptably during the peak hour periods. All freeway mainline segments are under Caltrans jurisdiction. Caltrans facilities operating at LOS E or worse are considered deficient.

Level of Significance: ***Potentially Cumulatively Significant.*** As indicated in Table 4.2-28, under Opening Year With-Project Conditions, Project traffic would contribute to projected freeway mainline segment LOS deficiencies. These are potentially significant cumulative impacts.

Table 4.2-28
Freeway Mainline Segment Operations
Opening Year Conditions and Opening Year Conditions With-Project

Mainline Segment	Lanes	Opening Year Conditions				Opening Year Conditions With-Project			
		Density		LOS		Density		LOS	
		AM	PM	AM	PM	AM	PM	AM	PM
I-15 SB North of Limonite Ave.	3	**37.4**	**35.9**	**E**	**E**	**38.0**	**36.2**	**E**	**E**
I-15 SB South of Limonite Ave.	3	**--**	**--**	**F**	**F**	**--**	**--**	**F**	**F**
I-15 NB North of Limonite Ave.	3	**37.0**	28.2	**E**	D	**37.3**	28.4	**E**	D
I-15 NB South of Limonite Ave.	3	33.9	33.2	D	D	34.0	33.3	D	D

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: V/C and LOS Deficiencies identified in **BOLD**. **--** HCS7 does not report density for freeway facilities operating at LOS F

Mitigation Measures: No Project mitigation proposed or required. Mitigation of freeway facilities impacts is addressed through regional improvements plans and programs. All freeway facilities within the Study Area are under Caltrans jurisdiction.

Traditional funding mechanisms providing for freeway mainline improvements include state and federal gas tax and formula distributions from vehicle registration fees. Future employees/patrons of the Project would contribute indirectly to freeway improvements through these sources. At the time of this EIR preparation, Caltrans has no fee programs

or improvement plans in place to address near-term State Highway System (SHS) deficiencies caused by development projects in the City of Eastvale (or other neighboring jurisdictions).

State Highway improvements are programmed consistent with the State Transportation Improvement Program (STIP) as summarized below:

> The STIP is a multi-year capital improvement program of transportation projects on and off the State Highway System, funded with revenues from the Transportation Investment Fund and other funding sources. STIP programming generally occurs every two years. The programming cycle begins with the release of a proposed fund estimate in July of odd-numbered years, followed by California Transportation Commission (CTC) adoption of the fund estimate in August (odd years). The fund estimate serves to identify the amount of new funds available for the programming of transportation projects. Once the fund estimate is adopted, Caltrans and the regional planning agencies prepare transportation improvement plans for submittal by December 15th (odd years). Caltrans prepare the Interregional Transportation Improvement Plan (ITIP) and regional agencies prepare Regional Transportation Improvement Plans (RTIPs). Public hearings are held in January (even years) in both northern and southern California. The STIP is adopted by the CTC by April (even years). This process, as well as the fund distribution process, is outlined in charts available on the Transportation Programming website http://www.dot.ca.gov/hq/transprog[12].

There are planned improvements for the I-15 Freeway at Limonite Avenue Interchange, which would consist of a new 8-lane overcrossing along Limonite Avenue (3 through lanes in each direction plus 2 right turn lanes at each ramp), widening of the off-ramps from 2 to 4 lanes, the addition of 2 new loop on-ramps, and additional widening of

[12] Caltrans Division of Local Assistance. *State Transportation Improvement Program (STIP)*. Caltrans. Web. July 17, 2018. <http://www.dot.ca.gov/hq/LocalPrograms/STIP.htm>

Limonite Avenue to 4 lanes in each direction between Hamner Avenue and Wineville Avenue. Construction of these improvements is anticipated to be complete sometime in 2019. However, this planned improvement does not widen the existing freeway mainline segments. There is a separate I-15 Freeway project that includes the construction of 2 tolled Express Lanes between the SR-60 Freeway and Cajalco Road. The Express Lanes are not anticipated to be completed until Year 2020.

Caltrans typically assumes a reduction of 14 percent to the freeway mainline through volumes in this region to account for vehicles utilizing the carpool (high-occupancy vehicle) lanes. Within this analysis, and as expressed in Table 4.2-29 (following), the reduction to the I-15 Freeway mainline volumes has been applied to account for the proposed Express Toll lanes.[13] The analysis has been performed assuming the same number of mixed-flow lanes as existing baseline conditions at the I-15 Freeway at Limonite Avenue interchange.

The Caltrans improvements described above would fully address impacts at potentially affected Study Area freeway merge/diverge areas.

Level of Significance After Mitigation: ***Significant and Unavoidable at I-15 Freeway Southbound, South of Limonite Ave.*** All other Study Area freeway segments and freeway/merge diverge would operate at acceptable LOS with anticipated near-term completion of Caltrans-initiated SHS improvements.

As indicated in Table 4.2-29, the Study Area I-15 Freeway mainline segments are anticipated to operate at an acceptable LOS with the improvements discussed above with the exception of the following segment:

- I-15 Freeway Southbound, South of Limonite Ave. – LOS E AM and PM peak hours

[13] Reductions to mainline volumes resulting from the Express Toll lanes have been accounted for. However, HCM analyses for the freeway facility only considers traffic in the mixed-flow lanes.

There are no known planned or programmed SHS improvements that would address Opening Year freeway segment deficiencies anticipated at I-15 Freeway Southbound, south of Limonite Ave. Project traffic contributions to these deficiencies would be cumulatively considerable and Project impacts would be cumulatively significant.

Table 4.2-29
Freeway Mainline Segment Operations
Opening Year Conditions and Opening Year Conditions
With-Project with Improvements

Mainline Segment	Lanes	Opening Year Conditions				Opening Year Conditions With-Project			
		Density		LOS		Density		LOS	
		AM	PM	AM	PM	AM	PM	AM	PM
I-15 SB North of Limonite Ave.	3	29.3	28.3	D	D	29.6	28.4	D	D
I-15 SB South of Limonite Ave.	3	**36.7**	**37.2**	**E**	**E**	**36.8**	**37.4**	**E**	**E**
I-15 NB North of Limonite Ave.	3	29.0	23.2	D	C	29.2	23.4	D	C
I-15 NB South of Limonite Ave.	3	27.0	27.5	D	D	27.2	27.7	D	D

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: V/C and LOS Deficiencies identified in **BOLD**.

As indicated in Table 4.2-30, the above-described planned Caltrans improvements to the Study Area freeway mainline segments would ensure adequate LOS is maintained at Study Area Freeway Ramp Junction merge/diverge facilities, ensuring that potential impacts would be less-than-significant.

Table 4.2-30
Freeway Ramp Junction Merge/Diverge Facilities Operations
Opening Year Conditions and Opening Year Conditions
With-Project with Improvements

Ramp or Segment	Lanes	2021 Without Project				2021 With Project			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Density	LOS	Density	LOS	Density	LOS	Density	LOS
Off-Ramp at Limonite Ave.	3	29.7	D	28.8	D	29.9	D	29.0	D
Loop On-Ramp at Limonite Ave.	3	31.1	D	29.6	D	31.1	D	29.6	D
On-Ramp at Limonite Ave.	3	37.6	D	38.3	D	37.8	D	38.5	D
On-Ramp at Limonite Ave.	3	30.9	D	25.4	C	31.1	D	25.5	C
Loop On-Ramp at Limonite Ave.	3	28.2	C	24.3	C	28.4	C	24.4	C
Off-Ramp at Limonite Ave.	3	28.2	D	29.2	D	28.3	D	29.3	D

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.

HORIZON YEAR (2040) TRAFFIC ANALYSIS

The Horizon Year (2040) scenario includes the refined post-process volumes obtained from the Riverside Transportation Analysis Model (RivTAM) and San Bernardino Transportation Analysis Model (SBTAM). For the purposes of this analysis, Horizon Year traffic conditions have been evaluated for both without and with the Limonite Avenue Extension noted previously in this Section. Although the Limonite Avenue Extension between Hellman Avenue and Archibald Avenue is a planned long-range roadway network feature, the "Without Limonite Avenue Extension" presents an analysis of long-term traffic impacts in the unlikely event that the Limonite Avenue extension is not constructed.

In the following analysis of Horizon Year With-Project Conditions, the following subtopics are discussed:

- Intersection LOS Analysis;
- Roadway Segment LOS Analysis;
- Freeway Ramp Queuing Progression Analysis;
- Freeway Mainline Segment, Freeway Merge/Diverge Ramp Junction Analysis.

Intersection LOS Analysis – Horizon Year With-Project Conditions

Without Limonite Ave. Extension

Intersections with identified deficiencies under Horizon Year Without-Project and Horizon Year With-Project Conditions, without the Limonite Avenue Extension are identified in Table 4.2-31. These are considered potentially significant cumulative impacts resulting from existing traffic, ambient traffic growth within the region, traffic generated by known or probable cumulative projects and traffic generated by the Project. Applicable jurisdictional LOS standards are also noted.

Table 4.2-31
Intersection Operations Without Limonite Avenue Extension
Horizon Year Conditions and Horizon Year Conditions With-Project

ID #	Intersection	Traffic Control	Horizon Year Conditions				Horizon Year Conditions With-Project				Change in Delay (secs.)		Jurisdiction(s)/ LOS Std.
			Delay (secs.)		Level of Service		Delay (secs.)		Level of Service				
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
1	Grove Ave. & Merrill Ave.	AWS	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	20.2	23.0	Chino, Ontario/LOS D
2	Flight Ave. & Merrill Ave.	CSS	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	>25.0	>25.0	Chino, Ontario/LOS D
3	Hellman Ave. & Merrill Ave.	**CSS**	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	>25.0	>25.0	Chino, Ontario/LOS D
4	Hellman Ave. & Kimball Ave.	AWS	**111.4**	**142.4**	**F**	**F**	**110.8**	**157.1**	**F**	**F**	--	**14.7**	Chino, Eastvale/LOS D
5	Hellman Ave. & Pine Ave.	TS	28.3	30.0	C	C	31.1	33.8	C	C	--	--	Chino, Eastvale/LOS D
6	Archibald Ave. & Riverside Dr.	TS	**111.9**	**101.1**	**F**	**F**	**134.2**	**129.5**	**F**	**F**	22.3	28.4	Ontario/LOS E
7	Archibald Ave. & Chino Ave.	TS	61.0	**158.9**	E	**F**	75.7	**159.5**	E	**F**	--	0.6	Ontario/LOS E
8	Archibald Ave. & Schaefer Ave.	**CSS**	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	>25.0	23.3	Ontario/LOS E
9	Archibald Ave. & Ontario Ranch Rd.	TS	**135.0**	**>200.0**	**F**	**F**	**162.1**	**>200.0**	**F**	**F**	27.1	>25.0	Ontario/LOS E
10	Archibald Ave. & Eucalyptus Ave.	TS	**180.1**	26.9	**F**	C	**182.1**	32.4	**F**	C	2.0	--	Ontario/LOS E
11	Archibald Ave. & Merrill Ave.	TS	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	>25.0	>25.0	Ontario/LOS E
12	Archibald Ave. & Victoria Ln.	**TS**	54.3	**120.6**	D	**F**	**57.2**	**127.1**	**E**	**F**	2.9	6.5	Ontario/LOS E
13	Archibald Ave. & Driveway 1	**CSS**	Project Improvement				33.6	29.4	D	D	--	--	Eastvale, Ontario/LOS D
14	Archibald Ave. & Driveway 2	**CSS**	Project Improvement				16.4	17.0	C	C	--	--	Eastvale/LOS D
15	Archibald Ave. & Limonite Ave.	TS	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	**7.8**	**10.4**	Eastvale/LOS D
16	Archibald Ave. & 65th St.	TS	**105.8**	**87.9**	**F**	**F**	**121.0**	**102.6**	**F**	**F**	**15.2**	**14.7**	Eastvale/LOS D
17	Archibald Ave. & Schleisman Rd.	TS	**111.5**	**106.1**	**F**	**F**	**123.5**	**116.7**	**F**	**F**	**12.0**	**10.6**	Eastvale/LOS D
18	Driveway 3 & Limonite Ave.	**CSS**	Project Improvement				12.6	14.0	B	B	--	--	Eastvale/LOS D
19	Driveway 4 & Limonite Ave.	**TS**	Project Improvement*				21.4	27.6	C	C	--	--	Eastvale/LOS D
20	Harrison Ave. & Limonite Ave.	TS	45.2	53.3	D	D	30.9	**63.7**	C	**E**	--	--	Eastvale/LOS D
21	Sumner Ave. & Limonite Ave.	TS	**57.2**	**106.0**	**E**	**F**	**63.5**	**113.7**	**E**	**F**	**6.3**	**7.7**	Eastvale/LOS D
22	Scholar Way & Limonite Ave.	TS	38.5	**62.9**	D	**E**	44.3	**70.8**	D	**E**	--	**7.9**	Eastvale/LOS D
23	Hamner Ave. & Limonite Ave.	TS	**69.2**	**97.0**	**E**	**F**	**69.3**	**100.6**	**E**	**F**	0.1	3.6	Eastvale/LOS D
24	I-15 SB Ramps & Limonite Ave.	TS	**119.9**	**66.6**	**F**	**E**	**124.9**	**72.0**	**F**	**E**	--	--	Caltrans, Eastvale/LOS D

Table 4.2-31
Intersection Operations Without Limonite Avenue Extension
Horizon Year Conditions and Horizon Year Conditions With-Project

ID #	Intersection	Traffic Control	Horizon Year Conditions				Horizon Year Conditions With-Project				Change in Delay (secs.)		Jurisdiction(s)/ LOS Std.
			Delay (secs.)		Level of Service		Delay (secs.)		Level of Service				
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
25	I-15 NB Ramps & Limonite Ave.	TS	**82.9**	**131.9**	**F**	**F**	**86.0**	**136.3**	**F**	**F**	--	--	Caltrans, Jurupa Valley/LOS D

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: Delay and LOS deficiencies identified in **BOLD**; CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; **CSS** = Improvement.
* Driveway 4 would align with the proposed Walmart driveway located opposite the Project on the south side of Limonite Avenue. The Project or Walmart (whichever development occurs first) would construct the traffic signal improvements at this location. Cost-sharing for signalization of this intersection would be as agreed to by the Project Applicant, developer of the Walmart site, and the City.

Level of Significance: *Potentially Cumulatively Significant.*

Without the planned Limonite Avenue extension, under Horizon Year-Project Conditions, traffic generated by the Project in combination with traffic from regional growth and related projects would result in potentially significant cumulative impacts at the Study Area intersections listed above in Table 4.2-31. Recommended improvements for each potentially affected intersection are listed in Table 4.2-32.

Table 4.2-32
Summary of Horizon Year With Project Intersection Improvements
Without Limonite Avenue Extension

ID #	Intersection Location	Jurisdiction	Recommended Improvements	Improvements in DIF, RBBD, or TUMF Programs	Project Fair Share %
1	Grove Ave. & Merrill Ave.	Chino, Ontario	*Install a traffic signal (same as Opening Year With-Project)*	No	5.9
			SB left turn lane (same as Opening Year With-Project)	No	
			EB left turn lane (same as Opening Year With-Project)	No	
			2nd EB through lane (same as Opening Year With-Project)	No	
			2nd WB through lane (same as Opening Year With-Project)	No	
			WB right turn lane (same as Opening Year With-Project)	No	
2	Flight Ave. & Merrill Ave.	Chino, Ontario	*Install a traffic signal (same as Existing-With Project, and Opening Year-With Project)*	No	5.2
			Restripe to provide a NB left turn lane within the painted median (same as Opening Year With-Project)	No	
			SB left turn lane (same as Opening Year With-Project)	No	

Table 4.2-32
Summary of Horizon Year With Project Intersection Improvements
Without Limonite Avenue Extension

ID #	Intersection Location	Jurisdiction	Recommended Improvements	Improvements in DIF, RBBD, or TUMF Programs	Project Fair Share %
			SB shared through-right turn lane (same as Opening Year With-Project)	No	
			EB left turn lane (same as Opening Year With-Project)	No	
			2nd EB through lane (same as Opening Year With-Project)	No	
			2nd WB through lane (same as Opening Year With-Project)	No	
			NB right turn lane	No	
			Modify traffic signal to implement overlap phasing on the NB and EB right turn lanes		
3	Hellman Ave. & Merrill Ave.	Chino, Ontario	*Install a traffic signal (same as Opening Year With-Project)*	No	5.4
			NB left turn lane (same as Opening Year With-Project)	No	
			NB shared through-right turn lane (same as Opening Year With-Project)	No	
			SB left turn lane (same as Opening Year With-Project)	No	
			SB shared through-right turn lane (same as Opening Year With-Project)	No	
			EB left turn lane (same as Opening Year With-Project)	No	
			2nd EB through lane (same as Opening Year With-Project)	No	
			EB right turn lane (same as Opening Year With-Project)	No	
			WB left turn lane (same as Opening Year With-Project)	No	
			2nd WB through lane (same as Opening Year With-Project)	No	
			2nd NB left turn lane	No	
			NB right turn lane	No	
			WB right turn lane	No	
			Modify traffic signal to implement overlap phasing on the NB right turn lane	No	
4	Hellman Ave. & Kimball Ave.	Chino, Eastvale	*Install a traffic signal (Under Construction – same as Existing-With Project and Opening Year With-Project)*	---	5.8
			2nd NB left turn lane	No	
			2 NB through lanes	No	
			SB left turn lane	No	
			2 SB through lanes	No	
			SB right turn lane	No	
			EB left turn lane	No	
			EB through lane	No	

Table 4.2-32
Summary of Horizon Year With Project Intersection Improvements
Without Limonite Avenue Extension

ID #	Intersection Location	Jurisdiction	Recommended Improvements	Improvements in DIF, RBBD, or TUMF Programs	Project Fair Share %
			WB left turn lane	No	
			WB through lane	No	
			Modify traffic signal to implement overlap phasing on the EB right turn lane	No	
6	Archibald Ave. & Riverside Dr.	Ontario	*2nd NB left turn lane (same as Opening Year With-Project)*	No	3.9
			2nd SB left turn lane (same as Opening Year With-Project)	No	
			EB right turn lane (same as Opening Year With-Project)	No	
			Modify traffic signal to implement overlap phasing on the WB right turn lane (same as Opening Year With-Project)	No	
7	Archibald Ave. & Chino Ave.	Ontario	3rd SB through lane	No	5.9
8	Archibald Ave. & Schaefer Ave.	Ontario	*Install a traffic signal (same as Opening Year With-Project)*	No	5.7
			NB left turn lane (same as Opening Year With-Project)	No	
			EB left turn lane (same as Opening Year With-Project)	No	
			EB shared through-right turn lane (same as Opening Year With-Project)	No	
			WB left turn lane (same as Opening Year With-Project)	No	
			WB shared through-right turn lane (same as Opening Year With-Project)	No	
			3rd NB through lane	No	
			3rd SB through lane	No	
			2nd EB through lane	No	
			2nd WB through lane	No	
			Modify traffic signal to implement overlap phasing on the SB right turn lane	No	
9	Archibald Ave. & Ontario Ranch Rd.	Ontario	*2nd NB left turn lane (same as Opening Year With-Project)*	No	6.0
			3rd NB through lane (same as Opening Year With-Project)	No	
			3rd SB through lane (same as Opening Year With-Project)	No	
			2nd WB through lane (same as Opening Year With-Project)	No	
			Modify traffic signal to implement overlap phasing on the NB right turn lane (same as Opening Year With-Project)	No	
			3rd EB through lane	No	
			3rd WB through lane	No	
			Modify traffic signal to implement overlap phasing on the SB right turn lane	No	

Table 4.2-32
Summary of Horizon Year With Project Intersection Improvements
Without Limonite Avenue Extension

ID #	Intersection Location	Jurisdiction	Recommended Improvements	Improvements in DIF, RBBD, or TUMF Programs	Project Fair Share %
10	Archibald Ave. & Eucalyptus Ave.	Ontario	3rd NB through lane	No	7.4
			3rd SB through lane	No	
			EB left turn lane	No	
			EB shared through-right turn lane	No	
			WB left turn lane	No	
11	Archibald Ave. & Merrill Ave.	Ontario	2nd NB left turn lane *(same as Opening Year With-Project)*	No	8.1
			3rd NB through lane *(same as Opening Year With-Project)*	No	
			3rd SB through lane *(same as Opening Year With-Project)*	No	
			SB right turn lane *(same as Opening Year With-Project)*	No	
			2nd EB left turn lane *(same as Opening Year With-Project)*	No	
			EB free-right turn lane *(same as Opening Year With-Project)*	No	
			Modify traffic signal to implement overlap phasing on the SB right turn lane *(same as Opening Year With-Project)*	No	
			2nd EB through lane	No	
			2nd WB through lane	No	
			2nd WB left turn lane	No	
			Modify traffic signal to implement overlap phasing on the NB right turn lane	No	
12	Archibald Ave. & Victoria Ln.	Ontario	*Install a traffic signal (same as Opening Year With-Project)*	No	9.0
			NB left turn lane (same as Opening Year With-Project)	No	
			3rd NB through lane (same as Opening Year With-Project)	No	
			SB left turn lane (same as Opening Year With-Project)	No	
			3rd SB through lane (same as Opening Year With-Project)	No	
			SB right turn lane (same as Opening Year With-Project)	No	
			EB shared left-through-right turn lane (same as Opening Year With-Project)	No	
15	Archibald Ave. & Limonite Ave.	Eastvale	*2nd SB left turn lane (same as Existing-With Project and Opening Year With-Project)*	No	12.0
			2nd WB right turn lane (same as Existing-With Project and Opening Year With-Project)	No	
			2nd NB through lane (same as Opening Year With-Project)	TUMF/RBBD	

Table 4.2-32
Summary of Horizon Year With Project Intersection Improvements
Without Limonite Avenue Extension

ID #	Intersection Location	Jurisdiction	Recommended Improvements	Improvements in DIF, RBBD, or TUMF Programs	Project Fair Share %
			2nd SB through lane (same as Opening Year With-Project)	TUMF/RBBD	
			2nd WB left turn lane (same as Opening Year With-Project)	No	
16	Archibald Ave. & 65th St.	Eastvale	*3rd NB through lane (same as Opening Year With-Project)*	TUMF/RBBD	14.7
17	Archibald Ave. & Schleisman Rd.	Eastvale	*Modify traffic signal to implement overlap phasing on all approaches (same as Opening Year With-Project)*	No	10.4
20	Harrison Ave. & Limonite Ave.	Eastvale	*3rd WB through lane (same as Opening Year With-Project)*	TUMF/RBBD	10.
21	Sumner Ave. & Limonite Ave.	Eastvale	2nd NB left turn lane	No	9.9
			EB right turn lane	No	
			Modify traffic signal to implement overlap phasing on the EB right turn lane	No	
22	Scholar Way & Limonite Ave.	Eastvale	3rd EB through lane	TUMF/RBBD	9.9
			3rd WB through lane	TUMF/RBBD	
24	I-15 SB Ramps & Limonite Ave.	Caltrans, Eastvale	*Interchange Redesign (same as Opening Year With-Project)*	TUMF/RBBD	N/A
25	I-15 NB Ramps & Limonite Ave.	Caltrans, Jurupa Valley	*Interchange Redesign (same as Opening Year With-Project)*	TUMF/RBBD	N/A

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: Project "fair share" represents the Project's greatest percentage of total new traffic under the TIA analytic scenarios. Percentages have been rounded to the nearest tenth.

With Limonite Avenue Extension

Intersections with identified deficiencies under Horizon Year Without-Project and Horizon Year With-Project Conditions, without the Limonite Avenue Extension are identified in Table 4.2-33. These are considered potentially significant cumulative impacts resulting from existing traffic, ambient traffic growth within the region, traffic generated by known or probable cumulative projects and traffic generated by the Project. Applicable jurisdictional LOS standards are also noted.

Table 4.2-33
Intersection Operations With Limonite Avenue Extension
Horizon Year Conditions and Horizon Year Conditions With-Project

ID #	Intersection	Traffic Control	Horizon Year Conditions				Horizon Year Conditions With-Project				Change in Delay (secs.)		Jurisdiction(s)/ LOS Std.
			Delay (secs.)		Level of Service		Delay (secs.)		Level of Service				
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
1	Grove Ave. & Merrill Ave.	AWS	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	18.9	20.7	Chino, Ontario/LOS D
2	Flight Ave. & Merrill Ave.	CSS	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	>25.0	>25.0	Chino, Ontario/LOS D
3	Hellman Ave. & Merrill Ave.	**CSS**	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	>25.0	>25.0	Chino, Ontario/LOS D
4	Hellman Ave. & Kimball Ave.	AWS	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	**14.0**	**22.9**	Chino, Eastvale/LOS D
5	Hellman Ave. & Pine Ave.	TS	**77.1**	**140.8**	**E**	**F**	**97.7**	**175.0**	**F**	**F**	**20.6**	**>25.0**	Chino, Eastvale/LOS D
6	Archibald Ave. & Riverside Dr.	TS	**111.9**	**101.1**	**F**	**F**	**134.2**	**129.5**	**F**	**F**	22.3	28.4	Ontario/LOS E
7	Archibald Ave. & Chino Ave.	TS	61.0	**158.9**	E	**F**	75.7	**159.5**	E	**F**	--	0.6	Ontario/LOS E
8	Archibald Ave. & Schaefer Ave.	**CSS**	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	>25.0	23.3	Ontario/LOS E
9	Archibald Ave. & Ontario Ranch Rd.	TS	**135.0**	**>200.0**	**F**	**F**	**162.1**	**>200.0**	**F**	**F**	27.1	>25.0	Ontario/LOS E
10	Archibald Ave. & Eucalyptus Ave.	TS	**180.1**	26.9	**F**	C	**182.1**	32.4	**F**	C	2.0	--	Ontario/LOS E
11	Archibald Ave. & Merrill Ave.	**TS**	31.0	53.4	C	D	32.8	**58.5**	C	**E**	--	--	Ontario/LOS E
12	Archibald Ave. & Victoria Ln.	**TS**	31.0	53.4	C	D	32.8	**58.5**	C	**E**	--	--	Ontario/LOS E
13	Archibald Ave. & Driveway 1	**CSS**	Project Improvement				25.3	22.8	D	C	--	--	Eastvale, Ontario/LOS D
14	Archibald Ave. & Driveway 2	**CSS**	Project Improvement				14.9	15.2	B	C	--	--	Eastvale/LOS D
15	Archibald Ave. & Limonite Ave.	TS	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	**>25.0**	**>25.0**	Eastvale/LOS D
16	Archibald Ave. & 65th St.	TS	**58.3**	**57.6**	**E**	**E**	**62.6**	**64.1**	**E**	**E**	**4.3**	**6.5**	Eastvale/LOS D
17	Archibald Ave. & Schleisman Rd.	TS	**>200.0**	**134.7**	**F**	**F**	**>200.0**	**137.0**	**F**	**F**	**5.9**	2.3	Eastvale/LOS D
18	Driveway 3 & Limonite Ave.	**CSS**	Project Improvement				12.6	14.0	B	B	--	--	Eastvale/LOS D
19	Driveway 4 & Limonite Ave.	**TS**	Project Improvement*				21.4	27.6	C	C	--	--	Eastvale/LOS D
24	I-15 SB Ramps & Limonite Ave.	TS	**119.9**	**66.6**	**F**	**E**	**124.9**	**72.0**	**F**	**E**	--	--	Caltrans, Eastvale/LOS D
25	I-15 NB Ramps & Limonite Ave.	TS	**82.9**	**131.9**	**F**	**F**	**86.0**	**136.3**	**F**	**F**	--	--	Caltrans, Jurupa Valley/LOS D

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: Delay and LOS deficiencies identified in **BOLD**; CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; **CSS** = Improvement.
* Driveway 4 would align with the proposed Walmart driveway located opposite the Project on the south side of Limonite Avenue. The Project or Walmart (whichever development occurs first) would construct the traffic signal improvements at this location. Cost-sharing for signalization of this intersection would be as agreed to by the Project Applicant, developer of the Walmart site, and the City.

Level of Significance: *Potentially Cumulatively Significant.*

With the planned Limonite Avenue extension, under Horizon Year-Project Conditions, traffic generated by the Project in combination with traffic from regional growth and related projects would result in potentially significant cumulative impacts at the Study Area intersections listed above in Table 4.2-33. Recommended improvements for each potentially affected intersection are listed in Table 4.2-34.

Table 4.2-34
Summary of Horizon Year With Project Intersection Improvements
With Limonite Avenue Extension

ID #	Intersection Location	Jurisdiction	Recommended Improvements	Improvements in DIF, RBBD, or TUMF Programs	Project Fair Share %
1	Grove Ave. & Merrill Ave.	Chino, Ontario	*Install a traffic signal (same as Opening Year With-Project)*	No	5.9
			SB left turn lane (same as Opening Year With-Project)	No	
			EB left turn lane (same as Opening Year With-Project)	No	
			2nd EB through lane (same as Opening Year With-Project)	No	
			2nd WB through lane (same as Opening Year With-Project)	No	
			WB right turn lane (same as Opening Year With-Project)	No	
2	Flight Ave. & Merrill Ave.	Chino, Ontario	*Install a traffic signal (same as Existing-With Project, and Opening Year-With Project)*	No	5.2
			Restripe to provide a NB left turn lane within the painted median (same as Opening Year With-Project)	No	
			SB left turn lane (same as Opening Year With-Project)	No	
			SB shared through-right turn lane (same as Opening Year With-Project)	No	
			EB left turn lane (same as Opening Year With-Project)	No	
			2nd EB through lane (same as Opening Year With-Project)	No	
			2nd WB through lane (same as Opening Year With-Project)	No	
			Modify traffic signal to implement overlap phasing on the EB right turn lane	No	
3	Hellman Ave. & Merrill Ave.	Chino, Ontario	*Install a traffic signal (same as Opening Year With-Project)*	No	5.4
			NB left turn lane (same as Opening Year With-Project)	No	
			NB shared through-right turn lane (same as Opening Year With-Project)	No	
			SB left turn lane (same as Opening Year With-Project)	No	
			SB shared through-right turn lane (same as Opening Year With-Project)	No	
			EB left turn lane (same as Opening Year With-Project)	No	

Table 4.2-34
Summary of Horizon Year With Project Intersection Improvements
With Limonite Avenue Extension

ID #	Intersection Location	Jurisdiction	Recommended Improvements	Improvements in DIF, RBBD, or TUMF Programs	Project Fair Share %
			2nd EB through lane (same as Opening Year With-Project)	No	
			EB right turn lane (same as Opening Year With-Project)	No	
			WB left turn lane (same as Opening Year With-Project)	No	
			2nd WB through lane (same as Opening Year With-Project)	No	
			2nd NB left turn lane	No	
			NB right turn lane	No	
			WB right turn lane	No	
			Modify traffic signal to implement overlap phasing on the NB right turn lane	No	
4	Hellman Ave. & Kimball Ave.	Chino, Eastvale	*Install a traffic signal (Under Construction – same as Existing-With Project and Opening Year With-Project)*	---	5.8
			2nd NB left turn lane	No	
			2 NB through lanes	No	
			SB left turn lane	No	
			2 SB through lanes	No	
			SB right turn lane	No	
			EB left turn lane	No	
			EB through lane	No	
			WB left turn lane	No	
			WB through lane	No	
			Modify traffic signal to implement overlap phasing on the NB and EB right turn lanes	No	
5	Hellman Ave. & Pine Ave.	Chino, Eastvale	Modify traffic signal to implement overlap phasing on the SB right turn lane	No	7.9
6	Archibald Ave. & Riverside Dr.	Ontario	*2nd NB left turn lane (same as Opening Year With-Project)*	No	3.9
			2nd SB left turn lane (same as Opening Year With-Project)	No	
			EB right turn lane (same as Opening Year With-Project)	No	
			Modify traffic signal to implement overlap phasing on the WB right turn lane (same as Opening Year With-Project)	No	
7	Archibald Ave. & Chino Ave.	Ontario	3rd SB through lane	No	5.9
8	Archibald Ave. & Schaefer Ave.	Ontario	*Install a traffic signal (same as Opening Year With-Project)*	No	5.7
			NB left turn lane (same as Opening Year With-Project)	No	
			EB left turn lane (same as Opening Year With-Project)	No	

Table 4.2-34
Summary of Horizon Year With Project Intersection Improvements
With Limonite Avenue Extension

ID #	Intersection Location	Jurisdiction	Recommended Improvements	Improvements in DIF, RBBD, or TUMF Programs	Project Fair Share %
			EB shared through-right turn lane (same as Opening Year With-Project)	No	
			WB left turn lane (same as Opening Year With-Project)	No	
			WB shared through-right turn lane (same as Opening Year With-Project)	No	
			3rd NB through lane	No	
			3rd SB through lane	No	
			S right turn lane		
			2nd EB through lane	No	
			2nd WB through lane	No	
			Modify traffic signal to implement overlap phasing on the SB right turn lane	No	
9	Archibald Ave. & Ontario Ranch Rd.	Ontario	*2nd NB left turn lane (same as Opening Year With-Project)*	No	6.0
			3rd NB through lane (same as Opening Year With-Project)	No	
			3rd SB through lane (same as Opening Year With-Project)	No	
			2nd WB through lane (same as Opening Year With-Project)	No	
			Modify traffic signal to implement overlap phasing on the NB right turn lane (same as Opening Year With-Project)	No	
			3rd EB through lane	No	
			3rd WB through lane	No	
			Modify traffic signal to implement overlap phasing on the SB right turn lane	No	
10	Archibald Ave. & Eucalyptus Ave.	Ontario	3rd NB through lane	No	7.4
			3rd SB through lane	No	
			EB left turn lane	No	
			EB shared through-right turn lane	No	
			WB left turn lane	No	
11	Archibald Ave. & Merrill Ave.	Ontario	*2nd NB left turn lane (same as Opening Year With-Project)*	No	9.6
			3rd NB through lane (same as Opening Year With-Project)	No	
			3rd SB through lane (same as Opening Year With-Project)	No	
			SB right turn lane (same as Opening Year With-Project)	No	
			2nd EB left turn lane (same as Opening Year With-Project)	No	

Table 4.2-34
Summary of Horizon Year With Project Intersection Improvements
With Limonite Avenue Extension

ID #	Intersection Location	Jurisdiction	Recommended Improvements	Improvements in DIF, RBBD, or TUMF Programs	Project Fair Share %
			EB free-right turn lane (same as Opening Year With-Project)	No	
			Modify traffic signal to implement overlap phasing on the SB right turn lane (same as Opening Year With-Project)	No	
			2nd EB through lane	No	
			2nd WB through lane	No	
			2nd WB left turn lane	No	
			Modify traffic signal to implement overlap phasing on the NB right turn lane	No	
12	Archibald Ave. & Victoria Ln.	Ontario	*Install a traffic signal (same as Opening Year With-Project)*	No	10.7
			NB left turn lane (same as Opening Year With-Project)	No	
			3rd NB through lane (same as Opening Year With-Project)	No	
			SB left turn lane (same as Opening Year With-Project)	No	
			3rd SB through lane (same as Opening Year With-Project)	No	
			SB right turn lane (same as Opening Year With-Project)	No	
			EB shared left-through-right turn lane (same as Opening Year With-Project)	No	
15	Archibald Ave. & Limonite Ave.	Eastvale	*2nd SB left turn lane (same as Existing-With Project and Opening Year With-Project)*	No	12.4
			2nd WB right turn lane (same as Existing-With Project and Opening Year With-Project)	No	
			2nd NB through lane (same as Opening Year With-Project)	TUMF/RBBD	
			2nd SB through lane (same as Opening Year With-Project)	TUMF/RBBD	
			2nd WB left turn lane (same as Opening Year With-Project)	No	
			NB left turn lane	No	
			3rd NB through lane	TUMF/RBBD	
			3rd SB through lane	TUMF/RBBD	
			SB right turn lane	No	
			2 EB left turn lanes	No	
			2 EB through lanes	TUMF/RBBD	
			2 WB through lanes	TUMF/RBBD	
16	Archibald Ave. & 65th St.	Eastvale	*3rd NB through lane (same as Opening Year With-Project)*	TUMF/RBBD	14.7
17	Archibald Ave. & Schleisman Rd.	Eastvale	*Modify traffic signal to implement overlap phasing on all approaches (same as Opening Year With-Project)*	No	10.4
20	Harrison Ave. & Limonite Ave.	Eastvale	*3rd WB through lane (same as Opening Year With-Project)*	TUMF/RBBD	10.6

Table 4.2-34
Summary of Horizon Year With Project Intersection Improvements
With Limonite Avenue Extension

ID #	Intersection Location	Jurisdiction	Recommended Improvements	Improvements in DIF, RBBD, or TUMF Programs	Project Fair Share %
21	Sumner Ave. & Limonite Ave.	Eastvale	2nd NB left turn lane	No	9.9
			EB right turn lane	No	
			Modify traffic signal to implement overlap phasing on the EB right turn lane	No	
22	Scholar Way & Limonite Ave.	Eastvale	3rd EB through lane	TUMF/RBBD	9.9
			3rd WB through lane	TUMF/RBBD	
24	I-15 SB Ramps & Limonite Ave.	Caltrans, Eastvale	*Interchange Redesign (same as Opening Year With-Project)*	TUMF/RBBD	N/A
25	I-15 NB Ramps & Limonite Ave.	Caltrans, Jurupa Valley	*Interchange Redesign (same as Opening Year With-Project)*	TUMF/RBBD	N/A

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: Project "fair share" represents the Project's greatest percentage of total new traffic under the TIA analytic scenarios. Percentages have been rounded to the nearest tenth.

Mitigation Measure:

4.2.3 *Prior to building permit issuance for each building, the Project Applicant shall pay that building's fair share fee amounts toward the construction of City of Eastvale improvements required under Horizon Year With-Project Conditions listed in EIR Tables 4.2-32, 4.2-34. Where intersection improvements require additional through lanes, fees shall also be applied to construction of required through lane/roadway segment improvements. The greatest fair share fee shall be paid at each potentially affected facility. Duplicate fees for improvements previously funded under Mitigation Measures 4.2.1 and 4.2.2 shall not be required.*

Table 4.2-35 presents a summary of intersection operations without and with implementation of recommended improvements for both the Without Limonite Avenue and With Limonite Avenue scenarios.

Table 4.2-35
Summary of Horizon Year With-Project Intersection Conditions
Without and With Limonite Avenue Extension
Without and With Recommended Improvements

ID #	Intersection	Traffic Control	Delay (secs.)		Level of Service	
			AM	PM	AM	PM
1	Grove Ave. & Merrill Ave.					
	Without Limonite Ave. Extension:					
	- Without Improvements	AWS	**>200.0**	**>200.0**	**F**	**F**
	- With Improvements	**TS**	17.6	17.5	B	B
	With Limonite Ave. Extension:					
	- Without Improvements	AWS	**>200.0**	**>200.0**	**F**	**F**
	- With Improvements	**TS**	13.0	13.7	B	B
2	Flight Ave. & Merrill Ave.					
	Without Limonite Ave. Extension:					
	- Without Improvements	CSS	**>200.0**	**>200.0**	**F**	**F**
	- With Improvements	**TS**	54.3	34.5	D	C
	With Limonite Ave. Extension:					
	- Without Improvements	CSS	**>200.0**	**>200.0**	**F**	**F**
	- With Improvements	**TS**	28.4	26.0	C	C
3	Hellman Ave. & Merrill Ave.					
	Without Limonite Ave. Extension:					
	- Without Improvements	**CSS**	**>200.0**	**>200.0**	**F**	**F**
	- With Improvements	**TS**	39.9	42.9	D	D
	With Limonite Ave. Extension:					
	- Without Improvements	**CSS**	**>200.0**	**>200.0**	**F**	**F**
	- With Improvements	**TS**	37.2	42.7	D	D
4	Hellman Ave. & Kimball Ave.					
	Without Limonite Ave. Extension:					
	- Without Improvements	AWS	**110.8**	**157.1**	**F**	**F**
	- With Improvements	**TS**	28.0	26.9	C	C
	With Limonite Ave. Extension:					
	- Without Improvements	AWS	**>200.0**	**>200.0**	**F**	**F**
	- With Improvements	**TS**	31.5	50.4	C	D
5	Hellman Ave. & Pine Ave.					
	Without Limonite Ave. Extension:	---	---	---	---	---
	With Limonite Ave. Extension:					
	- Without Improvements	TS	**97.7**	**175.0**	**F**	**F**
	- With Improvements	TS	48.4	40.2	D	D
6	Archibald Ave. & Riverside Dr.					
	Same improvements without and with Limonite Ave. Extension					
	- Without Improvements	TS	**134.2**	**129.5**	**F**	**F**
	- With Improvements	TS	72.3	74.9	E	E
7	Archibald Ave. & Chino Ave.					
	Same improvements without and with Limonite Ave. Extension					

Table 4.2-35
Summary of Horizon Year With-Project Intersection Conditions
Without and With Limonite Avenue Extension
Without and With Recommended Improvements

ID #	Intersection	Traffic Control	Delay (secs.)		Level of Service	
			AM	PM	AM	PM
	- Without Improvements	TS	75.7	**159.5**	E	**F**
	- With Improvements	TS	32.3	66.7	C	E
8	Archibald Ave. & Schaefer Ave.					
	Same improvements without and with Limonite Ave. Extension					
	- Without Improvements	**CSS**	**>200.0**	**>200.0**	**F**	**F**
	- With Improvements	**TS**	31.4	75.3	C	E
9	Archibald Ave. & Ontario Ranch Rd.					
	Same improvements without and with Limonite Ave. Extension					
	- Without Improvements	TS	**162.1**	**>200.0**	**F**	**F**
	- With Improvements	TS	36.4	67.6	D	E
10	Archibald Ave. & Eucalyptus Ave.					
	Same improvements without and with Limonite Ave. Extension					
	- Without Improvements	TS	**182.1**	32.4	**F**	C
	- With Improvements	TS	54.7	18.1	D	B
11	Archibald Ave. & Merrill Ave.					
	Without Limonite Ave. Extension:					
	- Without Improvements	TS	**>200.0**	**>200.0**	**F**	**F**
	- With Improvements	TS	45.2	73.8	D	E
	With Limonite Ave. Extension:					
	- Without Improvements	TS	**>200.0**	**>200.0**	**F**	**F**
	- With Improvements	TS	25.4	53.7	C	D
12	Archibald Ave. & Victoria Ln.					
	Without Limonite Ave. Extension:					
	- Without Improvements	**TS**	**57.2**	**127.1**	**E**	**F**
	- With Improvements	**TS**	16.7	17.9	B	B
	With Limonite Ave. Extension:					
	- Without Improvements	**TS**	32.8	**58.5**	C	**E**
	- With Improvements	**TS**	15.2	13.9	B	B
15	Archibald Ave. & Limonite Ave.					
	Without Limonite Ave. Extension:					
	- Without Improvements	TS	**>200.0**	**>200.0**	**F**	**F**
	- With Improvements	TS	37.9	47.6	D	D
	With Limonite Ave. Extension:					
	- Without Improvements	TS	**>200.0**	**>200.0**	**F**	**F**
	- With Improvements	TS	45.1	54.5	D	D
16	Archibald Ave. & 65th St.					
	Without Limonite Ave. Extension:					
	- Without Improvements	TS	**121.0**	**102.6**	**F**	**F**
	- With Improvements	TS	38.1	34.6	D	C

Table 4.2-35
Summary of Horizon Year With-Project Intersection Conditions
Without and With Limonite Avenue Extension
Without and With Recommended Improvements

ID #	Intersection	Traffic Control	Delay (secs.)		Level of Service	
			AM	PM	AM	PM
	With Limonite Ave. Extension:					
	- Without Improvements	TS	**62.6**	**64.1**	**E**	**E**
	- With Improvements	TS	34.6	43.1	C	D
17	Archibald Ave. & Schleisman Rd.					
	Without Limonite Ave. Extension:					
	- Without Improvements	TS	**123.5**	**116.7**	**F**	**F**
	- With Improvements	TS	48.7	39.9	D	D
	With Limonite Ave. Extension:					
	- Without Improvements	TS	**>200.0**	**137.0**	**F**	**F**
	- With Improvements	TS	53.5	54.9	D	D
20	Harrison Ave. & Limonite Ave.					
	Same improvements without and with Limonite Ave. Extension					
	- Without Improvements	TS	30.9	**63.7**	C	**E**
	- With Improvements	TS	22.4	37.7	C	D
21	Sumner Ave. & Limonite Ave.					
	Same improvements without and with Limonite Ave. Extension					
	- Without Improvements	TS	**63.5**	**113.7**	**E**	**F**
	- With Improvements	TS	27.7	35.5	C	D
22	Scholar Way & Limonite Ave.					
	Same improvements without and with Limonite Ave. Extension					
	- Without Improvements	TS	44.3	**70.8**	D	**E**
	- With Improvements	TS	22.1	30.1	C	C
24	I-15 SB Ramps & Limonite Ave.					
	Same improvements without and with Limonite Ave. Extension					
	- Without Improvements	TS	**28.0**	**44.9**	**C**	**D**
	- With Improvements	TS	18.3	15.7	B	B
25	I-15 NB Ramps & Limonite Ave.					
	Same improvements without and with Limonite Ave. Extension					
	- Without Improvements	TS	**71.7**	**78.8**	**E**	**E**
	- With Improvements	TS	22.9	24.7	C	C

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: Delay and LOS deficiencies identified in **BOLD**; CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; **CSS** = Improvement

As indicated in Table 4.2-35, completion of the recommended improvements would achieve acceptable LOS conditions under Horizon Year With-Project Conditions for both the Without Limonite Avenue Extension and With Limonite Avenue Extension scenarios.

The Project Applicant would pay all requisite fees, offsetting the Project's proportional contributions to cumulative traffic impacts projected to occur under Horizon Year With-Project Conditions, thereby fulfilling the Applicant mitigation responsibilities.

However, payment of fees consistent with TUMF, RBBD, and DIF mandates, and fair share fees consistent with Mitigation Measure 4.2.3 would not ensure timely completion of required improvements. Thus, while the physical improvements identified may be capable of mitigating potentially significant impacts, these improvements cannot be timely assured. Moreover, there are no current plans to improve the affected intersection(s), and the City does not have an existing agreement with extra-jurisdictional agencies regarding the funding of improvements, construction of improvements, or timing of improvements at locations along, or beyond the City corporate boundaries.

Based on the preceding, pending completion of the required improvements, Project contributions to cumulative intersection LOS impacts under Horizon Year With-Project Conditions for both the Without Limonite Avenue Extension and With Limonite Avenue Extension scenarios are recognized as significant and unavoidable at the deficient Study Area intersections.

Roadway Segment LOS Analysis, Horizon Year With-Project Conditions, Without Limonite Avenue Extension and With Limonite Avenue Extension

Roadway segments with identified deficiencies under Horizon Year or Horizon Year With-Project Conditions for both the Without Limonite Avenue Extension and With Limonite Avenue Extension scenarios are identified in Table 4.2-36 together with applicable jurisdictional LOS standards.

Table 4.2-36
Roadway Segment Operations
Horizon Year Conditions and Horizon Year Conditions With-Project
Without and With Limonite Avenue Extension

ID #	Roadway	Segment Limits	Horizon Year Conditions					Horizon Year Conditions With-Project						
			Section	Capacity	ADT	V/C	LOS	Section	Capacity	ADT	V/C	LOS	Change in V/C	Jurisdiction/ LOS Std.
Without Limonite Avenue Extension														
1	Limonite Ave.	Archibald Ave. to Sumner Ave.	4D	35,900	47,688	**1.33**	**F**	**5D**	44,917	50,415	**1.12**	**F**	--	Eastvale/ LOS D
2		Sumner Ave. to Hamner Ave.	4D	35,900	50,414	**1.40**	**F**	4D	35,900	52,320	**1.46**	**F**	**0.05**	Eastvale/ LOS D
3		Hamner Ave. to I-15 Fwy.	6D	53,900	54,882	**1.02**	**F**	6D	53,900	56,192	**1.04**	**F**	**0.02**	Eastvale/ LOS D
4	Archibald Ave.	Victoria Ln. to Limonite Ave.	2D	17,950	65,141	**3.63**	**F**	**4D**	35,900	67,836	**1.89**	**F**	--	Ontario, Eastvale/ LOS D
5		Limonite Ave. to 65th St.	2D	17,950	55,287	**3.08**	**F**	2D	17,950	56,479	**3.15**	**F**	**0.07**	Eastvale/ LOS D
With Limonite Avenue Extension														
4	Archibald Ave.	Victoria Ln. to Limonite Ave.	2D	17,950	48,475	**2.70**	**F**	**4D**	35,900	51,170	**1.43**	**F**	--	Ontario, Eastvale/ LOS D
5		Limonite Ave. to 65th St.	4U	35,900	49,723	**1.39**	**F**	4U	35,900	50,915	**1.42**	**F**	**0.03**	Eastvale/ LOS D

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: #U- # Lane Undivided. #D- # Lane Divided. V/C and LOS Deficiencies identified in **BOLD**. **5D**, **4D** = improvement. Roadway Section improvements under Opening Year With-Project Conditions reflect site adjacent and continuing lane improvements to be funded/completed by the Project or others. For example, the segment of Limonite Avenue between Sumner Avenue and Hamner Avenue is anticipated to be widened to its ultimate 6-lane facility as sites adjacent to Limonite Avenue develop, such as along the Leal Specific Plan boundary.

Level of Significance: ***Potentially Cumulatively Significant.*** As indicated in Table 4.2-36, under Horizon Year With-Project Conditions, Project traffic would contribute to projected roadway segment LOS deficiencies. These are potentially significant cumulative impacts.

Mitigation Measure: Please refer to previous Mitigation Measure 4.2.3. Necessary roadway segment improvements would be constructed by the Project or would occur concurrent with intersection/lane improvements identified previously in Table 4.2-32. No additional mitigation is required.

Level of Significance After Mitigation: ***Significant and Unavoidable.***

Table 4.2-37 presents Horizon Year With-Project Conditions roadway segment LOS with recommended improvements. Improvements are indicated for both the Without Limonite Avenue Extension and With Limonite Avenue Extension scenarios.

Table 4.2-37
Summary of Horizon Year With-Project Roadway Segment Conditions
With Recommended Improvements
Without and With Limonite Avenue Extension

ID #	Roadway	Segment Limits	Roadway Section	LOS Capacity[1]	Horizon Year With Project	V/C[2]	LOS[3]	Acceptable LOS
Without Limonite Avenue Extension:								
1	Limonite Ave.	Archibald Ave. to Sumner Ave.	**6D**	53,900	50,415	**0.94**	**E**	D
2		Sumner Ave. to Hamner Ave.	**6D**	53,900	52,320	**0.97**	**E**	D
3		Hamner Ave. to I-15 Freeway	6D	53,900	56,192	**1.04**	**F**	D
4	Archibald Ave.	Victoria Ln. to Limonite Ave.	**6D**	53,900	67,836	**1.26**	**F**	D
5		Limonite Ave. to 65th St.	**6D**	53,900	56,479	**1.05**	**F**	D
With Limonite Avenue Extension:								
4	Archibald Ave.	Victoria Ln. to Limonite Ave.	**6D**	53,900	51,170	**0.95**	**E**	D
5		Limonite Ave. to 65th St.	**6D**	53,900	50,915	**0.94**	**E**	D

Source: *The Merge Traffic Impact Analysis*, City of Eastvale (Urban Crossroads, Inc.) August 24, 2018.
Notes: #U- # Lane Undivided. #D- # Lane Divided. V/C and LOS deficiencies identified in **BOLD**. **6D** = improvement.

As indicated in Table 4.2-37, completion of the Horizon Year With-Project improvements would improve roadway segment LOS conditions under Horizon Year With-Project Conditions when compared to Horizon Year Without-Project Conditions identified in Table 4.2-36. Moreover, the analysis of intersections along the affected roadway segments indicates that the controlling intersections would operate acceptably under peak hour conditions, indicating that additional through lane improvements other than those identified at the affected intersections would not be required.

The Project Applicant would pay all requisite fees, offsetting the Project's proportional contributions to cumulative traffic impacts projected to occur under Horizon Year With-Project Conditions, thereby fulfilling the Applicant mitigation responsibilities.

Notwithstanding, payment of fees consistent with TUMF, RBBD, and DIF mandates, and fair share fees consistent with Mitigation Measure 4.2.3 would not ensure timely completion of required improvements. Thus, while the physical improvements identified may be capable of mitigating potentially significant impacts, these improvements cannot be timely assured. Moreover, there are no current plans to improve the affected intersection(s), and the City does not have an existing agreement with extra-jurisdictional agencies regarding the funding of improvements, construction of improvements, or timing of improvements at locations along, or beyond the City corporate boundaries.

Based on the preceding, pending completion of the required improvements, Project contributions to cumulative roadway segment LOS impacts under Horizon Year With-Project Conditions are recognized as significant and unavoidable at the deficient Study Area roadway segments listed in Table 4.2-36.

Freeway Ramp Progression Analysis, Opening Year With-Project Conditions

Peak hour freeway ramp operations were evaluated under Horizon Year With-Project Conditions. All Study Area freeway ramps would experience acceptable queue lengths under Horizon Year With-Project Conditions. Please refer to TIA Table 7-4.

Level of Significance: Less-Than-Significant.

Freeway Mainline Segment Analysis, Freeway Ramp Junction Merge/Diverge Analysis – Horizon Year With-Project Conditions

Table 4.2-38 summarizes Study Area Opening Year Conditions freeway mainline segment LOS deficiencies Without and With the Project. All other Study Area freeway mainline segments would operate acceptably during the peak hour periods. All freeway mainline segments are under Caltrans jurisdiction. Caltrans facilities operating at LOS E or worse are considered deficient.

Table 4.2-38
Freeway Mainline Segment Operations
Horizon Year Conditions and Horizon Year Conditions With-Project

Mainline Segment	Lanes	Horizon Year Conditions				Horizon Year Conditions With-Project			
		Density		LOS		Density		LOS	
		AM	PM	AM	PM	AM	PM	AM	PM
I-15 SB North of Limonite Ave.	3	**39.5**	26.3	**E**	D	**39.9**	26.5	**E**	D
I-15 SB South of Limonite Ave.	3	**--**	31.4	**F**	D	**--**	31.4	**F**	D
I-15 NB North of Limonite Ave.	3	29.2	23.6	D	C	29.3	23.8	D	C
I-15 NB South of Limonite Ave.	3	33.6	29.3	D	D	33.7	29.5	D	D

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.

Notes: V/C and LOS Deficiencies identified in **BOLD**. **--** HCS7 does not report density for freeway facilities operating at LOS F

Level of Significance: ***Potentially Cumulatively Significant.*** As indicated in Table 4.2-38, under Opening Year With-Project Conditions, Project traffic would contribute to projected freeway mainline segment LOS deficiencies. These are potentially significant cumulative impacts.

Mitigation Measures: No mitigation proposed or required.

Mitigation of freeway facilities impacts is addressed through regional improvements plans and programs. All freeway facilities within the Study Area are under Caltrans jurisdiction.

Traditional funding mechanisms providing for freeway mainline improvements include state and federal gas tax and formula distributions from vehicle registration fees. Future employees/patrons of the Project would contribute indirectly to freeway improvements through these sources. At the time of this EIR preparation, Caltrans has no fee programs or improvement plans in place to address near-term State Highway System (SHS) deficiencies caused by development projects in the City of Eastvale (or other neighboring jurisdictions). State Highway improvements are programmed consistent with the State Transportation Improvement Program cited previously.

There are planned improvements for the I-15 Freeway at Limonite Avenue Interchange, which would consist of a new 8-lane overcrossing along Limonite Avenue (3 through lanes in each direction plus 2 right turn lanes at each ramp), widening of the off-ramps from 2 to 4 lanes, the addition of 2 new loop on-ramps, and additional widening of Limonite Avenue to 4 lanes in each direction between Hamner Avenue and Wineville Avenue. Construction of these improvements is anticipated to be complete sometime in 2019. However, this planned improvement does not widen the existing freeway mainline segments. There is a separate I-15 Freeway project that includes the construction of 2 tolled Express Lanes between the SR-60 Freeway and Cajalco Road. The Express Lanes are not anticipated to be completed until Year 2020.

Caltrans typically assumes a reduction of 14 percent to the freeway mainline through volumes in this region to account for vehicles utilizing the carpool (high-occupancy vehicle) lanes. Within this analysis, and as expressed in Table 4.2-39 (following), the reduction to the I-15 Freeway mainline volumes has been applied to account for the proposed Express Toll lanes.[14] The analysis has been performed assuming the same number of mixed-flow lanes as existing baseline conditions at the I-15 Freeway at Limonite Avenue interchange.

[14] Reductions to mainline volumes have been taken into account for the Express Toll lanes, however, HCM analyses for the freeway facility only considers the traffic in the mixed-flow lanes.

The Caltrans improvements described above would fully address impacts at potentially affected Study Area freeway merge/diverge areas with the exception of the following:

- I-15 Freeway Southbound, On-Ramp at Limonite Ave. (#3) – LOS E AM peak hour only
- I-15 Freeway Northbound, Off-Ramp at Limonite Ave. (#6) – LOS E AM peak hour only

Level of Significance After Mitigation: ***Significant and unavoidable at the following freeway merge/diverge areas:***

- ***I-15 Freeway Southbound, On-Ramp at Limonite Ave. (#3) – LOS E AM peak hour only***
- ***I-15 Freeway Northbound, Off-Ramp at Limonite Ave. (#6) – LOS E AM peak hour only***

All other Study Area freeway segments and freeway/merge diverge would operate at acceptable LOS with anticipated near-term completion of Caltrans-initiated SHS improvements.

As indicated in Table 4.2-39, the Study Area I-15 Freeway mainline segments are anticipated to operate at an acceptable LOS with the improvements discussed above.

Table 4.2-39
Freeway Mainline Segment Operations
Horizon Year Conditions and Horizon Year Conditions With-Project with Improvements

Mainline Segment	Lanes	Horizon Year Without Project				Horizon Year With Project			
		Density		LOS		Density		LOS	
		AM	PM	AM	PM	AM	PM	AM	PM
I-15 SB North of Limonite Ave.	3	30.9	22.1	D	C	31.1	22.3	D	C
I-15 SB South of Limonite Ave.	3	31.4	20.2	D	C	31.5	20.3	D	C
I-15 NB North of Limonite Ave.	3	23.8	19.8	C	C	24.0	20.0	C	C
I-15 NB South of Limonite Ave.	3	30.8	26.6	D	D	31.0	26.7	D	D

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.

As indicated in Table 4.2-40, the above-described planned Caltrans improvements to the Study Area freeway mainline segments would ensure adequate LOS is maintained at Study Area freeway ramp junction merge/diverge facilities with the following exceptions:

- I-15 Freeway Southbound, On-Ramp at Limonite Ave. (#3) – LOS E AM peak hour only
- I-15 Freeway Northbound, Off-Ramp at Limonite Ave. (#6) – LOS E AM peak hour only

There are no known planned or programmed SHS improvements that would address Horizon Year freeway Study Area freeway ramp junction merge/diverge deficiencies. Project traffic contributions to these deficiencies would be cumulatively considerable and Project impacts would be cumulatively significant.

Table 4.2-40
Freeway Ramp Junction Merge/Diverge Facilities Operations
Horizon Year Conditions and Horizon Year Conditions With-Project With Improvements

Ramp or Segment	Lanes on Freeway[2]	2040 Without Project				2040 With Project			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Density[3]	LOS[4]	Density[3]	LOS[4]	Density[3]	LOS[4]	Density[3]	LOS[4]
I-15 SB Off-Ramp at Limonite Ave.	3	31.5	D	24.2	D	31.7	D	24.4	D
I-15 SB Loop On-Ramp at Limonite Ave.	3	35.9	D	23.9	C	35.9	D	23.9	C
I-15 SB On-Ramp at Limonite Ave.	3	**43.7**	**E**	28.6	C	**43.9**	**E**	28.7	C
I-15 NB On-Ramp at Limonite Ave.	3	26.1	C	21.9	C	26.1	C	21.9	C
I-15 NB Loop On-Ramp at Limonite Ave.	3	23.2	C	18.8	B	23.2	C	18.8	B
I-15 NB Off-Ramp at Limonite Ave.	3	**31.4**	**E**	28.6	D	**31.5**	**E**	28.7	D

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.

SUMMARY OF FEE-BASED MITIGATION REQUIREMENTS AND ASSOCIATED INTERSECTION IMPROVEMENTS

Required improvements are previously identified herein for each development/analytic scenario (Existing Conditions, Opening Year Conditions, Horizon Year Conditions). As applicable, TUMF, RBBD, DIF, and Fair Share Fees paid by the Project would be directed to fund the required improvements within the City of Eastvale.

Project "fair share" traffic contributions at extra-jurisdictional locations have also been identified. As discussed previously, these fair share calculations represent the Project's proportional contributions to extra-jurisdictional impacts rather than monies that would be assessed of the Project for construction of extra-jurisdictional improvements. In this latter regard, there does not exist an extra-jurisdictional fee-sharing mechanism between the City of Eastvale and extra-jurisdictional agencies that would provide for construction of extra-jurisdictional improvements; nor do the City or Applicant have plenary control for funding of, or construction of extra-jurisdictional improvements.

Despite the incorporation of Mitigation Measures 4.2.1 through 4.2.3 and Project payment of all requisite fees, the Project's contribution to cumulative traffic impacts would be considered significant and unavoidable, as noted previously in these discussions.

Potential Impact: *Conflict with an applicable congestion management program including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.*

Impact Analysis: The Riverside County Congestion Management Program (CMP) definition of deficiency is based on maintaining a level of service standard of LOS E or better, except where an existing LOS F condition is identified in the CMP document. Within this analysis, LOS D has nonetheless been conservatively applied as the minimum acceptable operational condition for Study Area CMP facilities.

CMP Freeway Segments

All Study Area I-15 freeway segments are CMP facilities. LOS D is the minimum required LOS to be maintained on the Study Area CMP freeway segments. Study Area Freeway segments determined herein to operate at deficient LOS (LOS E, LOS F) would conflict applicable CMP LOS standards.

CMP Intersections

Study Area CMP intersections are listed below. LOS D is the minimum required LOS to be maintained on the Study Area CMP intersections. Study Area intersections determined herein to operate at deficient LOS (LOS E, LOS F) would conflict applicable CMP LOS standards.

- Intersection No. 6: Archibald Avenue & Riverside Drive
- Intersection No. 24: I-15 SB Ramps & Limonite Avenue
- Intersection No. 25: I-15 NB Ramps & Limonite Avenue

Level of Significance: Potentially Significant.

Mitigation Measures:

CMP Freeway Segments

As discussed previously in this Section, mitigation of freeway facilities impacts (including CMP freeway segment deficiencies) is addressed through regional improvements plans and programs. There are no feasible measures that can be autonomously implemented by the Lead Agency or the Project Applicant. No additional mitigation is proposed or required.

CMP Intersections

Mitigation for CMP intersection deficiencies is coincident with intersection improvements identified herein. No additional mitigation is proposed or required.

Level of Significance after Mitigation: Significant and Unavoidable.

The Project would pay all requisite fees for improvements at Study Area CMP facilities. However, as discussed previously herein, fee payments would not ensure timely completion of improvements required for mitigation of cumulatively significant impacts within the Study Area. Pending completion of required improvements, Project contributions to impacts affecting Study Area CMP facilities are therefore considered cumulatively significant and unavoidable.

Potential Impact: *Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.*

Impact Analysis: Alternative transportation modes and services available to the Project site and vicinity are described below.

Pedestrian Access

Project construction of the ultimate half-section of Archibald Avenue and Limonite Avenue would include curb and gutter and sidewalk improvements consistent with City Conditions of Approval.

Bicycle/Multi-Use Trails Access

The Jurupa Community Services District (JCSD) Parks and Recreation Master Plan[15] (JCSD Master Plan) indicates planned Class II bike lanes along Archibald Avenue and Limonite Avenue adjacent to the Project site.[16] The JCSD Master Plan also indicates a planned off-street Class I Multi-Use Trail along the Project northerly boundary adjacent to the existing Riverside County Flood Control and Water Conservation District flood control channel.

[15] *Jurupa Community Services District Parks and Recreation Master Plan* (RJM Design Group for JCSD) n.d.; Section Two, *Existing Recreation Resources,* Figure 2.8-2, *Planned Trails*. See also: https://www.jcsd.us/services/parks-and-recreation/parks-and-recreation-master-plan

[16] The City of Eastvale Bicycle Master Plan (February 2016) recommends provision of a Class IV protected bike lane along Limonite Avenue adjacent to the Project site. See also: http://www.eastvaleca.gov/city-hall/bicycle-master-plan

The Project concept does not propose or require facilities or programs that would conflict or interfere with development and implementation planned or proposed bicycle and/or multipurpose trail facilities. The Applicant would coordinate final Project designs to ensure accommodation of planned or proposed bicycle and/or multipurpose trail facilities. On-site Project bicycle amenities would be provided consistent with requirements and guidance provide within City of Eastvale Zoning Code and *Design Standards and Guidelines*.

Transit Accommodations

The Applicant and City generally would coordinate Project final designs with the Riverside Transit Agency (RTA) to evaluate propriety of Project transit access and amenities. The Project would also construct pedestrian access and bicycle facilities improvements consistent with City standards and requirements.

Specifically, a future bus stop is proposed on the south (eastbound) side of Limonite Avenue opposite the Project site. The Applicant will coordinate with the City and RTA for provision of crosswalks at both the intersections of Archibald Avenue at Limonite Avenue and Driveway 4 at Limonite Avenue facilitating pedestrian/bicycle access to the future bus stop.

Based on the preceding, the potential for the Project to conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *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.*

Impact Analysis: The Project site is located within the Chino Airport Influence Area. Germane to the Project, the Riverside County Airport Land Use Compatibility Plan Policy

Document (ALUCP) establishes various policies and compatibility maps for individual ALUCP airports, including Chino Airport (Airport).

The Project is subject to official review by the Riverside County Airport Land Use Commission. Additionally, because amendment to existing Zoning designations is proposed by the Project, consistent with the City of Eastvale Zoning Code, the Eastvale City Council must make a finding that the amendment(s) is/are consistent with the most recent adopted version of the ALUCP.

The Project does not propose or require facilities or programs that would increase or otherwise modify air traffic volumes or air traffic patterns. The Project does not propose or require development or operations that would conflict with state law, federal regulations and/or adopted master plans and land use compatibility plans for Chino Airport. Nor does the Project propose elements or aspects that would interfere with or obstruct City coordination with laws, regulations or plans for Chino Airport. The Project does not propose or require amendment to the ALUCP. Nor would the Project otherwise interfere or obstruct administration and maintenance of the ALUCP.

The Project would comply with applicable Compatibility Zone provisions of the ALUCP including building height limitations, occupancy limitations, and landscaping restrictions. The Project would also comply with applicable Airport Influence Area design standards and regulations articulated in the Eastvale Municipal Code. Please refer also to related discussions presented in EIR Section 4.1, *Land Use and Planning*; and Section 4.7, *Hazards/Hazardous Materials*.

As supported by the preceding discussion, the potential for the Project to 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 is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or result in inadequate emergency access.*

Impact Analysis: To ensure appropriate design and implementation of all Project circulation improvements, the final design of the Project site plan, to include locations and design of proposed driveways, shall be reviewed and approved by the City Traffic Engineer. In addition, representatives of the City's Police and Fire Departments would review the Project's plans to ensure that emergency access is provided consistent with Department(s) requirements. Efficient and safe access within, and access to, the Project is provided by the site plan design concept, site access improvements, and site adjacent roadway improvements included as components of the Project. On-site traffic signing and striping would be implemented in conjunction with detailed construction plans for the Project site. Sight distance at each project access point would be reviewed to ensure conformance with City sight distance standards at the time of preparation of final grading, landscape and street improvement plans. Based on the preceding, the implemented Project inclusive of the design features discussed herein and noted in EIR Section 3.0 *Project Description*, 3.6.4 *Access and Circulation*, would not substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or result in inadequate emergency access.

In addition to the above considerations, a queuing analysis was conducted along the site adjacent roadways of Archibald Avenue and Limonite Avenue for Horizon Year (2040) traffic conditions to determine the turn pocket lengths necessary to accommodate 95th percentile queues. The analysis was conducted for weekday AM and weekday PM peak hours.

A vehicle is considered queued whenever it is traveling at less than 10 feet/second. A vehicle will only become queued when it is either at the stop bar or behind another queued vehicle. Although only the 95th percentile queue has been utilized for purposes of determining the necessary turn pocket storage lengths, the 50th percentile queues are also reported. The 50th percentile queue is the maximum back of queue on a typical cycle

during the peak hour, while the 95th percentile queue is the maximum back of queue with 95th percentile traffic volumes during the peak hour. The storage length recommendations for the driveway turning movements are identified in TIA Exhibit 1-5. Please refer also to the Horizon Year (2040) queuing results provided in TIA Appendix 1.2. The Project driveways queuing analysis also demonstrates the following:

- The proposed spacing between the future signalized intersection at Archibald Avenue at Victoria Lane and the proposed signalized intersection of Archibald Avenue at Driveway 1 is anticipated to be sufficient to accommodate the 95th percentile queues within the through lanes between these intersections.

- The queuing analysis (in conjunction with the peak hour intersection operations analysis presented herein) also indicates that right-in/right-out access at Driveway 3 on Limonite Avenue is feasible and is functionally comparable to other right-in/right-out driveways throughout the City.

It is also recognized that temporary and short-term traffic detours and traffic disruption could result during Project construction activities. Management and control of construction traffic would be addressed through the preparation of a construction area traffic management plan to be submitted to the City prior to or concurrent with Project building plan review(s). The Project Construction Traffic Management Plan (Plan), also summarized within the EIR Project Description, would identify traffic controls for any street closures, detours, or other potential disruptions to traffic circulation during Project construction. The Plan would also be required to identify construction vehicle access routes, and hours of construction traffic. Please refer also to EIR Section 3.0, *Project Description*, 3.6.4.5 *Construction Traffic Management Plan.*

As supported by the preceding discussions and information presented in the EIR Project Description, the potential for the Project to substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or result in inadequate emergency access is considered less-than-significant.

Level of Significance: Less-Than-Significant.

4.3 AIR QUALITY

4.3 AIR QUALITY

Abstract

This Section identifies and addresses potential air quality impacts that may result from construction and implementation of the Project. More specifically, the air quality analysis evaluates the potential for the Project to result in the following impacts:

- *Conflict with or obstruct implementation of the applicable air quality plan;*
- *Violate any air quality standard or contribute substantially to an existing or projected air quality violation;*
- *Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard, including releasing emissions which exceed quantitative thresholds for ozone precursors;*
- *Expose sensitive receptors to substantial pollutant concentrations; or*
- *Create objectionable odors affecting a substantial number of people.*

The current (2016) South Coast Air Quality Management District (SCAQMD) Air Quality Management Plan (AQMP) does not reflect land uses and development intensities proposed by the Project. For this reason, the Project operational-source emissions could delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP. Additionally, Project operational-source air pollutant emissions would be potentially greater than

what is reflected within the AQMP regional emissions inventory for the Basin. Based on the preceding, the Project is considered to be inconsistent with AQMP.

The Project would generate operational-source emissions of Oxides of Nitrogen (NO_x) that would exceed applicable SCAQMD regional thresholds. Moreover, the Project is located within ozone and PM_{10}/$PM_{2.5}$ nonattainment areas (NO_x is a precursor to ozone and PM_{10}/$PM_{2.5}$). Project operational-source NO_x emissions exceedances would therefore result in a cumulatively considerable net increase in criteria pollutants (ozone and PM_{10}/$PM_{2.5}$) for which the Project region is nonattainment. These are significant and unavoidable air quality impacts.

Other potential air quality impacts of the Project are either less-than-significant or can be reduced to levels that are less-than-significant with application of the mitigation measures recommended herein.

4.3.1 INTRODUCTION

This Section presents existing air quality conditions and identifies potential air quality impacts resulting from construction and operation of the Project. Local and regional climate, meteorology and air quality are discussed, as well as existing federal, state and regional air quality regulations. The information presented in this Section is summarized from *The Merge Air Quality Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018 (Project AQIA); and *The Merge Air Mobile Source Health Risk Assessment, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018 (Project HRA). The Project AQIA and Project HRA, including all supporting air quality modeling data, are presented in their entirety in EIR Appendix C.

4.3.2 AIR QUALITY FUNDAMENTALS

Air pollution comprises many substances generated from a variety of sources, both man-made and natural. Industrialization occurring in the twentieth century, and especially activities relying on the burning of fossil fuels, creates air pollution. Most air pollutant contaminants are wasted energy in the form of unburned fuels or by-products of the combustion process. Motor vehicles are by far the most significant source of air pollutants

in urban areas, emitting photochemically reactive hydrocarbons (unburned fuel), carbon monoxide, and oxides of nitrogen. These primary pollutants chemically react in the atmosphere with sunlight and the passage of time to form secondary pollutants such as ozone.

Although substantive air quality improvements have been made in California over the past twenty years, Southern California still experiences severe air pollution problems. As discussed in greater detail in the following paragraphs, oxidants and suspended particulates represent the major air quality problems within the South Coast Air Basin.

Air pollutants are generally classified as either primary or secondary pollutants. Primary pollutants are generated daily and emitted directly from the source, whereas secondary pollutants are created over time and occur within the atmosphere as chemical and photochemical reactions take place. Examples of primary pollutants include carbon monoxide (CO), oxides of nitrogen (NO_2 and NO), sulfur dioxide (SO_2), particulate matter (PM_{10} and $PM_{2.5}$), and various hydrocarbons or reactive organic gases (ROG). Examples of secondary pollutants include ozone (O_3), which is a product of the reaction between NO_x and ROG in the presence of sunlight. Other secondary pollutants include photochemical aerosols.

To aid in the review of discussions presented subsequently in this Section, recurring terms, abbreviations, and acronyms are defined as follows: PPM - Parts per Million; $\mu g/m^3$ - Micrograms Per Cubic Meter; PM_{10} - Particulate Matter Less Than 10 Microns In Diameter; $PM_{2.5}$ - Particulate Matter Less Than 2.5 Microns In Diameter.

4.3.2.1 Criteria Air Pollutants

Criteria air pollutants are those air contaminants for which air quality standards currently exist. Currently, state and federal air quality standards exist for ozone, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), suspended particulate matter (PM_{10} and $PM_{2.5}$), and lead. California has also set standards for visibility, sulfates, hydrogen sulfide, and vinyl chloride. Evaluated criteria air contaminants, or their precursors, typically also include reactive organic gases (ROG), oxides of nitrogen (NO_x), sulfur

oxides (SO_x), and respirable particulate matter (PM_{10}, $PM_{2.5}$). Pollutant characteristics, mechanisms of pollutant origination and potential health effects of air pollutants are described below.

Carbon Monoxide

Properties and Sources

Carbon monoxide (CO) is a colorless, odorless, toxic gas formed by incomplete combustion of fossil fuels. CO levels tend to be highest during the winter mornings, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, motor vehicles operating at slow speeds are the primary source of CO in the Basin. The highest CO concentrations are generally found near congested transportation corridors and intersections. Other sources include aircraft, off-road vehicles, stationary equipment (e.g., fuel-fired furnaces, gas water heaters, fireplaces, gas stoves, gas dryers, charcoal grills), and landscape maintenance equipment such as lawnmowers and leaf blowers.

Human Health Effects

A consistent association between increased ambient CO levels and higher-than-average rates of hospital admissions for heart diseases (such as congestive heart failure) has been observed. Carbon monoxide can cause decreased exercise capacity, and adversely affects conditions with an increased demand for oxygen supply (fetal development, chronic hypoxemia, anemia, and diseases involving the heart and blood vessels). Exposure to CO can cause impairment of time interval estimation and visual function.

Ozone

Properties and Sources

Ozone (O_3) is a highly reactive and unstable gas that is formed when volatile organic compounds (VOC) and oxides of nitrogen (NO_x), which are both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when

direct sunlight, light wind, and warm temperature conditions are favorable to the formation of the pollutant.

Human Health Effects

Short-term exposure to ozone can cause a decline in pulmonary function in healthy individuals including breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue and immunological changes. Additionally, an increase in the frequency of asthma attacks, cough, chest discomfort and headache can result.

A correlation has been reported between elevated ambient ozone levels and increases in daily hospital admission rates and mortality because of long-term ozone exposure. A risk to public health implied by altered connective tissue metabolism and host defense in animals has also been reported.

Oxides of Nitrogen

Properties and Sources

Oxides of nitrogen (NO_x) are integral to the process of photochemical smog production. During combustion, oxygen reacts with nitrogen to produce NO_x. Two major forms of NO_x are nitric oxide (NO) and nitrogen dioxide (NO_2). Natural causal sources or originators of NO_x include lightning, soils, wildfires, stratospheric intrusion, and the oceans. Natural sources accounted for approximately seven percent of 1990 emissions of NO_x for the United States (EPA 1997). Atmospheric deposition of NO_x occurs when atmospheric or airborne nitrogen is transferred to water, vegetation, soil, or other materials. Acid deposition involves the deposition of nitrogen and/or sulfur acidic compounds that can harm natural resources and materials. The major source of NO_x in the Basin is on-road vehicles. Stationary commercial and service source fuel combustion are other contributors.

Human Health Effects

Exposure to NO_x may alter sensory responses or impair pulmonary function and may increase incidence of acute respiratory disease including infections and respiratory symptoms in children. Difficulty in breathing in healthy individuals as well as bronchitic groups may also occur. NO_x is also a precursor to ozone and PM_{10}/$PM_{2.5}$. As noted above, health effects of ground-level ozone include: aggravated asthma; reduced lung capacity; increased respiratory illness susceptibility; increased respiratory and cardiovascular hospitalizations; and premature deaths.

Sulfur Dioxide

Properties and Sources

Sulfur dioxide (SO_2) is a colorless, pungent gas. At levels greater than 0.5 ppm, SO_2 has a strong odor. Sulfuric acid is formed from sulfur dioxide, which is an aerosol particle component that affects acid deposition. Anthropogenic, or human-caused, sources include fossil-fuel combustion, mineral ore processing, and chemical manufacturing. Volcanic emissions are a natural source of sulfur dioxide. SO_2 is a precursor to sulfates and PM_{10}.

Human Health Effects

Health effects of SO_2 include higher frequencies of acute respiratory symptoms (including airway constriction in some asthmatics and reduction in breathing capacity leading to severe difficulties) and diminished ventilatory function in children. Extreme exposure can cause lung edema (fluid accumulation), lung tissue damage, and damage to lining the respiratory tract.

Particulate Matter

Properties and Sources

Particulate matter is a generic term that defines a broad group of chemically and physically different particles (either liquid droplets or solids) that can exist over a wide range of sizes. Examples of atmospheric particles include those produced from

combustion (diesel soot or fly ash), light (urban haze), sea spray (salt particles), and soil-like particles from re-suspended dust. Fugitive dust is defined as any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly because of human activities (Rule 403, Fugitive Dust, SCAQMD).

Within air quality analyses, particulate matter is categorized by diameter: PM_{10} and $PM_{2.5}$. PM_{10} refers to particulate matter that is 10 microns or less in diameter (1 micron is one millionth of a meter, or one micrometer [µm]). $PM_{2.5}$ refers to particulate matter that is 2.5 microns or less in diameter. The size of particles can determine the residence time of the material in the atmosphere. $PM_{2.5}$ has a longer atmospheric lifetime than PM_{10} and, therefore, can be transported over longer distances.

Particulate matter originates from a variety of stationary and mobile sources. Stationary sources that generate particulate matter include: fuel combustion for electric utilities, residential space heating, and industrial processes; construction and demolition; metals, minerals, and petrochemicals; wood products processing; mills and elevators used in agriculture; erosion from tilled lands; waste disposal and recycling. Mobile or transportation-related sources that generate particulate matter include highway vehicles, non-road vehicles and fugitive dust from paved and unpaved roads.

Human Health Effects

A consistent correlation between elevated ambient PM_{10} levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed.[1]

Diesel Particulate Matter (DPM), a subcategory of particulate matter, is a mixture of many exhaust particles and gases that is produced when an engine burns diesel fuel. Many compounds found in diesel exhaust are carcinogenic, including sixteen compounds that are classified as possibly carcinogenic by the International Agency for Research on Cancer. DPM includes the particle-phase constituents in diesel exhaust. Some short-term

[1] www.aqmd.gov/docs/default-source/planning/air-quality-guidance/appendix-c.pdf

(acute) effects of diesel exhaust include eye, nose, throat and lung irritation, as well as coughs, headaches, light-headedness and nausea. Diesel exhaust is a major source of ambient particulate matter pollution, and numerous studies have linked elevated particle levels in the air to increased hospital admission, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. DPM in the Basin poses the greatest cancer risk of all identified toxic air pollutants.

Reactive Organic Gases

Properties and Sources

Reactive Organic Gases (ROGs) (also termed Volatile Organic Compounds [VOCs]) are defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. It should be noted that there is no state or national ambient air quality standard for ROGs because they are not classified as criteria pollutants. They are regulated, however, because a reduction in ROG emissions reduces certain chemical reactions that contribute to the formulation of ozone. ROGs are also transformed into organic aerosols in the atmosphere, which contribute to higher PM_{10} and lower visibility. The major sources of ROGs in the Basin are on-road motor vehicles and solvent evaporation. ROGs are also an ozone and $PM_{10}/PM_{2.5}$ precursor.

Human Health Effects

As described previously, health effects of ground-level ozone include: aggravated asthma; reduced lung capacity; increased respiratory illness susceptibility; increased respiratory and cardiovascular hospitalizations; and premature deaths.

Benzene is an ROG and a known carcinogen. Typical sources of benzene emissions include: gasoline service stations (fuel evaporation), motor vehicle exhaust, tobacco smoke, and oil and coal incineration. Benzene is also sometimes employed as a solvent for paints, inks, oils, waxes, plastic, and rubber. It is used in the extraction of oils from seeds and nuts. It is also used in the manufacture of detergents, explosives, dyestuffs, and pharmaceuticals. Short-term (acute) exposure to high doses from inhalation of benzene

may cause dizziness, drowsiness, headaches, eye irritation, skin irritation, and respiratory tract irritation, and at higher levels, unconsciousness can occur. Long-term (chronic) occupational exposure to high doses by inhalation has caused blood disorders, including aplastic anemia and lower levels of red blood cells.

4.3.3 SETTING

4.3.3.1 Local and Regional Climate

The Project site lies within the South Coast Air Basin and the jurisdiction of SCAQMD. The SCAQMD was created by the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Act, the SCAQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and state air quality standards. The SCAQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-county Basin (Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino Counties), and the Riverside County portions of the Salton Sea Air Basin and Mojave Desert Air Basin.

The approximately 6,745-square-mile SoCAB is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Los Angeles County portion of the Mojave Desert Air Basin is bounded by the San Gabriel Mountains to the south and west, the Los Angeles/Kern County border to the north, and the Los Angeles/San Bernardino County border to the east. The Riverside County portion of the Salton Sea Air Basin is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley.

Regional climate and variations in temperature, wind, humidity, precipitation, and amount of sunshine influence air quality within the SoCAB. The annual average temperatures throughout the Basin vary from the low to mid 60s (degrees Fahrenheit). Due to a decreased marine influence, the eastern portion of the SoCAB experiences greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the SoCAB, with average minimum temperatures of 47°F

in downtown Los Angeles and 36°F in San Bernardino. All portions of the SoCAB have recorded maximum temperatures above 100°F.

Although the climate of the SoCAB can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of SoCAB climate. Humidity restricts visibility in the SoCAB, and the conversion of sulfur dioxide to sulfates is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity within the SoCAB is 71 percent along the coast and 59 percent inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. It should be noted that these effects decrease with distance from the coast.

More than 90 percent of the SoCAB's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to fourteen inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the SoCAB, with frequency being higher near the coast.

Due to its generally clear weather, about three-quarters of available sunshine is received in the SoCAB. The remaining one-quarter is absorbed by clouds. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. On the shortest day of the year there are approximately 10 hours of possible sunshine, and on the longest day of the year there are approximately 14-½ hours of possible sunshine.

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of the air pollutants. During the late autumn to early spring rainy season, the SoCAB is subjected to wind flows associated with the traveling storms moving through the region from the northwest. This period also brings five to ten periods of strong, dry offshore winds, locally termed "Santa Anas,"

each year. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind.

Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Another characteristic wind regime in the SoCAB is the "Catalina Eddy," a low level cyclonic (counterclockwise) flow centered over Santa Catalina Island which results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal areas.

In the SoCAB, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing which effectively acts as an impervious lid to pollutants over the entire SoCAB. The mixing height for the inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter, when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as NO_x and CO from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline.

4.3.3.2 Existing Air Quality

Existing air quality is monitored and evaluated in the context of National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). These Standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. For further information regarding NAAQS and CAAQS currently in effect, please refer to the Project Air Quality Impact Analysis, Table 2-1, *Ambient Air Quality Standards*; and http://www.arb.ca.gov/research/aaqs/aaqs.htm. The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the state and federal standards.

Regional Air Quality

The SCAQMD monitors levels of various criteria pollutants at 38 permanent monitoring stations and 5 single-pollutant source Lead (Pb) air monitoring sites throughout the air district. In 2015, the federal and state ambient air quality standards (NAAQS and CAAQS) were exceeded on one or more days for ozone, PM_{10}, and $PM_{2.5}$ at most monitoring locations. No areas of the Basin exceeded federal or state standards for NO_2, SO_2, CO, sulfates or lead. Attainment designations for the SoCAB are provided in Table 4.3-1.

Table 4.3-1
SoCAB Attainment Status-City of Eastvale

Criteria Pollutant	State Designation	Federal Designation
Ozone – 1 hour standard	Nonattainment	No Standard
Ozone – 8 hour standard	Nonattainment	Nonattainment (Extreme)
PM_{10}	Nonattainment	Attainment (Maintenance)
$PM_{2.5}$	Nonattainment	Nonattainment (Serious)
Carbon Monoxide	Attainment	Attainment (Maintenance)
Nitrogen Dioxide	Attainment	Attainment (Maintenance)
Sulfur Dioxide	Attainment	Attainment
Lead	Attainment	Attainment

Source: *The Merge Air Quality Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018.

Local Air Quality

Relative to the Project area, the nearest long-term air quality monitoring site for Particulate Matter ≤10 microns (PM_{10}) is the SCAQMD Corona/Norco Area monitoring station, located approximately 3.86 miles southeasterly of the Project area in Norco (SRA 22). The nearest long-term air quality monitoring site for Ozone (O_3), Carbon Monoxide (CO), Nitrogen Dioxide (NO_2), and Particulate Matter ≤2.5 microns ($PM_{2.5}$) is the SCAQMD Metropolitan Riverside County monitoring station, located approximately 10.50 miles northeasterly of the Project area in Riverside (SRA 23). Currently, data for 2017 is not available on the SCAQMD website. As such, 2017 data for O_3, PM_{10}, and $PM_{2.5}$ was obtained from the Air Resource Board (ARB) website. It should be noted that the Metropolitan Riverside County monitoring station was utilized in lieu of the Corona/Norco Area monitoring station only in instances where data was not available from the Corona/Norco Area site.

For informational purposes, the most recent three years of available air quality monitoring data is shown in Table 4.3-2. Table 4.3-2 identifies the number of days ambient air quality standards were exceeded for the study area, which is considered to be representative of the local air quality in the Project area. Data for SO_2 has been omitted as attainment is regularly met in the Basin and few monitoring stations measure SO_2 concentrations.

Table 4.3-2
Ambient Air Quality Conditions

Pollutant	Standard	Year		
		2015*	2016*	2017**
Ozone (O_3)				
Maximum 1-Hour Concentration (ppm)		0.132	0.142	0.145
Maximum 8-Hour Concentration (ppm)		0.105	0.104	0.119
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	31	33	47
Number of Days Exceeding State 8-Hour Standard	> 0.07 ppm	59	71	82
Number of Days Exceeding Federal 8-Hour Standard	> 0.07 ppm	55	69	81
Number of Days Exceeding Health Advisory	≥ 0.15 ppm	0	0	0
Carbon Monoxide (CO)				

Table 4.3-2
Ambient Air Quality Conditions

Pollutant	Standard	Year		
		2015*	2016*	2017**
Maximum 1-Hour Concentration (ppm)		2.5	1.7	--
Maximum 8-Hour Concentration (ppm)		2.3	1.3	--
Number of Days Exceeding State 1-Hour Standard	> 20 ppm	0	0	0
Number of Days Exceeding Federal / State 8-Hour Standard	> 9.0 ppm	0	0	0
Number of Days Exceeding Federal 1-Hour Standard	> 35 ppm	0	0	0
Nitrogen Dioxide (NO_2)				
Maximum 1-Hour Concentration (ppm)		0.057	0.073	--
Annual Arithmetic Mean Concentration (ppm)		0.014	0.028	--
Number of Days Exceeding State 1-Hour Standard	> 0.18 ppm	0	0	--
Particulate Matter ≤ 10 Microns (PM_{10})				
Maximum 24-Hour Concentration ($\mu g/m^3$)		87	62	137.6
Number of Samples		44	51	--
Number of Samples Exceeding State Standard	> 50 $\mu g/m^3$	3	7	102.5
Number of Samples Exceeding Federal Standard	> 150 $\mu g/m^3$	0	0	0
Particulate Matter ≤ 2.5 Microns ($PM_{2.5}$)				
Maximum 24-Hour Concentration ($\mu g/m^3$)				
Annual Arithmetic Mean ($\mu g/m^3$)				
Number of Samples Exceeding Federal 24-Hour Standard	> 35 $\mu g/m^3$			

Source: SCAQMD's Air Quality Data Tables
-- = data not available from ARB
*Data for 2015 and 2016 obtained from SCAQMD.
** Data for 2017 obtained from ARB

4.3.4 REGULATORY BACKGROUND

4.3.4.1 Federal Regulations

The U.S. Environmental Protection Agency (EPA) is responsible for setting and enforcing the NAAQS for O_3, CO, NO_x, SO_2, PM_{10}, and lead. The U.S. EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental

Shelf). The U.S. EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of the California Air Resource Board (CARB).

The Federal Clean Air Act (CAA) was first enacted in 1955, and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the NAAQS, and specifies future dates for achieving compliance. The CAA also mandates that states submit and implement State Implementation Plans (SIPs) for local areas not meeting these standards. These plans must include pollution control measures demonstrating how standards would be met.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the Project site include Title I (Nonattainment Provisions) and Title II (Mobile Source Provisions).

Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants O_3, NO_2, SO_2, PM_{10}, CO, $PM_{2.5}$, and lead. The NAAQS were amended in July 1997 to include an additional standard for O_3 and to adopt a NAAQS for $PM_{2.5}$.[2]

Mobile source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and nitrogen oxides (NO_x). NO_x is a collective term that includes all forms of nitrogen oxides (NO, NO_2, NO_3) which are emitted as byproducts of the combustion process.

[2] Current NAAQS are identified in the Project Air Quality Impact Analysis. See: Table 2-1, *Ambient Air Quality Standards*, or can be accessed at: http://www.arb.ca.gov/research/aaqs/aaqs.htm.

4.3.4.2 California Regulations

The CARB, which became part of the California EPA in 1991, is responsible for ensuring implementation of the California Clean Air Act (AB 2595), responding to the federal CAA, and for regulating emissions from consumer products and motor vehicles. The California CAA mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources to attain the state ambient air quality standards by the earliest practical date. The CARB established the CAAQS for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for sulfates, visibility, hydrogen sulfide, and vinyl chloride. At present, hydrogen sulfide and vinyl chloride are not measured at any monitoring stations in the SoCAB because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS.

Local air quality management districts, such as the SCAQMD, regulate air emissions from commercial and light industrial facilities. All air pollution control districts have been formally designated as attainment or nonattainment for each CAAQS.

Serious nonattainment areas are required to prepare air quality management plans that include specified emission reduction strategies to meet clean air goals. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;

- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g., motor vehicle use generated by residential and commercial development);

- A District-permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;

- Implementing reasonably available transportation control measures and assuring a substantial reduction in growth rate of vehicle trips and miles traveled;

- Significant use of low emissions vehicles by fleet operators;

- Sufficient control strategies to achieve a five percent or more annual reduction in emissions or 15 percent or more in a period of three years for ROGs, NO_x, CO and PM_{10}. However, air basins may use alternative emission reduction strategy that achieves a reduction of less than five percent per year under certain circumstances.

4.3.4.3 Regional Air Quality Management Planning

Currently, the NAAQS and CAAQS are exceeded in most parts of the SoCAB. In response, the SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the state and federal ambient air quality standards. AQMPs are updated regularly to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy. Further discussion on the AQMP and Project consistency with the AQMP is provided subsequently in Section 4.3.6, *Potential Impacts and Mitigation Measures*.

4.3.5 STANDARDS OF SIGNIFICANCE

As identified within the *CEQA Guidelines*, air quality impacts would be considered potentially significant if the Project would:

- Conflict with or obstruct implementation of the applicable air quality plan;

- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

- Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard, including releasing emissions which exceed quantitative thresholds for ozone precursors.

- Expose sensitive receptors to substantial pollutant concentrations; or

- Create objectionable odors affecting a substantial number of people.

4.3.5.1 SCAQMD Thresholds

To determine if a given project would cause a significant effect on air quality, the impact of the project must be determined by examining the types and levels of emissions generated and their impacts on factors that affect air quality. To accomplish this determination of significance, the SCAQMD has established air pollution thresholds against which a proposed project can be evaluated and assist lead agencies in determining if the impacts of a project are significant. If the project's air pollutant emissions exceed applicable SCAQMD thresholds, then the impact should be considered significant. While the final determination of significance thresholds is within the purview of the lead agency, the SCAQMD recommends that its regional and local air quality thresholds for regulated pollutants (summarized below) be employed by lead agencies in determining whether criteria air pollutant emissions impacts generated by construction or operations of a given project are significant.

Regional Thresholds

SCAQMD regional thresholds are summarized in Table 4.3-3. SCAQMD CEQA Air Quality Significance Thresholds (March 2015) indicate that projects in the SoCAB with daily emissions that exceed applicable regional thresholds should be considered to result in individually and cumulatively significant regional air quality impacts.

Table 4.3-3
Maximum Daily Emissions Regional Thresholds

Pollutant	Construction	Operational
NO_x	100 lbs./day	55 lbs./day
VOC	75 lbs./day	55 lbs./day
PM_{10}	150 lbs./day	150 lbs./day
$PM_{2.5}$	55 lbs./day	55 lbs./day
SO_x	150 lbs./day	150 lbs./day
CO	550 lbs./day	550 lbs./day
Lead	3 lbs./day	3 lbs./day

Source: *The Merge Air Quality Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018.

Conversely, projects in the SoCAB resulting in emissions not exceeding applicable regional thresholds should be considered to result in individually and cumulatively less-than-significant regional air quality impacts.

Carbon Monoxide Concentrations (CO "hot spots") Thresholds

CO "hot spots" are areas of carbon monoxide concentrations exceeding national or state air quality standards. CO hotspots typically occur because of excessive vehicular idling, often associated with traffic backups at underperforming intersections or congested roadway links. SCAQMD also recommends an evaluation of potential localized CO "hot spot" impacts for projects that may adversely affect, or substantially contribute to, level of service impacts along area roadway segments or at area intersections. Based on the SCAQMD's *CEQA Air Quality Handbook* (1993), a project's localized CO emissions impacts would be significant if they exceed the following California standards for localized CO concentrations:

- 1-hour CO standard of 20.0 parts per million (ppm);
- 8-hour CO standard of 9.0 ppm.

Localized Significance Thresholds (LSTs)

The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses. LSTs apply to carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter less than 10 microns (PM_{10}), and particulate matter less than 2.5 microns ($PM_{2.5}$). LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable national or state ambient air quality standard (NAAQS or CAAQS) at the nearest residence or sensitive receptor.

Health Risk Assessment (HRA) Thresholds

Carcinogenic Risks

Under SCAQMD thresholds, impacts of Toxic Air Contaminants (TACs) are considered potentially significant if a Health Risk Assessment (HRA) shows an increased cancer risk of greater than 10 incidents per million population.

Noncarcinogenic Risks

Noncarcinogenic risks are numerically expressed as a Hazard Index (HI), with a threshold HI of 1.0. Per SCAQMD thresholds, noncarcinogenic Hazard Indices calculated to be greater than 1.0 are considered potentially significant.

4.3.6 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.3.6.1 Introduction

The following discussions focus on areas where it has been determined that the Project may result in potentially significant air quality impacts, based on comments received through the NOP process, and the analysis presented within this Section. Under all air quality topical issues listed in *CEQA Guidelines* Appendix G, Project impacts were determined to be potentially significant warranting further analysis, and are discussed below.

4.3.6.2 Impact Statements

Following is an analysis of potential air quality impacts that are expected to result from the Project. Potential emissions are considered for Project construction and operation. For each topical discussion, potential impacts are evaluated under applicable criteria established above in Section 4.3.5, *Standards of Significance*.

Potential Impact: *Conflict with or obstruct implementation of the applicable air quality plan.*

Impact Analysis: The Project is located within the SoCAB, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743-square-mile area consisting of the four-county SoCAB and the Los Angeles County and Riverside County portions of what used to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the SCAG, county transportation commissions, and local governments, as well as state and federal agencies, to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, these state and federal air quality standards are exceeded in most parts of the Basin. In response, the SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) outlining strategies to achieve state and federal ambient air quality standards. AQMPs are periodically updated to reflect technological advances, recognize new or pending regulations, more effectively reduce emissions, accommodate growth, and minimize any negative fiscal impacts of air pollution control on the economy.

In March 2017, the AQMD released the Final 2016 AQMP. The 2016 AQMP incorporates the latest scientific and technical information and planning assumptions, including the 2016 Regional Transportation Plan/Sustainable Communities Strategy ("2016 RTP/SCS") and updated emission inventory methodologies for various source categories. Air quality conditions and trends presented in the 2016 AQMP assume that regional development will occur in accordance with population growth projections identified by SCAG in the 2016 RTP/SCS.

The SCAG 2016 RTP/SCS in turn derives its assumptions, in part, from general plans of cities located within the SCAG region. Accordingly, if a project is consistent with the development and growth projections reflected in the adopted general plan, it is considered consistent with the growth assumptions in the SCAG 2016 RTP/SCS and 2016 AQMP. The 2016 AQMP further assumes that development projects within the region will implement appropriate strategies to reduce air pollutant emissions, thereby promoting timely implementation of the AQMP.

Criteria for determining consistency with the AQMP are identified in Chapter 12, Section 12.2 and Section 12.3 of the SCAQMD's *CEQA Air Quality Handbook* (1993), as listed below. Project consistency with, and support of these criteria is presented subsequently.

- **Criterion No. 1:** The project under consideration will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

- **Criterion No. 2:** The project under consideration will not exceed the assumptions in the AQMP based on the years of Project build-out phase.

Criterion No. 1: The violations that Criterion No. 1 refers to are the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). The CAAQS and NAAQS comprise Localized Significance Thresholds (LSTs). As discussed subsequently in this Section, the Project LST analysis substantiates that Project mitigated construction-source emissions would not exceed applicable LSTs. And even without mitigation, operational-source emissions would not exceed applicable LSTs. Further, the Project would implement applicable best available control measures (BACMs), and would comply with applicable SCAQMD rules, acting to further reduce potential LST impacts. On this basis, the Project would not result in an increase in the frequency or severity of existing air quality violations, or cause or contribute to new violations.

With regard to timely attainment of AQMP air quality standards and interim emissions, the Project site's current General Plan Land Use designation is "Light Industrial" (LI). The Light Industrial General Plan Land Use, which is reflected in the 2016 AQMP, would allow for development of a "wide variety of industrial and related uses, including assembly and light manufacturing, repair and other service facilities, warehousing, distribution centers, and supporting retail uses" (Eastvale General Plan, p. 3-12).

To allow for development of the Project commercial/retail uses, approximately 10.8 acres located in the southerly portion of the Project site would be re-designated as a Commercial Retail (CR) General Plan Land Use. The remainder of the Project site (approximately 15.4 acres) would retain its current General Plan Land Use designation (LI).

Accordingly, the 2016 AQMP, which assumes the Project site would be developed with Light Industrial uses only, does not reflect the Project's proposed split Light Industrial/ Commercial Retail General Plan Land Use designations. Nor do the 2016 AQMP air quality standards and interim emissions reductions targets reflect the Project's proposed General Plan Land Use designations. For this reason, there lacks an opportunity to determine whether or not the Project would delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

In conclusion, the Project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations. However, because the Light Industrial General Plan Land Use land use designation reflected in the 2016 AQMP differs from the split Light Industrial/Commercial Retail General Plan Land Use designations proposed under the Project, there is no opportunity to determine whether or not the Project would delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP. As the Project's potential to delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP is indeterminate and cannot be assured at this time, for the purposes of this analysis, the Project is considered to be inconsistent with Criterion No. 1.

Criterion No. 2: Criterion No. 2 addresses consistency of a given project with approved local and regional land use plans, and associated potential AQMP implications. That is, AQMP emissions models and emissions control strategies are based in part on land use data provided by local general plan documentation; and regional plans, which reflect and incorporate local general plan information. Projects that propose general plan amendments may increase the intensity of use and/or result in higher traffic volumes, thereby resulting in increased stationary area source emissions and/or vehicle source

emissions when compared to the AQMP assumptions. However, if a given project is consistent with and does not otherwise exceed the growth projections in the applicable local general plan, then that project would be considered consistent with the growth assumptions in the AQMP.

Criterion No. 2 addresses consistency of a given project with approved local and regional land use plan and associated potential AQMP implications. That is, AQMP emissions models and emissions control strategies are based in part on land use data provided by local general plan documentation; and regional plans, which reflect and incorporate local general plan information. Projects that propose general plan amendments may increase the intensity of use and/or result in higher traffic volumes, thereby resulting in increased stationary area source emissions and/or vehicle source emissions when compared to the AQMP assumptions. However, if a given project is consistent with and does not otherwise exceed the growth projections in the applicable local general plan, then that project would be considered consistent with the growth assumptions in the AQMP.

As noted above, the current Light Industrial General Plan Land use designation for the Project site would be amended to Light Industrial/Commercial Retail to allow for the various Project light industrial and commercial/retail uses.

The 2016 AQMP does not reflect land uses and potential increased development intensities proposed by the Project site. For this reason, the Project land uses could generate operational-source air pollutant emissions that are different than or greater than are reflected within the current 2016 AQMP regional emissions inventory for the Basin. Based on the preceding, the Project is considered to be inconsistent with AQMP Consistency Criterion No. 2.

AQMP Consistency Summary and Conclusion

The Project would be inconsistent with AQMP Criterion No's. 1 and 2, resulting in a determination that impacts in this regard would be considered significant. The Project would implement development-specific air quality mitigation measures identified in this

analysis, acting to generally reduce the Project's construction-source and operational-source air pollutant emissions. Additionally, incorporation of contemporary energy-efficient technologies and operational programs, and compliance with SCAQMD emissions reductions and control requirements act to reduce Project air pollutant emissions generally.

In combination, the Project air quality mitigation measures; and Project emissions-reducing design features, and operational programs are consistent with and support overarching AQMP air pollution reduction strategies. Project support of these strategies promotes timely attainment of AQMP air quality standards and would bring the Project into conformance with the AQMP to the extent feasible. Notwithstanding, based on the analysis presented here, the Project is considered to be inconsistent with applicable AQMP Consistency Criteria.

Level of Significance: ***Significant and Unavoidable.***

Potential Impact: *Violate any air quality standard or contribute substantially to an existing or projected air quality violation.*

Impact Analysis: The latest SCAQMD/California Air Pollution Control Officers Association (CAPCOA)-approved version of the California Emissions Estimator Model (CalEEMod, v2016.3.2) was utilized to estimate Project-related air pollutant emissions levels. Project emissions levels were then compared to applicable SCAQMD thresholds to determine if air quality standards would be violated; or if Project emissions would contribute substantially to existing or projected air quality violations. Unless otherwise noted, CalEEMod default values and assumptions were applied throughout.

Regional Impacts

Construction-Source Air Pollutant Emissions

Typical Project construction activities (listed below) would generate emissions of CO, VOC, NO_x, SOx, PM_{10}, and $PM_{2.5}$.

- Site Preparation;
- Grading;
- Building Construction;
- Paving;
- Architectural Coating; and
- Materials Deliveries and Construction Workers Commuting.

Modeled construction-source emissions levels reflect peak levels of construction activity and equipment use, and account for construction worker commutes and vendor deliveries. Estimated maximum daily Project construction-source emissions are summarized in Table 4.3-4. Construction-source air pollutant emissions impacts associated with implementation of any off-site utility and infrastructure improvements activities would not exceed maximum emissions impacts identified for Project-related construction activities. As such, no impacts beyond what has already been identified in this report are expected to occur.

Table 4.3-4
Construction-Source Emissions Summary
Maximum Daily (lbs./day)

Year	Pollutants					
	VOC	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
2019	5.94	68.17	34.73	0.09	11.04	6.75
2020	32.80	61.30	43.73	0.12	5.94	3.23
Maximum Daily Emissions	**32.80**	**68.17**	**43.73**	**0.12**	**11.04**	**6.75**
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

Source: *The Merge Air Quality Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018.

As indicated in Table 4.3-4, maximum daily Project construction-source air pollutant emissions would not exceed the applicable SCAQMD regional threshold for VOC emissions and would therefore be less-than-significant.

Level of Significance: Less-Than-Significant.

Operational-Source Air Pollutant Emissions

Project operations would result in emissions of ROG, NO_x, CO, SO_X, PM_{10}, and $PM_{2.5}$. Operational emissions would be expected from area, energy, and mobile sources.

Each of these operational emissions sources are described in the following paragraphs, and the estimated emissions from each source are summarized subsequently. Unless otherwise noted, CalEEMod default parameters were employed throughout.

Area Source Emissions

Architectural Coatings

Over a period of time the buildings that are part of this Project will be subject to emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings as part of Project maintenance.

Consumer Products

Consumer products include, but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which when released in the atmosphere can react to form ozone and other photochemically reactive pollutants.

Landscape Maintenance Equipment

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project.

Energy Source Emissions

Electricity and natural gas are used by almost every project. Criteria pollutant emissions are emitted through the generation of electricity and consumption of natural gas. However, because electrical generating facilities for the Project area are located either outside the region (state) or offset through the use of pollution credits (RECLAIM) for generation within the Basin, criteria pollutant emissions from offsite generation of electricity is generally excluded from the evaluation of significance and only natural gas use is considered.

Mobile Source Emissions

Project vehicular impacts are dependent on both overall daily vehicle trip generation and the effect of the Project on peak hour traffic volumes and traffic operations in the vicinity of the Project. Project-related operational air quality impacts derive primarily from vehicle trips. Vehicle mix, and vehicle trip lengths, and vehicle miles traveled (VMT) reflected in the Project mobile source air pollutant emissions estimates comply with applicable SCAQMD and SCAG guidance and methodologies and reflect the likely maximum impact scenario.

Operational Emissions Summary

Maximum daily Project operational-source air pollutant emissions are summarized in Table 4.3-5. Applicable SCAQMD regional significance thresholds are also indicated.

Table 4.3-5
Operational-Source Emissions Summary
Maximum Daily Winter/Summer (lbs./day)

Emissions Sources	Pollutants					
	VOC	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Summer Scenario						
Area Sources (Warehouse)	7.52	3.20E-04	0.03	0.00	1.20E-04	1.20E-04
Area Sources (Commercial)	1.98	4.00E-04	0.04	0.00	1.60E-04	1.60E-04
Energy Sources (Warehouse)	0.02	0.18	0.15	1.10E-03	0.01	0.01
Energy Sources (Commercial)	0.15	1.40	1.18	8.43E-03	0.11	0.11
Mobile Sources (Warehouse)	1.61	36.93	20.77	0.21	11.35	3.23
Mobile Sources (Commercial)	25.70	166.49	175.58	0.68	40.75	11.21
Total Maximum Daily Emissions	**36.98**	**205.01**	**197.76**	**0.90**	**52.22**	**14.56**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	No	**YES**	No	No	No	No
Winter Scenario						
Area Sources (Warehouse)	7.52	3.20E-04	0.03	0.00	1.20E-04	1.20E-04
Area Sources (Commercial)	1.98	4.00E-04	0.04	0.00	1.60E-04	1.60E-04
Energy Sources (Warehouse)	0.02	0.18	0.15	1.10E-03	0.01	0.01
Energy Sources (Commercial)	0.15	1.40	1.18	8.43E-03	0.11	0.11
Mobile Sources (Warehouse)	1.50	38.08	18.42	0.21	11.35	3.23
Mobile Sources (Commercial)	21.23	163.47	166.09	0.62	40.76	11.22
Total Maximum Daily Emissions	**32.40**	**203.14**	**185.93**	**0.84**	**52.24**	**14.57**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	No	**YES**	No	No	No	No

Source: *The Merge Air Quality Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018.

Level of Significance: Potentially Significant. As indicated in Table 4.3-5, unmitigated Project operational-source emissions would exceed the applicable SCAQMD regional threshold for NO_x. This is a potentially significant impact.

Mitigation Measures: NO_x emissions are byproducts of fuel combustion, and the primary source of these emissions from the Project are tail pipe emissions from vehicles

accessing the site. Neither the Project Applicant nor Lead Agency has any regulatory control over these vehicular-source emissions. Rather, vehicular-source NO_x emissions are regulated by CARB and USEPA. CARB and USEPA regulatory action have effectively reduced NO_x emissions from vehicle sources over the past years. Further reductions in these and other vehicular-source emissions are anticipated as clean vehicle and fuel technologies improve. No feasible mitigation measures exist that would reduce Project operational-source NO emissions to levels that are less-than- significant. Project operational-source NOx emissions exceedances of applicable SCAQMD regional thresholds are therefore considered significant and unavoidable. Mitigation Measures listed below are incorporated in the Project and would act to generally reduce operational-source NOx emissions. As a conservative measure, and because quantified emissions reductions that could result from these measures are not well-defined, no "credit" has been taken for their implementation.[3]

4.3.1 The truck access gates and loading docks within the truck court on the Project site shall be posted with signs which state:

- *Truck drivers shall turn off engines when not in use;*
- *Diesel delivery trucks servicing the Project shall not idle for more than five (5) minutes; and*
- *Telephone numbers of the building facilities manager and the CARB to report violations.*

4.3.2 Final site designs shall incorporate the following:

- *Site design shall allow for trucks to check-in within the facility area to prevent queuing of trucks outside the facility.*
- *Signs shall be posted in loading dock areas that instruct truck drivers to shut down the engine after 300 seconds (5 minutes) of continuous idling operation once the vehicle is stopped, the transmission is set to "neutral" or "park", and the parking brake is engaged.*

[3] Further NOx emissions reductions could result from availability and use of alternative transportation modes (bicycling, buses). Consistent with conservative methodologies employed in the EIR TIA, no modal-split trip reductions have been assumed (see: TIA p. 88). Related reductions in vehicular-source emissions have not been assumed.

4.3.3 The Final Project site design shall incorporate electric vehicle charging stations. A minimum of 10 charging stations shall be provided, distributed throughout the Project site.

4.3.4 The Final Project site design shall incorporate preferential parking spaces assigned to employee carpool vehicles. A minimum of 20 preferential parking spaces for employee carpools shall be provided, with the majority of these spaces provided in the light industrial portion of the Project site.

Level of Significance After Mitigation: ***Significant and Unavoidable.***

Regional Air Quality Impact Summary

As substantiated in the preceding discussions, Project construction-source emissions would not exceed applicable SCAQMD regional thresholds. Project construction-source emissions impacts would therefore be less-than-significant. Project operational-source NO_x emissions would exceed applicable SCAQMD regional thresholds. Project operational-source NO_x exceedances would therefore be a significant and unavoidable Project air quality impact.

Localized Impacts

Localized Significance Threshold (LST) Analysis

The SCAQMD considers localized air quality impacts to be potentially significant if exceedances of federal and/or state ambient air quality standards (NAAQS/CAAQS) would occur. Collectively, the NAAQS/CAAQS establish Localized Significance Thresholds (LSTs).

LSTs were developed in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4. More specifically, to address potential Environmental Justice implications of localized air pollutant impacts, the SCAQMD adopted LSTs indicating whether a project would cause or contribute to localized air quality impacts and thereby cause or contribute to potential localized adverse health effects. LSTs represent the

maximum project-source emissions that would not cause or contribute to an exceedance of the most stringent National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). These Standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. Though not required, lead agencies may employ LSTs as another indicator of significance in air quality impact analyses.

Methodology/Emissions Considered

The Project's Air Quality Analysis utilizes the methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (Methodology) (SCAQMD, June 2003). The SCAQMD Methodology clearly states that "off-site mobile emissions from the Project should NOT be included in the emissions compared to LSTs." For purposes of the LST analysis, only CalEEMod "on-site" emissions were considered. LSTs apply to CO, NO_2, PM_{10}, and $PM_{2.5}$.

Receptors

Localized air quality impacts were evaluated at sensitive receptor land uses. Proximate receptor land uses, and their relation to the Project site(s) are presented in Figure 4.3-1. Nearby sensitive receptors include existing residential homes as described below. The closest sensitive receiver locations are represented by receptors R3 and R4.

R1: Located approximately 135 feet north of the Project site, R1 represents existing residential homes and outdoor living areas (backyards).

R2: Location R2 represents existing residential homes north of the Project site at roughly 112 feet and outdoor living areas (backyards).

R3: Location R3 represents recently constructed residential homes and outdoor living areas (backyards) at roughly 10 feet east of the Project site.

Source: Urban Crossroads, Inc.

Figure 4.3-1
Proximate Receptor Land Uses

R4: Location R4 represents recently constructed residential homes and outdoor living areas (backyards) at roughly 10 feet east of the Project site.

R5: Location R5 represents existing residential homes located roughly 512 feet southeast of the Project site across Limonite Avenue.

R6: Location R6 represents existing agricultural use w/residential home located approximately 220 feet west of the Project site on Archibald Avenue.

The Methodology explicitly states that "it is possible that a project may have receptors closer than 25 meters." Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters." Accordingly, LSTs for nearby residential land uses were established at 25 meters.

Construction-Source Emissions LST Analysis

The Project LST analysis of construction-source emissions employs the SCAQMD LST "mass rate lookup tables." In summary, the "lookup tables" establish allowable emissions (lbs./day) as a function of receptor distance (meters) from a construction site boundary. Related, the SCAQMD has issued guidance on applying CalEEMod to LST analyses employing the lookup tables. In this regard, CalEEMod calculates construction-source emissions (off-road exhaust and fugitive dust) based on equipment daily operational hours and the estimated maximum daily soil disturbance for each piece of equipment.

In order to determine the appropriate methodology for determining localized impacts that could occur as a result of Project-related construction, the following process is undertaken:

- CalEEMod is utilized to determine the maximum daily on-site emissions that will occur during construction activity.

- The SCAQMD Fact Sheet for Applying CalEEMod to Localized Significance Thresholds is used to determine the maximum site acreage that is actively disturbed. Area of disturbance is based on the construction equipment fleet and equipment hours as estimated in CalEEMod. The Project AQIA determined that the Project would actively disturb approximately 3.5 acres per day during site preparation, and 4.0 acres per day during the grading phase of construction.

- If the total acreage disturbed is less than or equal to five acres per day, then the SCAQMD's screening look-up tables are employed to evaluate localized emissions impacts. The look-up tables establish a maximum daily emissions threshold in pounds per day that can be compared to CalEEMod outputs.

SCAQMD's Methodology clearly states that "off-site mobile emissions from the Project should NOT be included in the emissions compared to LSTs." Therefore, for purposes of the construction LST analysis, only emissions included in the CalEEMod "on-site" emissions outputs were considered. Table 4.3-6 summarizes maximum daily localized construction-source emissions impacts at the nearest sensitive receptor. As indicated in Table 4.3-6, Project construction-source emissions (site preparation) would exceed the SCAQMD's localized significance thresholds for emissions of PM_{10}. This is a potentially significant impact.

Table 4.3-6
Localized Construction-Source Emissions

	Emissions (pounds per day)			
	NO_x	**CO**	**PM_{10}**	**$PM_{2.5}$**
Site Preparation Emissions				
Maximum Daily Emissions	68.11	23.14	**10.84**	6.69
SCAQMD Localized Threshold*	220	1,354	9	7
Threshold Exceeded?	No	No	**YES**	No
Grading Emissions				
Maximum Daily Emissions	65.83	33.93	6.47	3.91

Table 4.3-6
Localized Construction-Source Emissions

	Emissions (pounds per day)			
	NO_x	**CO**	**PM_{10}**	**$PM_{2.5}$**
SCAQMD Localized Threshold*	220	1,354	9	7
Threshold Exceeded?	No	No	No	No

Source: *The Merge Air Quality Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018.
Note: * The LST methodology presents mass emission rates for each SRA, project sizes of 1, 2, and 5 acres, and nearest receptor distances of 25, 50, 100, 200, and 500 meters. For project sizes between the values given, or with receptors at distances between the given receptors, the methodology uses linear interpolation to determine the thresholds.

Level of Significance: Potentially Significant.

Mitigation Measure:

4.3.5 *During site preparation and grading activity, all actively graded areas within the Project site shall be watered at 2.1-hour watering intervals (e.g., 4 times per day) or a movable sprinkler system shall be in place to ensure minimum soil moisture of 12% is maintained for actively graded areas. Moisture content may be verified with use of a moisture probe, or by other means determined acceptable by the Lead Agency.*

Level of Significance After Mitigation: Less-Than-Significant. Table 4.3-7 identifies the maximum daily localized construction-source emissions impacts at the nearest receptor, as mitigated. As indicated in Table 4.3-7, with the implementation of proposed mitigation, maximum-daily construction-source emissions would not exceed applicable LSTs.

Table 4.3-7
Localized Construction-Source Emissions (Mitigated)

	Emissions (pounds per day)			
	NO_x	**CO**	**PM_{10}**	**$PM_{2.5}$**
Site Preparation Emissions				
Maximum Daily Emissions	68.11	23.14	8.22	5.37
SCAQMD Localized Threshold*	220	1,354	9	7

Table 4.3-7
Localized Construction-Source Emissions (Mitigated)

	Emissions (pounds per day)			
	NO_x	**CO**	**PM_{10}**	**$PM_{2.5}$**
Threshold Exceeded?	No	No	No	No
Grading Emissions				
Maximum Daily Emissions	65.83	33.93	5.20	3.42
SCAQMD Localized Threshold*	220	1,354	9	7
Threshold Exceeded?	No	No	No	No

Source: *The Merge Air Quality Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018.
Note: *Localized thresholds are interpolated values from the SCAQMD "Look Up" Table thresholds based on Project site disturbance acreages. For example, during site preparation, Project site disturbance would total approximately 3.5 acres/day. The nearest receptor per the SCAQMD LST methodology is established at 25 meters. The Look Up Table NOx threshold for SRA 22, 5 acres disturbance, receptor distance 25 meters is 270 lbs. per day. The Look Up table NOx threshold for SRA 22, 2 acres disturbance, receptor distance 25 meters is 170 lbs. per day. The interpolated SRA 22 NOx threshold value for 3.5 acres disturbance, receptor distance 25 meters is 220 lbs./day. Other threshold values are similarly established.

Operational-Source Emissions LST Analysis

The Operational-Source Emissions LST Analysis includes on-site sources only; however, CalEEMod outputs do not separate on-site and off-site emissions from mobile sources. In an effort to establish a maximum potential impact scenario for analytic purposes, the Project on-site operational-source emissions estimates include emissions from all on-site Project-related stationary (area) sources and five percent (5%) of the Project-related mobile sources. Considering that the weighted trip length used in CalEEMod for the Project is approximately 16.6 miles for passenger cars and 50 miles for trucks, 5% of this total would represent an on-site travel distance of approximately 0.83 mile/ 4,383 feet for each passenger car and approximately 2.50 miles/ 13,200 feet for each truck. Thus the 5% assumption is conservative and would tend to overstate the actual impact.

The 25-meter receptor distance is utilized to determine the LSTs for emissions of CO, NO_2, PM_{10}, and $PM_{2.5}$. LSTs applied to operational-source emissions are based on the SCAQMD's mass-rate LST lookup tables for a five-acre site. Even though the Project site is than greater than five acres, use of the five-acre LST criteria in effect concentrates otherwise dispersed on-site operational-source emissions and thereby overstates rather than understates localized impacts from operational sources.

Table 4.3-8 presents Project localized operational-source emissions compared with the LSTs. As indicated, modeling based on the above conservative assumptions demonstrates that Project operational-source emissions would not exceed applicable LSTs, and would therefore be less-than-significant.

Table 4.3-8
Localized Operational-Source Emissions

	Emissions (pounds per day)			
	NO_x	**CO**	**PM_{10}**	**$PM_{2.5}$**
Maximum Daily Emissions	11.67	10.64	2.73	0.84
SCAQMD Localized Threshold	270	1,700	3	2
Threshold Exceeded?	No	No	No	No

Source: *The Merge Air Quality Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018.

Level of Significance: Less-Than-Significant.

CO "Hot Spot" Analysis

Adverse localized CO concentrations ("hot spots") are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentrations in the Project vicinity have declined over time.

To establish a more accurate record of baseline CO concentrations affecting the Basin, a CO "hot spot" analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon traffic periods. Peak hour traffic volumes reflected in the 2003 Los Angeles CO hot spot analysis are presented in Table 4.3-9. The 2003 Los Angeles CO hot spot analysis did not predict any violation of CO standards (please refer to Table 4.3-10). Further, these reported concentrations actually overstated potential

effects of mobile sources.[4] It can, therefore, be reasonably concluded that projects (such as the proposed Project) that are not subject to the extremes in vehicle volumes and vehicle congestion that was evidenced in the 2003 Los Angeles hot spot analysis would similarly not result in CO hot spots.

Traffic volumes generating the CO concentrations for the "hot spot" analysis are shown in Table 4.3-9. The busiest intersection evaluated was that at Wilshire Blvd. and Veteran Ave., which has a daily traffic volume of approximately 100,000 vehicles per day, and AM/PM traffic volumes of 8,062 vehicles per hour and 7,719 vehicles per hour respectively. The 2003 AQMP estimated that the 1-hour concentration for this intersection was 4.6 ppm; this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations (4.6 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm).[5]

Table 4.3-9
2003 Los Angeles Study-Peak Hour Intersection Traffic Volumes

Intersection Location	Peak Traffic Volumes (vehicles per hour)				
	Northbound (AM/PM)	Southbound (AM/PM)	Eastbound (AM/PM)	Westbound (AM/PM)	Total (AM/PM)
Wilshire-Veteran	560/933	721/1,400	4,954/2,069	1,830/3,317	8,062/7,719
Sunset-Highland	1,551/2,238	2,304/1,832	1,417/1,764	1,342/1,540	6,614/5,374
La Cienega-Century	821/1,674	1,384/2,029	2,540/2,243	1,890/2,728	6,634/8,674
Long Beach-Imperial	756/1,150	479/944	1,217/2,020	1,760/1,400	4,212/5,514

Source: *The Merge Air Quality Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018.

[4] Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the Basin were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. As evidence of this, for example, 8.4 ppm CO concentration measured at the Long Beach Blvd. and Imperial Hwy. intersection (highest CO generating intersection within the "hot spot" analysis), only 0.7 ppm was attributable to the traffic volumes and congestion at this intersection; the remaining 7.7 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared. Therefore, even if the traffic volumes for the Project were double or even triple of the traffic volumes generated at the Long Beach Blvd. and Imperial Hwy. intersection, coupled with the on-going improvements in ambient air quality, the Project would not be capable of resulting in a CO "hot spot" at any Study Area intersections.

[5] Based on the ratio of the CO standard (20.0 ppm) and the modeled value (4.6 ppm).

Table 4.3-10
2003 Los Angeles Study-Hot Spot Model Results

Intersection Location	Carbon Monoxide Concentrations (parts /million, ppm)		
	Morning 1-hour	Afternoon 1-hour	8-hour
Wilshire-Veteran	4.6	3.5	4.2
Sunset-Highland	4.0	4.5	3.9
La Cienega-Century	3.7	3.1	5.8
Long Beach-Imperial	3.0	3.1	9.3
1-hour Threshold	20.0	20.0	---
8-hour threshold	---	---	9.0
Threshold Exceeded?	No	No	No

Source: *The Merge Air Quality Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018.

At buildout of the Project, as shown on Exhibit 9-3 of the Project TIA, the highest average daily trips on a segment of road would be 51,200 daily trips on Archibald Avenue and Merrill Avenue, which is lower than the highest daily traffic volumes at Wilshire Blvd. and Veteran Ave. of 100,000 vehicles per day. Additionally, the highest AM/PM trips on a segment of road would be 6,630 vehicles per hour and 7,007 vehicles per hour respectively, which is lower than the highest AM/PM traffic volumes at Wilshire Blvd. and Veteran Ave. of 8,062 vehicles per hour and 7,719 vehicles per hour.

The Project would not produce the volume of traffic required to generate a CO "hot spot" either in the context of the 2003 Los Angeles hot spot study, or based on representative Bay Area Air Quality Management District (BAAQMD) CO threshold considerations, as shown in Table 4.3-11. Therefore, CO "hot spots" are not an environmental impact of concern for the proposed Project. Localized air quality impacts related to mobile-source emissions would therefore be less than significant.

It is further noted that as the result of the SCAQMD Air Quality Management Plan strategies and requirements, levels of all criteria pollutant (including CO) within the Basin have steadily improved and are expected to continue to do so, further reducing the potential for occurrence of CO hot spots.

Table 4.3-11
TIA Study Area Intersection Maximum Peak Hour Traffic Volumes

Intersection Location	Northbound (AM/PM)	Southbound (AM/PM)	Eastbound (AM/PM)	Westbound (AM/PM)	Total (AM/PM)
Archibald Ave./Merrill Ave.	2,314/2,467	1,893/2,151	925/1,758	368/495	5,500/6,871
Archibald Ave./Limonite Ave.	2,060/1,969	1,931/3,039	---	1,705/2,072	5,696/7,080
Archibald Ave./Schleisman Rd.	1,866/1,581	1,827/2,167	1,611/2,591	1,326/143	6,630/7,007
Hamner Ave./Limonite Ave.	1,116/1,613	1,375/2,031	1,818/1,683	1,643/2,411	5,952/7,738

Source: *The Merge Air Quality Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018.

Level of Significance: Less-Than-Significant.

TOXIC AIR CONTAMINANTS HEALTH RISK ANALYSIS

Toxic Air Contaminants (TACs) of primary concern for the Project would comprise Diesel Particulate Matter (DPM) emissions generated by delivery trucks accessing the Project site; and potential Toxic Air Contaminants (TAC) generated by the Project retail gasoline dispensing operations. Project DPM sources and TACs associated with retail gasoline dispensing operations are discussed below. Potential health risks of Project-related DPM emissions and retail gasoline dispensing operations are described and evaluated subsequently.

Diesel Particulate Matter (DPM) Emissions

The Project would generate truck traffic, a portion of which may be diesel-powered. DPM emissions are known carcinogens and could increase area health risks. Accordingly, an analysis of potential long-term diesel exposure health risks is provided. To this end, the Project Health Risk Assessment (included in EIR Appendix C) characterizes and quantifies potential diesel emissions generated by, and health risk exposure resulting from, Project operations.

Trip generation characteristics presented in the Project TIA (*The Merge Traffic Impact Analysis, City of Eastvale* [Urban Crossroads, Inc.] August 24, 2018) were utilized in the Project HRA. As substantiated in the Project TIA, the Project is expected to generate a net

total of approximately 6,737 trip-ends per day (actual vehicles). The Project trip generation estimates include 117 truck trip-ends per day, including 16.67% 2-axle trucks, 20.69% 3-axle trucks, and 62.64% 4+-axle trucks for the warehouse uses. The HRA appropriately relies on the Project trips (as opposed to the passenger car equivalents) to accurately account for the effect of individual truck trips on the environment.

Vehicle DPM emissions were estimated using emission factors for particulate matter less than 10μm in diameter (PM_{10}) generated with the 2014 version of the EMission FACtor model (EMFAC) developed by the ARB. EMFAC 2014 is a mathematical model that was developed to calculate emission rates from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the ARB to project changes in future emissions from on-road mobile sources. The most recent version of this model, EMFAC 2014, incorporates regional motor vehicle data, information and estimates regarding the distribution of vehicle miles traveled (VMT) by speed, and number of starts per day. Please refer also to the Project HRA for detailed modeling assumptions and protocols.

The Project is required to comply with CARB's on-site truck idling limit of 5 minutes. SCAQMD staff recommends that HRA's assume a minimum of 15 minutes of on-site truck idling, accounting for potential protracted on-site idling which could occur at loading/unloading areas, or other areas or instances where on-site truck traffic movements may be impeded or delayed. Consistent with SCAQMD recommendations, the Project HRA analysis assumed on-site truck idling for a period of 15 minutes.

DPM Carcinogenic and Chronic Illness Impacts

The SCAQMD *CEQA Air Quality Handbook* (1993) states that emissions of Toxic Air Contaminants (TACs) are considered significant if a Health Risk Assessment shows an increased cancer risk of greater than 10 incidents per million population. Consistent with the stated SCAQMD *Handbook* cancer risk threshold, for the purposes of this analysis, an increase in cancer risk of 10 incidents per million population is considered significant. Also germane to the Project HRA, specific guidance in determining health risks from

diesel emissions is provided in *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis* (SCAQMD) 2003.

Receptor health risks associated with exposure to carcinogenic compounds are defined in terms of the probability of developing cancer as a result of exposure to a chemical at a given concentration. The cancer risk probability is determined by multiplying the chemical's annual concentration by its Unit Risk Factor (URF). The URF employed in the Project HRA is the ARB-adopted diesel exhaust URF of 300 in one million per μg/m3. This URF is based upon the upper 95 percentile of estimated risk for each of the epidemiological studies utilized to develop the URF. Using the 95th percentile URF represents a very conservative (health-protective) risk posed by DPM. The risk estimates assume sensitive receptors will be subject to DPM for 24 hours a day, 350 days a year.

Receptors may be placed at applicable structure locations for residential and worker property and not the necessarily the boundaries of these uses. It should be noted that the primary purpose of receptor placement is focused on long-term exposure. For example, the HRA evaluates the potential health risks to residential and worker receptors over a period of 30 or 25 years of exposure respectively. As such, even though such exposures are unlikely to occur in practical terms (because the amount of time spent indoors), the HRA assumes that a resident or worker would be exposed daily for 12 + hours over decades.

Furthermore, receptors immediately adjacent to the Project site have been evaluated in the HRA. Any impacts to receptors located further away from the Project site than the modeled receptors would have a lesser impact than that identified in the HRA.

Discrete variants for daily breathing rates, exposure frequency, and exposure duration were obtained from relevant distribution profiles presented in the 2015 California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (OEHHA) Guidelines.

Please refer also to the Project HRA presented in EIR Appendix C for greater detail regarding calculated DPM exposures and resulting health DPM-source cancer risks. Consistent with OEHHA guidance and SCAQMD HRA protocols, Project-related DPM-source cancer risks were evaluated for three exposure scenarios: "Residential," "Worker," and "School Site/School Child." OEHHA exposure assumptions for each scenario are summarized in Table 4.3-12.

Table 4.3-12
Cancer Risk Exposure Assumptions

Exposure Assumptions For Individual Cancer Risk (Residential)						
Age	Daily Breathing Rate (L/kg-day)	Age-Specific Factor	Exposure Duration (years)	Fraction of Time at Home	Exposure Frequency (days/year)	Exposure Time (hours/day)
-0.25 to 0	273	10	0.25	0.85	350	24
0 to 2	758	10	2	0.85	350	24
2 to 16	572	3	14	0.72	350	24
16 to 30	261	1	14	0.73	350	24
Exposure Assumptions for Individual Cancer Risk (Worker)						
16 to 41	271	1	25	---	250	12
Exposure Assumptions for Individual Cancer Risk (School Site/School Child)[6]						
4 to 13	572	3	9	---	180	12

Source: *The Merge Air Mobile Source Health Risk Assessment, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018.

DPM Non-Carcinogenic Exposures

An evaluation of the potential noncarcinogenic effects of chronic exposures was also conducted. Noncarcinogenic adverse health effects are evaluated by comparing a compound's annual concentration with its toxicity factor or Reference Exposure Level (REL). The REL for diesel particulates was obtained from OEHHA for this analysis. The

[6] To represent the unique characteristics of the school-based population, the assessment employed the U.S. Environmental Protection Agency's guidance to develop viable dose estimates based on reasonable maximum exposures (RME). RME's are defined as the "highest exposure that is reasonably expected to occur" for a given receptor population. As a result, lifetime risk values for the student population were adjusted to account for an exposure duration of 180 days per year for nine (9) years. The 9 year exposure duration is also consistent with OEHHA Recommendations and consistent with the exposure duration utilized in school-based risk assessments for various schools within the Los Angeles County Unified School District (LAUSD) that have been accepted by the SCAQMD.

chronic reference exposure level (REL) for DPM established by OEHHA is 5 μg/m^3 (OEHHA Toxicity Criteria Database, http://www.oehha.org/risk/chemicaldb/index.asp).

The SCAQMD has established non-carcinogenic risk parameters for use in HRAs. Non-carcinogenic risks are quantified by calculating a "hazard index," expressed as the ratio between the ambient pollutant concentration and its toxicity or Reference Exposure Level (REL). An REL is a concentration at or below which health effects are not likely to occur. A hazard index less of than one (1.0) means that adverse health effects are not expected. Within this analysis, non-carcinogenic exposures not exceeding the SCAQMD Hazard Index of 1.0 are considered less-than-significant.

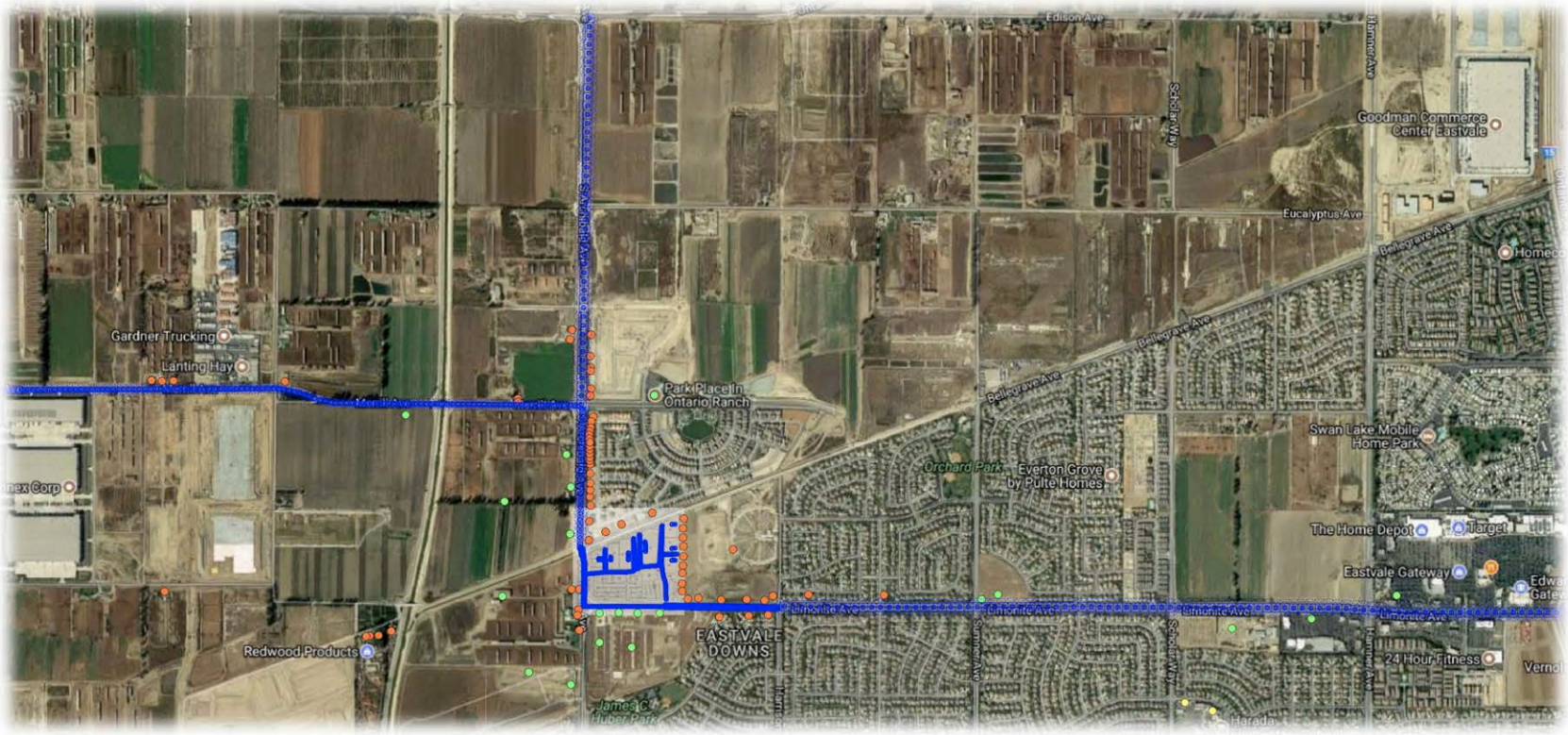
DPM Risk Exposure: Quantification Results

The Project HRA results for residential (maximally exposed individual receptor, MEIR), worker (maximally exposed individual worker, MEIW), and school site (maximally exposed individual school child, MEISC), cancer and non-cancer risk exposures are summarized below. Locations of the MEIR, MEIW, and MEISC relative to the Project site are presented in Figure 4.3-2. Please refer also to the Project HRA (included in EIR Appendix C) for detailed exposure modeling inputs and results. [7]

Residential Exposures

For the Residential Exposure Scenario, the Project HRA indicates that DPM emissions generated by the Project would have a less-than-significant health risk at the maximally impacted residential land use. More specifically, for the maximally exposed individual receptor (MEIR), the maximum risk is estimated at 2.19 in one million, which does not exceed the SCAQMD DPM-source cancer risk threshold of 10 in one million.

[7] Exposures presented here reflect maximums, either with or without completion of the planned extension of Limonite Avenue. Completion of the planned Limonite Avenue extension would tend to generally redistribute traffic within the Study Area, and would contribute traffic and associated mobile source DPM emissions at locations not otherwise affected by Project traffic, absent the completion of this roadway segment.



Source: Urban Crossroads, Inc.

Figure 4.3-2
Modeled HRA Receptor Locations

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At this same location, non-cancer risks were estimated at 0.0009, which does not exceed the SCAQMD Hazard Index of 1.0. On this basis, it is concluded that Project DPM emissions would not cause a significant human health or cancer risk at the MEIR.

Worker Exposures

For the Worker Exposure Scenario, the Project HRA indicates that DPM emissions generated by the Project would have a less-than-significant health risk at the maximally impacted worker location. More specifically, for the maximally exposed individual worker (MEIW), the maximum cancer risk is estimated at 0.49 in one million which does not exceed the SCAQMD DPM-source cancer risk threshold of 10 in one million. Maximum non-cancer risks at this same location were estimated at 0.0002, which does not exceed the SCAQMD Hazard Index of 1.0. On this basis, it is concluded that Project DPM emissions would not cause a significant human health or cancer risk at the MEIW.

School Site Exposures

For the School Child Exposure Scenario, the Project HRA indicates that DPM emissions generated by the Project will have a less-than-significant health risk at the maximally impacted school site. More specifically, for the maximally exposed individual school child (MEISC), the maximum cancer risk is estimated to be 0.03 in one million, which does not exceed the SCAQMD DPM-source cancer risk threshold of 10 in one million. Maximum non-cancer risks at this same location were estimated at 0.00002, which does not exceed the SCAQMD Hazard Index of 1.0. On this basis, it is concluded that Project DPM emissions would not cause a significant human health or cancer risk at the MEISC.

Retail Fuel Dispensing Emissions

The Project retail fuel service station operations would generate toxic air contaminants (TACs) (e.g., benzene, hexane, MTBE, toluene, xylene) that have the potential to contribute to health risk in the Project vicinity.

Standard regulatory controls would apply to the Project in addition to any permits required that demonstrate appropriate operational controls. More specifically, gasoline fueling stations are required by the SCAQMD Rule 461, *Gasoline Storage and Dispensing*,

to include an enhanced vapor recovery and diagnostic system. The purpose of this system is to collect and store gasoline vapors during both bulk deliveries and vehicle operations. In general, fuel dispensing systems are required to include dripless nozzles that seal to the vehicle during filling. A vacuum system forces the vapors created by the vehicle filling back to the underground storage tank (UST). The storage tank is vented by a mechanical filtration system that scrubs and neutralizes the vapors before their release.

Similarly, during bulk delivery operations, the delivery truck's filling tubes are sealed to the storage tank and all vapors are returned to the UST. This process stems the release of vapors. The vapors created by the filling operation are then subject to mechanical scrubbing and neutralization prior to release. The final component of the vapor recovery process is the diagnostic system. This electronic system provides 24-hour monitoring of the vapor recovery system, including collection of vapors during fueling operations and assurances that vapors in the UST are not leaking. The system identifies failures automatically, notifies the station operator, and reduces emissions by early detection and prompt repair.

Emissions resulting from the retail fuel service station have the potential to result in toxic air contaminants (TACs) (e.g., benzene, hexane, MTBE, toluene, xylene) and have the potential to contribute to health risk in the project vicinity. It should be noted that standard regulatory controls would apply to the project in addition to any permits required that demonstrate appropriate operational controls. Based on discussion with the Applicant, the Project retail fueling operations would have a maximum annual throughput not to exceed 2,000,000 gallons.

Retail Fuel Dispensing Risk Exposure: Quantification Results

For purposes of this evaluation, cancer risk estimates based on this assumed throughout have been made consistent with the methodology presented in SCAQMD's *Risk Assessment Procedures for Rules 1401, 1401.1 & 212*, which provides screening-level risk estimates for gasoline dispensing operations. The Project site is located within Source Receptor Area (SRA) 22. Based on the established screening procedure it is estimated

that the maximum risk attributable to the Project retail fuel dispensing would be 1.74 in one million at the nearest residential receptor and 0.14 in one million at the nearest worker receptor. These risks exposures do not exceed the SCAQMD cancer risk threshold of 10 in one million. Risks at school receptors, the nearest of which is located more than one-mile from the Project site, would be non-detectable. The SCAQMD Risk Assessment protocol does not allow for definitive calculation of non-cancer risks from retail fuel dispensing operations. Given the nominal cancer-risk exposure noted above, little or no incremental non-cancer risks would be anticipated from the Project retail fuel dispensing operations. On this basis, it is concluded that Project retail fuel dispensing operations emissions would not cause a significant human health or cancer risk at residential, worker, or school site receptor locations.

Total Project Health Risk Impacts

Project operations would yield a total maximum increased cancer risk exposure of 5.67 incidents per million population (includes effects of DPM emissions and retail fuel dispensing). The applicable SCAQMD significance threshold for Project-level TAC-source cancer risk impacts is 10 incidents per million population. The 5.67 incidents per million population increment resulting from the Project is therefore less-than-significant.

The maximum non-cancer risk would total 0.0009, and would not exceed the SCAQMD Hazard Index of 1.0. The non-cancer risk exposure resulting from the Project is therefore less-than-significant.

Level of Significance: Less-Than-Significant.

Localized Air Quality Impact Analysis Summary

As substantiated by the preceding discussions, maximum Project construction-source and operational-source emissions would not exceed applicable SCAQMD LSTs at the nearest sensitive receptors. Nor would the Project create or result in localized CO hot spots. Further, Project TACs would not result in or cause potentially significant health risks. On this basis, the potential for the Project's localized emissions to violate any air

quality standard or contribute substantially to an existing or projected air quality violation is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard, including releasing emissions which exceed quantitative thresholds for ozone precursors.*

Impact Analysis: The Project area is designated as a nonattainment area for ozone, PM_{10}, and $PM_{2.5}$. Pertinent to these nonattainment conditions, the Project-specific evaluation of emissions presented previously demonstrates that the Project's construction-source emissions would not exceed SCAQMD thresholds with implementation of mitigation. Project construction-source emissions would therefore not contribute to a cumulatively considerable net increase in PM_{10}, $PM_{2.5,}$ or the PM_{10}, $PM_{2.5,}$ and ozone precursors VOC and NO_x within the encompassing nonattainment areas.

However, Project operational-source NO_x emissions would exceed applicable SCAQMD thresholds. NO_x is an ozone and $PM_{10}/PM_{2.5}$ precursor.

The fact that the Project generates long-term emissions of NO_x exceeding applicable SCAQMD thresholds indicates that the Project impact is significant on an individual basis and would therefore contribute to cumulatively significant ozone and $PM_{10}/PM_{2.5}$ air quality impacts within the affected nonattainment areas. On this basis, Project operational-source emissions of NO_x in exceedance of applicable SCAQMD regional thresholds would result in a cumulatively considerable net increase in criteria pollutants within a nonattainment area. This is a potentially significant cumulative air quality impact. Please refer also to the discussion of cumulative air quality impacts presented at EIR Section 5.0, *Other CEQA Considerations*.

Level of Significance: Potentially Significant.

Mitigation Measures: No feasible mitigation measures exist that would substantively reduce Project operational-source NOx threshold exceedances.

Level of Significance After Mitigation: ***Significant and Unavoidable.*** Operational-source NO_x emission exceedances would persist, and would be cumulatively considerable. Please refer also to previous discussions regarding Project operational-source NO_x emissions.

Potential Impact: *Expose sensitive receptors to substantial pollutant concentrations.*

Impact Analysis: Sensitive receptors can include uses such as long-term health care facilities, rehabilitation centers, and retirement homes. Residences, schools, playgrounds, child care centers, and athletic facilities can also be considered as sensitive receptors.

Results of the LST analysis indicate that mitigated Project construction-source emissions would not exceed the SCAQMD localized significance thresholds. On this basis, sensitive receptors would not be subject to a significant air quality impact during Project construction.

Results of the LST analysis indicate that the Project operational-source emissions would not exceed the SCAQMD localized significance thresholds. Additionally, no CO "hotspots" would result from Project traffic during ongoing operations. Results of the Project HRA indicate that the Project would not exceed the SCAQMD cancer or non-cancer risk significance thresholds. On this basis, sensitive receptors would not be subject to a significant air quality impact during Project operations.

As supported by the preceding, with application of mitigation, the potential for the Project to expose sensitive receptors to substantial pollutant concentrations is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Create objectionable odors affecting a substantial number of people.*

Impact Analysis: The Project may generate localized odors due to construction equipment exhaust and application of asphalt and architectural coatings during construction activities. Standard construction materials use, storage, and disposal requirements would minimize odor impacts from construction. Moreover, any construction-source odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction.

Gasoline fueling stations are required by SCAQMD Rule 461, *Gasoline Storage and Dispensing*, to include an enhanced vapor recovery and diagnostic system. As previously described, the purpose of this system is to collect and store gasoline vapors during both bulk deliveries and vehicle operations, helping to prevent odors in this regard.

The Project may also generate odors associated with fast-food/restaurants, and the temporary storage of typical solid waste (refuse). Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with City solid waste regulations. Further, any other odors that may be generated during Project operations would disperse rapidly and would likely be limited to the immediate vicinity of the odor source.

Mandated compliance with SCAQMD Rule 402 (acting to minimize potential occurrences of public nuisance odors) and Rule 461 (requiring an enhanced vapor recovery and diagnostic system) ensures that the potential for the Project to create objectionable odors affecting a substantial number of people is considered less-than-significant.

Level of Significance: Less-Than-Significant.

4.4 GLOBAL CLIMATE CHANGE AND GREENHOUSE GAS EMISSIONS

4.4 GLOBAL CLIMATE CHANGE AND GREENHOUSE GAS EMISSIONS

Abstract

This Section identifies and addresses potential global climate change (GCC) and greenhouse gas (GHG) emissions impacts that may result from construction and implementation of the Project. More specifically, the analysis evaluates the potential for the Project to cause or result in the following impacts:

- *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or*

- *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

Based on the analysis presented within The Merge Greenhouse Gas Analysis, City of Eastvale *(Urban Crossroads, Inc.) August 27, 2018 (Project GHG Analysis), and summarized herein, quantified Project-source GHG emissions would exceed 3,000 $MTCO_2E$/year; and the Project cannot feasibly achieve the SCAQMD screening-level threshold of 3,000 $MTCO_2E$/year. The SCAQMD 3,000 $MTCO_2E$/year screening-level threshold is the most conservative metric available and is employed in this analysis in the evaluation of GHG emissions significance. On this basis, the Project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. Impacts in this regard are therefore considered to be significant and unavoidable.*

As also discussed in the Project GHG Analysis, and summarized herein, the Project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Project impacts in this regard would therefore be less-than-significant.

4.4.1 INTRODUCTION

Global Climate Change (GCC) is defined as the change in average meteorological conditions on the Earth with respect to temperature, precipitation, and storms. Scientific evidence suggests that GCC is the result of increased concentrations of greenhouse gases (GHG) in the atmosphere, including carbon dioxide, methane, nitrous oxide, and fluorinated gases. Most scientists believe that recent increases in greenhouse gases resulting from human activity and industrialization have accelerated and amplified GCC effects.

An individual development proposal, such as the Project considered herein, cannot generate enough greenhouse gas emissions to effect a discernible change in the global climate. However, the Project may contribute to GCC through its increment of GHG in combination with the cumulative increase in GHG from all other sources, which when taken together constitute potential influences on GCC. This Section summarizes the potential for the Project to have a significant effect upon the environment as a result of its potential contribution to GCC. Detailed analysis of the Project's potential GHG/GCC impacts is presented in *The Merge Greenhouse Gas Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018 (Project GHG Analysis); EIR Appendix D.

4.4.2 BACKGROUND

4.4.2.1 Global Climate Change

GCC refers to the change in average meteorological conditions with respect to temperature, wind patterns, precipitation and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO_2 (Carbon Dioxide), N_2O (Nitrous Oxide), CH_4 (Methane), hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. These particular gases are important due to their residence time (duration) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the atmosphere, but prevent heat from escaping, thus warming the atmosphere.

4.4.2.2 Greenhouse Gases

Gases that trap heat in the atmosphere are often referred to as GHGs. GHGs are released into the atmosphere by both natural and anthropogenic (human) activity. Without the natural greenhouse gas effect, the average temperature would be approximately 61° Fahrenheit (F) cooler than it is currently. The accumulation of these gases in the atmosphere is considered to be the cause for the observed increase in the Earth's temperature.

GHGs have varying global warming potential (GWP) values; GWP values represent the potential of a gas to trap heat in the atmosphere. Carbon dioxide is used as the reference gas for GWP, and thus has a GWP of 1. GWP and atmospheric lifetimes of typical GHGs are summarized in Table 4.4-1.

Although California's rate of growth of GHG emissions is slowing, the state is still a substantial contributor. Year over year, state GHG emissions continue to increase. As of 2016, the state GHG emissions totaled approximately 429.4 Million Metric Tons Carbon Dioxide Equivalent ($MMTCO_2e$).[1] For the purposes of this analysis, Project-related emissions of carbon dioxide, methane, and nitrous oxide were evaluated because these gases are the primary contributors to GCC from development projects. Emissions from Project facilities and stationary sources as well as emissions generated by Project-related vehicular traffic were included in the evaluation of potential GHG emissions impacts.

[1] ARB. "2000-2016 GHG Emissions Trends Report." *California Greenhouse Gas Emission Inventory - 2018 Edition*, California Air Resources Board, 11 July 2018, www.arb.ca.gov/cc/inventory/data/data.htm.

Table 4.4-1
GHG Global Warming Potentials and Atmospheric Lifetimes

GHG	Estimated Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide	50 – 200	1
Methane	9 –15	25
Nitrous Oxide	120	298
HFC-23	264	14,800
HFC-134a	14.6	1,430
HFC-152a	1.5	124
Sulfur Hexafluoride (SF6)	3,200	22,800

Source: *The Merge Greenhouse Gas Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018.

The following discussions summarize and describe commonly occurring GHGs, their sources, and general characteristics.

Water Vapor

Water vapor (H_2O) is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere, it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. A climate feedback is an indirect, or secondary, change, either positive or negative, that occurs within the climate system in response to a forcing mechanism. The feedback loop in which water is involved is critically important to projecting future climate change.

As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to 'hold' more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop." The extent

to which this positive feedback loop will continue is unknown as there are also dynamics that hold the positive feedback loop in check. For example, increased atmospheric water vapor translates to increased cloud cover and increased reflection of incoming solar radiation (thus diminishing potential radiant heating of the Earth's surface).

There are no human health effects from water vapor itself; however, when some pollutants come in contact with water vapor, they can dissolve and the water vapor can then act as a pollutant-carrying agent. The main source of water vapor is evaporation from the oceans (approximately 85 percent). Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.

Carbon Dioxide

Carbon dioxide (CO_2) is an odorless and colorless GHG. Outdoor levels of carbon dioxide are not high enough to result in negative health effects. Carbon dioxide is emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. Carbon dioxide is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks.

Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO_2 concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30 percent. Left unchecked, the concentration of carbon dioxide in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources.

Methane

Methane (CH_4) is an extremely effective absorber of radiation, though its atmospheric concentration is less than carbon dioxide and its lifetime in the atmosphere is brief (10-12 years), compared to other GHGs. No health effects are known to occur from exposure to methane.

Methane has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropogenic sources include fossil-fuel combustion and biomass burning.

Nitrous Oxide

Nitrous oxide (N_2O), also known as laughing gas, is a colorless GHG. Nitrous oxide can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's Lesions (brain damage).

Concentrations of nitrous oxide also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb). Nitrous oxide is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant (i.e., in whipped cream bottles). It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. Nitrous oxide can be transported into the stratosphere, be deposited on the Earth's surface, and be converted to other compounds by chemical reaction.

Chlorofluorocarbons

Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the Earth's surface). CFCs are no longer being used; therefore, it is not likely that health effects would be experienced. Nonetheless, in confined indoor locations, working with CFC-113 or other CFCs is thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation.

CFCs have no natural source but were first synthesized in 1928. They were used for refrigerants, aerosol propellants and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and was extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

Hydrofluorocarbons

Hydrofluorocarbons (HFCs) are synthetic, man-made chemicals that are used as a substitute for CFCs. Among the constituents classified as GHGs, they are one of three groups with the highest GWP. The HFCs with the greatest measured atmospheric abundances are (in order), HFC-23 (CHF_3), HFC-134a (CF_3CH_2F), and HFC-152a (CH_3CHF_2). Prior to 1990, the only significant emissions were of HFC-23. HFC-134a emissions are increasing due to its use as a refrigerant. The U.S. EPA estimates that concentrations of HFC-23 and HFC-134a are now about 10 parts per trillion (ppt) each; and that concentrations of HFC-152a are about 1 ppt. No health effects are known to result from exposure to HFCs, which are manmade for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur about 60 kilometers above Earth's surface, are able to destroy the

compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). The U.S. EPA estimates that concentrations of CF_4 in the atmosphere are over 70 ppt.

No health effects are known to result from exposure to PFCs. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur Hexafluoride

Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated (22,800). The U.S. EPA indicates that concentrations in the 1990s were about 4 ppt. In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing.

Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

4.4.2.3 Existing Conditions - Greenhouse Gases Emissions Inventories

Global

Worldwide anthropogenic GHG emissions are tracked by the Intergovernmental Panel on Climate Change for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). This GHG emission data for Annex I nations is available through 2011. Global GHG emissions are summarized in Table 4.4-2, and are representative of currently available inventory data.

United States

As identified in Table 4.4-2, the United States, as a single country, was the number two producer of GHG emissions in 2012. The primary GHG emitted by human activities in the United States was CO_2, representing approximately 80.9 percent of total GHG

emissions. Carbon dioxide from fossil fuel combustion is the largest source of GHG emissions in the United States.

Table 4.4-2
Global GHG Emissions by Major GHG Source Countries

Source Countries	GHG Emissions (Gg CO_2e)
China	10,975,500
United States	6,665,700
European Union (27-member countries)	4,544,224
Russian Federation	2,322,220
India	3,013,770
Japan	1,344,580
Total	**28,865,994**

Source: *The Merge Greenhouse Gas Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018.
Note: Gg = Gigagrams; 1 Gigagram = 1,000 Metric Tons

State of California

CARB compiles GHG inventories for the State of California. CARB GHG inventory data indicates that in 2014 (the most recent inventory of record) California GHG emissions totaled approximately 441.5 Million Metric Tons of Carbon Dioxide Equivalent (MMTCO2e).

Project Site

The Project site currently supports agricultural uses, and is used for the growing of a variety of crops from time to time. Various management practices on agricultural soils can lead to increased availability of nitrogen in the soil and result in GHG emissions (N_2O).

Specific activities that contribute to N_2O emissions from agricultural lands include application of synthetic and organic fertilizers, growth of nitrogen-fixing crops, drainage of organic soil, and irrigation practices. Conversely, management of croplands and grasslands can also foster sequestration of GHG emissions (carbon dioxide, CO_2).

For the purposes of this analysis, the current Project site generation and sequestration of GHG emissions are considered to offset. The Project site in its current state is not a substantive source of GHG emissions.

4.4.2.4 Effects of Climate Change in California

Public Health

Higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation could increase from 25 to 35 percent under the lower warming range to 75 to 85 percent under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending on wind conditions. The Climate Scenarios Report indicates that large wildfires could become more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming range scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures could increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

Water Resources

A vast network of man-made reservoirs and aqueducts captures and transports water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

If temperatures continue to increase, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. Under the lower warming range scenario, snowpack losses could be only half as large as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation. It could also adversely affect winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there may be years with insufficient snow for skiing and snowboarding.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta – a major fresh water supply.

Agriculture

Increased temperatures could cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25 percent of the water supply they need. Although higher CO_2 levels can stimulate plant production and increase plant water-use efficiency, California's farmers could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate O_3 pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development

for many crops, so rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits, and nuts.

In addition, continued GCC could shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion could occur in many species while range contractions may be less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging gaps. Continued GCC could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

Forests and Landscapes

GCC has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including: precipitation, winds, temperature, terrain, and vegetation, future risks would likely not be uniform throughout the state. For example, wildfires in northern California could increase by up to 90 percent due to decreased precipitation.

Moreover, continued GCC has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60 to 80 percent by the end of the century as a result of increasing temperatures. The productivity of the state's forests has the potential to decrease as a result of GCC.

Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state's coastal regions. Under the higher warming range

scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Increased sea level elevations of this magnitude would inundate low-lying coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. Under the lower warming range scenario, sea level could rise 12 to 14 inches.

4.4.2.5 Health Effects of Greenhouse Gases

Water Vapor

There are no known direct health effects related to water vapor at this time. However, water vapor can be a transport mechanism for other pollutants to enter the human body.

Carbon Dioxide

According to the National Institute for Occupational Safety and Health (NIOSH), high concentrations of carbon dioxide can result in health effects such as: headaches, dizziness, restlessness, difficulty breathing, sweating, increased heart rate, increased cardiac output, increased blood pressure, coma, asphyxia, and/or convulsions. It should be noted that current concentrations of carbon dioxide in the earth's atmosphere are estimated to be approximately 370 ppm, while the actual reference exposure level (level at which adverse health effects typically occur) is at exposure levels of 5,000 ppm averaged over 10 hours in a 40-hour workweek and short-term reference exposure levels of 30,000 ppm averaged over a 15-minute period (NIOSH 2005).

Methane

Methane is extremely reactive with oxidizers, halogens, and other halogen-containing compounds, may displace oxygen in an enclosed space and act as an asphyxiant.

Nitrous Oxide

Nitrous Oxide is often referred to as laughing gas; it is a colorless GHG. The health effects associated with exposure to elevated concentrations of nitrous oxide include dizziness, euphoria, slight hallucinations, and in extreme cases of elevated concentrations nitrous oxide can also cause brain damage.

Fluorinated Gases (HFCs, PFCs, SF_6)

High concentrations of fluorinated gases can also result in adverse health effects such as asphyxiation, dizziness, headache, cardiovascular disease, cardiac disorders, and in extreme cases, increased mortality.

Aerosols

Health effects of aerosols are similar to those of other fine particulate matter. More specifically, aerosols can cause elevated respiratory and cardiovascular diseases and increased mortality.

4.4.2.6 GCC Regulatory Setting

The current GHG regulatory setting is extensive and constantly evolving. The GHG regulatory setting is discussed in detail within the Project GHG Analysis (GHG Analysis Section 2.7). Current aspects of the GHG regulatory setting of relevance to the Project are summarized below.

STATE OF CALIFORNIA

Overview

The State of California legislature has enacted a series of bills and associated actions, described below, that collectively act to reduce GHG emissions. Certain state legislation such as Assembly Bill (AB 32) *California Global Warming Solutions Act of 2006*, was specifically enacted to address GHG emissions. Other state legislation, such as Title 24 and Title 20 energy standards, originally adopted for other purposes (energy and water conservation), also facilitate GHG emissions reductions. Additionally, California's Executive Branch has taken several actions to reduce GHGs through the use of Executive Orders. Although not regulatory, Executive Orders set the tone for the state and guide the actions of state agencies.

AB 32. The California State Legislature enacted AB 32, which requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. GHGs, as defined under AB 32, include carbon dioxide, methane, N_2O, hydrofluorocarbons, perfluorocarbons, and sulfur

hexafluoride. Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs. The California Air Resources Board (CARB, ARB) is the state agency charged with monitoring and regulating sources of GHGs.

The ARB approved the 1990 GHG emissions level of 427 MMTCO2e on December 6, 2007 (ARB 2007). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO2e. Emissions in 2020 in a "business as usual" (BAU) scenario were estimated to be 596 MMTCO2e, which do not account for reductions from AB 32 regulations (ARB 2008). At that level, a 28.4 percent reduction was required to achieve the 427 million MTCO2e 1990 inventory. In October 2010, ARB prepared an updated 2020 forecast to account for the recession and slower forecasted growth. The forecasted inventory without the benefits of adopted regulation is now estimated at 545 million MTCO2e. Therefore, under the updated forecast, a 21.7 percent reduction from BAU is required to achieve 1990 levels (ARB 2010).

The State has made steady progress in implementing AB 32 and achieving targets included in Executive Order S-3-05. The progress is shown in updated emission inventories prepared by ARB for 2000 through 2012 (ARB 2014a). The State has achieved the Executive Order S-3-05 target for 2010 of reducing GHG emissions to 2000 levels. As shown below, the 2010 emission inventory achieved this target.

- 1990: 427 million MTCO2e (AB 32 2020 target)
- 2000: 463 million MTCO2e (an average 8 percent reduction needed to achieve 1990 base)
- 2010: 450 million MTCO2e (an average 5 percent reduction needed to achieve 1990 base)

ARB has also made substantial progress in achieving its goal of achieving 1990 emissions levels by 2020. As described earlier in this section, ARB revised the 2020 BAU inventory forecast to account for new lower growth projections, which resulted in a new lower reduction from BAU to achieve the 1990 base. The previous reduction from 2020 BAU

needed to achieve 1990 levels was 28.4 percent and the latest reduction from 2020 BAU is 21.7 percent.

- 2020: 545 million MTCO2e BAU (an average 21.7 percent reduction from BAU needed to achieve 1990 base)

ARB Scoping Plan. The California Air Resources Board (ARB) Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the State's emissions to 1990 levels by the year 2020 and thereby comply with AB 32 GHG emissions reductions targets. The Scoping Plan identifies recommended measures for multiple GHG emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 GHG target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

The ARB approved the First Update to the Scoping Plan (Update) on May 22, 2014. The Update identifies progress made to meet the near-term objectives of AB 32 and defines California's climate change priorities and strategies. The Update does not set new targets for the State, but rather describes a path that would achieve the state's 2050 goal to achieve GHG emissions levels that are 80 percent below 1990 baseline levels.

ARB Business as Usual (BAU) GHG Emissions Estimates. Forecasting the amount of emissions that would occur in 2020 if no actions are taken was necessary to assess the amount of reductions California must achieve to return to the 1990 emissions level by 2020 as required by AB 32. The no-action scenario is known as "business-as-usual" or BAU. The ARB originally defined the BAU scenario as emissions in the absence of any GHG emission reduction measures discussed in the Scoping Plan.

As part of CEQA compliance for the Scoping Plan, ARB prepared a Supplemental Functional Equivalent Document (FED) in 2011. The FED included an updated 2020 BAU emissions inventory projection based on current economic forecasts (i.e., as influenced by the economic downturn) and emission reduction measures already in place, replacing its prior 2020 BAU emissions inventory. ARB staff derived the updated emissions estimates by projecting emissions growth, by sector, from the State's average emissions from 2006–2008. The new BAU estimate includes emission reductions for the million-solar-roofs program, the AB 1493 (Pavley I) motor vehicle GHG emission standards, and the Low Carbon Fuels Standard. In addition, ARB factored into the 2020 BAU inventory emissions reductions associated with 33 percent Renewable Energy Portfolio Standard (RPS) for electricity generation. The updated BAU estimate of 507 MMTCO2e by 2020 requires a reduction of 80 MMTCO2e, or a 16 percent reduction below the estimated BAU levels to return to 1990 levels (i.e., 427 MMTCO2e) by 2020.

To establish a BAU reduction scenario that is consistent with the original definition in the Scoping Plan and with threshold definitions used in thresholds adopted by lead agencies for CEQA purposes and many climate action plans, the updated inventory without regulations was also included in the Supplemental FED. The ARB 2020 BAU projection for GHG emissions in California was originally estimated to be 596 MMTCO2e. The

updated ARB 2020 BAU projection in the Supplemental FED is 545 MMTCO2e. Considering the updated BAU estimate of 545 MMTCO2e by 2020, ARB estimates a 21.7 percent reduction below the estimated statewide BAU levels is necessary to return to 1990 emission levels (i.e., 427 MMTCO2e) by 2020, instead of the approximate 28.4 percent BAU reduction previously reported under the original Climate Change Scoping Plan (2008).

2017 Climate Change Scoping Plan Update. In November 2017, ARB released the final 2017 Scoping Plan Update, which identifies the State's post-2020 reduction strategy. The 2017 Scoping Plan Update reflects the 2030 target of a 40 percent reduction below 1990 levels, set by Executive Order B-30-15 and codified by Senate Bill 32 (SB 32). Key programs that the proposed Second Update builds upon include the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and much cleaner cars, trucks and freight movement, utilizing cleaner, renewable energy, and strategies to reduce methane emissions from agricultural and other wastes.

The 2017 Scoping Plan establishes a new emissions limit of 260 MMTCO2e for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030.

California's climate strategy will require contributions from all sectors of the economy, including the land base, and will include enhanced focus on zero- and near-zero-emission (ZE/NZE) vehicle technologies; continued investment in renewables, including solar roofs, wind, and other distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for direct GHG reductions at refineries will further support air quality co-benefits in neighborhoods, including in disadvantaged communities historically located adjacent to these large stationary sources, as well as efforts with California's local air pollution control and air quality management districts (air districts) to tighten emission limits on a

broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZEV buses and trucks.
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementing SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS 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 (SLPS), which focuses on reducing methane and hydrofluorocarbon 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.

In addition to the statewide strategies listed above, the 2017 Scoping Plan also recognizes local governments as essential partners in achieving the State's long-term GHG reduction goals and identifies local actions to reduce GHG emissions. As part of the recommended actions, CARB advocates local government attainment of a community-wide goal of 6 MTCO2e or less per capita by 2030, and 2 MTCO2e or less per capita by 2050. For CEQA projects, CARB states that lead agencies may develop evidenced-based bright-line numeric thresholds—consistent with the Scoping Plan and the State's long-term GHG goals—and projects with emissions over that amount may be required to incorporate on-site design features and mitigation measures that avoid or minimize project emissions to the extent feasible. Alternatively, a lead agency may employ performance-based metric using a climate action plan or other plan to reduce GHG emissions.

According to research conducted by the Lawrence Berkeley National Laboratory and supported by ARB, California, under its existing and proposed GHG reduction policies, California is on track to meet the 2020 reduction targets established under AB 32 and could achieve the 2030 goals promulgated under SB 32. Consistency of the Project with applicable Scoping Plan policies and programs is presented subsequently in this analysis (please refer to Table 4.4-4).

Senate Bill 32. On September 8, 2016, Governor Jerry Brown signed the Senate Bill (SB) 32 and its companion bill, Assembly Bill (AB) 197. SB 32 requires the State to reduce statewide greenhouse gas emissions to 40 percent below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15.

Cap-and-Trade Program. The Scoping Plan identifies a Cap-and-Trade Program as one of the key strategies for California to reduce GHG emissions. According to ARB, a cap-and-trade program will help put California on the path to meet its goal of reducing GHG emissions to 1990 levels by the year 2020 and ultimately achieving an 80 percent reduction from 1990 levels by 2050. Under cap-and-trade, an overall limit on GHG emissions from capped sectors is established, and facilities subject to the cap will be able to trade permits to emit GHGs within the overall limit.

ARB adopted a California Cap-and-Trade Program consistent with authority established under AB 32. See 17 California Code of Regulations (CCR) §§ 95800 to 96023. The Cap-and-Trade Program is designed to reduce GHG emissions from major sources (deemed "covered entities") by setting a firm cap on statewide GHG emissions and employing market mechanisms to achieve AB 32's emission-reduction mandate of returning to 1990 levels of emissions by 2020. The statewide cap for GHG emissions from the capped sectors (e.g., electricity generation, petroleum refining, and cement production) commenced in 2013 and will decline over time, achieving GHG emission reductions throughout the program's duration.

Covered entities that emit more than 25,000 $MTCO_2e$ per year must comply with the Cap-and-Trade Program. Triggering of the 25,000 $MTCO_2e$ per year "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of GHG Emissions (Mandatory Reporting Rule or "MRR").

Under the Cap-and-Trade Program, ARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities are allocated free allowances in whole or part (if eligible), and may buy allowances at auction, purchase allowances from others, or purchase offset credits. Each covered entity with a compliance obligation is required to surrender "compliance instruments" for each $MTCO_2e$ of GHG they emit. There also are requirements to surrender compliance instruments covering 30 percent of the prior year's compliance obligation by November of each year. For example, in November 2014, a covered entity was required to submit compliance instruments to cover 30 percent of its 2013 GHG emissions.

The Cap-and-Trade Program provides a firm cap, ensuring that the 2020 statewide emission limit will not be exceeded. An inherent feature of the Cap-and-Trade program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis. As summarized by ARB in the 2014 First Update to the Climate Change Scoping Plan (ARB First Update):

> The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. But as the cap declines, aggregate emissions must be reduced. In other words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a reduction in GHG emissions

> from other covered entities. Such a focus on aggregate GHG emissions is considered appropriate because climate change is a global phenomenon, and the effects of GHG emissions are considered cumulative (ARB First Update, p. 86).

The Cap-and-Trade Program works with other direct regulatory measures and provides an economic incentive to reduce emissions. If California's direct regulatory measures reduce GHG emissions more than expected, then the Cap-and-Trade Program will be responsible for relatively fewer emissions reductions. If California's direct regulatory measures reduce GHG emissions less than expected, then the Cap-and-Trade Program will be responsible for relatively more emissions reductions. In this manner, the Cap-and-Trade Program assures that California will meet its 2020 GHG emissions reduction mandate:

> The Cap-and-Trade Program establishes an overall limit on GHG emissions from most of the California economy—the "capped sectors." Within the capped sectors, some of the reductions are being accomplished through direct regulations, such as improved building and appliance efficiency standards, the [Low Carbon Fuel Standard] LCFS, and the 33 percent [Renewables Portfolio Standard] RPS. Whatever additional reductions are needed to bring emissions within the cap is accomplished through price incentives posed by emissions allowance prices. Together, direct regulation and price incentives assure that emissions are brought down cost-effectively to the level of the overall cap. The Cap-and-Trade Regulation provides assurance that California's 2020 limit will be met because the regulation sets a firm limit on 85 percent of California's GHG emissions. In sum, the Cap-and-Trade Program will achieve aggregate, rather than site specific or project-level, GHG emissions reductions. Also, due to the regulatory architecture adopted by ARB in AB 32, the reductions attributed to the Cap-and-Trade Program can change over time depending on the State's emissions forecasts and the effectiveness of direct regulatory measures (ARB First Update, p. 88).

As of January 1, 2015, the Cap-and-Trade Program covered approximately 85 percent of California's GHG emissions. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with a CEQA projects' electricity usage are covered by the Cap-and-Trade Program.

The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period. While the Cap-and-Trade Program technically covered fuel suppliers as early as 2012, they did not have a compliance obligation (i.e., they were not fully regulated) until 2015. The Cap-and-Trade Program covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported. The point of regulation for transportation fuels is when they are "supplied" (i.e., delivered into commerce). Accordingly, as with stationary source GHG emissions and GHG emissions attributable to electricity use, virtually all, if not all, of GHG emissions from CEQA projects associated with vehicle-miles traveled (VMT) are covered by the Cap-and-Trade Program (ARB 2015).

In addition, the Scoping Plan differentiates between "capped" and "uncapped" strategies. "Capped" strategies are subject to the proposed cap-and-trade program. The Scoping Plan states that the inclusion of these emissions within the Program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve sufficient GHG emissions reductions by 2020 to achieve the emission target contained in AB 32. "Uncapped" strategies that will not be subject to the cap-and-trade emissions caps and requirements are provided as a margin of safety by accounting for additional GHG emission reductions.

AB 1493 Pavley Regulations and Fuel Efficiency Standards. California AB 1493, enacted on July 22, 2002, required ARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation

was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.

The standards phased in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards will result in about a 22 percent reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards will result in about a 30 percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program referred to as LEV III or the Advanced Clean Cars program. The Advanced Clean Cars program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The new rules will clean up gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles and hydrogen fuel cell cars. The package will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.

SB 350 - Clean Energy and Pollution Reduction Act of 2015. In October 2015, the legislature approved and the Governor signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the renewables portfolio standard (RPS), higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Provisions for a 50

percent reduction in the use of petroleum statewide were removed from the Bill because of opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33 percent to 50 percent by 2030, with interim targets of 40 percent by 2024, and 25 percent by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the California Energy Commission (CEC), and local publicly-owned utilities.
- Reorganize the Independent System Operator (ISO) to develop more regional electricity transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.

Executive Order S-3-05. Former California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

Executive Order S-13-08. Executive Order S-13-08 states that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." As

provided for under the Order, the 2009 California Climate Adaptation Strategy (California Natural Resources Agency 2009) was adopted. The Strategy is ". . . first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States." Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order B-30-15. On April 29, 2015, Governor Edmund G. Brown Jr. issued an executive order to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's executive order aligns California's GHG reduction targets with those of leading international governments. The Order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050 and directs ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of CO_2 equivalent ($MMCO_2e$). The Order also requires the state's climate adaptation plan to be updated every three years, and for the State to continue its climate change research program, among other provisions. As with Executive Order S-3-05, this Order is not legally enforceable for local governments and the private sector. Legislation that would update AB 32 to make post 2020 targets and requirements a mandate is in process in the State Legislature.

Title 20 Appliance Efficiency Standards. California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4, Sections 1601-1608: Appliance Efficiency Regulations regulates the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. Twenty-three categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state and those designed and sold exclusively for use in recreational vehicles or other mobile equipment.

Title 24 Energy Efficiency Standards and California Green Building Standards. California Code of Regulations Title 24 Part 6: *California's Energy Efficiency Standards for Residential and Nonresidential Buildings*, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. For nonresidential buildings, the 2016 Title 24 standards reduce energy consumption by 5 percent when compared to the 2013 Title 24 standards.

California Code of Regulations, Title 24, Part 11: California Green Building Standards Code (CALGreen). CALGreen is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on January 1, 2011. CALGreen is updated on a regular basis, with the most recent update consisting of the 2016 California Green Building Code Standards that became effective January 1, 2017. Under state law, local jurisdictions are permitted to adopt more stringent requirements. Specific CALGreen requirements include, but are not limited to, those listed below. CALGreen Section citations are presented parenthetically.

- Short-term bicycle parking. If a commercial project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack (5.106.4.1.1).

- Long-term bicycle parking. For new buildings with 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of tenant-occupied motorized vehicle parking capacity, with a minimum of one space (5.106.4.1.2).

- Designated parking. Provide designated parking in commercial projects for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in [CALGreen] Table 5.106.5.2 (5.106.5.2).

- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling (5.410.1).

- Construction waste. A minimum 65 percent diversion of construction and demolition waste from landfills, increasing voluntarily to 80 percent for new homes and commercial projects (CALGreen Sections 5.408.1, A5.408.3.1 [nonresidential], A5.408.3.1 [residential]). All (100 percent) of trees, stumps, rocks and associated vegetation and soils resulting from land clearing shall be reused or recycled (5.408.3).

- Wastewater reduction. Each building shall reduce the generation of wastewater by one of the following methods:
    - The installation of water-conserving fixtures (5.303.3) or
    - Using nonpotable water systems (5.303.4).

- Water use savings. 20 percent mandatory reduction of indoor water use with voluntary goal standards for 30, 35 and 40 percent reductions (5.303.2, A5303.2.3 [nonresidential]).

- Water meters. Separate water meters for buildings in excess of 50,000 square feet or buildings projected to consume more than 1,000 gallons per day (5.303.1).

- Irrigation efficiency. Moisture-sensing irrigation systems for larger landscaped areas (5.304.3).

- Materials pollution control. Low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particleboard (5.404).

- Building commissioning. Mandatory inspections of energy systems (i.e., heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over

10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies (5.410.2).

Model Water Efficient Landscape Ordinance. The Model Water Efficient Landscape Ordinance (Model Ordinance) established under the Water Conservation Act, requires local agencies to adopt a local landscape ordinance at least as effective in conserving water as the Model Ordinance. New development projects that include landscape areas of 500 square feet or more are subject to the Model Ordinance.

Reductions in water use of 20 percent consistent with (SBX-7-7) 2020 mandate are expected upon compliance with the ordinance. Governor Brown's Drought Executive Order of April 1, 2015 (EO B-29-15) directed Department of Water Resources (DWR) to update the Ordinance through expedited regulation. The California Water Commission approved the revised Ordinance on July 15, 2015 to be effective December 15, 2015. New development projects that include landscape areas of 500 square feet or more are subject to the Ordinance requirements, including:

- More efficient irrigation systems;
- Incentives for graywater usage;
- Improvements in on-site stormwater capture;
- Limiting the portion of landscapes that can be planted with high water use plants; and
- Reporting requirements for local agencies.

ARB Refrigerant Management Program. ARB adopted a regulation in 2009 to reduce refrigerant GHG emissions from stationary sources through refrigerant leak detection and monitoring, leak repair, system retirement and retrofitting, reporting and recordkeeping, and proper refrigerant cylinder use, sale, and disposal. The regulation is set forth in sections 95380 to 95398 of Title 17, California Code of Regulations.

The rules implementing the regulation establish a limit on statewide GHG emissions from stationary facilities with refrigeration systems with more than 50 pounds of a high GWP refrigerant. The refrigerant management program is designed to (1) reduce emissions of high-GWP GHG refrigerants from leaky stationary, non-residential refrigeration equipment; (2) reduce emissions from the installation and servicing of refrigeration and air-conditioning appliances using high-GWP refrigerants; and (3) verify GHG emission reductions.

Tractor-Trailer GHG Regulation. Tractors and trailers subject to this regulation must either use EPA SmartWay certified tractors and trailers, or retrofit their existing fleet with SmartWay verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the heavy-duty tractors that pull them on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low rolling resistance tires. Sleeper cab tractors model year 2011 and later must be SmartWay certified. All other tractors must use SmartWay verified low rolling resistance tires. There are also requirements for trailers to have low rolling resistance tires and aerodynamic devices.

Phase I and 2 Heavy-Duty Vehicle GHG Standards. ARB has adopted a new regulation for greenhouse gas (GHG) emissions from heavy-duty trucks and engines sold in California. It establishes GHG emission limits on truck and engine manufacturers and harmonizes with the U.S. EPA rule for new trucks and engines nationally. Existing heavy-duty vehicle regulations in California include engine criteria emission standards, tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy Duty Tractor-Trailer Greenhouse Gas Regulation), and in-use fleet retrofit requirements such as the Truck and Bus Regulation.[2]

[2] In September 2011, the U.S. EPA adopted their new rule for heavy-duty trucks and engines. The U.S. EPA rule has compliance requirements for new compression and spark ignition engines, as well as trucks from Class 2b through Class 8. The rule organizes truck compliance into three groupings, which include a) heavy-duty pickups and vans; b) vocational vehicles; and c) combination tractors. The U.S. EPA rule does not regulate trailers.

ARB staff has worked jointly with the U.S. Environmental Protection Agency (U.S. EPA) and the National Highway Traffic Safety Administration (NHTSA) on the next phase of federal greenhouse gas (GHG) emission standards for medium- and heavy-duty vehicles, called federal Phase 2. The federal Phase 2 standards were built on the improvements in engine and vehicle efficiency required by the Phase 1 emission standards and represent a significant opportunity to achieve further GHG reductions for 2018 and later model year heavy-duty vehicles, including trailers.[3]

CEQA Guidelines. *CEQA Guidelines* Section 15064.4 assists agencies in determining the significance of GHG emissions. Agencies are allowed discretion in determining if a quantitative or qualitative GHG analysis is warranted. Little guidance is offered in determining if a project's estimated GHG emissions would be significant or cumulatively considerable.

CEQA Guidelines Sections 15126.4 and 15130 address GHG mitigation measures and GHG emissions cumulative impacts, respectively. GHG mitigation measures are referenced in general terms, but no specific measures are championed. The revision to the cumulative impact discussion requirement (Section 15130) simply directs agencies to analyze GHG emissions in an EIR when a project's incremental contribution of emissions may be cumulatively considerable, however it does not answer the question of when emissions would be considered cumulatively considerable.

CEQA Guidelines Section 15183.5 permits programmatic GHG analysis and later project-specific tiering, as well as the preparation of Greenhouse Gas Reduction Plans. Compliance with such plans can support a determination that a project's cumulative effect is not cumulatively considerable, according to Section 15183.5(b).

[3] U.S. EPA and NHTSA issued a Notice of Proposed Rulemaking for Phase 2 in June 2015, and published the final rule in October 2016. ARB staff plans to bring a proposed California Phase 2 program before the Board in early 2018. ARB staff remains committed to a strong national program which will support California's GHG reduction commitments.

South Coast Air Quality Management District

SCAQMD is the agency responsible for air quality planning and regulation in the South Coast Air Basin (SoCAB). The SCAQMD addresses the impacts to climate change of projects subject to SCAQMD permit as a lead agency if they are the only agency having discretionary approval for the project. The SCAQMD acts as a responsible agency when a land use agency must also approve discretionary permits for the project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions.

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the SoCAB. The Working Group developed several different options that are contained in the SCAQMD Draft Guidance Document – Interim CEQA GHG Significance Threshold (Guidance Document) , that could be applied by lead agencies. The working group has not provided additional guidance since release of the 2008 interim guidance. The SCAQMD Board has not approved the Guidance Document thresholds; however, the Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in adopting or applying its own threshold. The current Guidance Document interim thresholds provides the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a GHG reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it would not result in significant GHG emissions impacts.
- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to the project's operational

emissions. If a project's emissions are below one of the following screening thresholds, then the project GHG emission impacts would be less-than-significant:

- Residential and Commercial land use: 3,000 $MTCO_2e$ per year;
- Based on land use type: residential: 3,500 $MTCO_2e$ per year; commercial: 1,400 $MTCO_2e$ per year; or mixed use: 3,000 $MTCO_2e$ per year.[4]

- Tier 4 provides the following options:
  - Option 1: Reduce BAU emissions by a certain percentage; this percentage is currently undefined;
  - Option 2: Early implementation of applicable AB 32 Scoping Plan measures;
  - Option 3, 2020 target for service populations (SP), which includes residents and employees: 4.8 $MTCO_2e$/SP/year for projects and 6.6 $MTCO_2e$/SP/year for plans;
  - Option 3, 2035 target: 3.0 $MTCO_2e$/SP/year for projects and 4.1 $MTCO_2e$/SP/year for plans.

- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD's interim thresholds reflect the Executive Order S-3-05 year 2050 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap carbon dioxide concentrations at 450 ppm, thus stabilizing global climate.

SCAQMD only has authority over GHG emissions from development projects that include air quality permits. At this time, it is unknown if the project would include stationary sources of emissions subject to SCAQMD permits. If the Project requires a stationary sources emissions permit, it would be subject to applicable SCAQMD regulations/rules. In this regard, SCAQMD Regulation XXVII, adopted in 2009 provides for the following:

[4] The Guidance Document does not suggest thresholds for industrial projects where SCAQMD is not the lead agency. The SCAQMD Governing Board adopted a numerical GHG significance threshold of 10,000 MTCO2e/year for industrial projects where the SCAQMD is the lead agency.

- Rule 2700 defines terms and post global warming potentials.
- Rule 2701, *SoCal Climate Solutions Exchange*, establishes a voluntary program to encourage, quantify, and certify voluntary, high quality certified GHG emission reductions in the SCAQMD.
- Rule 2702, *GHG Reduction Program*, is a voluntary program wherein SCAQMD would fund GHG emissions reductions projects through contracts in response to requests for proposals or purchase reductions from other parties.

Southern California Association of Governments (SCAG) 2016 – 2040 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS). SCAG is the regional planning agency for Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties, and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. The Regional Transportation Plan (RTP) component of the RTP/SCS serves as a long-range transportation plan that is developed and updated by SCAG every four years. The Sustainable Communities Strategy (SCS) component of the RTP/SCS expands upon transportation strategies in the RTP to analyze growth patterns and establish future land use strategies that aid the region in meeting its GHG reduction targets. Consistency of the Project with applicable RTP/SCS goals is presented subsequently in this analysis (please refer to Table 4.4-5).

CITY OF EASTVALE GENERAL PLAN

The City of Eastvale has not yet prepared or adopted a Climate Action Plan (CAP) or similar plans/programs for evaluation of project-level GHG emissions impacts. The City of Eastvale General Plan does however establish numerous Policies that would act to control and reduce project-level GHG emissions. Consistency of the Project with applicable City of Eastvale GHG General Plan emissions policies programs is presented subsequently in this analysis (please refer to Table 4.4-6).

4.4.3 GHG Significance Thresholds and Performance Standards

4.4.3.1 CEQA Guidelines

Under the *CEQA Guidelines* Appendix G criteria, GHG emissions impacts would be potentially significant if the project under consideration would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

CEQA requires evaluation of project impacts in the context of existing conditions and against adopted "thresholds of significance." With regard to establishing a significance threshold, the Office of Planning and Research's amendments to the *CEQA Guidelines* Section 15064.7(c) state that "[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

CEQA Guidelines Section 15064.4(a) further states, . . . "[a] lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use . . . ; or (2) Rely on a qualitative analysis or performance-based standards."

CEQA Guidelines Section 15064.4 provides that a lead agency may take into account the following three considerations in assessing the significance of impacts from greenhouse gas emissions:

- **Consideration #1**: The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- **Consideration #2**: Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

- **Consideration #3**: The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

4.4.3.2 California Supreme Court Opinion: *Center for Biological Diversity v. California Department of Fish and Wildlife ("Newhall Ranch")*

On November 30, 2015, the California Supreme Court published its Opinion in *Center for Biological Diversity v. California Department of Fish and Wildlife* ("*Newhall Ranch*"), which invalidated the GHG analysis for a large master planned residential development in Los Angeles County consisting of over 20,000 residential dwelling units and other uses. The Court determined that the GHG significance finding was "not supported by a reasoned explanation based on substantial evidence." However, the Court upheld: (1) use of the statewide emissions reduction goal in AB 32 as a significance criterion (pp. 15-19), (2) use of the Scoping Plan's BAU model "as a comparative tool for evaluating efficiency and conservation efforts" of the Project (p. 18-19), and (3) a comparison of the project's expected emissions to a BAU model rather than a baseline of pre-project conditions (pp. 15-19).

The Court invalidated the GHG analysis because the "administrative record discloses no substantial evidence that the Newhall Ranch's project-level reduction of 31 percent in comparison to [BAU] is consistent with achieving AB 32's statewide goal of a 29 percent reduction from [BAU]…." (p.19; see also p. 23 ("Nor is Justice Corrigan correct that our analysis 'assumes project-level reduction in greenhouse gas emissions must be greater than the reduction California is seeking to achieve statewide.' [internal citations omitted] . . . [W]e only hold that DFW erred in failing to substantiate its assumption that the

Scoping Plan's statewide measure of emissions reduction can also serve as the criterion for an individual land use project.")

In so doing, the Court questioned whether "a greater degree of reduction may be needed" from new versus existing development to achieve the statewide goal set forth in AB 32 (p. 20). The Court also stated that the EIR failed to contain sufficient evidence to conclude that the "land use density" assumptions used in the EIR's GHG emissions model relate to the land use density assumptions used in the Scoping Plan's BAU model (p. 21-22). Because this information was not contained in the *Newhall Ranch* EIR, the Court determined that the record did not contain substantial evidence supporting the findings.

The Court outlined "potential pathways to compliance" that future EIRs could use to determine if GHG emissions from a given project are significant. Specifically, the Court advised that:

- **Substantiation of Project Reductions from BAU**. A lead agency may use a BAU comparison based on the Scoping Plan's methodology if it also substantiates the reduction a particular project must achieve to comply with statewide goals. The Court suggested a lead agency could examine the "data behind the Scoping Plan's business-as-usual model" to determine the necessary project-level reductions from new land use development at the proposed location (p. 25).

- **Compliance with Regulatory Programs or Performance Based Standards**. A lead agency "might assess consistency with AB 32's goal in whole or part by looking to compliance with regulatory programs designed to reduce greenhouse gas emissions from particular activities (see Final Statement of Reasons, supra, at p. 64 [greenhouse gas emissions 'may be best analyzed and mitigated at a programmatic level.']). To the extent a project's design features comply with or exceed the regulations outlined in the Scoping Plan and adopted by the Air Resources Board or other state agencies, a lead agency could appropriately rely on their use as showing compliance with 'performance based standards' adopted to fulfill 'a statewide . . . plan for the reduction or mitigation of greenhouse gas emissions.'

(CEQA Guidelines § 15064.4(a)(2), (b)(3); see also id., § 15064(h)(3) [determination that impact is not cumulatively considerable may rest on compliance with previously adopted plans or regulations, including 'plans or regulations for the reduction of greenhouse gas emissions'])" (p. 25).

- **Compliance with GHG Reduction Plans or Climate Action Plans (CAPs)**. A lead agency may utilize "geographically specific GHG emission reduction plans" such as climate action plans or greenhouse gas emission reduction plans to provide a basis for the tiering or streamlining of project-level CEQA analysis (p. 26).

- **Compliance with Local Air District Thresholds**. A lead agency may rely on "existing numerical thresholds of significance for greenhouse gas emissions" adopted by, for example, local air districts (p. 27).

4.4.3.3 Quantified GHG Emissions Thresholds

The City of Eastvale has not adopted a quantified threshold of significance for determining impacts with respect to GHG emissions. As directed by the City, within this analysis, the SCAQMD screening-level threshold of 3,000 $MTCO_2E$/year is employed to determine if additional analysis of GHG emissions impacts and implementation of GHG emissions mitigation measures is warranted. The SCAQMD 3,000 $MTCO_2E$/year threshold is the most conservative metric available; is widely accepted as an appropriate project-level threshold; and is used by numerous lead agencies within the South Coast Air Basin. As noted by the SCAQMD:

> . . . the . . . [3,000 $MTCO_2E$/year] screening-level for stationary sources is based on an emission capture rate of 90 percent for all new or modified project . . . the policy objective of [SCAQMD's] recommended interim GHG significance threshold proposal is to achieve an emission capture rate of 90 percent of all new or modified stationary source projects. A GHG significance threshold based on a 90 percent emission capture rate may be more appropriate to address the long-term adverse impacts associated with global climate change because most projects will be required to implement

> GHG reduction measures. Further, a 90 percent emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions. This assertion is based on the fact that [SCAQMD] staff estimates that these GHG emissions would account for slightly less than one percent of future 2050 statewide GHG emissions target (85 [MMTCO2e/yr.]). In addition, these small projects may be subject to future applicable GHG control regulations that would further reduce their overall future contribution to the statewide GHG inventory. Finally, these small sources are already subject to [Best Available Control Technology] (BACT) for criteria pollutants and are more likely to be single-permit facilities, so they are more likely to have few opportunities readily available to reduce GHG emissions from other parts of their facility (Guidance Document, pp. 3-2, 3-3).

Based on the above guidance from the SCAQMD, if a project would emit GHGs totaling less than 3,000 $MTCO_2E$/year, the project is not considered a substantial GHG emitter and the GHG impact is less-than-significant. SCAQMD guidance indicates no additional analysis is required and no mitigation need be imposed. On the other hand, if a non-industrial project would emit GHGs in excess of 3,000 $MTCO_2E$/year, then the project could be considered a potentially significant GHG emitter, requiring additional analysis and potential mitigation.

4.4.4 PROJECT GREENHOUSE GAS EMISSIONS

4.4.4.1 California Emissions Estimator Model™ Employed to Estimate GHG Emissions

CEQA Guidelines 15064.4 (b) (1) states that a lead agency may use a model or methodology to quantify greenhouse gas emissions associated with a project. On October 14, 2016, the

SCAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the California Emissions Estimator Model™ (CalEEMod™) v2016.3.2. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (NO_x, VOC, PM_{10}, $PM_{2.5}$, SO_x, and CO) and greenhouse gas (GHG) emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures. Accordingly, the latest version of CalEEMod™ has been used for this Project to determine construction and operational GHG emissions. The CalEEMod model includes GHG emissions from the following source categories: construction, area, energy, mobile, waste, water.

4.4.4.2 Construction and Operational Life-Cycle Analysis

Life-cycle analysis (i.e., assessing economy-wide GHG emissions from the processes in manufacturing and transporting all raw materials used in the project development, infrastructure and on-going operations) depends on emission factors or econometric factors that are not well established for all processes. A full life-cycle analysis (LCA) for construction and operational activity is not included in this analysis due to the speculative nature of any such analysis and the lack of consensus guidance on LCA methodology.

4.4.4.3 Construction-Source GHG Emissions

Project construction activities would generate emissions of CO_2 and CH_4. Project construction-source emissions, GHGs are quantified and amortized over the life of the Project. To amortize the emissions over the life of the Project, the SCAQMD recommends calculating the total greenhouse gas emissions for the construction activities, dividing it by a 30-year project life. then adding that number to the annual operational phase GHG emissions. Accordingly, Project construction-source GHG emissions were amortized over a 30-year period and added to the annual operational-source GHG emissions.

4.4.4.4 Operational-Source GHG Emissions

Project operations would result in emissions of CO_2, CH_4, and N_2O from the following primary sources:

- Area Source Emissions from Project site landscaping maintenance activities;
- Energy Source Emissions from Project building heating/cooling;
- Mobile Source Emissions generated by Project traffic;
- Solid Waste management;
- Water Supply, Treatment and Distribution.

Area Source Emissions

Landscape and site maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. The emissions associated with landscape maintenance equipment were calculated based on assumptions provided in the CalEEMod model.

Energy Source Emissions

GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO2 and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building. GHGs are also emitted during the generation of electricity from fossil fuels; these emissions are considered to be indirect emissions. Unless otherwise noted, CalEEMod default parameters were used to estimate energy source GHG emissions.

Mobile Source Emissions

GHG emissions will also result from mobile sources associated with the Project. Project mobile source emissions are dependent on both overall daily vehicle trip generation. Trip characteristics available from the Project TIA (EIR Appendix B) were utilized in this analysis and are reflected in the CalEEMod parameters. Vehicle mix, and vehicle trip

lengths, and vehicle miles traveled (VMT) reflected in the Project mobile source GHG emissions estimates comply with applicable SCAQMD and SCAG guidance and methodologies.

Solid Waste Management Emissions

The Project land uses will result in the generation and disposal of solid waste. A large percentage of solid waste generated by the Project would be diverted and recycled consistent with requirements of AB 39, yielding a minimum reduction of 50% in Project waste that would be transported to and disposed of at area landfills. The remainder of the waste not diverted will be disposed of at a landfill. GHG emissions from landfills are associated with the anaerobic breakdown of material. GHG emissions associated with the disposal of solid waste associated with the proposed Project were calculated by the CalEEMod model using default parameters.

Water Supply, Treatment and Distribution Emissions

Indirect GHG emissions result from the production of electricity used to convey, treat and distribute water and wastewater. The amount of electricity required to convey, treat and distribute water depends on the volume of water as well as the sources of the water. Unless otherwise noted, CalEEMod default parameters were used.

4.4.5 Project GHG Emissions Impacts

The following discussions focus on areas where it has been determined that the Project may result in potentially significant GHG emissions impacts, based on comments received through the NOP process and the analysis presented within this Section.

4.4.5.1 Impact Statements

Following is an analysis of potential GHG emissions impacts that are expected to result from the Project. The City has determined that each of the CEQA threshold considerations presented herein establish a separate and independent basis upon which to substantiate the significance of the Project's potential GHG emissions impact.

Potential Impact: *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.*

Impact Analysis: The City of Eastvale does not have an adopted quantified threshold of significance for GHG emissions. For CEQA purposes, the City has discretion to select an appropriate significance criterion, based on substantial evidence. As previously discussed, the AQMD's numerical threshold of 3,000 $MTCO_2E$/year has been employed within this analysis.

As shown in Table 4.4-3, Project GHG emissions from construction, area, energy, waste, and water usage source would total approximately 2,296.92 MTCO2e per year. Additionally, the Project mobile source GHG emissions could potentially generate 14,226.46 MTCO2e per year. This assumes that all vehicle trips to and from the Project are "new" trips attributable to development of the Project. Considering all GHG emissions sources, the Project has the potential to generate a total of approximately 16,523.38 MTCO2e per year. Project GHG emissions would therefore exceed the SCAQMD screening-level threshold of 3,000 $MTCO_2E$/year. Exceedance of this threshold indicates that the Project has the potential to result in a potentially significant and cumulatively considerable GHG emissions impact.

Table 4.4-3
Annual Project GHG Emissions

Emission Source	Emissions (metric tons per year)			
	CO_2	CH_4	N_2O	Total CO_2E
Annual construction-related emissions amortized over 30 years	54.76	0.01	0.00	55.00
Area Sources (Warehouse)	8.35E-03	2.00E-05	0.00	0.01
Area Sources (Commercial)	0.01	3.00E-05	0.00	0.01
Energy Consumption (Warehouse)	289.48	0.01	2.83E-03	290.61
Energy Consumption (Commercial)	1,049.26	0.04	0.01	1,053.68
Solid Waste Management (Warehouse)	64.21	3.79	0.00	159.07
Solid Waste Management (Commercial)	95.13	5.62	0.00	235.68
Water Usage (Warehouse)	347.53	2.55	0.06	429.91
Water Usage (Commercial)	60.67	0.38	9.39E-03	72.95
Subtotal	1,906.29	12.39	0.08	**2,296.92**

Table 4.4-3
Annual Project GHG Emissions

Emission Source	Emissions (metric tons per year)			
	CO_2	CH_4	N_2O	Total CO_2E
Mobile Source (Warehouse)	3,365.93	0.10	0.00	3,368.44
Mobile Source (Commercial)	10,835.50	0.90	0.00	10,858.02
Subtotal	14,201.43	1.00	0.00	**14,226.46**
Total CO_2E (All Sources)	**16,523.38**			
SCAQMD Threshold	3,000			
Threshold Exceeded?	**YES**			

Source: *The Merge Greenhouse Gas Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018.
Note: Totals obtained from CalEEMod and may not total 100% due to rounding.

Level of Significance: Potentially Significant.

Mitigation Measures: No feasible mitigation.

Level of Significance After Mitigation: ***Cumulatively Significant and Unavoidable.***
Conformance with Title 24 Energy Efficiency requirements, CalGreen mandates, and other energy efficiency measures implemented by the state, as well as conservation measures implemented through City Ordinances (e.g., City of Eastvale Water Conservation Ordinance) would act to generally reduce area-source and energy-source GHG emissions, but would have no substantive effect on mobile-source GHG emissions, the primary contributor to the Project GHG emission impact.[5]

Responsibility and authority for regulation of mobile-source emissions resides with the State of California (CARB, et al.). Neither the Applicant nor the Lead Agency can mandate substantive reductions in mobile-source GHG emissions, much less reductions that would achieve the applicable SCAQMD threshold of 3,000 $MTCO_2E$/year. Specifically, as shown in Table 4.4-3, the Project mobile-source GHG emissions alone total approximately

[5] EIR Air Quality Mitigation Measures 4.3.1 through 4.3.4 would generally reduce vehicular-source criteria pollutant emissions. Emissions reductions would, however, not be quantifiable, and no credit is taken for any potential reductions. Mitigation Measures 4.3.1 through 4.3.4 would also nominally, but not quantifiably, reduce vehicular-source GHG emissions. GHG impacts would remain significant.

14,226.46 $MTCO_2E$/year, which would exceed the SCAQMD threshold employed in this analysis. On this basis, quantified net GHG emissions generated by the Project would be cumulatively considerable, and the Project net GHG emissions impact would be cumulatively significant and unavoidable.

Potential Impact: *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

Impact Analysis: With regard to the Project, applicable plans, policies and regulations adopted for the purpose of reducing the emissions of greenhouse gases include: AB 32, strategies of ARB's 2008 Scoping Plan and associated regulatory measures adopted to further AB 32's goals; goals established under the 2016 RTP/SCS; and GHG Emissions Policies articulated in the City of Eastvale General Plan.

The analysis below qualitatively examines the measures contained in applicable plans and subsequent adopted regulations and how they relate to the Project to achieve the State's goals.

AB 32 Consistency

ARB's 2008 Scoping Plan and 2017 Scoping Plan Update identify measures to reduce California's GHG emissions in support of AB 32. Many of the strategies identified in the Scoping Plans are not applicable at the project level, such as long-term technological improvements to reduce emissions from vehicles. Some measures are applicable and supported by the Project, such as energy efficiency. Finally, while some measures are not directly applicable, the Project would not conflict with their implementation.

2008 Scoping Plan Measures

GHG reduction measures from the 2008 Scoping Plan are grouped into 18 action categories, as follows:

1. **California Cap-and-Trade Program Linked to Western Climate Initiative Partner Jurisdictions.** Implement a broad-based California cap-and-trade

program to provide a firm limit on emissions. Link the California cap–and-trade program with other Western Climate Initiative Partner programs to create a regional market system to achieve greater environmental and economic benefits for California. Ensure California's program meets all applicable AB 32 requirements for market-based mechanisms.

2. **California Light-Duty Vehicle Greenhouse Gas Standards.** Implement adopted Pavley standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.
3. **Energy Efficiency.** Maximize energy efficiency building and appliance standards, and pursue additional efficiency efforts including new technologies, and new policy and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California (including both investor-owned and publicly owned utilities).
4. **Renewables Portfolio Standards.** Achieve 33 percent renewable energy mix statewide.
5. **Low Carbon Fuel Standard.** Develop and adopt the Low Carbon Fuel Standard.
6. **Regional Transportation-Related Greenhouse Gas Targets.** Develop regional greenhouse gas emissions reduction targets for passenger vehicles.
7. **Vehicle Efficiency Measures.** Implement light-duty vehicle efficiency measures.
8. **Goods Movement.** Implement adopted regulations for the use of shore power for ships at berth. Improve efficiency in goods movement activities.
9. **Million Solar Roofs Program.** Install 3,000 megawatts of solar-electric capacity under California's existing solar programs.
10. **Medium- and Heavy-Duty Vehicles.** Adopt medium- (MD) and heavy-duty (HD) vehicle efficiencies. Aerodynamic efficiency measures for HD trucks pulling trailers 53-feet or longer that include improvements in trailer aerodynamics and use of rolling resistance tires were adopted in 2008 and went into effect in 2010. Future, yet to be determined improvements, includes hybridization of MD and HD trucks.
11. **Industrial Emissions.** Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce

greenhouse gas emissions and provide other pollution reduction co-benefits. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.

12. **High Speed Rail.** Support implementation of a high speed rail system.
13. **Green Building Strategy.** Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.
14. **High Global Warming Potential Gases.** Adopt measures to reduce high warming global potential gases.
15. **Recycling and Waste.** Reduce methane emissions at landfills. Increase waste diversion, composting and other beneficial uses of organic materials, and mandate commercial recycling. Move toward zero-waste.
16. **Sustainable Forests.** Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation. The 2020 target for carbon sequestration is 5 million MTCO2E/YR.
17. **Water.** Continue efficiency programs and use cleaner energy sources to move and treat water.
18. **Agriculture.** In the near-term, encourage investment in manure digesters and at the five-year Scoping Plan update determine if the program should be made mandatory by 2020.

2017 Scoping Plan Measures

The 2017 Scoping Plan builds on the 2008 Scoping Plan in order to achieve the 40 percent reduction from 1990 levels by 2030. GHG reduction measures included in the 2017 Scoping Plan are summarized below.

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZEV buses and trucks. When adopted, this measure would apply to all trucks accessing the Project site, this may include existing trucks or new trucks purchased by the project proponent could be eligible for incentives that expedite the Project's implementation of ZEVs.

- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030). When adopted, this measure would apply to all fuel purchased and used in the state.

- Implementing SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030. When adopted, this measure would apply when electricity is provided to the Project by a utility company.

- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks. When adopted, this measure would apply to all trucks accessing the Project site, this may include existing trucks or new trucks that are part of the statewide goods movement sector.

- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing methane and hydroflurocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030. When adopted, the Project would be required to comply with this measure and reduce SLPS accordingly.

- Continued implementation of SB 375. The Project is not within the purview of SB 375 and would therefore not conflict with this measure.

- Post-2020 Cap-and-Trade Program that includes declining caps. When adopted, the Project would be required to comply with the Cap-and-Trade Program if it generates emissions from sectors covered by the Program.

- 20 percent reduction in GHG emissions from refineries by 2030. When adopted, the Project would be required to comply with this measure if it were to utilize any fuel from refineries.

- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink. This is a statewide measure that would not apply to the Project.

As shown above, the Project would support and would not conflict with any of the applicable 2017 Scoping Plan measures.

Table 4.4-4 summarizes the Project's consistency with applicable State Scoping Plan Action Categories. As summarized, the Project would not conflict with any of the provisions of the Scoping Plan and supports the Action Categories: energy efficiency, water conservation, green building, recycling, and landscaping.

Table 4.4-4
State Scoping Plan Action Consistency Summary

Action	Supporting Measures[6]	Remarks
Cap-and-Trade Program	--	Not Applicable. These programs involve capping emissions from electricity generation, industrial facilities, and broad scoped fuels.
Light-Duty Vehicle Standards	T-1	Not Applicable. This is a statewide measure establishing vehicle emissions standards.
Energy Efficiency	E-1	Consistent. The Project will include a variety of building, water, and solid waste efficiencies consistent with 2016 CALGreen requirements.
	E-2	
	CR-1	
	CR-2	
Renewables Portfolio Standard	E-3	State action beyond the scope of the Project. Establishes the composition of statewide renewable energy resources.
Low Carbon Fuel Standard	T-2	State action beyond the scope of the Project. Establishes reduced carbon intensity standards for transportation fuels.
Regional Transportation-Related Greenhouse Gas Targets	T-3	State action beyond the scope of the Project. Establishes regional transportation GHG emissions targets.
Vehicle Efficiency Measures	T-4	State action beyond the scope of the Project. Identifies measures such as minimum tire-fuel efficiency, lower friction oil, and reduction in air conditioning use.

[6] Supporting measures can be found at the following link: http://www.arb.ca.gov/cc/scopingplan/2013_update/appendix_b.pdf

Table 4.4-4
State Scoping Plan Action Consistency Summary

Action	Supporting Measures[6]	Remarks
Goods Movement	T-5	Identifies measures to improve goods movement efficiencies such as advanced combustion strategies, friction reduction, waste heat recovery, and electrification of accessories. These measures are yet to be implemented and would be voluntary. The Project would not impede or interfere with their implementation.
	T-6	
Million Solar Roofs (MSR) Program	E-4	The MSR program sets a goal for use of solar systems throughout the state as a whole. The Lead Agency will review the Project for potential inclusion of solar roofs. The Project would comply with applicable provisions of Title 24 Section 1110.20 Section 110.10 – *Mandatory Requirements for Solar Ready Buildings.*
Medium- & Heavy-Duty Vehicles	T-7	No feature of the Project would interfere with or impede implementation of these programs.
	T-8	
Industrial Emissions	I-1	Not Applicable. These measures are applicable to large industrial facilities (> 500,000 MTCO2E/YR) and other intensive uses such as refineries. The Project is not an industrial use.
	I-2	
	I-3	
	I-4	
	I-5	
High Speed Rail	T-9	Not Applicable.
Green Building Strategy	GB-1	Consistent. The Project would implement building, water, and solid waste efficiency measures consistent with 2016 CALGreen requirements.
High Global Warming Potential Gases	H-1	Not Applicable. The Project is not a substantial source of high GWP emissions.
	H-2	
	H-3	
	H-4	
	H-5	
	H-6	
	H-7	
Recycling and Waste	RW-1	Consistent. The Project would be required to divert/recycle a minimum of 50 percent of construction-source and operational-source waste.
	RW-2	
	RW-3	
Sustainable Forests	F-1	Consistent. Project landscaping would generally support increased carbon sequestration.
Water	W-1	

Table 4.4-4
State Scoping Plan Action Consistency Summary

Action	Supporting Measures[6]	Remarks
	W-2	Consistent. The Project would include use of low-flow fixtures and efficient landscaping per State requirements.
	W-3	
	W-4	
	W-5	
	W-6	
Agriculture	A-1	Not Applicable. The Project is not an agricultural use.

Source: *The Merge Greenhouse Gas Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018.

SB 32 Consistency

SB 32 requires the State to reduce GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal of 1990 levels by 2020 and provides an intermediate goal to achieving S-3-05, which sets a statewide GHG reduction target of 80% below 1990 levels by 2050.

According to research conducted by the Lawrence Berkeley National Laboratory and supported by the CARB, under its existing and proposed GHG reduction policies, California is on track to meet the 2020 reduction targets under AB 32 and could achieve the 2030 goals under SB 32. The research utilized a new, validated model known as the California LBNL GHG Analysis of Policies Spreadsheet (CALGAPS), which simulates GHG and criteria pollutant emissions in California from 2010 to 2050 in accordance to existing and future GHG-reducing policies. The CALGAPS model showed that GHG emissions through 2020 could range from 317 to 415 MTCO2e per year, "indicating that existing state policies will likely allow California to meet its target [of 2020 levels under AB 32]." CALGAPS also showed that by 2030, emissions could range from 211 to 428 MTCO2e per year, indicating that "even if all modeled policies are not implemented, reductions could be sufficient to reduce emissions 40 percent below the 1990 level [of SB 32]." CALGAPS analyzed emissions through 2050 even though it did not generally account for policies that might be put in place after 2030. Though the research indicated

that the emissions would not meet the State's 80 percent reduction goal by 2050, various combinations of policies could allow California's cumulative emissions to remain very low through 2050.

Regional Transportation Plan and Sustainable Communities Strategy Consistency

The Southern California Association of Governments (SCAG) is the federally recognized Metropolitan Planning Organization (MPO) for this region, which encompasses over 38,000 square miles, and comprises representatives of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. SCAG is a regional planning agency and a forum for addressing regional issues concerning transportation, the economy, community development, and the environment. SCAG is also the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews proposed development and infrastructure projects to analyze their potential impacts on regional planning programs. As Southern California's MPO, SCAG cooperates with the Southern California Air Quality Management District, the California Department of Transportation, and other agencies in preparing regional planning documents.

California's MPOs must prepare a "sustainable communities strategy" (SCS) as part of its regional transportation plan (RTP). The SCS integrates land use, housing, and transportation strategies that, if implemented, would achieve regional GHG emission reduction targets. As adopted by the MPO, the RTP/SCS guides regional transportation policies and investments. The ARB is required to review the adopted SCS to confirm and accept the MPO's determination that the SCS, if implemented, would meet the regional GHG targets.

In 2016, SCAG adopted the 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The RTP/SCS vision encompasses general principles and themes that collectively work to shape the Southern California region. The 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. Regional development patterns and

integrated transportation systems contemplated under the RTP/SCS would act to reduce per capita VMT and associated vehicular-source GHG emissions. The RTP/SCS does not require that local general plans, specific plans, or zoning be consistent with the RTP/SCS; rather, the RTP/SCS provides consistency incentives for governments and developers. As demonstrated in Table 4.4-5, the Project is consistent with RTP/SCS Goals, and would thereby support the RTP/SCS intent to reduce regional GHG emissions.

Table 4.4-5
Consistency with SCAG RTP/SCS Goals

RTP/SCS Goals	Remarks
Goal 1: Align the plan investments and policies with improving regional economic development and competitiveness.	**Consistent.** The Project proposes contemporary light industrial/commercial uses providing an opportunity for development investment on currently underutilized vacant land.
Goal 2: Maximize mobility and accessibility for all people and goods in the region.	**Consistent.** The transportation network in the Project area has been and will be developed and maintained to meet local and regional transportation demands, and to ensure efficient mobility. Draft EIR Section 4.2, *Traffic and Circulation,* addresses local and regional transportation, traffic, and transit in more detail.
Goal 3: Ensure travel safety and reliability for all people and goods in the region.	**Consistent.** The Project TIA identifies improvements that would promote and facilitate the safe movement of people and goods. All transportation modes within the Project area would be required to comply with incumbent regulatory safety standards.
Goal 4: Preserve and ensure a sustainable regional transportation system.	**Consistent.** The Project TIA assesses all new and existing roadways and identifies required improvements to the existing transportation network. The Project would offset its incremental transportation system impacts through payment of requisite transportation/traffic impact fees acting to ensure sustainable local and regional transportation systems.
Goal 5: Maximize the productivity of our transportation system.	**Consistent.** Local and regional transportation systems would be improved and maintained to encourage their efficiency and productivity. The City oversees the improvement and maintenance of all aspects of the public right-of-way on an as-needed basis.

Table 4.4-5
Consistency with SCAG RTP/SCS Goals

RTP/SCS Goals	Remarks
Goal 6: Protect the environment and health of our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking).	**Consistent.** The Project would accommodate and would not interfere with existing or planned bicycle facilities and improvements. The Project would provide a pedestrian access network that internally links Project uses and connects to the existing off-site pedestrian network.
Goal 7: Actively encourage and create incentives for energy efficiency, where possible.	**Consistent.** EIR Section 3.6.10, *Energy Efficiency/Sustainability*, notes that the Project in total would comply with or surpass incumbent performance standards established under the Building Energy Efficiency Standards contained in the California Code of Regulations (CCR), Title 24, Part 6 (Title 24, Title 24 Energy Efficiency Standards).
Goal 8: Encourage land use and growth patterns that facilitate transit and non-motorized transportation.	**Consistent.** The Project proposes light industrial/commercial development with proximate access to local and regional transportation facilities. Intensified development of the Project site in combination with existing proximate urban development acts to focus transit ridership base, thereby supporting existing and future transit opportunities.
Goal 9: Maximize the security of our transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	**Consistent.** The City of Eastvale is responsible for monitoring of roadways and transit routes to determine the adequacy and safety of these systems. The City and other local and regional agencies and organizations (e.g., RTA, Caltrans, and SCAG) cooperatively manage these systems. Security situations involving roadways and evacuations would be addressed through City emergency response plans.

Sources: Goal Statements from: 2016–2040 RTP/SCS; Remarks by Applied Planning, Inc.

Table 4.4-6 summarizes Project consistency with applicable General Plan GHG emissions policies.

Table 4.4-6
General Plan GHG Emissions Policies Consistency

Policy Statements	Remarks
Policy AQ-18: Support local, regional, and statewide efforts to reduce emissions of greenhouse gases linked to climate change.	**Consistent.** The Project would comply with and would support all applicable plans, regulations, policies, and strategies addressing control and reduction of GHG emissions. Please refer to supporting discussions presented in this Section.
Policy AQ-19: Analyze and mitigate, to the extent feasible, potentially significant increases in greenhouse gas emissions during project review, pursuant to the California Environmental Quality Act.	**Consistent.** Project GHG emissions have been analyzed and mitigated as required under CEQA. Please refer to supporting discussions presented in this Section.
Policy AQ-20: Continue to support the planting and maintenance of trees in the community to increase carbon sequestration.	**Consistent.** Project landscaping would conform to City requirements and per the recommendations of the Riverside County Airport Land Use Commission (ALUC). A variance to Eastvale Municipal Code Section 120.05.040 is proposed to allow for landscape reductions consistent with the recommendations of the ALUC. Please refer also to EIR Section 3.0, *Project Description*.

Sources: GHG Emissions Policies from *City of Eastvale General Plan* (City of Eastvale) June 13, 2012; Remarks by Applied Planning, Inc.

Summary

The Project reduces its GHG emissions to the maximum extent feasible. Additionally, the Project does not propose facilities or operations that would substantively interfere with or impede any future City-, County-, State-, or federally-mandated retrofit obligations enacted or promulgated to legally require development to assist in meeting State-adopted GHG emissions reduction targets, including those established under Executive Order S-3-05, Executive Order B-30-15, SB 32 and related regulatory actions. Nor would the Project interfere with implementation of GHG reduction measures described in the 2017 Scoping Plan; measures identified by the California Building Commission mandating net zero energy homes in the building code after 2020; or existing building retrofits under AB 758. The Project is also consistent with and supports SCAG 2016 RTP/SCS Goals; and applicable City of Eastvale General Plan GHG emissions policies.

On this basis, the potential for the Project to conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG is considered less-than-significant.

Level of Significance: Less-Than-Significant.

4.5 NOISE

4.5 NOISE

Abstract

This Section assesses whether the Project would substantially increase ambient noise levels, or expose land uses to noise, groundborne noise, or groundborne vibration levels exceeding established standards. In this regard, potential impacts considered within this Section include:

- *Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.*

- *Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels.*

- *A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project; or*

- *A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project.*

- *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; or*

- *For a project within the vicinity of a private airstrip, expose people residing or working in the Project area to excessive noise levels.*

As substantiated in the following analyses, all Project-related noise impacts are either less-than-significant or can be mitigated to less-than-significant level.

4.5.1 INTRODUCTION

This Section presents the noise setting, methodology, standards of significance, and potential noise impacts associated with the Project. Where impacts are determined to be potentially significant, mitigation measures are proposed to avoid or reduce the severity of impacts. The information presented in this section has been summarized from *The Merge Noise Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 20, 2018 (Project Noise Study). The Project Noise Study in its entirety is included in Appendix E to this EIR.

4.5.2 SETTING

The following are discussions of noise fundamentals applicable to the Project, together with assessments of existing ambient noise levels and noise sources in the Project vicinity.

4.5.2.1 Fundamentals of Noise

Simply put, "noise" is unwanted sound. For the purposes of this analysis, "noise" is considered to consist generally of sounds created by the operation of commercial and industrial uses, by cars and trucks, by airplanes, and by other non-residential uses.

Noise levels are measured on a logarithmic scale in decibels. To provide an average measure of noise as it is perceived by the average person, these measurements are weighted and added over a 24-hour period to reflect not only the magnitude of the sound, but also its duration, frequency, and time of occurrence. There are various ways of calculating these daily averages, including: equivalent sound levels (Leq), day-night average sound levels (Ldn) and community noise equivalent levels (CNEL). The following analysis uses Leq to evaluate potential construction and operational noise impacts, and CNEL to evaluate off-site traffic noise impacts.

"A-weighted" decibels (dBA) approximate the subjective response of the human ear to a broad frequency noise source by discriminating against the very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. The decibel scale has a value of 0.0 dBA at the threshold of hearing and 140 dBA at the threshold of pain. Each interval of 10 decibels

indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. A 1.0 decibel increase is barely audible, whereas a 10-decibel increase is perceived as being twice as loud as before. Representative decibel levels of various noise sources are presented in Figure 4.5-1.

Noise Rating Schemes

Equivalent sound levels are not measured directly but, rather, are calculated from sound pressure levels typically measured in dBA. The equivalent sound level (Leq) is the constant level that, over a given period, transmits the same amount of acoustic energy as the actual time-varying sound. Equivalent sound levels are the basis for both the Ldn and CNEL scales.

Day-night average sound levels (Ldn) are a measure of the cumulative noise exposure of the community. The Ldn value results from a summation of hourly Leq over a 24-hour period with an increased weighting factor applied to the night period between 10:00 p.m. and 7:00 a.m. This noise rating scheme accounts for subjectively more annoying noise events which occur during normal sleep hours.

Community noise equivalent levels (CNEL) also carry a weighting penalty for noise that occurs during the nighttime hours. In addition, CNEL levels include a penalty for noise events that occur during the evening hours between 10:00 p.m. and 7:00 a.m. Because of the weighting factors applied, CNEL values at a given location will always be larger than Ldn values, which in turn will exceed Leq values. However, CNEL values are typically within one decibel of the Ldn value.

TYPICAL NOISE LEVELS AND THEIR SUBJECTIVE LOUDNESS AND EFFECTS

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140	INTOLERABLE OR DEAFENING	HEARING LOSS
NEAR JET ENGINE		130		
		120		
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110		
LOUD AUTO HORN		100	VERY NOISY	
GAS LAWN MOWER AT 1m (3 ft)		90		
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80		SPEECH INTERFERENCE
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70	LOUD	
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60		
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE	SLEEP DISTURBANCE
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		
QUIET SUBURBAN NIGHTTIME	LIBRARY	30	FAINT	NO EFFECT
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20		
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0		

SOURCE: NOISE TECHNICAL SUPPLEMENT BY CALTRANS

Source: Urban Crossroads, Inc.

Sound Propagation

For a "line source" of noise such as a heavily traveled roadway, the noise level drops off by a nominal value of 3.0 decibels for each doubling of distance between the noise source and the noise receptor. The nominal value of 3.0 dBA with doubling applies to sound propagation from a line source: (1) over the top of a barrier greater than three meters in height; or (2) where there is a clear unobstructed view of the highway, the ground is hard, no intervening structures exist and the line-of-sight between the noise source and receptor averages more than three meters above the ground.

Notwithstanding, environmental factors such as wind conditions, temperature gradients, characteristics of the ground (hard or soft) and the air (relative humidity), and the presence of vegetation combine to typically increase the attenuation achieved outside laboratory conditions to approximately 4.5 decibels per doubling of distance. The increase in noise attenuation in exterior environments is particularly true: (1) for freeways with an elevated or depressed profile or exhibiting expanses of intervening buildings or topography; (2) where the view of a roadway is interrupted by isolated buildings, clumps of bushes, scattered trees; (3) when the intervening ground is soft or covered with vegetation; or (4) where the source or receptor is located more than three meters above the ground.

In an area which is relatively flat and free of barriers, the sound level resulting from a single "point source" of noise drops by six decibels for each doubling of distance or 20 decibels for each factor of ten in distance. This applies to fixed noise sources and mobile noise sources which are temporarily stationary, such as an idling truck or other heavy-duty equipment operating within a confined area (such as industrial processes or construction).

Noise Barrier Attenuation

Noise barriers along roadways can reduce noise effects of vehicular-source at adjacent land uses. A noise barrier is most effective when placed close to the noise source or receptor. Noise barriers, however, do have limitations. For a noise barrier to be effective, it must be high enough and long enough to block the view of the noise source.

Vibration

According to the Federal Transit Administration (FTA) Transit Noise Impact and Vibration Assessment, vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of groundborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be 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. Vibration is often described in units of velocity (inches per second) and discussed in decibel (dB) units to compress the range of numbers required to describe vibration. The vibration velocity level is denoted as VdB in this document. Vibration impacts are generally associated with activities such as train operations, construction and heavy truck movements.

The background vibration-velocity level in residential areas is generally 50 VdB. Groundborne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings.

4.5.2.2 Factors Affecting Motor Vehicle Noise

According to the Highway Traffic Noise Analysis and Abatement Policy and Guidance, provided by the Federal Highway Administration (FHWA), the level of traffic noise depends on three primary factors: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the vehicle mix within the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and a greater number of trucks. A doubling of the traffic volume, assuming that the speed and vehicle mix do not change,

results in a noise level increase of 3 dBA. The vehicle mix on a given roadway may also affect community noise levels. As the number of medium and heavy trucks increases and becomes a larger percentage of the vehicle mix, adjacent noise level impacts will increase. Vehicle noise is a combination of the noise produced by the engine, exhaust, and tires on the roadway.

To account for the ground-effect attenuation (absorption), two types of site conditions are commonly used in traffic noise models, soft site and hard site conditions. Soft site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. A drop-off rate of 4.5 dBA per doubling of distance is typically observed over soft ground with landscaping, as compared with a 3.0 dBA drop-off rate over hard ground such as asphalt, concrete, stone and very hard packed earth. The Project Noise Study indicates that, generally, soft site conditions better reflect the predicted noise levels. In addition, Caltrans' research has shown that the use of soft site conditions is more appropriate for the application of the FHWA traffic noise prediction model used in this analysis.

4.5.2.3 Community Responses to Noise

Approximately ten percent of the population has a very low tolerance for noise and will object to any noise not of their making. As a result, even in the quietest environment, some complaints will occur. By comparison, about one-fourth of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected from various people exposed to the same noise environment.[1]

Despite this variability in behavior on an individual level, populations in general can be expected to exhibit the following responses to changes in noise levels:

- An increase or decrease of 1.0 dBA cannot be perceived except in carefully controlled laboratory experiments.

[1] U.S. Environmental Protection Agency Office of Noise Abatement and Control. *Noise Effects Handbook-A Desk Reference to Health and Welfare Effects of Noise*. October 1979 (revised July 1981).

- A 3.0 dBA increase may be perceptible outside of the laboratory.
- An increase of 5.0 dBA is often necessary before any noticeable change in community response (i.e., complaints) would be expected.

Community responses to noise may range from registering a complaint by telephone or letter, to initiating court action. Several factors are related to the level of community annoyance including:

- Fear associated with noise-producing activities;
- Noise receptor's perception that they are being unfairly treated;
- Attitudes regarding the usefulness of the noise-producing activity;
- Receptor's belief that the noise source can be controlled.

Recent studies have shown that changes in long-term noise levels are noticeable and are responded to by people. For example, about ten percent of the people exposed to traffic noise of 60 Ldn will report being highly annoyed with the noise, and each increase of one Ldn is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 Ldn or aircraft noise exceeds 55 Ldn, people begin complaining. Group or legal actions to stop the noise should be expected to begin at traffic noise levels near 70 Ldn and aircraft noise levels near 65 Ldn.

4.5.2.4 Land Use Compatibility With Noise

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches and residences are more sensitive to noise intrusion than are commercial or industrial activities, as ambient noise levels affect the perceived amenity or liveability of a development or a community. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process.

4.5.2.5 Sensitive Receptors

The City of Eastvale General Plan Noise Element, Policy N-3, considers the following uses to be sensitive to noise and vibration: schools, hospitals, rest homes, long-term care centers, mental care facilities, residential uses, libraries, recreation areas, and places of worship. Moderately noise-sensitive land uses typically include: multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs.

Land uses which are considered relatively insensitive to noise include business, commercial, and professional/office developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals. Sensitive receptors in the Project area include existing residential uses located to the north and east of the Project site.

4.5.2.6 Current Noise Exposure

To characterize the existing noise level environment, six 24-hour noise level measurements were taken at sensitive receiver locations in the Project study area. Noise measurement locations are illustrated in Figure 4.5-2 and are representative of sites that may be affected by Project-generated noise. Descriptions of noise measurement locations and monitored noise levels are summarized in Table 4.5-1.

Table 4.5-1
Ambient Noise Levels (24-Hour)

Location	Distance to Project Boundary	Description	Energy Average Hourly Noise Level (dBA Leq)		CNEL
			Daytime	Nighttime	
L1	440′	Located north of the Project site on Archibald Avenue adjacent to existing residential homes.	66.2	64.5	71.5
L2	105′	Located at the northern Project site boundary near existing residential homes and a trail adjacent to a flood control channel.	62.9	60.1	67.3

Table 4.5-1
Ambient Noise Levels (24-Hour)

Location	Distance to Project Boundary	Description	Energy Average Hourly Noise Level (dBA Leq)		CNEL
			Daytime	Nighttime	
L3	110′	Located west of the Project site adjacent to an existing agricultural use on Archibald Avenue.	70.3	67.1	74.4
L4	90′	Located south of the Project site on Limonite Avenue adjacent to an existing agricultural use on a commercial-designated use lot.	70.8	66.6	74.2
L5	475′	Located southeast of the Project site on Limonite Avenue adjacent to existing residential homes.	65.9	60.9	68.9
L6	1,350′	Located east of the Project site adjacent to existing residential homes north of Limonite Avenue.	64.7	62.0	69.2

Source: *The Merge Noise Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 20, 2018.
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

At the time the noise level measurements were collected, the residential development east of the Project site was under construction. To avoid overstating the ambient noise levels due to background construction activities, and to accurately represent the anticipated ambient noise levels at the future residential homes east of the Project site, a sound level meter was located adjacent to similar existing residential homes in the Project study area at location L2. Of the six noise level measurements identified in Table 4.5-1, the lowest ambient noise levels were measured at location L2. The lowest measured ambient noise levels are used in this analysis to represent ambient noise conditions expected at the future residential uses located east of the Project site. Use of the lowest measured ambient noise level establishes a conservative baseline noise condition for evaluation of incremental and relative effects of Project noise.

Source: Urban Crossroads, Inc.

Figure 4.5-2
Noise Measurement Locations

4.5.3 REGULATORY SETTING

To limit population exposure to intrusive noise levels, the City of Eastvale has established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic generally produces an average sound level that remains constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

4.5.3.1 State of California

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards and provides guidance for local land use compatibility. State law requires each county and city to adopt a General Plan that includes a Noise Element. The purpose of the Noise Element is to "limit the exposure of the community to excessive noise levels." In addition, the CEQA requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

California Building Code

The 2016 State of California's Green Building Standards Code contains mandatory measures for non-residential building construction in Section 5.507 on Environmental Comfort. These noise standards are applied to new construction in California for controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when non-residential structures are developed in areas where the exterior noise levels exceed 65 dBA CNEL, such as within a noise contour of an airport, freeway, railroad, and other areas where noise contours are not readily available. If the development falls within an airport or freeway 65 dBA CNEL noise contour, the combined sound transmission class (STC) rating of the wall and roof-ceiling assemblies must be at least 50. For those developments in areas where noise contours are not readily available, and the noise level exceeds 65 dBA Leq for any hour

of operation, a wall and roof-ceiling combined STC rating of 45, and exterior windows with a minimum STC rating of 40 are required (Section 5.507.4.1).

4.5.3.2 Local Construction Noise Standards

City of Eastvale

The City of Eastvale has set restrictions to control noise impacts associated with the construction of the proposed Project. According to the City of Eastvale Municipal Code (Section 8.52.020), construction activities are limited to the hours of 6:00 a.m. to 6:00 p.m. June through September, and 7:00 a.m. to 6:00 p.m. October through May.

While the City establishes limits to the hours during which construction activity may take place, neither the City's General Plan or Municipal Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers. To evaluate whether the Project will generate potentially significant temporary construction noise levels at off-site sensitive receiver locations, a construction-related noise level threshold is used from the *Criteria for Recommended Standard: Occupational Noise Exposure* prepared by the National Institute for Occupational Safety and Health (NIOSH). A division of the U.S. Department of Health and Human Services, NIOSH identifies a noise level threshold based on the duration of exposure to the source. The construction-related noise level threshold starts at 85 dBA for more than eight hours per day, and for every 3 dBA increase, the exposure time is cut in half. This results in noise level thresholds of 88 dBA for more than four hours per day, 92 dBA for more than one hour per day, 96 dBA for more than 30 minutes per day, and up to 100 dBA for more than 15 minutes per day. For the purposes of this analysis, the lowest, more conservative construction noise level threshold of 85 dBA Leq is used as an acceptable threshold for construction noise at the nearby sensitive receiver locations. Since this construction-related noise level threshold represents the energy average of the noise source over a given time period, they are expressed as Leq noise levels. Therefore, the noise level threshold of 85 dBA Leq over a period of eight hours or more is used to evaluate the potential Project-related construction noise level impacts at the nearby sensitive receiver locations.

The 85 dBA Leq threshold is also consistent with the FTA *Transit Noise and Vibration Impact Assessment* criteria for construction noise which identifies an hourly construction noise level threshold of 90 dBA Leq during daytime hours, and 80 dBA Leq during nighttime hours for construction for general assessment at noise-sensitive uses (e.g., residential, medical/hospital, school, etc.). Detailed assessment, according to the FTA, identifies an 8-hour dBA Leq noise level threshold specific to noise-sensitive uses of 80 dBA Leq. Therefore, this analysis relies on the NIOSH 85 dBA Leq threshold, consistent with FTA general and detailed assessment criteria for noise-sensitive uses and represents an appropriate threshold for construction noise analysis.

Further, a temporary noise level increase of 12 dBA Leq is considered a potentially significant impact based on the Caltrans substantial noise level increase criteria which is used to assess the Project-construction noise level increases.

City of Ontario

As illustrated in Figure 3.3-1, residential uses exist within the City of Ontario to the north of the Project site. As such, appropriate City of Ontario standards and thresholds are used within this analysis where applicable. Similar to the City of Eastvale, neither the Ontario General Plan or Municipal Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers. As such, the previously described NIOSH 85 dBA Leq threshold is used as an appropriate threshold for construction noise analysis.

4.5.3.3 Local Operational Noise Standards

City of Eastvale

The City of Eastvale General Plan includes a Noise Element that provides goals, policies, and action items intended to control and abate environmental noise within the city. The Noise Element specifies the maximum allowable exterior noise levels for new developments impacted by transportation and stationary noise sources.

The Noise Element contains the following four goals:

N-1 Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors and noise-sensitive uses of Eastvale.

N-2 Locate noise-tolerant land uses within areas irrevocably committed to land uses that are noise-producing, such as transportation corridors.

N-3 Ensure that noise sensitive uses do not encroach into areas needed by noise generating uses.

N-4 Locate noise sources away from existing noise sensitive land uses unless appropriate noise control measures are provided.

Transportation Noise and Land Use Compatibility

The noise criteria identified in the City of Eastvale General Plan Noise Element are used to evaluate the land use compatibility of transportation related noise. The compatibility criteria provides the city with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels. As presented in Table N-3, *Noise Compatibility by Land Use Designation*, of the Noise Element provides policies to evaluate the acceptability of the transportation related noise level impacts. Residential land use in the Project study area, is considered completely compatible with exterior noise levels below 60 dBA CNEL and tentatively compatible with noise levels between 60 to 70 dBA CNEL. Non-residential, or non-noise-sensitive use, is considered completely compatible with exterior noise levels less than 70 dBA CNEL, and tentatively compatible with exterior noise levels approaching 75 dBA CNEL.

The City of Eastvale residential exterior noise level criteria for transportation noise sources is generally consistent with the adjacent jurisdictional guidelines of the City of Ontario, as indicated in The Ontario Plan Safety Section on Noise Hazards (Table LU-7), which identifies exterior noise levels ranging from 60 to 70 dBA CNEL as acceptable for residential uses. However, the City of Ontario General Plan Noise Element does not identify specific exterior transportation noise level standards. As such, this analysis relies on the City of Eastvale residential exterior noise level criteria for transportation noise sources when evaluating Project-related off-site traffic noise level increases at noise-

sensitive land uses. In addition, the guidelines of the City of Ontario identify 70 dBA CNEL as normally acceptable for industrial or non-noise-sensitive uses.

Stationary-Source Noise Level Standards

The City of Eastvale General Plan Noise Element identifies exterior noise limits to control operational noise impacts. Table N-4 of the Noise Element provides the city's standards for maximum exterior non-transportation noise levels to which land designated for residential land uses may be exposed for any 30-minute period on any day. For the purposes of this analysis, the noise generated by the roof-top air conditioning units, shopping cart corrals, drive-through speakerphones, car wash tunnel exit and vacuum activities, gas station activity, parking lot vehicle movements, and truck unloading/docking activity of the proposed Project is evaluated based on the city's stationary source standards at the nearby residential land uses.

Table N-4 of the Noise Element requires an exterior noise level standard for the nearby noise-sensitive single-family residential land uses of 60 dBA Leq between the daytime hours of 7:00 a.m. and 10:00 p.m., and 50 dBA Leq between the nighttime hours of 10:00 p.m. to 7:00 a.m.

City of Ontario

Although the Project site is located within the City of Eastvale, sensitive receivers are also located in the City of Ontario. Therefore, to accurately describe the potential operational noise levels, this analysis presents the appropriate operational noise standards for each of the noise-sensitive receivers located within the City of Ontario.

The City of Ontario Municipal Code (Section 5-29.04.a) identifies the acceptable daytime and nighttime ambient exterior noise standards for each land use type. For residential land uses (Noise Zone I), exterior noise levels may not exceed 65 dBA Leq during the daytime hours (7:00 a.m. to 10:00 p.m.) and may not exceed 45 dBA Leq during the nighttime hours (10:00 p.m. to 7:00 a.m.). These standards shall apply for a cumulative period of 15 minutes in any hour, as well as plus 20 dBA for any period of time. In

addition, Section 5-29.04(a)(1) indicates that if the ambient noise level exceeds the resulting standard, the ambient noise level shall be the standard.

4.5.3.4 Vibration Level Standards

The City of Eastvale General Plan Noise Element, Policy N-3, identifies a vibration level standard for sensitive land uses of 0.0787 inches per second peak particle velocity (PPV). Since the City of Ontario does not identify specific vibration level standards, the City of Eastvale vibration standards are used to assess potential impacts from Project construction equipment. Therefore, for the purposes of this analysis, the vibration level shall not exceed 0.0787 in/sec PPV at the nearby sensitive receiver locations during Project construction activities capable of generating vibration levels.

4.5.4 STANDARDS OF SIGNIFICANCE

Based on the noise criteria presented above, and direction provided within the *CEQA Guidelines*, Project noise impacts would be considered potentially significant if the Project is determined to result in or cause the following conditions:

- Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;

- A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project;

- A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project;

- Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels;

- 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; or

- For a project within the vicinity of a private airstrip, expose people residing or working in the Project area to excessive noise levels.

Impact significance criteria applicable to the Project are summarized within the following tables.

Table 4.5-2
Construction Noise Standards

City	Permitted Hours of Construction Activity	Construction Noise Level Threshold (dBA L_{eq})[1]
Eastvale	6:00 a.m. to 6:00 p.m. June through September 7:00 a.m. to 6:00 p.m. October through May	85

Source: *The Merge Noise Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 20, 2018.

[1] NIOSH, Criteria for Recommended Standard: Occupational Noise Exposure, June 1998.

Table 4.5-3
Operational Noise Standards

City	Land Use	Time Period	Exterior Noise Levels (dBA)[3]		
			L_{eq} (Energy Avg.)	L_{25} (15 Mins)	L_{max} (Anytime)
Eastvale[1]	Residential	Daytime	60	-	-
		Nighttime	50	-	-
Ontario[2]	Residential	Daytime	65	65	85
		Nighttime	60[1]	60	80

Source: *The Merge Noise Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 20, 2018.

[1] City of Eastvale General Plan Noise Element, Table N-4.

[2] Section 5-29.04 of the City of Ontario Municipal Code.

[3] Leq represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. The percent noise level is the level exceeded "n" percent of the time during the measurement period. L25 is the noise level exceeded 25% of the time.

"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.; "E. Avg." = logarithmic (energy) average

Table 4.5-4
Vibration Standards

City	Peak Particle Velocity (PPV) Standard (in/sec)
Eastvale[1]	0.0787
Ontario	No specific standard

Source: *The Merge Noise Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 20, 2018.

[1] City of Eastvale General Plan Noise Element, Policy N-3.

"n/a" = The City of Ontario does not identify specific vibration level standards.

Table 4.5-5
Summary of Significance Criteria

Analysis	Receiving Land Use	Condition(s)	Significance Criteria	
			Daytime	Nighttime
Off-Site Traffic Noise[1]	Noise-Sensitive	if ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase	
		if ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL Project increase	
		if ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL Project increase	
	Non-Noise-Sensitive[2]	if ambient is < 70 dBA CNEL	≥ 5 dBA CNEL Project increase	
		if ambient is > 70 dBA CNEL	≥ 3 dBA CNEL Project increase	
Operational Noise	Noise-Sensitive	Exterior Noise Level Standards[3]	See Table 4.5-3.	
		if ambient is < 60 dBA L_{eq1}	≥ 5 dBA L_{eq} Project increase	
		if ambient is 60 - 65 dBA L_{eq1}	≥ 3 dBA L_{eq} Project increase	
		if ambient is > 65 dBA L_{eq1}	≥ 1.5 dBA L_{eq} Project increase	
Construction Noise and Vibration		Noise Level Threshold[4]	85 dBA L_{eq}	n/a
		Noise Level Increase[5]	12 dBA L_{eq}	n/a
		Vibration Level Threshold[6]	0.0787 PPV	n/a

Source: *The Merge Noise Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 20, 2018.

[1] FICON, 1992.

[2] City of Eastvale and Ontario General Plan Noise Element land use compatibility criteria for non-noise-sensitive uses (e.g., commercial, industrial).

[3] City of Eastvale General Plan Noise Element, Table N-4 and Section 5-29.04 of the City of Ontario Municipal Code.

[4] NIOSH, Criteria for Recommended Standard: Occupational Noise Exposure, June 1998.

[5] Caltrans Traffic Noise Analysis Protocol, May 2011.

[6] City of Eastvale General Plan Noise Element, Policy N-3.

"Daytime" = 7:00 a.m. - 10:00 p.m.; "Nighttime" = 10:00 p.m. - 7:00 a.m.; "n/a" = No nighttime construction activity is permitted and therefore, no nighttime construction noise level threshold is identified; "PPV" = Peak particle velocity.

4.5.5 POTENTIAL IMPACTS AND MITIGATION MEASURES

Following is an analysis of potential noise impacts that could occur because of the Project. Noise levels will change both on-site and off-site if the Project is approved and implemented. The discussion of potential noise/vibration impacts is organized under the following topical headings:

- Construction-Source Noise;
- Vehicular-Source Noise;
- Operational/Area-Source Noise; and
- Vibration.

For each topical discussion, potential impacts are evaluated under applicable criteria established above in Section 4.5.4, *Standards of Significance*.

SENSITIVE RECEIVER LOCATIONS

To assess the potential for long-term operational noise and short-term construction noise and vibration impacts, six receiver locations were identified as representative locations for focused analysis, as shown in Figure 4.5-3 and described below.

R1: Located approximately 135 feet north of the Project site, R1 represents existing residential homes and outdoor living areas (backyards). A 24-hour noise level was measured near this location, L2, to describe the existing ambient noise environment.

R2: Location R2 represents existing residential homes north of the Project site at roughly 112 feet and outdoor living areas (backyards). A 24-hour noise level measurement, L2, is used to describe the existing ambient noise environment at this location.

LEGEND:

Receiver Locations

6' Existing Barrier Height (in feet)

Distance from receiver to Project site boundary (in feet)

Existing Barrier

N

NOT TO SCALE

Source: Urban Crossroads, Inc.

Figure 4.5-3
Sensitive Receiver Locations

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R3: Location R3 represents recently constructed residential homes and outdoor living areas (backyards). The homes are located 10 feet from the Project site property line. A 24-hour noise level measurement, L2, is used describe the existing ambient noise environment at this location. As previously discussed, representative ambient noise levels at measurement location L2 are used to describe the ambient conditions at this receiver location due to on-going construction activities of the future residential use.

R4: Location R4 represents recently constructed residential homes and outdoor living areas (backyards) at roughly 10 feet east of the Project site. A 24-hour noise level measurement, L2, is used describe the existing ambient noise environment at this location. As previously discussed, representative ambient noise levels at measurement location L2 are used to describe the ambient conditions at this receiver location due to on-going construction activities of the future residential use.

R5: Location R5 represents existing residential homes located roughly 512 feet southeast of the Project site across Limonite Avenue. A 24-hour noise level measurement was taken east of this location, L5, to describe the existing ambient noise environment.

R6: Location R6 represents an existing residential home located approximately 220 feet west of the Project site on Archibald Avenue. A 24-hour noise level measurement was taken near this location, L3, to describe the existing ambient noise environment.

Other sensitive land uses in the Project study area that are located at greater distances than those identified in this analysis would experience lower noise levels than those identified here due to the additional attenuation from distance and the shielding of intervening structures.

CONSTRUCTION-SOURCE NOISE

Potential Impact: *Project construction activities and associated noise would result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.*

Impact Analysis: Construction noise represents a short-term impact on ambient noise levels. Noise generated by construction equipment, including trucks, power tools, concrete mixers, and portable generators can reach high levels. Project construction is expected to occur in the following stages:

- Site Preparation;
- Grading;
- Building Construction;
- Paving; and
- Architectural Coating.

The construction noise analysis was prepared using reference noise level measurements to describe the typical construction activity noise levels for each stage of Project construction.[2] The construction reference noise level measurements represent the noise generated by typical construction equipment and activities. Noise levels generated by heavy construction equipment can range from approximately 68 dBA to in excess of 80 dBA when measured at 50 feet. However, these noise levels diminish with distance from the construction site at a rate of 6 dBA per doubling of distance. For example, a noise level of 80 dBA measured at 50 feet from the noise source to the receiver would be reduced to 74 dBA at 100 feet from the source to the receiver and would be further reduced to 68 dBA at 200 feet from the source to the receiver.

[2] Please refer to Noise Impact Analysis (EIR Appendix E) Table 10-1 for a complete listing of reference noise levels used within the analysis.

As shown in previous Table 4.5-5, construction noise impacts would be considered significant if any of the following occur as a direct result of the Project:

- If Project-related construction activities:
  - Generate noise levels which exceed the 85 dBA Leq acceptable noise level threshold at the nearby sensitive receiver locations (NIOSH, Criteria for Recommended Standard: Occupational Noise Exposure); or
  - Generate temporary Project construction-related noise level increases which exceed the 12 dBA Leq substantial noise level increase threshold at noise-sensitive receiver locations (Caltrans, Traffic Noise Analysis Protocol).

Using the reference noise levels, Table 4.5-6 presents the highest noise levels at the sensitive receiver locations identified in Figure 4.5-3. Compliance with the applicable threshold (as discussed previously within Section 4.5.3.2 and presented in Table 4.5-2) is also presented.

Table 4.5-6
Project Construction Noise Level

Receiver Location	Unmitigated Construction Noise Levels (dBA Leq)		
	Highest Construction Noise Level	Threshold[1]	Threshold Exceeded ?
R1	63.7	85	No
R2	64.9	85	No
R3	72.3	85	No
R4	72.3	85	No
R5	47.0	85	No
R6	59.8	85	No

Source: *The Merge Noise Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 20, 2018.

[1] *Criteria for Recommended Standard: Occupational Noise Exposure prepared by the National Institute for Occupational Safety and Health* (NIOSH).

As shown above, Project construction noise would not exceed the applicable NIOSH threshold of 85 dBA Leq at any of the sensitive receiver locations.

To describe the temporary Project construction noise level contributions to the existing ambient noise environment, the Project construction noise levels presented above were combined with the existing ambient noise levels measurements at the off-site receiver locations. The difference between the combined Project-construction and ambient noise levels are used to describe the construction noise level contributions. Temporary noise level increases that would be experienced at sensitive receiver locations when Project construction-source noise is added to the ambient daytime conditions are presented in Table 4.5-7.

Table 4.5-7
Unmitigated Construction Noise Level Increases

Receiver Location	Highest Noise Level	Measurement Location	Ambient Noise Level	Combined Project and Ambient	Project Contribution	Threshold Exceeded?[1]
R1	63.7	L2	62.9	66.3	3.4	No
R2	64.9	L2	62.9	67.0	4.1	No
R3	72.3	L2	62.9	72.8	9.9	No
R4	72.3	L2	62.9	72.8	9.9	No
R5	47.0	L5	65.9	66.0	0.1	No
R6	59.8	L3	70.3	70.7	0.4	No

Source: *The Merge Noise Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 20, 2018.

[1] A temporary noise level increase of 12 dBA Leq is considered a potentially significant impact based on the Caltrans substantial noise level increase criteria. *Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects*. May 2011.

As indicated in Table 4.5-7, the Project will contribute unmitigated construction noise level increases between 0.1 to 9.9 dBA Leq at the adjacent sensitive receiver locations during the daytime hours. As such, temporary noise level increases during Project construction activities would remain below the Caltrans 12 dBA Leq significance threshold at all receiver locations.

Level of Significance: Less-Than-Significant.

Potential Impact: *Project construction activities and associated noise would result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project.*

Impact Analysis: As indicated, in Table 4.5-7 unmitigated Project construction-source noise would contribute between 0.1 and 9.9 dBA Leq to ambient conditions. Based on the applicable Caltrans threshold (*Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects*, May 2011), a temporary noise level increase of 12 dBA Leq is considered a potentially significant impact. Project contributions to ambient noise conditions would not exceed the 12 dBA Leq significance threshold at nearby receiver locations, and impacts in this regard are considered less-than-significant.

Level of Significance: Less-Than-Significant.

TRAFFIC NOISE

Potential Impact: *Project-related off-site traffic noise would result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or other applicable standards of other agencies.*

Impact Analysis: To assess impacts resulting from off-site Project-related traffic noise on area roadways, the Project Noise Study developed noise contours for Study Area roadway segments based on average daily trip (ADT) estimates, Project trip generation, and trip distribution as presented in *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018 (Traffic Impact Analysis).

The noise contours were used to assess the Project's incremental vehicular-source noise impacts at land uses adjacent to roadways conveying Project traffic. Potential off-site vehicular-source noise impacts were evaluated under the following scenarios:

- Existing Conditions Without / With Project: This scenario refers to the existing present-day noise conditions without and with the Project.

- Opening Year 2021 Without / With the Project: This scenario refers to Opening Year noise conditions without and with the Project. This scenario includes all cumulative projects identified in the Traffic Impact Analysis.

- Horizon Year 2040 Without / With Project Without Limonite Avenue Extension: This scenario below refers to the background noise conditions at future Year 2040 without and with the Project plus ambient growth without the Limonite Avenue extension. This scenario corresponds to Year 2040 conditions, and includes all cumulative projects identified in the Traffic Impact Analysis.

- Horizon Year 2040 Without / With Project With Limonite Avenue Extension: This scenario below refers to the background noise conditions at future Year 2040 without and with the Project plus ambient growth with the Limonite Avenue extension. This scenario corresponds to Year 2040 conditions, and includes all cumulative projects identified in the Traffic Impact Analysis.

As shown in previous Table 4.5-5, off-site traffic noise impacts would be considered significant if any of the following occur as a direct result of the Project:

- When the noise levels at existing and future noise-sensitive land uses (e.g., residential, etc.):
  - Are less than 60 dBA CNEL and the Project creates a readily perceptible 5 dBA CNEL or greater Project-related noise level increase; or
  - Range from 60 to 65 dBA CNEL and the Project creates a barely perceptible 3 dBA CNEL or greater Project-related noise level increase; or
  - Already exceed 65 dBA CNEL, and the Project creates a community noise level impact of greater than 1.5 dBA CNEL (FICON, 1992).

- When the noise levels at existing and future non-noise-sensitive land uses (e.g., industrial, etc.):

- Are less than the City of Eastvale General Plan Noise Element 70 dBA CNEL criteria and the Project creates a readily perceptible 5 dBA CNEL or greater Project-related noise level increase; or
- Are greater than the City of Eastvale General Plan Noise Element 70 dBA CNEL criteria and the Project creates a barely perceptible 3 dBA CNEL or greater Project-related noise level increase.

Tables 4.5-8 through 4.5-11 present the noise levels associated with the above scenarios.

Table 4.5-8
Existing Conditions Plus Project Off-Site Traffic Noise Impacts

	Road	Segment	CNEL at 100 feet (dBA)			Potential Significant Impact[1]
			Without Project	With Project	Project Addition	
1	Grove Ave.	n/o Merrill Ave.	71.4	71.4	0.0	No
2	Hellman Ave.	n/o Merrill Ave.	50.7	54.2	3.5[2]	No
3	Hellman Ave.	s/o Kimball Ave.	73.7	73.7	0.0	No
4	Archibald Ave.	n/o Riverside Dr.	75.4	75.5	0.1	No
5	Archibald Ave.	s/o Riverside Dr.	76.3	76.4	0.1	No
6	Archibald Ave.	s/o Chino Ave.	75.5	75.7	0.2	No
7	Archibald Ave.	s/o Schaefer Ave.	75.5	75.6	0.1	No
8	Archibald Ave.	s/o Ontario Ranch Rd.	76.5	76.7	0.2	No
9	Archibald Ave.	s/o Eucalyptus Ave.	76.6	76.7	0.1	No
10	Archibald Ave.	s/o Merrill Ave.	76.8	77.0	0.2	No
11	Archibald Ave.	s/o Limonite Ave.	74.2	74.3	0.1	No
12	Archibald Ave.	s/o 65th St.	74.7	74.7	0.0	No
13	Archibald Ave.	s/o Schleisman Rd.	74.1	74.1	0.0	No
14	Ontario Ranch Rd.	e/o Archibald Ave.	73.6	73.6	0.0	No
15	Merrill Ave.	w/o Grove Ave.	73.5	73.6	0.1	No
16	Merrill Ave.	w/o Flight Ave.	73.9	74.1	0.2	No
17	Merrill Ave.	e/o Hellman Ave.	73.9	74.1	0.2	No
18	Merrill Ave.	e/o Archibald Ave.	67.2	67.3	0.1	No
19	Kimball Ave.	w/o Hellman Ave.	74.7	74.8	0.1	No
20	Limonite Ave.	e/o Hellman Ave.	n/a	n/a	n/a	n/a

Table 4.5-8
Existing Conditions Plus Project Off-Site Traffic Noise Impacts

	Road	Segment	CNEL at 100 feet (dBA)			Potential Significant Impact[1]
			Without Project	With Project	Project Addition	
21	Limonite Ave.	e/o Archibald Ave.	73.0	73.2	0.2	No
22	Limonite Ave.	e/o Harrison Ave.	73.7	74.0	0.3	No
23	Limonite Ave.	e/o Sumner Ave.	74.0	74.2	0.2	No
24	Limonite Ave.	e/o Scholar Way	74.5	74.6	0.1	No
25	Limonite Ave.	e/o Hamner Ave.	75.1	75.2	0.1	No

Source: *The Merge Noise Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 20, 2018.
n/a = Roadway segment does not exist in the given scenario.
[1] Please refer to Table 4.5-5, *Summary of Significance Criteria,* for applicable thresholds.
[2] The highest Project-related increase of up to 3.5 dBA CNEL on Segment 2 is due to the overall percentage increase in the total ADT volume from Existing Without Project Conditions to Existing With Project Conditions.

As shown in Table 4.5-8, under Existing Plus Project Conditions, Project-related noise level increases would not exceed applicable thresholds presented in Table 4.5-5.

Table 4.5-9
Opening Year Off-Site Traffic Noise Impacts

	Road	Segment	CNEL at 100 feet (dBA)			Potential Significant Impact[1]
			Without Project	With Project	Project Addition	
1	Grove Ave.	n/o Merrill Ave.	72.9	72.9	0.0	No
2	Hellman Ave.	n/o Merrill Ave.	65.0	65.2	0.2	No
3	Hellman Ave.	s/o Kimball Ave.	74.7	74.7	0.0	No
4	Archibald Ave.	n/o Riverside Dr.	77.2	77.2	0.0	No
5	Archibald Ave.	s/o Riverside Dr.	78.0	78.0	0.0	No
6	Archibald Ave.	s/o Chino Ave.	77.6	77.6	0.0	No
7	Archibald Ave.	s/o Schaefer Ave.	77.5	77.6	0.1	No
8	Archibald Ave.	s/o Ontario Ranch Rd.	78.6	78.6	0.0	No
9	Archibald Ave.	s/o Eucalyptus Ave.	78.6	78.7	0.1	No
10	Archibald Ave.	s/o Merrill Ave.	78.8	78.9	0.1	No
11	Archibald Ave.	s/o Limonite Ave.	76.3	76.4	0.1	No
12	Archibald Ave.	s/o 65th St.	76.4	76.5	0.1	No
13	Archibald Ave.	s/o Schleisman Rd.	75.4	75.4	0.0	No

Table 4.5-9
Opening Year Off-Site Traffic Noise Impacts

	Road	Segment	CNEL at 100 feet (dBA)			Potential Significant Impact[1]
			Without Project	With Project	Project Addition	
14	Ontario Ranch Rd.	e/o Archibald Ave.	75.5	75.5	0.0	No
15	Merrill Ave.	w/o Grove Ave.	76.3	76.4	0.1	No
16	Merrill Ave.	w/o Flight Ave.	76.8	76.9	0.1	No
17	Merrill Ave.	e/o Hellman Ave.	76.7	76.9	0.2	No
18	Merrill Ave.	e/o Archibald Ave.	70.6	70.7	0.1	No
19	Kimball Ave.	w/o Hellman Ave.	75.9	76.0	0.1	No
20	Limonite Ave.	e/o Hellman Ave.	n/a	n/a	n/a	n/a
21	Limonite Ave.	e/o Archibald Ave.	75.2	75.4	0.2	No
22	Limonite Ave.	e/o Harrison Ave.	76.1	76.2	0.1	No
23	Limonite Ave.	e/o Sumner Ave.	76.3	76.4	0.1	No
24	Limonite Ave.	e/o Scholar Way	76.5	76.6	0.1	No
25	Limonite Ave.	e/o Hamner Ave.	76.6	76.7	0.1	No

Source: *The Merge Noise Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 20, 2018.
[1] Please refer to Table 4.5-5, *Summary of Significance Criteria,* for applicable thresholds.
n/a = Roadway segment does not exist in the given scenario.

As shown in Table 4.5-9, under Opening Year Conditions, Project-related noise level increases would not exceed applicable thresholds presented in Table 4.5-5.

Table 4.5-10
Horizon Year 2040 Without Limonite Extension Off-Site Traffic Noise Impacts

	Road	Segment	CNEL at 100 feet (dBA)			Potential Significant Impact[1]
			Without Project	With Project	Project Addition	
1	Grove Ave.	n/o Merrill Ave.	73.1	73.1	0.0	No
2	Hellman Ave.	n/o Merrill Ave.	70.1	70.2	0.1	No
3	Hellman Ave.	s/o Kimball Ave.	73.9	73.9	0.0	No
4	Archibald Ave.	n/o Riverside Dr.	75.8	75.9	0.1	No
5	Archibald Ave.	s/o Riverside Dr.	77.6	77.7	0.1	No
6	Archibald Ave.	s/o Chino Ave.	77.5	77.5	0.0	No
7	Archibald Ave.	s/o Schaefer Ave.	77.2	77.3	0.1	No

Table 4.5-10
Horizon Year 2040 Without Limonite Extension Off-Site Traffic Noise Impacts

	Road	Segment	CNEL at 100 feet (dBA)			Potential Significant Impact[1]
			Without Project	With Project	Project Addition	
8	Archibald Ave.	s/o Ontario Ranch Rd.	78.0	78.1	0.1	No
9	Archibald Ave.	s/o Eucalyptus Ave.	78.1	78.2	0.1	No
10	Archibald Ave.	s/o Merrill Ave.	77.5	77.7	0.2	No
11	Archibald Ave.	s/o Limonite Ave.	76.9	76.9	0.0	No
12	Archibald Ave.	s/o 65th St.	77.0	77.0	0.0	No
13	Archibald Ave.	s/o Schleisman Rd.	75.9	75.9	0.0	No
14	Ontario Ranch Rd.	e/o Archibald Ave.	75.0	75.0	0.0	No
15	Merrill Ave.	w/o Grove Ave.	76.3	76.4	0.1	No
16	Merrill Ave.	w/o Flight Ave.	77.6	77.7	0.1	No
17	Merrill Ave.	e/o Hellman Ave.	78.7	78.7	0.0	No
18	Merrill Ave.	e/o Archibald Ave.	69.5	69.6	0.1	No
19	Kimball Ave.	w/o Hellman Ave.	74.8	74.9	0.1	No
20	Limonite Ave.	e/o Hellman Ave.	n/a	n/a	n/a	n/a
21	Limonite Ave.	e/o Archibald Ave.	76.3	76.4	0.1	No
22	Limonite Ave.	e/o Harrison Ave.	76.6	76.7	0.1	No
23	Limonite Ave.	e/o Sumner Ave.	76.6	76.7	0.1	No
24	Limonite Ave.	e/o Scholar Way	76.6	76.7	0.1	No
25	Limonite Ave.	e/o Hamner Ave.	75.9	76.0	0.1	No

Source: *The Merge Noise Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 20, 2018.
[1] Please refer to Table 4.5-5, *Summary of Significance Criteria,* for applicable thresholds.
n/a = Roadway segment does not exist in the given scenario.

As shown in Table 4.5-10, under Horizon Year Conditions (without Limonite Extension), Project-related noise level increases would not exceed applicable thresholds presented in Table 4.5-5.

Table 4.5-11
Horizon Year 2040 With Limonite Extension Off-Site Traffic Noise Impacts

	Road	Segment	CNEL at 100 feet (dBA)			Potential Significant Impact[1]
			Without Project	With Project	Project Addition	
1	Grove Ave.	n/o Merrill Ave.	72.3	72.3	0.0	No
2	Hellman Ave.	n/o Merrill Ave.	69.6	69.7	0.1	No
3	Hellman Ave.	s/o Kimball Ave.	75.1	75.1	0.0	No
4	Archibald Ave.	n/o Riverside Dr.	75.8	75.9	0.1	No
5	Archibald Ave.	s/o Riverside Dr.	77.6	77.7	0.1	No
6	Archibald Ave.	s/o Chino Ave.	77.5	77.5	0.0	No
7	Archibald Ave.	s/o Schaefer Ave.	77.2	77.3	0.1	No
8	Archibald Ave.	s/o Ontario Ranch Rd.	78.0	78.1	0.1	No
9	Archibald Ave.	s/o Eucalyptus Ave.	78.1	78.2	0.1	No
10	Archibald Ave.	s/o Merrill Ave.	78.2	78.3	0.1	No
11	Archibald Ave.	s/o Limonite Ave.	76.1	76.2	0.1	No
12	Archibald Ave.	s/o 65th St.	75.9	76.0	0.1	No
13	Archibald Ave.	s/o Schleisman Rd.	75.2	75.2	0.0	No
14	Ontario Ranch Rd.	e/o Archibald Ave.	75.0	75.0	0.0	No
15	Merrill Ave.	w/o Grove Ave.	77.5	77.6	0.1	No
16	Merrill Ave.	w/o Flight Ave.	78.1	78.1	0.0	No
17	Merrill Ave.	e/o Hellman Ave.	77.6	77.7	0.1	No
18	Merrill Ave.	e/o Archibald Ave.	70.6	70.7	0.1	No
19	Kimball Ave.	w/o Hellman Ave.	76.8	76.8	0.0	No
20	Limonite Ave.	e/o Hellman Ave.	74.2	74.3	0.1	No
21	Limonite Ave.	e/o Archibald Ave.	76.3	76.5	0.2	No
22	Limonite Ave.	e/o Harrison Ave.	76.6	76.7	0.1	No
23	Limonite Ave.	e/o Sumner Ave.	76.6	76.7	0.1	No
24	Limonite Ave.	e/o Scholar Way	76.6	76.7	0.1	No
25	Limonite Ave.	e/o Hamner Ave.	75.9	76.0	0.1	No

Source: *The Merge Noise Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 20, 2018.
[1] Please refer to Table 4.5-5, *Summary of Significance Criteria,* for applicable thresholds.

As shown in Table 4.5-11, under Horizon Year Conditions (with Limonite Extension), Project-related noise level increases would not exceed applicable thresholds presented in Table 4.5-5.

Summary

A shown above, Project contributions to off-site roadway noise levels would not result in noise levels exceeding city standards (presented in Table 4.5-5) or that would significantly impact any existing or future sensitive noise receptors. On this basis, Project-related off-site traffic noise would not result in noise levels exceeding standards established in a general plan, noise ordinance, or other applicable standards of other agencies.

Level of Significance: Less-Than-Significant.

Potential Impact: *Project-related off-site traffic noise would result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.*

Impact Analysis: Tables 4.5-8 through 4.5-11, presented above, show the off-site roadway noise levels that can be expected under the following scenarios: Existing Conditions Without / With Project, Opening Year 2021 Without / With the Project, Horizon Year 2040 Without / With Project Without Limonite Avenue Extension, and Horizon Year 2040 Without / With Project With Limonite Avenue Extension. As shown, off-site Project-related traffic noise would not exceed the applicable significance thresholds at any roadway segments within the Study Area. As such, Project-related traffic noise would not result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.

Level of Significance: Less-Than-Significant.

OPERATIONAL/AREA-SOURCE NOISE

Potential Impact: *Project operational/area-source noise would result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance.*

Reference Noise Levels

To estimate the Project operational noise impacts, reference noise level measurements were collected from similar types of uses/activities to represent the noise levels that can be expected with the operation of the proposed Project. Project operational/area noise sources are anticipated to include: roof-top air conditioning units, shopping cart corrals, drive-through speakerphones, car wash tunnel exit (air dryer), gas station activity, parking lot movements, car wash vacuum activity, and truck unloading/docking activity. Reference noise levels for these noise sources employed in this analysis are summarized in Table 4.5-12. Consistent with the City of Eastvale and City of Ontario operational noise level standards, the reference noise levels for each noise source used in this analysis are provided under the applicable Leq , L_{25}, and Lmax noise level descriptors.

Table 4.5-12
Reference Noise Level Measurements

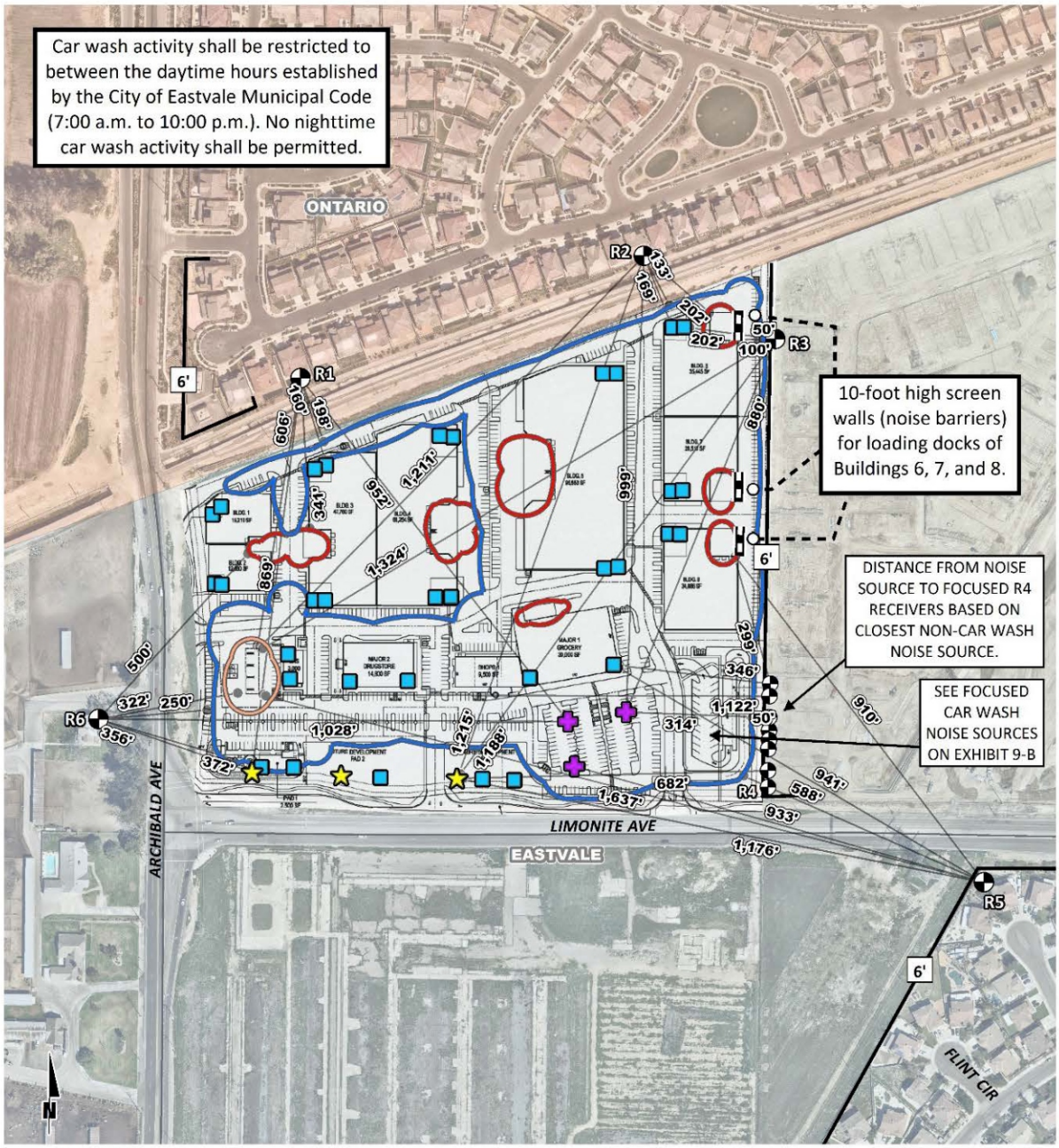
Noise Source	Duration	Distance	Height	Hourly Activity (mins)	Reference Noise Level (dBA Leq)					
					At Ref Distance			At 50 Feet		
					L_{eq}	L_{25}	L_{max}	L_{eq}	L_{25}	L_{max}
Roof-Top A/C Unit	96:00:00	5′	5′	60	77.2	76.1	78.2	57.2	56.1	58.2
Shopping Cart Corral	00:00:16	5′	3′	60	72.9	70.3	83.4	52.9	50.3	63.4
Drive-Through Speakerphone	02:00:00	15′	3′	60	62.0	62.1	66.4	51.5	51.6	55.9
Car Wash Tunnel Exit (Air Dryer)	-	40′	10′	60	76.0	65.2	81.5	74.1	63.3	79.6
Gas Station Activity	00:03:00	5′	5′	60	68.2	66.9	82.4	48.2	46.9	62.4
Parking Lot Movements	00:15:00	5′	5′	60	60.1	60.7	79.5	45.1	45.7	64.5
Car Wash Vacuum Activity	00:01:02	5′	5′	60	74.6	75.4	78.8	54.6	55.4	58.8
Truck Unloading/Docking Activity	00:15:00	30′	8′	60	67.2	67.2	80.0	62.8	62.8	75.6

Source: *The Merge Noise Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 20, 2018.

Table 4.5-12 shows the reference noise level measurement for each operational activity expected at the Project site, in addition to the duration the reference noise level measurement was collected. All reference measurements represent peak observed activities over the given reference measurement duration. Further, to present a conservative approach, all operational activities within the Project site are analyzed assuming they will operate for 60 minutes of the "peak-hour" condition. As such, this analysis includes no periods of inactivity in its calculations of Project-only operational noise levels. This approach likely overstates the actual Project impacts since it assumes all operational noise sources operating simultaneously when in reality, some of these activities (such as air-conditioning units) cycle on and off throughout the hour. Locations of the operational-source noise generators proposed within the Project site are illustrated in Figure 4.5-4.

As shown in previous Table 4.5-5, operational noise impacts would be considered significant if any of the following occur as a direct result of the Project:

- If Project-related operational (stationary-source) noise levels exceed the exterior daytime or nighttime noise level standards for sensitive residential land uses in either the City of Eastvale or Ontario as outlined on Table 4.5-3; or
- If the existing ambient noise levels at the nearby noise-sensitive receivers near the Project site:
    - Are less than 60 dBA Leq and the Project creates a readily perceptible 5 dBA Leq or greater Project-related noise level increase; or
    - Range from 60 to 65 dBA Leq and the Project creates a barely perceptible 3 dBA Leq or greater Project-related noise level increase; or
    - Already exceed 65 dBA Leq, and the Project creates a community noise level impact of greater than 1.5 dBA Leq (FICON, 1992).



Source: Urban Crossroads, Inc.

Figure 4.5-4
Operational Noise Source Locations

Using the reference noise levels listed above in Table 4.5-12, operational noise levels as received at off-site sensitive receiver locations were estimated. In addition, a focused evaluation was conducted for the proposed car wash use which includes additional receivers at location R4 (R4.1 to R4.4) to represent individual backyards, as well as first and second-floor building façades of each residence. This focused car wash analysis is provided due the proximity of the residential homes located immediately east of the car wash tunnel exit blowers and vacuum areas, as shown in Figure 4.5-5. Unmitigated operational noise levels are presented in Table 4.5-13.

Table 4.5-13
Unmitigated Operational Noise Levels

Receiver	Location	City	Noise Level at Receiver Locations (dBA)			Threshold Exceeded?[1]	
			L_{eq} (E. Avg.)	L_{25} (15 Mins)	L_{max} (Anytime)	Daytime	Nighttime
R1	Backyard	Ontario	49.1	48.7	61.2	No	No
R2	Backyard		52.3	52.0	64.6	No	No
R3	Backyard	Eastvale	51.8	51.8	65.3	No	**Yes**
R4.1	Backyard		46.0	45.6	60.5	No	No
	1st Floor		46.3	45.8	60.5	No	No
	2nd Floor		51.0	50.7	66.0	No	**Yes**
R4.2	Backyard		48.3	46.9	60.6	No	No
	1st Floor		47.0	46.5	60.6	No	No
	2nd Floor		51.6	51.3	66.0	No	**Yes**
R4.3	Backyard		48.7	47.2	60.7	No	No
	1st Floor		50.1	49.1	61.0	No	**Yes**
	2nd Floor		54.7	54.7	66.6	No	**Yes**
R4.4	Backyard		49.7	49.0	61.0	No	No
	1st Floor		49.3	49.0	61.0	No	No
	2nd Floor		58.2	58.5	67.8	No	**Yes**
R5	Backyard		35.7	35.2	47.5	No	No
R6	1st Floor		45.3	44.4	55.6	No	No

Source: *The Merge Noise Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 20, 2018.
[1] Please refer to Table 4.5-5, *Summary of Significance Criteria,* for applicable thresholds.

As shown above, daytime noise standards will not be exceeded because typical residential materials will reduce these noise levels in interior spaces under the "closed window" conditions. However, should the windows be open during Project operations (at receiver locations R4.1, R4.2, R4.3, and R4.4), the residential receivers will hear car wash-related operational noise during daytime hours.

The nighttime operational noise levels associated with the Project will exceed the City of Eastvale's nighttime applicable exterior noise level standards at receiver locations R3, R4.1, R4.2, R4.3, and R4.4.

Level of Significance: Potentially Significant.

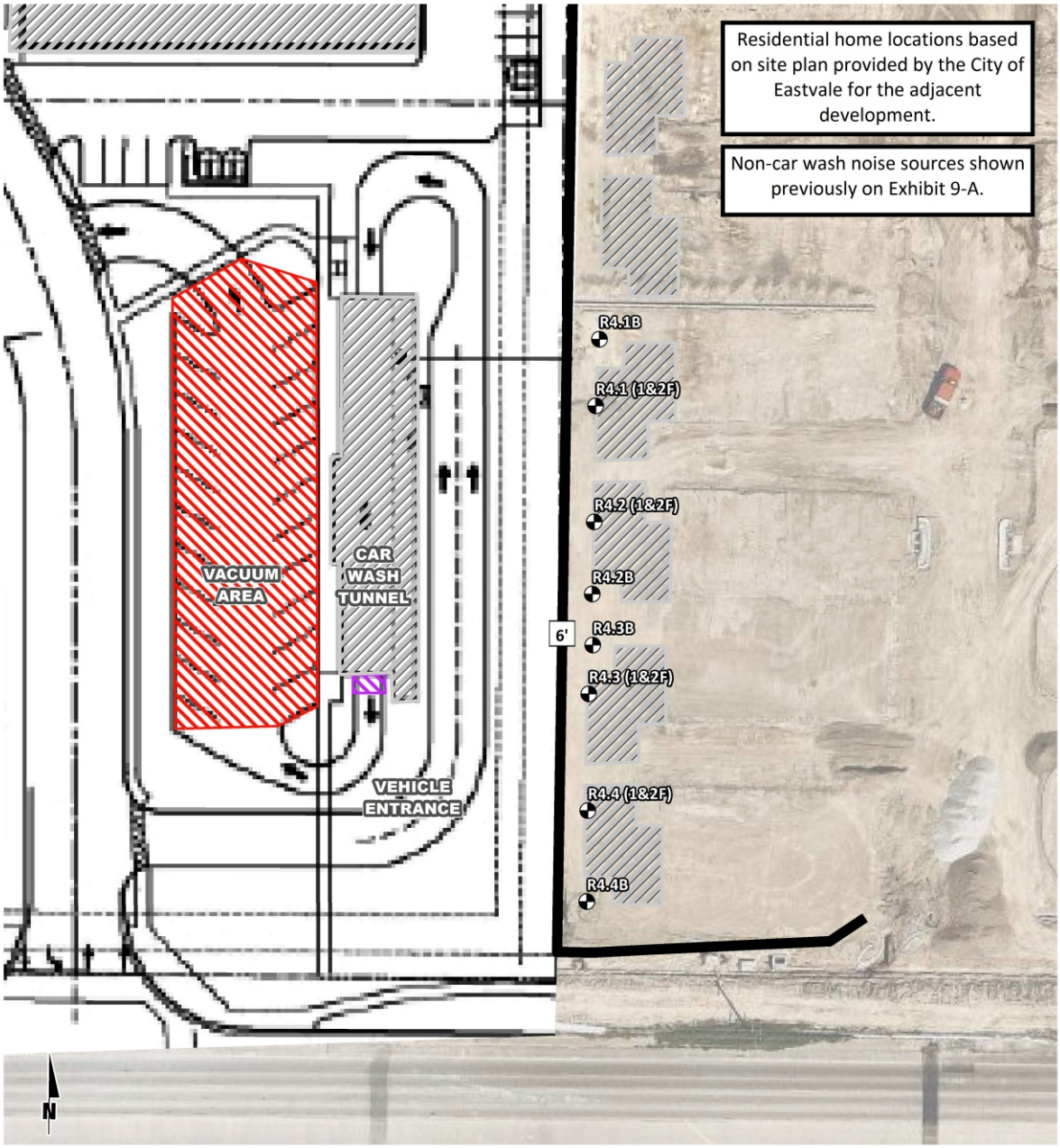
Mitigation Measures:

4.5.1 *Minimum 10-foot high screen walls (noise barriers) shall be constructed at the eastern warehouse building loading docks (Buildings 6, 7, and 8), as shown in Figure 4.5-4. The barriers shall provide a weight of at least four pounds per square foot of face area with no decorative cutouts or line-of-sight openings between shielded areas and the roadways, and a minimum transmission loss of 20 dBA. The barriers shall consist of a solid face from top to bottom. All gaps (except for weep holes) should be filled with grout or caulking. The noise barriers shall be constructed using the following materials:*

- *Masonry block;*
- *Earthen berm;*
- *Or any combination of construction materials capable of the minimum weight of four pounds per square foot and a minimum transmission loss of 20 dBA.*

4.5.2 *No car wash activities shall be permitted between the hours of 10:00 p.m. and 7:00 a.m.*

Level of Significance After Mitigation: Less-Than-Significant. Table 4.5-14 presents the operational noise levels that can be expected at the receiver locations after the implementation of Mitigation Measures 4.5.1 and 4.5.2.



LEGEND:

6' Barrier Height (in feet)	Approximate Building Locations
Existing Barrier	Vacuum Activity
Focused Analysis Receiver Locations	Car Wash Tunnel Exit

"B" = Backyard Receiver Location
"(1&2F)" = First and Second-Floor Building Facade Receiver Location

Source: Urban Crossroads, Inc.

Figure 4.5-5
Car Wash Noise Sources and Receiver Locations

Table 4.5-14
Mitigated Operational Noise Levels

Receiver	Location	City	Noise Level at Receiver Locations (dBA)			Threshold Exceeded?[1]	
			L_{eq} (E. Avg.)	L_{25} (15 Mins)	L_{max} (Anytime)	Daytime	Nighttime
R1	Backyard	Ontario	49.1	48.7	61.2	No	No
R2	Backyard		52.3	52.0	64.6	No	No
R3	Backyard	Eastvale	49.9	49.9	63.8	No	No
R4 (at most affected location)	Backyard & 1st Floor		43.9	43.9	60.0	No	No
	2nd Floor		47.8	47.9	64.9	No	No
R5	Backyard		34.1	33.8	47.3	No	No
R6	1st Floor		42.5	41.9	55.1	No	No

Source: *The Merge Noise Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 20, 2018.

[1] Please refer to Tables 4.5-3 and 4.5-5, presented previously.

As shown in Table 4.5-14, with the incorporation of Mitigation Measures 4.5.1 and 4.5.2, operational noise levels associated with the Project would not exceed the applicable thresholds presented in Tables 4.5-5 and 4.5-6 (presented previously). Based on the preceding discussion, the potential for Project operational/area-source noise to result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Project operational/area-source noise would result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.*

Impact Analysis: To describe the Project operational noise level contributions, the Project operational noise levels were combined with the existing ambient noise levels measurements for the off-site receiver locations potentially impacted by Project operational noise sources. Tables 4.5-15 and 4.5-16 present the daytime and nighttime operational noise level increases associated with the Project.

Table 4.5-15
Daytime Operational Noise Level Contributions (dBA L_{eq})

Receiver	Location	Unmitigated Project Noise Level	Measurement Location	Ambient	Project Plus Ambient	Project Contribution	Threshold Exceeded?[1]
R1	Backyard	49.1	L2	62.9	63.1	0.2	No
R2	Backyard	52.3	L2	62.9	63.3	0.4	No
R3	Backyard	51.8	L2	62.9	63.2	0.3	No
R4.1	Backyard	46.0	L2	62.9	63.0	0.1	No
	1st Floor	46.3	L2	62.9	63.0	0.1	No
	2nd Floor	51.0	L2	62.9	63.2	0.3	No
R4.2	Backyard	48.3	L2	62.9	63.0	0.1	No
	1st Floor	47.0	L2	62.9	63.0	0.1	No
	2nd Floor	51.6	L2	62.9	63.2	0.3	No
R4.3	Backyard	48.7	L2	62.9	63.1	0.2	No
	1st Floor	50.1	L2	62.9	63.1	0.2	No
	2nd Floor	54.7	L2	62.9	63.5	0.6	No
R4.4	Backyard	49.7	L2	62.9	63.1	0.2	No
	1st Floor	49.3	L2	62.9	63.1	0.2	No
	2nd Floor	58.2	L2	62.9	64.2	1.3	No
R5	Backyard	35.7	L5	65.9	65.9	0.0	No
R6	1st Floor	45.3	L3	70.3	70.3	0.0	No

Source: *The Merge Noise Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 20, 2018.

[1] Please refer to Tables 4.5-3 and 4.5-5, presented previously.

Table 4.5-16
Nighttime Operational Noise Level Contributions (dBA L_{eq})

Receiver	Location	Unmitigated Project Noise Level	Measurement Location	Ambient	Project Plus Ambient	Project Contribution	Threshold Exceeded?[1]
R1	Backyard	49.1	L2	60.1	60.4	0.3	No
R2	Backyard	52.3	L2	60.1	60.8	0.7	No
R3	Backyard	51.8	L2	60.1	60.7	0.6	No
R4.1	Backyard	46.0	L2	60.1	60.3	0.2	No
	1st Floor	46.3	L2	60.1	60.3	0.2	No
	2nd Floor	51.0	L2	60.1	60.6	0.5	No
R4.2	Backyard	48.3	L2	60.1	60.4	0.3	No

Table 4.5-16
Nighttime Operational Noise Level Contributions (dBA L_{eq})

Receiver	Location	Unmitigated Project Noise Level	Measurement Location	Ambient	Project Plus Ambient	Project Contribution	Threshold Exceeded?[1]
	1st Floor	47.0	L2	60.1	60.3	0.2	No
	2nd Floor	51.6	L2	60.1	60.7	0.6	No
R4.3	Backyard	48.7	L2	60.1	60.4	0.3	No
	1st Floor	50.1	L2	60.1	60.5	0.4	No
	2nd Floor	54.7	L2	60.1	61.2	1.1	No
R4.4	Backyard	49.7	L2	60.1	60.5	0.4	No
	1st Floor	49.3	L2	60.1	60.4	0.3	No
	2nd Floor	58.2	L2	60.1	62.3	2.2	No
R5	Backyard	35.7	L5	60.9	60.9	0.0	No
R6	1st Floor	45.3	L3	67.1	67.1	0.0	No

Source: *The Merge Noise Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 20, 2018.

[1] Please refer to Tables 4.5-3 and 4.5-5, presented previously.

As indicated in Tables 4.5-15 and 4.5-16, the Project will contribute an operational noise level increase during the daytime hours of up to 1.3 dBA Leq and during the nighttime hours of up to 2.2 dBA Leq. Based on ambient noise levels (and the criteria presented previously in Tables 4.5-3 and 4.5-5), Project operational noise level increases would not exceed applicable thresholds.

Based on the preceding discussion, the potential for Project operational/area-source noise to result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Project would result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise.*

Impact Analysis: The following discussions address the Project's potential to generate groundborne vibration, also referred to as groundborne noise, resulting from Project construction and operations. The Project does not propose or require facilities or operations that would be substantive sources of vibration. Project construction activities may however result in potentially adverse vibration levels received at nearby properties.

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that groundborne vibration from Project construction activities would cause only intermittent, localized intrusion. Project construction activities most likely to cause vibration impacts are:

- Heavy Construction Equipment: Although all heavy mobile construction equipment has the potential of causing at least some perceptible vibration while operating close to buildings, the vibration is usually short-term and is not of sufficient magnitude to cause building damage. It is not expected that heavy equipment such as large bulldozers would operate close enough to any residences to cause a vibration impact.

- Trucks: Trucks hauling building materials to construction sites can be sources of vibration intrusion if the haul routes pass through residential neighborhoods on streets with bumps or potholes. Repairing the bumps and potholes generally eliminates the problem.

Groundborne vibration levels resulting from construction activities occurring within the Project site were estimated by data published by the Federal Transit Administration (FTA). Construction activities that would have the potential to generate low levels of groundborne vibration within the Project site include grading. Using the construction vibration assessment methodology published by the FTA, it is possible to estimate the

Project vibration impacts. As shown in previous Table 4.5-5, vibration impacts would be considered significant if short-term Project generated construction vibration levels exceed the City of Eastvale acceptable vibration standard of 0.0787 in/sec PPV at sensitive receiver locations.

Table 4.5-17 presents the unmitigated Project construction-related vibration levels at each of the sensitive receiver locations.

Table 4.5-17
Unmitigated Construction Vibration Levels

Receiver Location	Distance to Construction Activity	Receiver PPV Levels (in/sec)					Threshold Exceeded?[1]
		Small Bulldozer	Jack-Hammer	Loaded Trucks	Large Bulldozer	Highest Levels	
R1	154′	0.0002	0.0023	0.0050	0.0058	0.0058	No
R2	134′	0.0002	0.0028	0.0061	0.0072	0.0072	No
R3	30′	0.0023	0.0266	0.0578	0.0677	0.0677	No
R4	30′	0.0023	0.0266	0.0578	0.0677	0.0677	No
R5	559′	0.0000	0.0003	0.0007	0.0008	0.0008	No
R6	242′	0.0001	0.0012	0.0025	0.0030	0.0030	No

Source: *The Merge Noise Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 20, 2018.

[1] City of Eastvale vibration standard of 0.0787 in/sec PPV.

As shown above, at distances ranging from 30 to 559 feet from the Project construction activities, construction vibration velocity levels are expected to approach 0.068 in/sec PPV. As such, any vibration generated by the Project would not exceed the City of Eastvale vibration standard of 0.0787 in/sec PPV, as presented in Section 4.5.4, *Standards of Significance*.

Further, the FTA identifies construction vibration levels capable of building damage ranging from 0.12 to 0.5 in/sec PPV. The peak Project construction vibration levels, approaching 0.068 in/sec PPV, will remain below the FTA vibration levels for building damage at the residential homes near the Project site. It is also noted that the impacts at the closest sensitive receivers are unlikely to be sustained during the entire construction

period but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter.

Based on the preceding, the potential for the Project to result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise is less-than-significant.

Level of Significance: Less-Than-Significant.

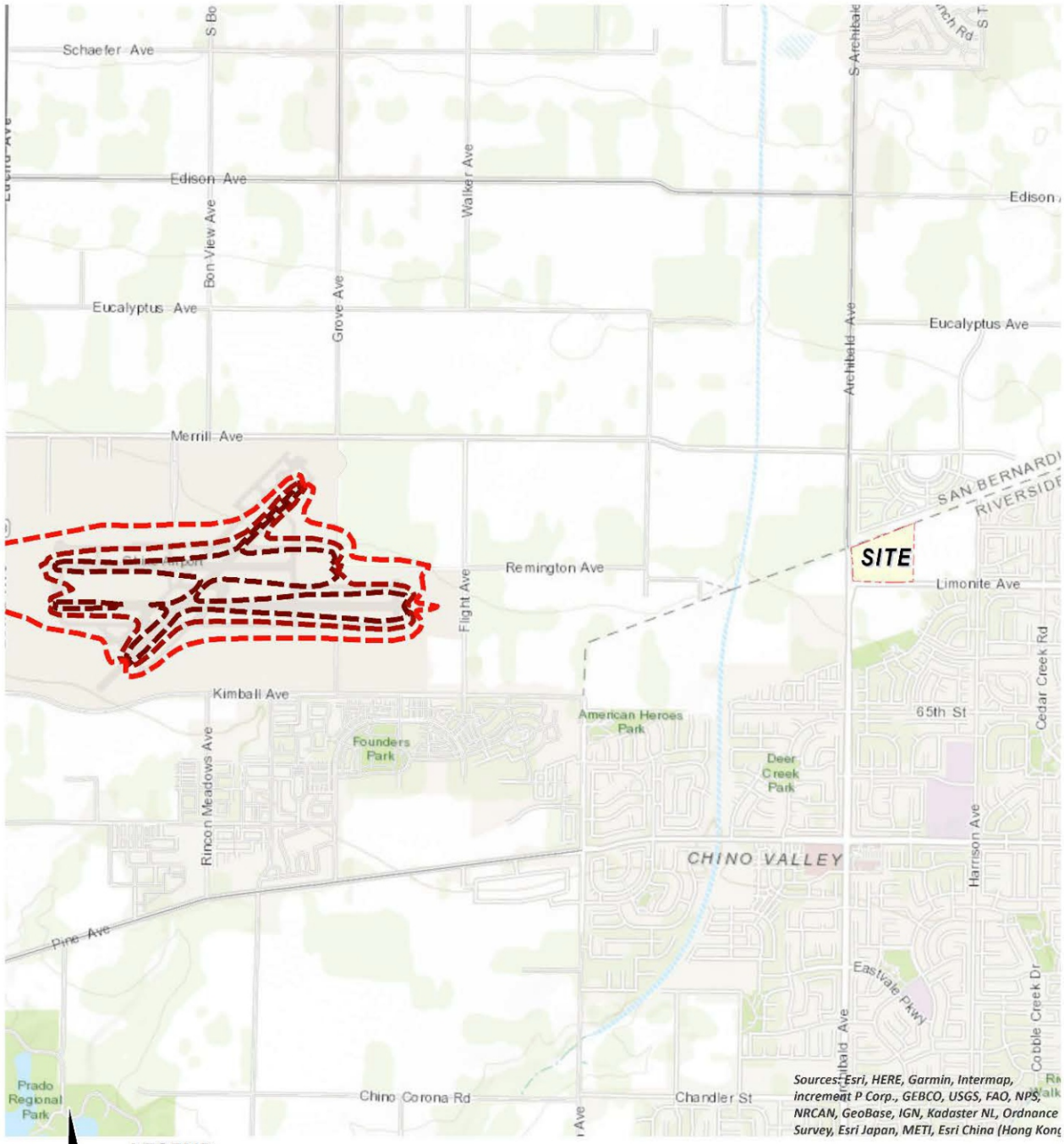
Potential Impact: *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the Project would expose people residing or working in the Project area to excessive noise levels; or for a project within the vicinity of a private airstrip, the Project would expose people residing or working in the Project area to excessive noise levels.*

Impact Analysis: The Project site is located just under two miles easterly of the Chino Airport. However, the site is located well outside the identified noise contours of the Airport, as shown in Figure 4.5-6. Additionally, regarding noise from Chino Airport, the City of Eastvale General Plan states:

> " . . . the noise is transient and not considered a major noise source unless they occur during the late evening and morning hours. According to the 2008 Airport Land Use Compatibility Plan, only about 10% of flights at Chino Airport occur between 7:00 p.m. and 7:00 a.m." (General Plan Noise Element, page 10-5).

Based on the preceding, the potential for the Project expose people residing or working in the Project area to excessive aircraft noise levels is considered less-than-significant.

Level of Significance: Less-Than-Significant.



Source: City of Chino General Plan Noise Element, Figure N-6 Long-Term Noise Contours for Chino Airport

Source: Urban Crossroads, Inc.

Figure 4.5-6
Chino Airport Noise Contours

4.6 GEOLOGY AND SOILS

4.6 GEOLOGY AND SOILS

Abstract

This Section addresses the potential for the Project to result in substantial geotechnical hazards or soils-related impacts. More specifically, this analysis presented here focuses on whether the Project would result in, or be subjected to any of the following:

- *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking;*

- *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction;*

- *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 on- 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;*

- *Exposure of 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; or landslides; or*

- *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.*

As summarized below, the subject site is suitable for development of the Project, provided that recommendations of the final Geotechnical Investigation(s) are implemented during Project design and construction. As supported by the analysis presented in this Section, potential geology and soils impacts of the Project are determined to be less-than-significant.

4.6.1 INTRODUCTION

Information contained in this Section has been summarized or excerpted from: *Preliminary Geotechnical Investigation and Percolation Testing, The Merge Retail Development and Industrial Business Park, Northeast Corner of Limonite Avenue and Archibald Avenue, Eastvale, California* (Geocon West, Inc.), March 15, 2018 (Investigation), which is provided in EIR Appendix F.

This Section examines underlying soil conditions and geologic characteristics of the Project area, and evaluates potential related impacts affecting design, construction, and operation of the Project. The subsequent discussions provide an assessment of potential seismologic hazards, notably faults and primary and secondary earthquake hazards which may affect the Project. Influences such as topography and soil types are also discussed as these factors substantively influence potential erosion and landslide hazard characteristics of the Project site.

4.6.2 SETTING

Following are discussions of the Project area's geologic setting, prevalent site soils, geotechnical considerations, and seismic design considerations.

Regional Geology

The Project area is located in the northwestern portion of the Peninsular Ranges Geomorphic Province of Southern California. The Peninsular Ranges province is characterized by northwest tending valleys and mountain ranges which have formed in response to regional tectonic forces along the boundary between the Pacific and North

American tectonic plates. The geologic structure is dominated by northwest trending right-lateral faults, most notable, the San Andreas Fault, San Jacinto Fault, Elsinore Fault, Whittier Fault, and the Newport-Inglewood Fault. The province extends southward from the Transverse Ranges province at the north end of the Los Angeles Basin to the southern tip of the Baja California Peninsula.

Basement rocks in the region are predominantly granitic and metamorphic rocks associated with the Mesozoic-age Southern California Batholith. Erosional remnants of granitic rocks are exposed in isolated hilly outcrops within the northern portions of the Chino Basin. Cenozoic-age sedimentary rocks overly the basement rocks in many areas and are well exposed in the Santa Ana Mountains and the Chino Hills southwest and west of the site.

Local Geology

The site is located within an alluvial fan and flood plain within the southern part of the Chino Basin, a portion of the Corona-Chino Valley crustal block, a major structural low. This crustal block is bounded on the west by the Chino fault and the Chino and San Jose Hills, on the north by the Cucamonga fault zone and the San Gabriel Mountains, on the east by the Rialto-Colton fault, and on the south by the La Sierra and Pedley Hills. This structural low was filled with late Tertiary to early Quaternary non-marine sedimentary deposits derived from the San Gabriel Mountains, the Chino Hills, Puente Hills, and the San Bernardino Mountains, and capped by a relatively thin layer of windblown sand. At depth, the basin consists of impermeable sedimentary and igneous rocks that are exposed at the surface in the surrounding mountains and hills.

Locally, the site is underlain by several hundred feet of alluvial deposits which include distal alluvial fan deposits generated from the San Gabriel Mountains to the north interlayered with fluvial deposits from the meandering Santa Ana River to the south, resulting in interlayered fine- and coarse-grained deposits of clays, silts, and sands. No faults are geologically mapped within or adjacent to the site.

Subsurface Profile

Based on field investigations and published geologic maps of the area, the soils underlying the site consist of young alluvial fan deposits (Morton and Gray, 2002). Undocumented artificial fill is expected to be at the site from the past agricultural use but was not encountered in the site borings. The site soils are described in detail on the boring logs in Appendix A of the Project Geotechnical Investigation. The soil and geologic units encountered at the site are discussed below.

Young Alluvial Fan Deposits (Qal)

Holocene and late Pleistocene alluvial fan deposits were encountered across the site to depths of 51.5 feet. The alluvial deposits encountered at the site consist of clays, silts, and fine to medium silty sands, with occasional layers of poorly-graded sands and trace gravel. The soils are light brown to reddish brown, moist to wet, and loose to very dense or soft to hard.

Groundwater

Groundwater was not encountered in the borings drilled during the geotechnical field investigations; however, perched water was encountered at depths of 29 feet below the ground surface (BGS) in boring B-7 and 24 feet BGS in boring B-12 (refer to Appendix A of the Geotechnical Investigation). The perched water appears to have collected above fine-grained layers, and it is likely due to ongoing agricultural irrigation at the site. Based on data from the California Department of Water Resources, groundwater was reported at depths of greater than 128 feet BGS at a well approximately 0.8 mi east-northeast of the site between 2011 and 2017. It is not uncommon for seepage conditions to develop where none previously existed due to the permeability characteristics of the geologic units encountered. During the rainy season, localized perched water conditions may develop above silt and clay layers that may require special consideration during grading operations. Groundwater elevations are dependent on seasonal precipitation, irrigation, and land use, among other factors, and therefore the depths can vary.

Flooding

The flood map for this area has a status of "Not Printed" for the panel where the Project site is located. The applicable "FIRMette" identifies the Project site as an "Area of Minimal Flood Hazard." Based on Lead Agency conversations with Federal Emergency Management Administration (FEMA) Flood Insurance Rate Map (FIRM) technicians and considering adjacent panel 06065C0679G, it has been determined that the Project site is located within Zone X Flood Zone Designation. Zone X is defined by FEMA as the area determined to be outside the 500-year flood and protected by levee from 100-year flood. No portion of the site is within the special flood hazard area inundated by the 100-year flood.

Faulting

The site is not within a currently established State of California Alquist-Priolo Earthquake Fault Zone or a Riverside County hazard zone for surface fault rupture hazards. The site is located in the seismically active southern California region, and could be subjected to moderate to strong ground shaking in the event of an earthquake on one of the many active southern California faults. The closest active faults to the site are the Chino-Central Avenue fault, located approximately 5.4 miles to the southwest, and the Elsinore Glen Ivy fault, located 8.8 miles south of the site.

Secondary Effects of Seismic Activity

In general, secondary effects of seismic activity include surface fault rupture, soil liquefaction, seismic settlement, lateral spreading, landslides, tsunamis, seiches, and earthquake-induced flooding. Site-specific potential for each of these seismic hazards is discussed in the following sections.

Surface Fault Rupture

There are no known faults located within the City of Eastvale. No active or potentially active faults with the potential for surface fault rupture are known to pass directly beneath the site. Therefore, the potential for surface rupture due to faulting occurring beneath the site during the design life of the proposed development is considered low.

Dynamic Settlement (Liquefaction and Dry Seismic Settlement)

Liquefaction is defined as the phenomenon in which a soil mass within about the upper 50 feet of the ground surface suffers a substantial reduction in its shear strength, due to the development of excess pore pressures. During earthquakes, excess pore pressures in saturated soil deposits may develop as a result of induced cyclic shear stresses, resulting in liquefaction. Soil liquefaction occurs during or after strong ground shaking.

The site is within an area mapped as having very high liquefaction potential per Riverside County. As discussed in the Groundwater Section of the Geotechnical Investigation, groundwater is anticipated beyond 100 feet below the ground surface. Based on the absence of groundwater, the relatively cohesive nature of the fine-grained alluvial deposits, and the medium dense to dense granular alluvium, the potential for liquefaction at the site is negligible and not a design consideration.

Landslides

The site is not located near a hillside. The nearest significant slope is approximately 4.75 miles southwest of the site. Therefore, landslides are not a design consideration. Slopes graded in accordance with the recommendations of the final Geotechnical Investigation(s) and current codes are anticipated to be stable.

Tsunamis

Tsunamis are large waves generated in open bodies of water by fault displacement or major ground movement. The Project site is located approximately 31 miles from the nearest coastline; therefore, the negligible risk associated with tsunamis is not a design consideration.

Seiches

Seiches are large waves generated in enclosed bodies of water in response to ground shaking. The site is not located near or below reservoirs or other standing bodies of water; therefore, the potential for flooding due to seiches is considered low.

4.6.3 GEOLOGY/SOILS/SEISMIC POLICIES AND REGULATIONS

Following are summary descriptions of geology/soils/seismic regulations applicable to the Project. In many instances, compliance with existing regulations eliminates, or substantially reduces, environmental effects.

4.6.3.1 City of Eastvale Development Review Processes

The City of Eastvale, through its Planning and Public Works Departments, implements General Plan Goals and Policies addressing geology, soils, and seismic conditions through established development permit review processes. These processes provide for the completion of development-specific geotechnical investigations where appropriate, and that requirements and recommendations of these investigations are incorporated in construction plans, are followed through during construction processes, and are functionally complete before buildings are occupied and/or infrastructure systems or other improvements are accepted. To the satisfaction of the City, recommendations and requirements of the final Geotechnical Investigation(s) would be incorporated in the final Project design and construction. Applicable provisions of the California Building Code are incorporated throughout development design and implementation.

4.6.4 STANDARDS OF SIGNIFICANCE

Appendix G of the *CEQA Guidelines* indicates a Project will have a potentially significant geology and soils impact if it would:

- *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking;*

- *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction;*

- *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 on- 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;*

- *Exposure of 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; or landslides; or*

- *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.*

4.6.5 POTENTIAL IMPACTS AND MITIGATION MEASURES

Following is an analysis of potential geology and soils impacts that could occur because of the Project. All Project impacts would be considered either no impact or less-than-significant. No mitigation is proposed or required.

4.6.5.1 Impact Statements

Potential Impact: *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking*.

Impact Analysis: As presented previously, the Project site is not adversely affected by known earthquake faults or other seismic hazards. Further, appropriate measures which reduce the effects of seismic events and potentially adverse geology and soils conditions at the Project site are broadly identified in the California Building Code (CBC) as implemented by the City of Eastvale. Short of a catastrophic event, design of structures in accordance with the final Geotechnical Investigation(s), the CBC, and current seismic

engineering practices is sufficient to reduce potential effects of ground shaking, including potential liquefaction hazards, at the Project site below the level of significance.

Through established Site Plan, Building Permit, and Certificate of Occupancy requirements, the City will verify that required design and construction measures are incorporated throughout Project development and are functionally implemented in the completed structures and facilities. It is anticipated that any site-specific geologic constraints which may be encountered during Project implementation will be addressed by compliance with the recommendations of the final Geotechnical Investigation(s), and existing City/CBC seismic design regulations, standards, and policies. The Geotechnical Investigation earthwork and design/construction recommendations address topics that include:

- General Considerations (Investigation, p. 9);
- Soil Characteristics (Investigation, p. 10);
- Grading (Investigation, p. 12);
- Earthwork Grading Factors (Investigation, p. 13);
- Utility Trench Backfill (Investigation, p. 14);
- Seismic Design Considerations (Investigation, p. 14);
- Foundation and Concrete Slabs-On-Grade (Investigation, p. 16);
- Exterior Concrete Flatwork (Investigation, p. 19);
- Conventional Retaining Walls (Investigation, p. 20);
- Lateral Design (Investigation, p. 21);
- Pavement Design (Investigation, p. 22);
- Temporary Excavations (Investigation, p. 25);
- Site Drainage and Moisture Protection (Investigation, p. 25);
- Plan Review (Investigation, p. 26);

As supported by the preceding discussions, the potential for the Project to result in exposure of people or structures to potentially substantial adverse effects, including the risk of loss, injury or death involving strong seismic ground shaking is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction.*

Impact Analysis: Liquefaction and seismically-induced settlement or ground failure are generally associated with strong seismic shaking in areas where ground water tables are at relatively shallow depths (within 50 feet of the ground surface) and/or when the area is underlain by loose, cohesionless deposits. During a strong groundshaking event, saturated, cohesionless soils may acquire a degree of mobility to the extent that the overlying ground surface distorts. In extreme cases, saturated soils become suspended in groundwater and become fluid-like. The entire City of Eastvale has been identified as having a moderate to high susceptibility to liquefaction.

As previously presented, groundwater was determined to be below 128 feet bgs during the Geotechnical Investigation. It is anticipated that any site-specific geologic constraints which may be encountered during Project implementation will be addressed by compliance with the recommendations of the final Geotechnical Investigation(s), and existing City/CBC seismic design regulations, standards, and policies.

As supported by the preceding discussions, the potential for the Project to result in exposure of people or structures to potentially substantial adverse effects, including the risk of loss, injury or death involving seismic-related ground failure, including liquefaction is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Result in substantial soil erosion or the loss of topsoil.*

Impact Analysis: All construction activities would be subject to compliance with the California Building Standards Code (CBC). Additionally, the Project would be subject to compliance with the requirements set forth in the National Pollutant Discharge

Elimination System (NPDES) Storm Water General Construction Permit for construction activities. Compliance with the CBC and the NPDES would minimize the effects of erosion and would ensure consistency with the Water Quality Control Plan of the Santa Ana Regional Water Quality Control Board, which establishes water quality standards for the groundwater and surface water of the region. Additionally, the Project would be required to comply with Chapter 14.12, Stormwater Drainage System Protection Regulations, of the City of Eastvale Municipal Code, which requires new development or redevelopment Projects to control stormwater runoff by implementing appropriate best management practices (BMPs) to prevent deterioration of water quality. Furthermore, the displacement of soil through cut and fill would be controlled by Chapter 33 of the 2013 CBSC related to grading and excavation, other applicable building regulations, and standard construction techniques.

A stormwater pollution prevention plan (SWPPP) would be required as part of the grading permit submittal package. The SWPPP would provide a schedule for the implementation and maintenance of erosion control measures and a description of the erosion control practices, including appropriate design details and a time schedule.

The City routinely requires the submittal of detailed erosion control plans with any grading plans. The implementation of this standard requirement is expected to address any erosional issues associated with grading and over excavation of the site. Additionally, fugitive dust would be controlled in compliance with SCAQMD Rule 403. Further, in accordance with Clean Water Act and NPDES requirements, water erosion during construction would be minimized by limiting certain construction activities. Compliance with these existing regulations that are intended to minimize soil erosion and sedimentation would reduce impacts to a less-than-significant level.

Level of Significance: Less-Than-Significant.

Potential Impact: *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 on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.*

Impact Analysis: The Project site and surrounding properties do not exhibit substantial gradient or elevation differences. There is therefore, no potential risk for landslide, collapse, or rockfall. The Draft Geotechnical Report prepared for the Project concluded that the potential for earthquake-induced liquefaction lateral spreading, landsliding, or flooding at the site from off-site sources is considered low.

Level of Significance: Less-Than-Significant.

Potential Impact: *Exposure of 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; or landslides.*

Impact Analysis: The site is not within an established State of California Alquist-Priolo Earthquake Fault Zone (CDC, 2018a) or a Riverside County hazard zone for surface fault rupture hazards. No active or potentially active faults with the potential for surface fault rupture are known to pass directly beneath the site. Therefore, the potential for surface rupture due to faulting occurring beneath the site during the design life of the proposed development is considered low.

Level of Significance: Less-Than-Significant.

Potential Impact: *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.*

Impact Analysis: The Project would be served by the municipal sewer system of the Jurupa Community Services District (JCSD) and would have no need for a septic system or other alternative wastewater disposal system.

Level of Significance: No Impact.

Potential Impact: *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.*

Impact Analysis: The California Building Code establishes methodologies and guidelines for identification of expansive soils and establishes responsive design standards which act to avoid potentially adverse effects of expansive soils on facilities. Section 1802.3 of the 2013 California Building Code directs expansive soil tendency be graded by its Expansion Index. A soil's Expansion Index is defined by its potential to swell when wet or saturated.

Unmitigated effects of expansive or otherwise unstable soils may adversely affect roadway subgrades, concrete slabs-on-grade, and building foundations. In the event of a severe earthquake in the vicinity, structural foundations and floors may be damaged if constructed in, or over, expansive or unstable soils.

Based on material classifications and laboratory testing, the near surface site soils are generally expected to possess a "low" expansion potential (EI of 21 to 50). It is anticipated that any site-specific geologic constraints which may be encountered during Project implementation will be addressed by compliance with the recommendations of the final Geotechnical Investigation(s), and existing City/CBC seismic design regulations, standards, and policies. Additionally, the City of Eastvale General Plan notes that, "[s]pecial engineering designs are used effectively to alleviate problems caused by expansive soils" (General Plan, p. 12-6).

Level of Significance: Less-Than-Significant.

4.7 HAZARDS/HAZARDOUS MATERIALS

4.7 HAZARDS/HAZARDOUS MATERIALS

Abstract

This Section identifies and addresses potential hazards and hazardous materials impacts that may result from the implementation and operation of The Merge Project (Project). More specifically, the hazards and hazardous materials analysis presented here examines whether the Project would:

- *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 likely 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;*

- *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Section 65962.5 and, as a result, create a significant hazard to the public or the environment;*

- *Result in a safety hazard for people residing or working in the project area due to airport/airstrip operations;*

- *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or*

- *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.*

As supported by the analysis presented in this Section, with the Project's mandated compliance with existing statutes and regulations, potential hazards and hazardous materials impacts of the Project would be less-than-significant.

4.7.1 INTRODUCTION

The analysis presented in this Section addresses the potential impacts of hazards and/or hazardous materials associated with the construction and operation of the Project. The analysis considers potential hazards/hazardous conditions affecting the Project site; and also considers potential hazards resulting from the Project, including potential effects at off-site land uses.

Information presented in this Section is summarized from: *Phase I Environmental Site Assessment, The Merge, NEC Limonite and Archibald, Eastvale, California* (EBI Consulting) February 5, 2018 (Phase I ESA, EIR Appendix G).

4.7.2 SETTING

The physical setting of the Project provided here serves as context for potential hazards affecting, or resulting from, the Project.

4.7.2.1 Project Site Land Use

The Project site is surrounded by urban development. The site has no existing buildings, and is used for the growing of a variety of crops from time to time. A production well is currently located within the north-central portion of the site, and is used solely as a water supply for the on-site irrigation system. A natural gas pipeline easement is located along the western and southern boundaries of the site (owned and operated by Southern California Gas Company). The Project site is essentially level with no substantive topographic relief or distinctive surface features.

4.7.2.2 Vicinity Land Uses

Northerly of the Project site, in the City of Ontario, are single-family residential uses. Northwesterly of the Project site, in the City of Ontario, are agricultural uses. Uses easterly, westerly, and southerly of the Project site are within the City of Eastvale. Easterly of the Project site, properties are being developed with single-family residential uses. Active feed lot/dairy operations exist to the west of the Project site, across Archibald Avenue. Southerly of the Project site, across Limonite Avenue, are vacant properties that have historically supported feed lot/dairy operations. These currently vacant properties are approved for development of retail/commercial uses.[1]

4.7.2.3 Sensitive Land Uses

Sensitive land uses include residential land uses, schools, hospitals, daycare centers, or other land uses that provide long-term occupancy and/or accommodate vulnerable populations (e.g., children, the elderly, and the infirm). Existing residential uses near the Project site are considered sensitive land uses.

4.7.3 HAZARDS/HAZARDOUS MATERIALS POLICIES AND REGULATIONS

4.7.3.1 Overview

As summarized below, the City of Eastvale has developed and adopted General Plan Goals and Policies addressing hazards and hazardous materials. Applicable federal, state, and local regulations which act to reduce potential creation of, or exposure to, hazards and hazardous materials are also presented.

4.7.3.2 City of Eastvale General Plan Goals and Policies

The City of Eastvale General Plan Safety Element establishes Goals and Policies addressing community health and safety, including potential hazards and hazardous materials concerns. Goals and Policies implemented by the City through its General Plan support prevention and education measures acting to minimize the occurrence and effects of hazards, emergencies and disasters; and include measures to allow the City to respond appropriately under hazardous, emergency, or disaster conditions.

[1] Walmart supercenter and associated retail development.

4.7.3.3 Regulatory Context

In addition to the above-referenced General Plan Goals and Policies, a number of federal, state, and local laws have been enacted to regulate and manage hazardous materials. Implementation of these laws and the associated management of hazardous materials are regulated independently of the CEQA process, through programs administered by various agencies at the federal, state, and local levels. An overview of regulatory agencies and certain key hazardous materials laws and regulations applicable to the Project, and to which the Project must conform, is provided below.

Federal

Overview

Several federal agencies regulate hazardous materials. These include the U.S. EPA, the United States Occupational Safety and Health Administration (USOSHA), and the United States Department of Transportation (USDOT). Applicable Federal Regulations are contained primarily in Titles 10, 29, 40, and 49 of the Code of Federal Regulations (CFR). Some of the major federal laws and issue areas include the following statutes and implementing regulations:

- Resources Conservation and Recovery Act (RCRA) - hazardous waste management;
- Hazardous and Solid Waste Amendments Act (HSWA) - hazardous waste management;
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - cleanup of contamination;
- Superfund Amendments and Reauthorization Act (SARA) - cleanup of contamination; and
- Emergency Planning and Community Right-to-Know (SARA Title III) - business inventories and emergency response planning.

The U.S. EPA is the primary federal agency responsible for the implementation and enforcement of hazardous materials regulations. In most cases, enforcement of

environmental laws and regulations established at the federal level is delegated to state and local environmental regulatory agencies.

In addition, with respect to emergency planning, the Federal Emergency Management Agency (FEMA) is responsible for ensuring the establishment and development of policies and programs for emergency management at the federal, state, and local levels. This includes the development of a national capability to mitigate against, prepare for, respond to, and recover from a full range of emergencies.

Hazardous Waste Handling

The U.S. EPA has authorized the California Department of Toxic Substance Control (DTSC) to enforce hazardous waste laws and regulations in California. Requirements place "cradle-to-grave" responsibility for hazardous waste disposal on the shoulders of hazardous waste generators. Waste generators must ensure that their wastes are disposed of properly, and legal requirements dictate the disposal requirements for many waste streams (e.g., a ban on the disposal of many types of hazardous wastes in landfills).

State

Overview

The primary state agencies with jurisdiction over hazardous chemical materials management are the DTSC and the State Water Quality Control Board (SWQCB). Other state agencies involved in hazardous materials management and oversight are the Department of Industrial Relations, California OSHA (Cal OSHA) implementation, Office of Emergency Services (OES - California Accidental Release Prevention Implementation), Air Resources Board (ARB), California Department of Transportation (Caltrans), State Office of Environmental Health Hazard Assessment (OEHHA - Proposition 65 implementation) and CalRecycle (formerly the California Integrated Waste Management Board, CIWMB). The enforcement agencies for hazardous materials transportation regulations are the California Highway Patrol (CHP) and Caltrans. Hazardous materials and waste transporters are responsible for complying with all applicable packaging, labeling, and shipping regulations.

Relevant hazardous materials management laws in California include, but are not limited to, the following statutes and implementation regulations:

- Hazardous Materials Management Act - business plan reporting;
- Hazardous Waste Control Act - hazardous waste management;
- Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) - release of and exposure to carcinogenic chemicals;
- Hazardous Substance Act - cleanup of contamination; and
- Hazardous Materials Storage and Emergency Response.

California Environmental Protection Agency

The California Environmental Protection Agency (CalEPA) has broad jurisdiction over hazardous materials management in the state. Within CalEPA, the DTSC has primary regulatory responsibility for hazardous waste management and cleanup. Enforcement of regulations has been delegated to local jurisdictions that enter into agreements with DTSC for the generation, transport, and disposal of hazardous materials under the authority of the Hazardous Waste Control Law.

Along with the DTSC, the SWQCB is responsible for implementing regulations pertaining to management of soil and groundwater investigation and cleanup. SWQCB regulations are contained in Title 27 of the California Code of Regulations (CCR). Additional state regulations applicable to hazardous materials are contained in Title 22 of the CCR. Title 26 of the CCR is a compilation of those sections or titles of the CCR that are applicable to hazardous materials.

Department of Toxic Substances Control

The Resource Conservation and Recovery Act (RCRA) of 1976 is the principal federal law that regulates the generation, management, and transportation of hazardous materials and other wastes. The DTSC regulates hazardous waste in California primarily under the authority of the federal RCRA, and the California Health and Safety Code. Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. In addition, DTSC reviews and

monitors legislation to ensure that the position reflects the DTSC's goals. From these laws, DTSC's major program areas develop regulations and consistent program policies and procedures. The regulations determine what those who handle hazardous waste must do to comply with the laws.

California law provides the general framework for regulation of hazardous wastes by the Hazardous Waste Control Law (HWCL) passed in 1972. DTSC is the State's lead agency in implementing the HWCL. The HWCL provides for state regulation of existing hazardous waste facilities, which include "any structure, other appurtenances, and improvements on the land, used for treatment, transfer, storage, resource recovery, disposal, or recycling of hazardous wastes," and requires permits for, and inspections of, facilities involved in generation and/or treatment, storage and disposal of hazardous wastes.

The oversight of hazardous materials release sites often involves several different agencies that may have overlapping authority and jurisdiction. The DTSC and SWQCB are the two primary state agencies responsible for issues pertaining to hazardous materials release sites. Air quality issues related to remediation and construction at contaminated sites are also subject to federal and state laws and regulations that are administered at the local level.

Investigation and remediation activities that would involve potential disturbance or release of hazardous materials must comply with applicable federal, state, and local hazardous materials laws and regulations. The DTSC has developed standards for the investigation of sites where hazardous materials contamination has been identified or could exist based on current or past uses. The standards identify approaches to determine if a release of hazardous wastes/substances exists at a site and delineate the general extent of contamination; estimate the potential threat to public health and/or the environment from the release and provide an indicator of relative risk; determine if an expedited response action is required to reduce an existing or potential threat; and complete preliminary project scoping activities to determine data gaps and identify possible remedial action strategies to form the basis for development of a site strategy.

California Accidental Release Prevention Program (CalARP)

The CalARP program (CCR Title 19, Division 2, Chapter 4.5) covers certain businesses that store or handle more than a certain volume of specific regulated substances at their facilities. The list of regulated substances is found in Article 8, Section 2770.5 of the CalARP program regulations. The businesses that use a regulated substance above the noted threshold quantity must implement an accidental release prevention program, and some may be required to complete a Risk Management Plan (RMP). An RMP is a detailed engineering analysis of the potential accident factors present at a business and the mitigation measures that can be implemented to reduce this accident potential. The purpose of an RMP is to decrease the risk of an off-site release of a regulated substance that might harm the surrounding environment and community. An RMP includes the following components: safety information, hazard review, operating procedures, training, maintenance, compliance audits, and incident investigation. The RMP must consider the proximity to sensitive populations located in schools, residential areas, general acute care hospitals, long-term health care facilities, and child day-care facilities, and must also consider external events such as seismic activity.

Regional

South Coast Air Quality Management District (SCAQMD)

The SCAQMD establishes Rules that regulate or control various air pollutant emissions and emissions sources, including hazardous emissions sources, within the South Coast Air Basin (Basin). The SCAQMD coordinates its actions with local, state, and federal government agencies, the business community, and private citizens to achieve and maintain healthy air quality.

Local

Riverside County Department of Environmental Health

Under the California Unified Hazardous Waste and Hazardous Material Management Regulatory Program, (Chapter 6.11, Division 20, Section 25404 of the Health and Safety Code), hazards/hazardous materials management is addressed locally through the

Certified Unified Program Agency (CUPA). The CUPA for Riverside County, including the City of Eastvale, is the Riverside County Department of Environmental Health, Hazardous Materials Branch (Branch).

The Branch is responsible for overseeing the six hazardous materials programs in the County. The Branch is responsible for inspecting facilities that handle hazardous materials, generate hazardous waste, treat hazardous waste, own/operate underground storage tanks, own/operate aboveground petroleum storage tanks, or handle other materials subject to the California Accidental Release Program. In addition, the Branch maintains an emergency response team that responds to hazardous materials and other environmental health emergencies 24 hours a day, 7 days a week. The Branch also oversees the two Participating Agencies (Corona Fire and Riverside Fire) that implement hazardous materials programs within the County.

Riverside County Airport Land Use Compatibility Plan Policy Document/Riverside County Airport Land Use Commission

The Project site is located within the Chino Airport Influence Area. The *Riverside County Airport Land Use Compatibility Plan Policy Document* (ALUCP) establishes various policies and compatibility maps for individual ALUCP airports, including Chino Airport (Airport).

Riverside County Airport Land Use Commission (ALUC) review is required when a project is located within the boundaries of an Airport Influence Area and the project proposes a legislative action like a General Plan Amendment, Specific Plan Amendment, Zone Change, or Zoning Ordinance. The Project is located within the Chino Airport Influence Area. The Project proposes an General Plan Amendment and Zone Change. Review of the Project by the ALUC is therefore required.

Additionally, because approval of a Zoning Change is proposed by the Project, as required under the City of Eastvale Zoning Code, the Eastvale City Council must make a finding that the Project Zone Change is consistent with the most recent adopted version of the ALUCP.

4.7.3.4 Waste Handling Procedures

As presented above, the identification, characterization, handling, transportation and disposal of wastes are primarily regulated under 40 CFR, part 261.24 (Federal) and Title 22 of the California Code of Regulations (State) and other applicable DOT, CA DTSC, and OSHA laws and regulations. The following discussions detail how these regulations are applied to the most common hazardous materials encountered as part of demolition and site preparation.

Manifesting and Transportation

Waste must be hauled under proper shipping manifests as follows:

a) Non-hazardous: A uniform non-hazardous manifest.

b) Cal-haz/Non-RCRA (State system): A uniform hazardous manifest, identifying the waste as non-RCRA, using an appropriate EPA number.

c) RCRA-hazardous (Federal system): A uniform hazardous manifest, identifying the waste as RCRA, using an appropriate EPA number.

The transporter must have the required and appropriate hauling permits and licenses in order to be able to haul the waste.

Disposal

Landfills are classified based on the type of waste accepted; hazardous waste must be disposed of at a Class I landfill, "designated waste"[2] at a Class II, non-hazardous solid waste at a Class III, and inert waste is disposed of at an unclassified disposal site. All designated landfills must have the proper local, State and Federal operating permits. Waste, as classified, is disposed as follows:

[2] "Designated waste" is defined as hazardous waste that has been granted a variance from hazardous waste management requirements; or non-hazardous waste that could be released in concentrations exceeding applicable water quality objectives or that could reasonably be expected to affect beneficial uses of waters of the State.

a) Non-hazardous: At a non-hazardous Class III landfill or at a Treatment and Recycling facility.

b) Cal-haz/Non-RCRA: At a hazardous Class I landfill or at an out of State non-hazardous landfill.

c) RCRA-hazardous: At a hazardous Class I landfill.

While non-hazardous waste from the Project site could be transported to a number of Class III landfills, non-hazardous waste generated at the site and vicinity is currently disposed of at the El Sobrante Landfill, located in the City of Corona. All hazardous waste that may be encountered as part of site preparation activities would be disposed of at a Class I landfill. There are currently three (3) Class I landfills located in California. These sites are located in Imperial, Kings, and Kern Counties. The precise disposal location would be determined by the contractor in charge of demolition and site preparation.

Contaminated Soils

Fuel and Oil

Fuel and/or oil contaminated soils can be generated by activities such as fuel stations, storage facilities, spills, etc. The associated contamination is typically petroleum-based and may include a range of hydrocarbon chains such as gasoline, diesel, oil, kerosene, etc. Petroleum-contaminated soils are not typically considered as hazardous by the Federal or State policies but the waste is considered regulated requiring proper characterization, handling and disposal. As such, petroleum-contaminated solid wastes are routinely disposed of at a non-hazardous Class III landfill. Alternatively, there are also various treatment and recycling facilities that accept contaminated soils and neutralize the contamination to a level that would be accepted at any landfill. The final determination of the precise disposal procedure would be determined by the contractor at the time the material is removed.

Pesticides

There are State and Federal thresholds dictating the characterization of pesticide-contaminated soils. As a result, based on testing results, impacted soils may be characterized and disposed of as follows:

a) Non-hazardous: The soil must pass the State and Federal regulatory thresholds. In that case, the soil may be disposed of as non-hazardous at a Class III landfill or, as discussed above, a treatment or recycling facility.

b) Cal-haz/Non-RCRA: In this case, the soil fails the State regulatory thresholds but passes the Federal requirements. Therefore, the soil may be disposed of as non-RCRA at a Class I hazardous landfill or at an out of State non-hazardous landfill.

c) RCRA-hazardous: In this case, the soil fails both the State and Federal regulatory thresholds. Therefore, the soil will have to be disposed of as Federal, RCRA-hazardous at a Class I landfill.

Water Wells

Because of the potential risk to public health via improperly abandoned water wells, the State of California and the County of Riverside require that all water wells either be maintained in a useable state or be properly destroyed. As stated under California Water Code Sections 13700 to 13806, the California Department of Water Resources is responsible for developing well standards to protect groundwater quality. *California Well Standards, Bulletin 74-90* (California Department of Water Resources) June 1991 presents minimum standards for well construction, alteration, and destruction to protect groundwater. Permitting through the Riverside County Department of Environmental Health is also required for the construction and/or abandonment of all water wells.

4.7.4 STANDARDS OF SIGNIFICANCE

Consistent with the *CEQA Guidelines* as adopted and implemented by the City of Eastvale, and for purposes of this EIR, implementation of the Project may result in or cause potentially significant hazards/hazardous materials impacts if it would:

- 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 likely 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;

- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Section 65962.5 and, as a result, create a significant hazard to the public or the environment;

- Result in a safety hazard for people residing or working in the project area due to airport/airstrip operations;

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

- 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.

4.7.5 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.7.5.1 Impact Statements

Potential Impact: *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.*

Impact Analysis:

Existing Hazards

To assess existing hazards, the following tasks were undertaken as part of the Phase I:

- The physical characteristics of the site were evaluated through a review of topographic, geologic, soils and hydrologic data.
- Site history was researched through a review of land deeds, fire insurance maps, city directories, aerial photographs, prior reports, and interviews.
- Current site conditions were noted, including observations and interviews regarding the following:
  - The presence or absence of hazardous substances or petroleum products;
  - Generation, treatment, storage, or disposal of hazardous, regulated, or biomedical waste;
  - Equipment that utilizes oils which potentially contain PCBs; and
  - Storage tanks (aboveground and underground).
- Usage of surrounding area properties and the likelihood for releases of hazardous substances and petroleum products (if known and/or suspected) to migrate onto the site was evaluated.
- Information in referenced environmental agency databases and local environmental records, within specified minimum search distances was reviewed.
- Past site ownership was reviewed through prior reports and local municipal files.

The Phase I ESA found no evidence of recognized environmental conditions (RECs), historical recognized environmental conditions (HRECs), or controlled recognized environmental conditions (CRECs) affecting the Project site.

Regarding past pesticide use, the Phase I ESA concluded, "there is a low potential for soil contamination at concentrations in excess of regulatory thresholds as a result of the past use of persistent pesticides from normal crop application. Significant pesticide contamination is more commonly associated with farm headquarters or maintenance facilities and crop dusting airstrips where the repeated mixing and rinsing of chemical application equipment may have occurred. The historical sources reviewed for this

assessment indicate that the Subject Property did not support a farm headquarters, a maintenance facility, or an airstrip. In addition, no records of spills or pesticide releases have been documented at the Property. As such, it is considered unlikely that conditions associated with the former site use represents an environmental concern to the Subject Property."

No staining, stressed vegetation or other indications of a release of hazardous substances or petroleum products were observed in the vicinity of the existing on-site pipeline.

The existing production well located within the Project site would be properly abandoned as part of the site preparation processes. Well abandonment procedures would be consistent with California Department of Water Resources and Riverside County Department of Environmental Health requirements. Abandonment of the well would be subject to review and approval by the City as part of the City's plan check (grading plan) review process.

Project Construction and Operation

During the normal course of construction activities, there would be limited transport and use of potentially hazardous materials (e.g., gasoline, diesel fuel, paints, solvents, fertilizer, etc.) to and from the Project site. The Project would be required to comply with Hazardous Materials Management Plans and regulations addressing the transport, use, storage and disposal of these materials.

Operation of the Project could involve the temporary storage and handling of potentially hazardous materials such as detergents, pesticides, fertilizers, or paint products that are pre-packaged for distribution and use. These materials are typical of those used in light industrial/commercial occupancies and would be employed for routine cleaning, maintenance, and landscaping activities. This type of storage, transfer, use and disposal of potentially hazardous materials is extensively regulated at the local, State and federal levels. Amounts of these materials that are stored and used on site would be subject to guidelines and restrictions established under the required Hazardous Materials Management Act Business Plan that would be implemented by the Project.

Additionally, the Project would utilize underground storage tanks (USTs) to store gas and diesel fuel on the Project site associated with the proposed gas station. The USTs would consist of double-walled, fiberglass fuel storage tanks with leak detection sensors. All Project USTs would be designed, installed, inspected, maintained, and monitored consistent with federal, State, and local regulatory requirements. The containment system design is subject to design review by the JCSD related to protection of its water facilities such as nearby municipal wells.

Additionally, gasoline fueling stations are required by the SCAQMD Rule 461, *Gasoline Storage and Dispensing*, to include an enhanced vapor recovery and diagnostic system. The purpose of this system is to collect and store gasoline vapors during both bulk deliveries and vehicle operations. Fuel dispensing systems are required to include dripless nozzles that seal to the vehicle during filling. A vacuum system forces the vapors created by the vehicle filling back to the UST. The storage tank is vented by a mechanical filtration system that scrubs and neutralizes the vapors before their release.Similarly, during bulk delivery operations, the delivery truck's filling tubes are sealed to the storage tank and all vapors are returned to the UST. This process stems the release of vapors. The vapors created by the filling operation are then subject to mechanical scrubbing and neutralization prior to release. The final component of the vapor recovery process is the diagnostic system. This electronic system provides 24-hour monitoring of the vapor recovery system, including collection of vapors during fueling operations and assurances that vapors in the UST are not leaking. The system identifies failures automatically, notifies the station operator, and reduces emissions by early detection and prompt repair.

The Project would be required to comply with the provisions established by Section 2540.7, *Gasoline Dispensing and Service Stations*, of the California Safety and Health (Cal/OSHA) Regulations; Chapter 38, *Liquefied Petroleum Gases*, of the California Fire Code; Resource Conservation and Recovery Act requirements; and the Riverside County Fire Department requirements. Collectively, the routine inspection of the gas station, the USTs, and all associated fuel delivery infrastructure, along with the continued mandated compliance with all federal, State, and local regulations, provides the framework that would avoid potentially significant hazards/hazardous materials impacts and/or reduce these impacts to levels that would be less-than-significant.

Summary
No existing hazards have been identified on the Project site. Additionally, no significant short-term construction or long-term operational impacts associated with handling, storing, and dispensing of hazardous materials are anticipated. Based on the preceding, the potential for the Project to create or result in a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; or create or result in a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Result in a safety hazard for people residing or working in the project area due to airport/airstrip operations*.

Impact Analysis: Review of the Project by the ALUC is required. The Project Applicant has submitted the Project plans to the ALUC for that agency's independent review.

As part of its review, the ALUC would evaluate the Project consistency with the ALUCP. The ALUC would identify any Project revisions or limitations necessary to preclude or minimize potential airport/airstrip hazards that could affect or result from the Project. Prior to approval by the City, the Project Applicant would be required to document review and approval of the Project by the ALUC. Any Project revisions or limitations required by the ALUC would be incorporated in the Project prior to approval by the City.

Additionally, the City Council must make a finding that the requested Project Zone Change is consistent with the most recent adopted version of the Riverside County Airport Land Use Compatibility Plan.

As approved by the ALUC, the potential for the Project to result in a safety hazard for people residing or working in the project area due to airport/airstrip operations would be less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.*

Impact Analysis: The site is not located within one-quarter mile of an existing or proposed school. The school nearest the site is Rosa Parks Elementary School, located approximately 0.65 miles to the south. The Project does not include elements or aspects that would create or otherwise result in hazardous emissions that would affect this school or any other school. Development of the Project would therefore not result in potentially significant impacts related to hazardous emissions or hazardous materials handling within one-quarter mile of an existing or proposed school.

Level of Significance: Less-Than-Significant.

Potential Impact: *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Section 65962.5 and, as a result, create a significant hazard to the public or the environment.*

Impact Analysis: As part of the Phase I ESA, 28 regulatory databases were consulted (see Section 4.1, *Standard Environmental Records*, of the Phase I ESA) in addition to local regulatory agency records. The Project site does not appear on any hazardous material site list compiled under Government Code Section 65962.5. Further, the Phase I ESA found no evidence or indication of recognized environmental concerns on the site. As such, the Project's potential to create a hazard to the public or the environment based on existing conditions is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.*

Impact Analysis: Development of the Project would not cause permanent alteration to vehicle circulation routes. Nor does the Project propose or require facilities or operations that would interfere with any identified emergency response or emergency evacuation plan. In accordance with City policies, coordination with the local fire and police departments during construction would ensure that potential interference with emergency response and evacuation efforts are avoided. Further, potential temporary traffic/access disruption that may occur during Project construction would be addressed through the implementation of the Project Construction Traffic Management Plan (see: Section 3.0, *Project Description*; 3.6.4.4, *Construction Traffic Management Plan*). The potential for the Project to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan is therefore considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *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.*

Impact Analysis: The Project site is located in an urbanized area. No wildlands are located in the vicinity of the Project site. The Project site and surrounding areas are designated as "non-very high fire hazard zones" (non-VHFHZs).[3] The City of Eastvale is provided fire protection services by the Riverside County Fire Department, which operates in coordination with the California Department of Forestry and Fire Protection. Pre-construction coordination and adherence to local fire regulations during construction and operation of the Project would be required, acting to reduce potential fire hazards. The Project does not propose or require facilities or operations that would exacerbate or

[3] CAL FIRE "Fire Hazards Severity Zones." http://frap.fire.ca.gov/webdata/maps/riverside_west/fhszl_map.60.pdf. Retrieved August 4, 2018.

contribute substantively to any existing fire hazards. On this basis, the potential for the Project to expose people or structures to significant risk involving wildland fires is considered less-than-significant.

Level of Significance: Less-Than-Significant.

4.8 HYDROLOGY/WATER QUALITY

4.8 HYDROLOGY/WATER QUALITY

Abstract

This Section of the EIR addresses potential impacts of the Project related to hydrology and water quality. The analysis presented herein focuses on the potential for the Project to:

- *Violate any water quality standards or waste discharge requirements;*

- *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);*

- *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion or siltation on- or off-site;*

- *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site;*

- *Create or contribute runoff water that would exceed the capacity of the existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff;*

- *Otherwise substantially degrade 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; and*

- *Inundation by seiche, tsunami, or mudflow.*

As supported by the analysis presented in this Section, the above-noted potential hydrology/water quality impacts are determined to be less-than-significant.

4.8.1 INTRODUCTION

Information contained in this Section has been summarized or excerpted from: *Preliminary Drainage Report, The Merge, Northeast Corner of Archibald Ave. and Limonite Ave., Eastvale* (Kimley-Horn and Associates) July 2018; and *Project Specific Water Quality Management Plan for The Merge* (Kimley-Horn and Associates) June 28, 2018, which are provided in EIR Appendix H. Additional source and background information was obtained from the City of Eastvale General Plan, the Santa Ana Regional Water Quality Control Board (SARWQCB), and the California State Water Resources Control Board (SWRCB).

4.8.2 EXISTING SITE DRAINAGE

The entire Project site is considered one sub-basin and lies within the Riverside County Flood Control Master Drainage Plan (MDP). Existing runoff from the site sheet-flows to the south and west property lines and discharges into the Limonite Avenue and Archibald Avenue right-of-way. The flows are captured at an existing catch basin adjacent to the site in Limonite Avenue, approximately 210 feet west of the east property line and in a headwall/pipe located at the southwest corner of the site. These inlets discharge into a drainage pipe that is known as Lateral A-2. Lateral A-2 begins approximately 1300 feet east of Archibald Avenue on Limonite Avenue, runs west on Cloverdale Road, before turning south on Archibald Avenue and travels 2,640 feet to confluence with Line A.

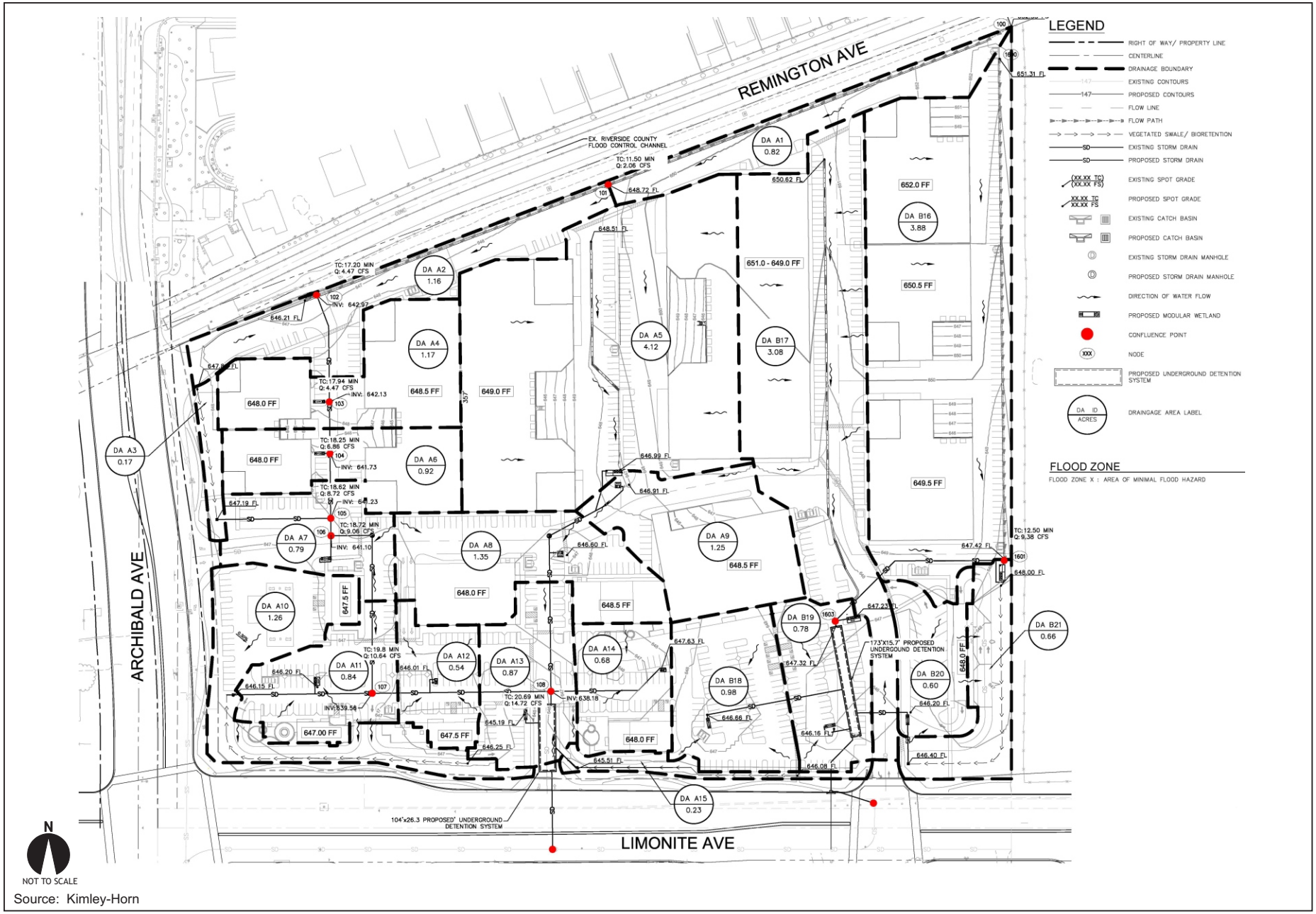
Lateral A-2, at the point where site runoff enters the underground pipe, has a diameter of 48 inches and an anticipated flow of 104 cubic feet per second (cfs). Lateral A-2 ultimately discharges into Line A. Line A begins 650 feet north of Cloverdale Road on Harrison Avenue, runs south on Harrison Avenue for 2,600 feet, then east for 5,200 feet in 65th Street before discharging into Cucamonga Creek. Line A is a 108-inch diameter pipe with an allowable flow of 488 cfs at the Lateral A-2 connection.

4.8.3 PROPOSED SITE DRAINAGE

There is an existing 48-inch storm drain (Lateral A-2) that is part of Riverside County's Master Drainage Plan (MDP) that runs west adjacent to the site in Limonite Avenue, turning south in Archibald Avenue. Under the Project storm water management system concept, storm water from the developed site would be discharged to this existing 48-inch storm drain.

As part of the MDP, the County developed hydrology calculations with an impervious ratio that assumes undefined single-family residential development of the subject site. The hydrology calculations appropriately assumed relatively low percentages of impervious coverage and relatively long times of concentration. Since the Project proposes Commercial/Retail and Industrial uses, rather than the single-family residential uses assumed in the MDP, the percentage of impervious coverage has increased when compared to the MDP estimates. Additionally, due to more precise overland flow lengths that can be calculated based on the current Project development concept, the time of concentration has decreased. As a result, the site peak flow rates from the developed Project site would be greater than the planned flow rates reflected in the MDP.

To accommodate the increase in peak flows that would result from the Project, and avoid potential exceedance of the area storm drain system capacities, the Project storm water management system incorporates on-site detention basins. These detention basins have been designed to attenuate the 100-year storm event peak flow difference between runoff that would result from the County's MDP assumed residential development of the site and runoff from the site resulting from development of the currently proposed Project. Please refer also to Figure 4.8-1, *Proposed Drainage Conditions.*



Source: Kimley-Horn

Figure 4.8-1
Proposed Hydrology Map

Table 4.8-1
Post-Development Condition Runoff Summary

Location	Storm Frequency/Duration (cfs)	
	100-year / 24-hour	
	In-Flow	Out-Flow
Detention Basin A	31.96 cfs	
Detention Basin B	24.12 cfs	
Total		39.61

Source: *Preliminary Drainage Study, The Merge, Northeast Corner of Archibald Avenue and Limonite Avenue, Eastvale, California* (Kimley Horn), July 2018.

The proposed drainage area will be comprised of thirty-six (36) sub-areas. Each sub-area contains a biofiltration system to treat the captured drainage. The biofiltration systems are connected to an underground storm drain system and the flow is conveyed to one of two underground detention systems, located near Limonite Avenue. The site detention basins have been designed to have a maximum outflow of 39.61 cfs discharging into Lateral A-2 in Limonite Avenue.

Detention Basins

Two on-site below-ground detention basins would be constructed near the south end of the Project site, as shown in Figure 4.8-1. Detention Basin A would maintain a peak discharge of 24.01 cfs that will drain via a weir into an existing storm drain which runs along Limonite Avenue. Basin A would provide storage for minimum of 6,663 cubic feet of storm water runoff.

Detention Basin B is designed to maintain a peak discharge of 14.91 cfs that will drain via a weir into an existing storm drain which runs along Limonite Avenue. Basin B has been designed to store 7,423 cubic feet of storm water runoff to offset peak inflow and outflow discharges of 56.08 and 39.61 cfs, respectively. The time to reach the peak discharge rate for Basin A is 20.69 minutes. The time to reach the peak discharge rate for Basin B is 12.50 minutes. The entire site will drain to the detention basin via the underground storm water management system before leaving the site.

Table 4.8-2

Detention Basin Calculation Summary

Detention Basin	Pipe Diameter (inches)	Volume (CF)	Pipe Length (feet)
Detention Basin A	60	6663	170
Detention Basin B	60	7423	200

Source: *Preliminary Drainage Study, The Merge, Northeast Corner of Archibald Avenue and Limonite Avenue, Eastvale, California* (Kimley Horn), July 2018.

The detention basins are designed to control the discharge leaving the site and entering the MDP storm system to maintain a peak outflow discharge of 39.61. These flows would exit the south and southeast corner of the Project site into an underground storm water system (Lateral A-2 of MDP). The proposed storm water system, including the detention basins, are designed to be consistent with the assumed runoff flows from the MDP with the proposed detention basin system, to mitigate any additional discharge due to the change in development to industrial and commercial retail uses.

4.8.4 REGULATORY SETTING

Applicable federal, state, and local policies and regulations which act to reduce potential hydrologic impacts and/or act to protect and preserve water quality are summarized below.

4.8.4.1 Federal Water Pollution Control Act, Federal Clean Water Act (CWA)

The principal law governing pollution of the nation's surface waters is the Federal Water Pollution Control Act, or Clean Water Act (CWA), which was substantially revised by amendments in 1972 that created the bulk of the current statutory scheme. The CWA requires states to adopt water quality standards. To achieve its objectives, the CWA is based on the concept that all discharges into the nation's waters are unlawful, unless specifically authorized by a permit. Moreover, the CWA states that discharge of pollutants into waters of the United States from any point source is unlawful unless the discharge complies with applicable provisions of the National Pollution Discharge Elimination System (NPDES) program.

The NPDES program is established under Section 402 of the CWA. The CWA provides the framework for regulating municipal and industrial (point sources) storm water discharges under the NPDES program. In California, the NPDES program is administered through the nine Regional Water Quality Control Boards, including the SARWQCB.

Non-point pollution sources are also regulated by the statewide Construction General Permit. Construction activities that are subject to the General Permit include clearing, grading, and disturbances to the ground such as stockpiling or excavation that result in soil disturbances. Storm water pollution prevention plans (SWPPPs) are developed and implemented for compliance with the construction NPDES permit and typically include both structural and non-structural Best Management Practices (BMPs) to reduce water quality impacts.

4.8.4.2 State of California and Riverside County

At the federal level, the CWA allows the Environmental Protection Agency (EPA) to delegate its NPDES system permitting authority to states with an approved regulatory program. The CWA authorizes discharge of pollutants into waters of the State by issuance of NPDES permits. Eastvale, Riverside County and 23 other cities and agencies obtained a joint NPDES permit from the SARWQCB. As a co-permittee, the City has the following obligations and responsibilities:

- Conduct storm drain system inspections;
- Conduct and coordinate with the County any surveys and characterizations needed to identify the pollutant sources and drainage areas;
- Implement management programs, monitoring programs and implementation plans;
- Enact legislation and ordinances as necessary to establish legal authority;
- Pursue enforcement actions as necessary to ensure compliance with the storm water management programs and the implementation plans; and

- Respond to emergency situations (e.g., accidental spills, leaks, illegal discharges and illicit connections) to prevent or reduce the discharge of pollutants to storm drain systems and streams.

Regulated entities acting as co-permittees must obtain coverage under an NPDES storm water permit and implement construction SWPPPs, and operational Water Quality Management Plans (WQMPs), both employing BMPs that effectively reduce or prevent the discharge of pollutants to receiving waters. The NPDES Permit (Permit) imposes various requirements of the discharger. In general, provided the discharger complies with such requirements, the discharger is deemed to be in compliance with the CWA and the Permit. Most of the requirements imposed by the Permit consist of BMPs, which are construction and operational discharge control practices and mechanisms acting to achieve compliance with the CWA requirements. Additional details regarding the SWPPP and WQMP required of the Project are provided below.

Storm Water Pollution Prevention Plan (SWPPP)

In December 1999, the State Water Resources Control Board (SWRCB) issued an NPDES General Permit for the discharge of storm water associated with construction activities. Federal regulations promulgated by USEPA (40 CFR Parts, 9, 122, 123, and 124) expanded the NPDES storm water program to include storm water discharges from MS4s and construction sites that were smaller than those previously included in the program. Accordingly, SWRCB issued a NPDES General Permit for the discharge of storm water associated with construction activities. This Permit addresses storm water discharges associated with construction activities. The Permit is applicable to all of California, which is inclusive of the City of Eastvale and the Project area.

Requirements of this Permit include a mandate that all dischargers shall develop and implement an SWPPP in accordance with Section A of the NPDES General Permit. As provided for under NPDES General Permit Section A, SWPPP requirements: all pollutant sources shall be identified; BMPs shall be implemented in order to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges from the construction site during construction; and a maintenance schedule for BMPs installed during construction shall be implemented. BMPs shall be described for control of

discharges from waste handling and disposal areas and methods of on-site storage and disposal of construction materials and construction waste.

An effective combination of erosion and sediment control on all disturbed areas during the rainy season must be implemented. The SWPPP shall include a description of the erosion control practices. The SWPPP shall include descriptions of the BMPs to reduce pollutants in storm water discharges subsequent to Project construction. The beneficial uses of the receiving waters are protected through implementation of these BMPs.

BMP storm water pollutant source controls are articulated in the NPDES Permit, and include such measures as first flush diversion, detention/retention basins, infiltration trenches/basins, porous pavement, oil/grease separators, grass swales, education programs, and maintenance practices. The NPDES permitting program also includes measures to reduce the release of pollutants such as sediment, construction materials, or accidental spillage of polluting materials during construction. Consistent with provisions of the NPDES Permit, the City of Eastvale requires implementation of development-specific SWPPPs and incorporation of BMPs that reduce, to the extent practicable, storm water and urban runoff pollutant discharges to the waters of Southern California.

Water Quality Management Plan (WQMP)

The Project is also required to develop and implement a WQMP addressing potential operational storm water pollutant discharges over the life of the Project. As with the Project SWPPP, the Project's mandated WQMP will act to control potential discharge of pollutants, prevent sewage spills, and avoid discharge of sediments into streets, storm water channels, or waterways.

Typical SWPPP and WQMP elements include:

- Introduction and Purpose;
- Compliance Requirements and Certifications;
- Facility Information/Pollution Prevention Team Members;
- Site Map;
- List of Significant Materials;

- Potential Storm Water Pollutants and Sources;
- Best Management Practices;
- Summary of Pollutants, Sources, and BMPs;
- Annual Comprehensive Site Evaluation;
- Definitions; and
- State Notice of Intent Form and Instructions.

4.8.4.3 Porter-Cologne Water Quality Act

Section 303 of the federal CWA and the State's Porter-Cologne Water Quality Act establish applicable water quality objectives for ground and surface waters in the State. In general, protection and maintenance of surface water quality is the combined responsibility of the applicable Regional Water Quality Control Board (RWQCB), water supply and wastewater management agencies, and City and County governments.

The RWQCB has purview over point and non-point sources of pollution. Point source water pollutants consist of controlled wastewater releases that are commonly generated by activities that use water to collect pollutants and transport them from the processing facility. When such wastewater discharges are proposed, the Applicant must obtain a set of Waste Discharge Requirements from the RWQCB which serve to control water pollution to a non-significant level from such point sources.

Non-point sources of water pollution consist of surface runoff from a site or area during or following a storm where the source of pollution cannot be traced to a specific location. Typical non-point water pollution sources consist of agricultural fields with sediment and fertilizers, construction sites with sediment and debris, and roads with oil, tire particles, and debris common to roads. The Project will implement and comply with applicable Porter-Cologne water quality protection policies and mandates.

4.8.4.4 Santa Ana Watershed Project Authority

The Santa Ana Watershed Project Authority (SAWPA) was formed to find a mutually beneficial way of protecting water quality in the Santa Ana Watershed. Orange County Water District, Inland Empire Utilities Agencies, San Bernardino Valley Municipal Water District, Western Municipal Water District, and Eastern Municipal Water District

represent all the major areas of water use in the Santa Ana Watershed who formed and are all members of SAWPA.

4.8.4.5 City of Eastvale Municipal Code

All Project storm management systems and facilities would be designed, implemented, and maintained consistent with requirements as outlined in City of Eastvale Municipal Code Title 14, Water and Sewers, Chapter 14.12, Storm water Drainage System Protection Regulations. Please refer also to the City of Eastvale Municipal Code available at: https://library.municode.com/ca/eastvale/codes/code_of_ordinances.

4.8.5 STANDARDS OF SIGNIFICANCE

Consistent with the standards of significance outlined in the *CEQA Guidelines*, hydrology/water quality impacts would be considered potentially significant if the Project would:

- Violate any water quality standards or waste discharge requirements;

- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion or siltation on- or off-site;

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site;

- Create or contribute runoff water that would exceed the capacity of the existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff;

- Otherwise substantially degrade 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; and

- Inundation by seiche, tsunami, or mudflow.

4.8.6 POTENTIAL IMPACTS AND MITIGATION MEASURES

Following is an analysis of potential hydrology impacts that could occur because of the Project. As substantiated in the following discussions, the all Project hydrology/water quality impacts would be less-than-significant. No mitigation is required.

4.8.6.1 Impact Statements

Potential Impact: *Violate any water quality standards or waste discharge requirements.*

Impact Analysis: The Project is mandated to acquire all necessary permits and comply with State, City of Eastvale and RWQCB requirements for the Santa Ana Region, acting to preclude, or substantively reduce the potential for the Project to violate any water quality standards or waste discharge requirements. Further, the Project would be required to develop and implement a Storm Water Pollution Prevention Plan (SWPPP),

acting to preclude or minimize potential discharge of construction-source storm water pollutants. Similarly, a City-approved Water Quality Management Plan (WQMP) would be required to be developed and implemented, acting to preclude or minimize potential operational-source storm water pollutant discharges over the life of the Project.

All storm water discharges shall comply with applicable provisions of the Riverside County Flood Control and Water Conservation District (RCFCWCD) NPDES permit. Consistent with SARWQCB, RCFCWCD and City requirements, waste materials will not be discharged to drainage areas, streambeds, or streams. Appropriate BMPs will be employed throughout construction processes, thereby controlling potential discharge of pollutants, preventing sewage spills, and avoiding discharge of sediments into streets, storm water channels, or waterways. Selected BMPs will act to:

- Control and prevent potential contaminant spills;
- Prevent runoff from off-site areas from flow across the construction site(s);
- Slow runoff rates across the site;
- Provide soils stabilization; and
- Remove sediment from on-site runoff before it leaves the site.

The Project would connect to the existing sanitary sewer system serving the Project area and does not propose or require septic systems or other alternative treatment of wastewater. Further, the Project's plans for connection to existing sanitary sewer infrastructure facilities are subject to review and approval by the City and the Jurupa Community Services District (JCSD). The Project Applicant would also be required to apply for service and pay a mandated Connection Fee and ongoing Service Fees. Wastewater generated by the Project would be typical of commercial and light industrial generators, and wastewater resulting from the Project uses would not require treatment beyond that provided by existing JCSD facilities.

The Project Drainage Report is provided in EIR Appendix H. Consistent with established City building code regulations, a final site-specific drainage study reflecting precise pad locations, proposed drainage structures, detention/retention facilities, etc., would be required prior to the issuance of building permits.

Based on the preceding discussion, the potential for the Project to violate any water quality standards or waste discharge requirements is determined to be less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).*

Impact Analysis: Water service would be provided to the Project by the JCSD. The JCSD relies predominantly on groundwater and desalinated brackish groundwater from the Chino Groundwater Basin for its water supply (JCSD UWMP, 2015). Additionally, and via a joint powers authority, the JCSD partners with the Chino Desalter Authority (CDA), the owner and operator of two water treatment plants (desalters), to treat potable water for the JCSD service area. Each of the desalters has the current capacity to treat 12 million gallons per day (mgd) of water (City of Eastvale General Plan). In addition, the CDA is currently in the process of expanding the treatment capacity of the desalters via local groundwater wells. Water is treated at the Chino I Desalter, the Chino II Desalter, and the Roger Teagarden Ion Exchange Treatment Plant.

Based on a water demand rate of 2.06 acre-feet per year (AFY) per acre for commercial retail uses and 1.52 acre-feet per acre for industrial uses[1] the proposed Project would have a total water demand of approximately 45.6 AFY. Thus, the proposed Project's total water

[1] Memorandum: *JCSD Development Status and Water Demands – June 2015* (WEBB), June 2015.

demand would equal approximately 0.3 percent (0.003) of current JCSD treated water supply capacity of 12 mgd (13,441.7 AFY). The Project would have a negligible incremental water demand when compared to the current water JSCD supply capabilities.

Additionally, the Applicant has obtained a Will-Serve letter from JCSD demonstrating the JCSD's willingness and ability to provide water service to the Project.[2]

The Project site is not a designated groundwater recharge area. Nor does the Project propose or require facilities or operations that would otherwise interfere with designated groundwater recharge facilities or recharge areas.

Based on the preceding, the potential for the Project to substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding or substantial erosion or siltation on- or off-site; or create or contribute runoff water which would exceed the capacity of the existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or otherwise substantially degrade water quality.*

Impact Analysis: As previously described in Section 4.8.3, the Project incorporates necessary drainage and storm water management systems, and would comply with storm water system design, construction, and operational requirements mandated under the City Municipal Code, and with regulations established by other agencies, such as the SARWQCB and California Department of Water Resources.

[2] See JCSD Will-Serve Letter, EIR Appendix H.

The proposed site will have an underground storm drain system that will collect storm water runoff via strategically dispersed biofiltration systems and will convey the runoff to an underground detention system. The detention basins have been designed to mitigate the impacts of additional runoff that will be generated from the change of land use from single family residential (existing site drainage parameters) to accommodate the proposed industrial and commercial design parameters. The detention basins are designed to receive an inflow discharge exceeding 56.08 cfs, while still maintaining a maximum 100-year outflow discharge of 39.61 cfs, which is the storm drain design peak discharge (Drainage Report, p. 5). Final design, configuration, and locations of proposed drainage system improvements will be reviewed and approved by the City, and RCFCWCD, prior to, or concurrent with, application for grading permits.

In combination, the Project's storm water management system components, and compliance with regulatory requirements act to preclude potentially adverse drainage and storm water runoff impacts.

Project SWPPP and Compliance with Regulatory Requirements Address Construction-Source Water Quality Impacts

During site preparation activities, any existing groundcover would be removed from the site, exposing the Project area to increased wind and water erosion potentials. Further, construction site runoff may carry increased loads of sediment, heavy metals and petroleum hydrocarbons (from machinery) which could degrade water quality. In accordance with NPDES requirements, the Project Applicant would be required to prepare and implement a construction activities erosion control plan to alleviate potential sedimentation and storm water discharge contamination impacts of the Project.

The Applicant would also be responsible for compliance with the General Construction NPDES permit from the SARWQCB by filing a Notice of Intent to Commence Construction Activities. Under the General Construction Permit, discharge of materials other than storm water is prohibited. The General Construction Permit stipulates further that the Applicant shall prepare, retain at the construction site, and implement a SWPPP which identifies the sources of sediments and other pollutants that affect the quality of

storm water discharge, and implement practices to reduce sediment and other pollutants to storm water discharge. SWPPP requirements include identification of construction and post-construction BMPs that would act to reduce sediments and other pollutants.

Implementation of the Project SWPPP and compliance with applicable NPDES and SARWQCB requirements would ensure that potential construction-source water quality impacts of the Project are reduced below the level of significance.

Project WQMP and Compliance with Regulatory Requirements Address Operational-Source Water Quality Impacts

Over the life of the Project, contaminants such as oil, fuel and grease that are spilled or left behind by vehicular traffic, collect and concentrate on paved surfaces. During storm events, these contaminants are washed into the storm drain system and may potentially degrade receiving water quality. Storm water runoff from paved surfaces within the developed Project area could carry a variety of urban wastes, including greases and oils and small amounts of metals which are common by-products of vehicular travel. In addition, storm runoff will likely contain residual amounts of fertilizers and plant additives washed off from landscaped areas.

Recognizing the potential hazards of such urban runoff, the EPA has issued regulations which require municipalities to participate in the NPDES program. As part of this program, the SARWQCB has issued an NPDES permit for urban runoff to the RCFCWCD, and the City of Eastvale has been established as a co-permittee. Compliance with the provisions specified in the NPDES permit ensures proper management and disposal of urban runoff from the Project.

To ensure adequate and appropriate treatment of storm water discharges, the Project storm water management concept and associated Water Quality Management Plan (WQMP) would incorporate bio-treatment devices to clean storm water onsite prior to release to the regional storm water system.

In combination, implementation of the Project SWPPP, onsite storm water management system and associated WQMP, and compliance with NPDES Permit and SARWQCB requirements, act to protect local and regional water quality by preventing or minimizing potential storm water pollutant discharges to the watershed.

Level of Significance: Less-Than-Significant.

Potential Impact: *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.*

Impact Analysis: The Project does not propose the development of housing, and as noted in the Preliminary Hydrology Report prepared for the Project, no portion of the Project site is located within a 100-year flood hazard zone. As such, no placement of housing or structures in a 100-year flood hazard zone would occur as a result of Project implementation and no impact would occur relative to the placement of housing or other structures within a mapped 100-year flood hazard area.

Level of Significance: No Impact.

Potential Impact: *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.*

Impact Analysis: The Project Site is not located in a 100-year flood hazard area, nor is the Project Site mapped as being within a dam inundation area.

Level of Significance: No Impact.

Potential Impact: *Inundation by seiche, tsunami, or mudflow.*

Impact Analysis: The Project site is not located near any large inland bodies of water or the Pacific Ocean and is located approximately 31 miles from the nearest coastline.

Therefore, the Project site does not have the potential for inundation by seiches or tsunamis, nor is the Project site located on or near steep slopes where rapid erosion could trigger mudflows.

Level of Significance: No Impact.

4.9 CULTURAL RESOURCES/ TRIBAL CULTURAL RESOURCES

4.9 CULTURAL RESOURCES/ TRIBAL CULTURAL RESOURCES

Abstract

This Section examines the potential of the Project to impact cultural and/or tribal resources in the Project area. Of primary concern are the protection of currently unknown (buried or undiscovered) paleontological or tribal resources that may be present on the site. Specifically, this analysis seeks to determine whether the Project would result in any of the following:

- *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature;*

- *Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5;*

- *Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5;*

- *Disturb any human remains, including those interred outside of dedicated cemeteries; or*

- *Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:*

    - *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or*
    - *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c)*

of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

4.9.1 INTRODUCTION

Information contained within this section is based upon *Cultural Resources Assessment: NEC Archibald and Limonite Project, Eastvale, Riverside County, California* (BCR Consulting LLC) March 12, 2018 (Project Cultural Resources Assessment, EIR Appendix I).

4.9.2 SETTING

The Project site is located in the eastern portion of the Chino Valley (locally known as the Jurupa Valley), which is bounded on the west by the Puente Hills, on the south by the Chino Hills, on the north by the foothills of the San Gabriel Mountains, and on the east by the Jurupa Mountains. Geologic mapping indicates that the proposed Project site is situated upon Holocene and Late Pleistocene young alluvial fan deposits. These deposits consist of grey-hued sand and cobble, and gravel-sand deposits forming from diverse sedimentary units.

The 26-acre site has historically been used only for agricultural purposes. The Project site has been heavily disturbed due to grading, fill placement for local roads, and agriculture, all of which have displaced native soils. The only above-ground structures existing on the site are a single water pump, accompanying well apparatus, and chain link fencing located on the northern and eastern boundaries of the site.

4.9.3 EXISTING POLICIES AND REGULATIONS

4.9.3.1 Federal

National Historic Preservation Act

The National Historic Preservation Act (NHPA) requires federal agencies to consider the effects of their undertakings on historic properties. Historic properties are cultural resources (e.g., archeological sites, historic built environment features, or Native

American sites) that are listed, or determined to be eligible for listing, on the National Register of Historic Places. The implementing regulations of this mandate, found in the Code of Federal Regulations (36 CFR 800), outline an involved consultative process known as the Section 106 process. The Section 106 process requires a Project lead federal agency to consult with the State Historic Preservation Officer.

American Indian Religious Freedom Act

The American Indian Religious Freedom Act, passed in 1978, serves to protect and preserve the traditional religious rights of American Indians, Eskimos, Aleuts, and Native Hawaiians. Before the Act was passed, certain federal laws interfered with the traditional religious practices of many American Indians.

Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act establishes a federal policy of respect for, and protection of, Native American religious practices. It also has provisions for allowing limited access to Native American religious sites. The Act provides for the repatriation of certain items from the federal government and certain museums to the native groups to which they once belonged. The Act defines "cultural items," "sacred objects," and "objects of cultural patrimony" and establishes a means for determining ownership of these items. However, the provisions for repatriation only apply to items found on federal lands.

Executive Order 13007 and Executive Order 13084

Executive Order 13007 requires federal agencies with land management responsibilities to allow access to and use of Indian sacred sites on public lands, and to avoid adversely affecting these sites. Executive Order 13084 reaffirms the government-to-government relationship between the federal government and recognized Indian tribes, and requires federal agencies to establish procedures for consultation with tribes. These executive orders only apply to Projects that include federal undertakings.

4.9.3.2 State

CEQA and the California Register of Historical Resources

Historical resources are recognized as part of the environment under the California Environmental Quality Act (CEQA). The California Register of Historical Resources (California Register) is the authoritative guide for the State's historical resources, and properties included in the California Register are considered significant for the purposes of CEQA. The California Register includes resources listed, or formally determined eligible for listing, on the National Register of Historic Places, and some California State Landmarks and Points of Historical Interest. Properties of local significance designated under a local preservation ordinance (local landmarks or landmark districts), or that have been identified in a local historical resources inventory, may be eligible for listing in the California Register and are presumed to be significant resources for the purposes of CEQA unless a preponderance of evidence indicates otherwise (PRC § 5024.1, 14 CCR § 4850).

An archaeological site may be considered a historical resource if it is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California (PRC § 5020.1(j)), or if it meets the criteria for listing on the California Register (14 CCR § 4850).

The *CEQA Guidelines* direct lead agencies to evaluate an archaeological site to determine if it meets the criteria for listing in the California Register. If it does, potential adverse impacts must be considered. If an archaeological site is not a historical resource, but meets the definition of a "unique archaeological resource" as defined in PRC §21583.2, then it should be treated in accordance with the provisions of that section.

Substantial adverse change includes demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired (PRC § 5020.1(q)). While demolition and destruction would constitute significant impacts, it is sometimes more difficult to assess when change, alteration, or relocation results in a substantial adverse change. The *CEQA Guidelines* provide that a Project that alters those physical

characteristics of a historical resources that convey its significance (i.e., its character-defining features), can be considered to materially impair the resource's significance.

California Native American Graves Protection and Repatriation Act (2001)

The California Health and Safety Code, Division 7, Part 2, Chapter 5 (Sections 8010-8030) contains broad provisions for the protection of Native American cultural resources. The California Native American Graves Protection and Repatriation Act establishes policy to ensure that California Native American human remains and cultural items are treated with respect and dignity. The Act also provides the mechanism for disclosure and return of these items held by publicly funded agencies and museums in California. Additionally, the Act outlines the mechanism by which California Native American tribes not recognized by the federal government may file claims for human remains and cultural items held in agencies or museums.

California Public Resources Code

The California Public Resources Code contains several sections applicable to the preservation of cultural resources and human remains. These sections detail procedures to be followed whenever Native American remains are found, and delineate the unauthorized disturbance or removal of archaeological, historical, paleontological resources, or human remains as an act punishable by law (Sections 5020, 5097.5, 5097.9-5097.996, 7050.5, 7051). As matter of law, the Project would comply with applicable provisions of the California Public Resources Code addressing preservation and protection of cultural resources and human remains.

California Code of Regulations

Under Title 14, Division 3, Section 4308, no person shall remove, injure, disfigure, deface, or destroy any object of archeological or historical interest or value.

Senate Bill 18 (SB 18, 2004)

SB 18 (2004) requires cities and counties to notify, and if requested to do so, consult with California Tribal Governments anytime a General Plan is proposed for adoption or

amendment. Tribes, once notified of the proposed adoption of or amendment(s) to a general plan, have 90 days to request consultation.

Because the Project proposes to amend the City of Eastvale General Plan (Land Use) the City is required to consult with requesting California Native American tribes for the purpose of preserving or mitigating potential impacts to Cultural Places. The requirements of SB 18 are separate from the CEQA process.

Assembly Bill 52 (AB 52) Tribal Cultural Resources

Enacted as of July 1, 2015, AB 52 established a new category of resources under CEQA called "tribal cultural resources" that considers the tribal cultural values in addition to the scientific and archaeological values when determining impacts and mitigations. The Bill was built on the concept that California Native American tribes have the expertise "with regard to tribal history and practices" to identify significant cultural resources. To this end, AB 52 requires early consultation in the CEQA process to ensure that local and Tribal governments, public agencies, and Project proponents have information available, early in the CEQA environmental review process, for the purpose of identifying and addressing potential adverse impacts to tribal cultural resources.

AB 52 requires that the lead agency contact (in writing) all culturally affiliated tribes that could be affected by a Project, within 14 days of deeming a development application complete. The notice commences a 30-day period for the tribe to request consultation. Upon receipt of a request consultation, the lead agency has an additional 30 days to begin the consultation process. AB 52 states that the consultation concludes when either "1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal resource, or 2) a party, acting on good faith and after a reasonable effort, concludes that mutual agreement cannot be reached." AB 52 notes that the consultation can be ongoing throughout the CEQA process.

4.9.4 STANDARDS OF SIGNIFICANCE

Consistent with the standards of significance outlined in the *CEQA Guidelines*, Project-related impacts to cultural/tribal resources would be considered potentially significant if they cause or result in any of the following:

- Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5;

- Cause a substantial adverse change in the significance of an archaeological resource pursuant to §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 dedicated cemeteries; or

- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

    - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or
    - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

4.9.5 POTENTIAL IMPACTS AND MITIGATION MEASURES

Potential Impact: *Cause a substantial adverse change in the significance of historic and archaeological resources as defined in §15064.5.*

Impact Analysis:

Prehistoric Archaeological Resources

Twenty-six cultural resource studies have been undertaken within one mile of the Project site. Of the 26 previous studies, four of the studies previously assessed portions of the Project site and none of these four studies identified any items of potential archaeological significance. Artifacts have been identified on nearby properties and in buried contexts. Therefore, as required by Mitigation Measure 4.9.1, the Project area shall be monitored by a qualified archaeological professional to identify record, recover, and report all items of potential archaeological significance.

Historic Resources

During the field study conducted as part of the assessment, one "unidrive turbine" water pump and accompanying well apparatus were located. The pump is embossed "Pomona Electric Unidrive Turbine." The vertical turbine pump head was patented in 1929 by Carl E. Johnson. It was designed to bring water from beneath the ground to surface elevations for irrigation purposes. The pump is accompanied by an electrical distribution line connected to a modern circuit breaker via a wooden t-shaped utility tower. The tower contains a "45" inspection tag suggesting that it is a pre-1945 date of installation. The investigator noted that "although some of the components may be original and historic in age, a modern cap, piping and electrical confer a relatively modern appearance" (Project Cultural Resources Assessment, p. 10).

A significance determination of the equipment was conducted to ascertain whether the equipment was historically significant and whether it met requirements to be listed in the California Register, National Register or designation under local ordinance. Based on the evaluation as presented in the Cultural Resources Assessment, "the resource has not yielded, and is not likely to yield, information important to the prehistory or history of

the local area, California or the nation" (p. 10). Because of the failure to meet any of the eligibility criteria, the study concluded that the pump and ancillary equipment do not meet the California Register criteria, therefore have not been recommended as a historic resource under CEQA.

Upon conclusion of the records search, detailed field survey, and evaluation of the Unidrive Turbine, the Project Cultural Resources Assessment concluded that no additional work or monitoring would be necessary during the proposed activities associated with the development of the Project site. No other known historic or potentially historic resources would be affected by the Project. Mitigation Measure 4.9.1 has been included in the event that previously-unidentified historic resources are uncovered during earthmoving activities.

Level of Significance: Potentially Significant.

Mitigation Measures:

4.9.1 *If previously-unidentified archaeologic or historic resources of potential significance are encountered during grading and/or other ground-disturbing activities, a qualified archaeologist shall be contacted to identify and interpret the encountered resources. Monitoring shall be considered complete and may be discontinued at the conclusion of grading/ground-disturbing activities, or at an earlier date should the qualified professional determine that on-site activities would not disturb cultural resources of potential significance.*

Level of Significance After Mitigation: Less-Than-Significant.

Potential Impact: *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.*

Impact Analysis: The Project area has been identified as being within the Chino Basin. The eastern one-third of the Project site contains Quaternary dune sands. Most of the

Project site contains surface deposits that consist of Quaternary Alluvium derived broadly from the San Bernardino Mountains to the north. Both of these deposits typically do not contain significant vertebrate fossils, at least within the uppermost layers. At relatively shallow depths, there may be Quaternary deposits that contain significant fossil vertebrae remains. Fossil specimens have been recovered from the Santa Ana River deposits, in the Corona and Norco areas. Relatively shallow earthmoving is unlikely to yield any evidence of paleontological specimens, but deep excavations may yield specimens. Recommended subsurface monitoring is presented in Mitigation Measure 4.9.2.

Level of Significance: Potentially Significant.

Mitigation Measure:

4.9.2 *Any excavation exceeding eight feet below the current grade shall be monitored by a qualified paleontologist. If older alluvial deposits are encountered at shallower depths, monitoring shall be initiated once these deposits are encountered. A qualified paleontologist is defined as an individual with an M.S. or a Ph.D. in paleontology or geology who is familiar with paleontological procedures and techniques. A paleontological monitor may be retained to perform the on-site monitoring in place of the qualified paleontologist. The paleontological monitoring program shall be developed in accordance with the provisions of CEQA as well as the proposed guidelines of the Society of Vertebrate Paleontology (2010) and should be developed prior to the ground-altering activities. The paleontological monitor shall have the authority to temporarily halt any Project-related activities that may be adversely impacting potentially significant resources. If paleontological resources are uncovered or otherwise identified, they shall be recovered, analyzed in accordance with standard guidelines, and curated with the appropriate facility.*

Level of Significance After Mitigation: Less-Than-Significant.

Potential Impact: *Disturb any human remains, including those interred outside of dedicated cemeteries.*

Implementation of the Project would include ground-disturbing construction activities that could result in the inadvertent disturbance of currently undiscovered human remains. Procedures of conduct following the discovery of human remains on nonfederal lands are mandated by Health and Safety Code Section 7050.5, by Public Resources Code Section 5097.98(b), and by CEQA in California Code of Regulations Section 15064.5(e).

According to these provisions, should human remains be encountered, all work in the immediate vicinity of the burial must cease and any necessary steps to ensure the integrity of the immediate area must be taken. The remains are required to be left in place and free from disturbance until a final decision as to the treatment and their disposition has been made. The Riverside County Coroner would be immediately notified, and the coroner would then determine whether the remains are Native American. If the coroner determines the remains are Native American, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC), which will in turn notify the person identified as the most likely descendant (MLD) of any human remains. Further actions would be determined, in part, by the desires of the MLD, who has 24 hours to make recommendations regarding the disposition of the remains following access to the project site. If the MLD does not make recommendations within 24 hours, the owner is required, with appropriate dignity, to reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendant may request mediation by the Native American Heritage Commission. Any discovery of human remains within the Project site would be subject to these procedural requirements, which would mitigate impacts associated with the discovery/disturbance of human remains to a less-than-significant level.

Level of Significance: Less-Than-Significant.

Potential Impact: *Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:*

- *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or*
- *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.*

Impact Analysis: Upon conclusion of the records search, detailed field survey, and evaluation of the on-site resources (the previously-cited Unidrive Turbine), the Cultural Resources Assessment concluded that "no additional work or monitoring is necessary during proposed activities associated with the development of the Project site."

A sacred lands search request was sent to the Native American Heritage Commission (NAHC). The Sacred Lands File search conducted by the NAHC had negative results, which does not indicate absence of Native American cultural resources in the Project Area of Potential Effect (APE).

The City has contacted applicable tribes on its most current AB 52 Consultation list. A request to initiate formal consultation regarding the Project site was subsequently received from the Soboba Band of Luiseño Indians (see Appendix A). The requested consultation is in process. Mitigation presented below establishes monitoring protocols, and provisions for avoidance, protection, or curation of Tribal Cultural Resources (TCRs) that may be identified through the AB 52 Consultation process. With application of mitigation, the potential for the Project to cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 would be less-than-significant.

Level of Significance: Potentially Significant.

Mitigation Measures:

4.9.3 ***Tribal Monitoring – General.*** *Prior to the issuance of a grading permit, the Project Applicant shall contact the consulting tribes with notification of the proposed grading and shall enter into a Tribal Cultural Resources Treatment and Monitoring Agreement with each Tribe that determines its tribal cultural resources may be present on the site. The agreements shall include, but not be limited to, outlining provisions and requirements for addressing the handling of tribal cultural resources; Project grading and development scheduling; terms of compensation for the Tribal monitors; treatment and final disposition of any tribal cultural resources, including but not limited to sacred sites, burial goods and human remains, discovered on the site; and establishing on-site monitoring provisions and/or requirements for professional Tribal monitors during all ground-disturbing activities. The terms of the agreements shall not conflict with any of these mitigation measures. A copy of the agreement shall be provided to the City of Eastvale Planning Department prior to the issuance of a grading permit.*

4.9.4 ***Tribal Cultural Resources – Archaeological Monitoring.*** *At least 30 days prior to application for a grading permit and before any grading, excavation and/or ground disturbing activities on the site take place, the Project Applicant shall retain a Secretary of Interior Standards-qualified archaeological monitor to monitor all ground-disturbing activities in an effort to identify any unknown archaeological resources. Ground-disturbing activities may include, but are not limited to, pavement removal, pot-holing or auguring, grubbing, weed abatement, boring, grading, excavation, drilling, and trenching. The on-site monitoring would end when the Project site grading and excavation activities are completed, or when the monitor has indicated that the site has a low potential for archeological resources.*

The Project Archaeologist, in consultation with interested Tribes identified in Mitigation Measure 4.9.3, and the Developer, shall develop an Archaeological Monitoring Plan to

address the details, timing and responsibility of all archaeological and cultural activities that will occur on the Project site.

Details in the Plan shall include:

A. *Project grading and development scheduling.*
B. *The development of a rotating or simultaneous schedule in coordination with the Project Applicant and the Project Archeologist for designated Native American Tribal Monitors from the consulting Tribes during grading, excavation and ground-disturbing activities on the site.*
C. *The safety requirements, duties, scope of work, and Native American Tribal Monitors' authority to stop and redirect grading activities in coordination with all Project archaeologists.*
D. *The protocols and stipulations that the Developer, Tribes and Project Archaeologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits that shall be subject to a cultural resources evaluation.*

4.9.5 ***Treatment and Disposition of Tribal Cultural Resources**. If tribal cultural resources are inadvertently discovered during ground-disturbing actives for this Project. The following procedures will be carried out for treatment and disposition of the discoveries:*

A. *Temporary Curation and Storage. During the course of construction, all discovered resources shall be temporarily curated in a secure location on-site or at the offices of the Project Archaeologist. The removal of any artifacts from the Project site will need to be thoroughly inventoried by the Project Archeologist with tribal monitor oversite of the process.*

B. *Treatment and Final Disposition. The landowner(s) shall relinquish ownership of all cultural resources, including sacred items, burial goods, and all archaeological artifacts and non-human remains as part of the required mitigation for impacts to cultural resources. The landowner shall relinquish the artifacts through one or more of the following methods and provide the City Planning Department with documentation of same:*

a. *Reburial on-site. Accommodate the process for on-site reburial of the discovered items with the consulting Tribes. This shall include measures and provisions to protect the future reburial area from any future impacts. Reburial shall not occur until all cataloguing and basic recordation have been completed.*
b. *Curation. A curation agreement with an appropriate qualified repository within Riverside County that meets federal standards pursuant to 36 CFR Part 79, and therefore, would be professionally curated and made available to other archaeologists or researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility within Riverside County, to be accompanied by payment of the fees necessary for permanent curation.*
c. *Disposition Dispute. If more than one Tribe is involved with the Project and cannot come to a consensus as to the disposition of cultural materials, they shall be curated at the Western Science Center.*
d. *Final Report. At the completion of grading, excavation and ground-disturbing activities on the site, a Phase IV Monitoring Report shall be submitted to the City documenting monitoring activities conducted by the Project Archaeologist and Tribal Monitors within 60 days of completion of grading. This report shall:*
    - *Document the impacts to the known resources on the property;*
    - *Describe how each mitigation measure was fulfilled;*
    - *Document the type of cultural resources recovered and the disposition of such resources;*
    - *Provide evidence of the required cultural sensitivity training for the construction staff held during the required pre-grade meeting;*
    - *In a confidential appendix, include the daily/weekly monitoring notes from the archaeologist.*
    - *All reports produced will be submitted to the City, Eastern Information Center and consulting tribes.*

Level of Significance After Mitigation: Less-Than-Significant.

4.10 PUBLIC SERVICES & UTILITIES

4.10 PUBLIC SERVICES & UTILITIES

Abstract

This Section of the EIR addresses the Project's potential impacts to public services and utilities. Specifically, the public services and utilities analysis examines whether the Project would:

- *Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities; or result in the 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 fire or police protection services, schools, parks, or other public facilities;*

- *Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;*

- *Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;*

- *Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;*

- *Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed;*

- *Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments;*

- *Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs; or*

- *Comply with federal, state, and local statutes and regulations related to solid waste.*

As supported by the discussion presented in this Section, the potential for the Project to adversely affect public services and utilities; or to result in potentially adverse environmental impacts due to the construction or expansion of service facilities or systems is less-than-significant.

4.10.1 INTRODUCTION

For each of the public services and utilities discussed, existing service conditions are described, any improvements required to accommodate the proposed development are identified, and any resulting or associated impacts and required mitigation are discussed. As substantiated herein, all Project public services and utilities impacts would be less-than-significant. No mitigation is proposed or required.

The analysis is based on physical and operational attributes presented in the Project Description (EIR Section 3.0); information presented in the City of Eastvale General Plan; and information provided by or available through the City of Eastvale and County of Riverside.

4.10.2 EXISTING CONDITIONS

4.10.2.1 Fire Protection and Emergency Services

Fire suppression and emergency response services are provided to the City, including the Project site, by the Riverside County Fire Department, which operates in coordination with the California Department of Forestry and Fire Protection. The closest fire station is

Fire Station #31, located approximately 2.4 miles south/southwesterly of the Project site at 14491 Chandler Street.

4.10.2.2 Police Protection Services

Police protection services are provided to the City by the Eastvale Police Department, under contract with the Riverside County Sheriff's Department.

Police protection services available to, and assigned to, the City of Eastvale include a total of 100 patrol hours a day. In addition to the current 100 patrol hours, the City has contracted for two dedicated deputies for special enforcement, two dedicated traffic officers, two dedicated community service officers, and two dedicated motor officers (*City of Eastvale Annual Operations and Capital Improvement Budget Fiscal Year 2018-2019*, p. 26).

The nearest sheriff's station is the Jurupa Valley Station, located at 7477 Mission Boulevard in Jurupa Valley. This station is located approximately 8 miles to the northeast of the Project site.

4.10.2.3 Schools

The City is served generally by Jurupa Unified School District (JUSD) and the Corona-Norco Unified School District (CNUSD). The Project area is served by the CNUSD, the largest school district in Riverside County. The CNUSD (District) serves approximately 53,000 students in Corona, Norco and Eastvale. The District comprises 31 elementary schools, 8 intermediate/middle schools, 5 high schools, a middle college high school, and 3 alternative schools. The nearest schools, within a mile of the Project site, are Rosa Parks Elementary and Ramirez Intermediate.

4.10.2.4 Parks

There are two parks districts within the City of Eastvale; Jurupa Community Services District (JCSD) and Jurupa Area Recreation and Park District (JARPD). JCSD provides park and recreation services for the properties west of Hamner Avenue; parks located East of Hamner Avenue (between Hamner Ave. and the I-15 Freeway) are part of JARPD.

The Project site is within the JCSD service area. Nearby parks include James C. Huber, Deer Creek, Cedar Creek, and Orchard; all are located within a mile of the Project site.

4.10.2.5 Water Service and Supplies, Water Treatment

Domestic water supply to the City of Eastvale is provided by the Jurupa Community Services District (JCSD). The source for the JCSD is local groundwater produced from the Chino groundwater basin. In regard to water service, the JCSD serves over 107,000 residents in the cities of Eastvale and Jurupa Valley. The JCSD is composed of 16 wells, 7 booster stations, and 17 reservoirs with 58 million gallons of storage capacity. The JCSD is a part of the Chino Desalter Authority (CDA), which is a Joint Powers Authority comprised of water purveyors that overlie the Chino Subbasin.

The JCSD relies predominantly on groundwater and desalinated brackish groundwater from the Chino Groundwater Basin for its water supply (JCSD UWMP, 2015). Additionally, via a joint powers authority, the JCSD partners with the Chino Desalter Authority (CDA), the owner and operator of two water treatment plants (desalters), to treat potable water for the JCSD service area. Each of the desalters has the current capacity to treat 12 million gallons per day (mgd) of water (City of Eastvale General Plan). In addition, the CDA is currently in the process of expanding the treatment capacity of the desalters via local groundwater wells. Water is treated at the Chino I Desalter, the Chino II Desalter, and the Roger Teagarden Ion Exchange Treatment Plant.

4.10.2.6 Wastewater Treatment

The JCSD provides wastewater collection within its service areas and conveys effluent to the Western Riverside County Regional Wastewater Authority Wastewater (WCWRA) Treatment Plant (Treatment Plant).

The JCSD wastewater collection system consists of approximately 320 miles of pipelines which connect to the Wastewater Treatment Plant. This plant treats effluent generated by Western Municipal Water District's retail and wholesale customers, including Home Gardens Sanitary District, JCSD, and the Cities of Corona and Norco. The plant began

operation in 1998 and has an 8 million gallons/day treatment capacity at the tertiary level. Treated effluent is discharged into the Santa Ana River after treatment.

4.10.2.7 Storm Drainage

The entire Project site is considered one sub-basin and lies within the Riverside County Flood Control Master Drainage Plan (MDP). Existing runoff from the site sheet-flows to the south and west property lines and discharges into the Limonite Avenue and Archibald Avenue right-of-way. The flows are captured at an existing catch basin adjacent to the site in Limonite Avenue, approximately 210 feet west of the east property line and in a headwall/pipe located at the southwest corner of the site. These inlets discharge into a drainage pipe that is known as Lateral A-2. Lateral A-2 begins approximately 1300 feet east of Archibald Avenue on Limonite Avenue, runs west on Cloverdale Road, before turning south on Archibald Avenue and travels 2,640 feet to confluence with Line A.

Lateral A-2, at the point where site runoff enters the underground pipe, has a diameter of 48 inches and an anticipated flow of 104 cubic feet per second (cfs). Lateral A-2 ultimately discharges into Line A. Line A begins 650 feet north of Cloverdale Road on Harrison Avenue, runs south on Harrison Avenue for 2,600 feet, then east for 5,200 feet in 65th Street before discharging into Cucamonga Creek. Line A is a 108-inch diameter pipe with an allowable flow of 488 cfs at the Lateral A-2 connection.

4.10.2.8 Solid Waste Facilities

It is anticipated that Project-generated solid waste would be conveyed by existing trash haulers to either the El Sobrante Landfill in the City of Corona, or to the Lamb Canyon Landfill in Riverside County.

Solid waste management is guided by the California Integrated Waste Management Act of 1989 (AB 939), which emphasizes resource conservation through reduction, recycling, and reuse of solid waste. The Act requires that localities conduct a Solid Waste Generation Study (SWGS) and develop a Source Reduction Recycling Element (SRRE), providing for a minimum 50 percent reduction in waste sent to landfills. Diversion rates

are calculated and tracked by the California Integrated Waste Management Board (Board). Alternatively, the Board can determine that a jurisdiction's "good faith efforts" to implement comprehensive diversion programs have satisfied the requirement even if diversion levels are below 50 percent.

To reduce waste disposal, AB 939 requires every California city and county to divert 50 percent of its waste from landfills. Residential, commercial and governmental waste recycling programs in support of the SRRE have been implemented by the City of Eastvale.

The City is currently meeting or exceeding all state-mandated solid waste diversion targets.

4.10.2.9 Other

To allow for, and facilitate Project construction activities, provision of temporary SCE electrical services improvements would be required. The scope of such temporary improvements is considered to be consistent with, and is reflected within the total scope of development proposed by the Project. Similarly, impacts resulting from the provision of temporary SCE services would not be substantively different from, or greater than, impacts resulting from development of the Project in total.

4.10.3 STANDARDS OF SIGNIFICANCE

Consistent with the standards of significance outlined in the *CEQA Guidelines*, public services impacts resulting from implementation of the Project could be considered potentially significant if they caused or resulted in any of the following:

- Substantial adverse physical effects from the construction of new or altered government facilities needed to maintain acceptable service ratios, response times, or other performance objectives for fire or police protection services, schools, parks, or other public facilities.

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

- Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed.

- Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments.

- Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs.

- Comply with federal, state, and local statutes and regulations related to solid waste.

4.10.4 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.10.4.1 Introduction

The Project's potential to impact to public services and utilities concerns are discussed below. All Project impacts are considered to be either no impact or less-than-significant. No mitigation is proposed or required.

4.10.4.2 Impact Statements

Potential Impact: *Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities; or result in the 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 fire or police protection services, schools, parks, or other public facilities.

Impact Analysis:

Fire Protection Services

Development of the Project would result in an incremental increase in the overall demand for fire protection and emergency medical response services. Fire protection/suppression and emergency medical response services for the Project would be provided by the Riverside County Fire Department. Station 31, located at 14491 Chandler Street and approximately 2.4 miles south/southwesterly of the Project site, would likely provide initial response to the Project site based on its proximity.

Prior to issuance of building permits, the Project plans will be reviewed by the City and the Fire Department to ensure compliance with Fire Department standards to include emergency access and fire flow requirements, along with any fire prevention, protection, and/or suppression requirements as specified under existing City Ordinances and applicable Building Code and Fire Code provisions.

All development will be designed, constructed, and operated consistent with applicable General Plan Goals and Policies. Moreover, the Project is required to comply with agency-specific criteria outlined in the Project Conditions of Approval. To this end, the Fire Department is expected to provide Project Conditions of Approval through the City's final site plan and plan check/building permit review processes. The Project will comply with these Conditions of Approval and subsequent requirements of the Fire Department, should they be identified. Compliance with these requirements acts to further reduce potential demands for, and impacts upon, fire department services and emergency medical services.

Police Protection Services

The introduction of new buildings, vehicles, and people (employees and customers) to the Project site would be accompanied by a demand for onsite police protection services. Actual crime occurrence is difficult to predict; however, the types of crime that are likely

to occur would primarily be considered property crimes, including shoplifting, fraud, car theft, and other crimes that generally occur with urban uses. Thus, an increased demand for law enforcement and police services would be generated by the Project.

Law enforcement services for the Project site and properties within the general vicinity are currently provided by the Eastvale Police Department, City of Ontario Police Department, and City of Chino Police Department. It is anticipated that first and primary response for service requests generated by the Project would be provided by the Eastvale Police Department. The demand for police services generated by the Project could lead to the redeployment of police officers to account for the new development.

All development plans will be reviewed by the City Planning Department, City Building Department, and the Eastvale Police Department to ensure the incorporation of appropriate safety and security elements throughout the Project, e.g., appropriate building and parking lot security and alarm systems, adequate outdoor lighting, and provision of defensible spaces.

Schools, Parks, Other Public Facilities

The Project does not propose any residential uses and therefore would not result in direct population growth or associated growth in resident school populations. Indirectly the Project's light industrial and commercial land uses may result in additional, though not substantive, increased student demands on existing school facilities. Grades K-12 public schools in the Project vicinity are administered by the Corona-Norco Unified School District (CNUSD). School impacts attributable to light industrial/commercial Projects are mitigated by mandated payment of applicable school impact fees. The district uses these fees to pay for facility expansion and upgrades needed to serve new students. Upon the issuance of building permits, the Project would be required to pay requisite fees to the CNUSD. The Project does not propose any residential uses and therefore would not result in direct population growth. Nor does the Project include the construction of recreational facilities. The Project would therefore not result in substantial substantive impacts to parks or recreational facilities. There are no know or probable public facilities that would be potentially adversely affected by the Project.

Summary

Development of the Project would result in an incremental increase in demands for fire protection, and/or police protection services, which could result in the need for additional staffing or equipment requirements. However, based on the availability of existing facilities and services, the potential for the Project to result in the need or requirement for new physical facilities, the construction of which would result in potentially significant environmental impacts is considered less-than-significant.

The Project is not anticipated to significantly affect emergency service response times or service ratios. In this regard, development impact fees and sales tax generated by development of the Project site, in combination with other funding sources (e.g., City general fund, grant monies) would be available to support fire and police protection services consistent with demands for those services accruing from new development. The City of Eastvale will ultimately determine the most effective use of revenues generated by the Project, and how these funds will be employed for the provision and enhancement of fire and police protection services.

Based on the preceding, the potential for the Project to result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities; or result in the 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 fire or police protection services, schools, parks, or other public facilities is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.*

Impact Analysis: Wastewater disposal is regulated under the federal Clean Water Act and the state Porter-Cologne Water Quality Control Act. The Santa Ana Regional Water Quality Control Board (RWQCB) regulates wastewater discharges in Eastvale, including

the Project site, and implements the Clean Water Act and the Porter-Cologne Act by administering the National Pollutant Discharge Elimination System (NPDES), issuing water discharge permits, and establishing best management practices (BMPs). Development of the Project site would result in increased wastewater flows that would be collected and treated at the wastewater treatment plant that serves Eastvale, the Western Riverside County Regional Wastewater Authority (WRCRWA) plant. The Project would receive wastewater conveyance services from the JCSD. The JCSD discharges Eastvale-generated wastewater flows to the River Road Lift Station, which pumps the wastewater to the WRCRWA treatment plant.

The WRCRWA treatment plant effluent complies with all applicable RWQCB wastewater treatment requirements; the Project's potential to exceed wastewater treatment requirements is therefore considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.*

Impact Analysis: Potential impacts to, and demands on, JSCD water and wastewater treatment services and facilities are discussed below.

Water Treatment

Based on a water demand rate of 2.06 acre-feet per year (AFY) per acre for commercial retail uses and 1.52 acre-feet per acre for industrial uses[1] the Project would have a total water demand of approximately 45.6 AFY. The Project's total water demand would equal approximately 0.3 percent (0.003) of current JCSD treated water supply capacity of 12 mgd (13,441.7 AFY). The Project would have a negligible incremental demand for treated water when compared to the current treated water capabilities provided by JCSD. No

[1] Memorandum: *JCSD Development Status and Water Demands – June 2015* (WEBB), June 2015.

additional or non-standard treatment is required to specifically meet the Project's water demands.

Additionally, the Applicant has obtained a Will-Serve letter from JCSD demonstrating the JCSD's willingness and ability to provide water service to the Project. JCSD's January 3, 2016 "Will-Serve" letter addressing water and sewer availability to the Project states in pertinent part: "The District's current water supply exceeds the projected maximum day demand projected in the next five years . . . In addition, the District presently maintains excess wastewater capacity at the City of Riverside Wastewater Reclamation Plant and the Western Riverside County Regional Wastewater Treatment Plant." [2]

The City, in consultation with the JCSD, would determine when, and in what manner, water treatment facilities would be constructed and/or upgraded to meet increasing water treatment demands of areawide development, including the incremental demands of the Project. Within the EIR analytic context, water treatment demand resulting from the Project would not require new or expanded facilities.

It is assumed that the JCSD would amend the UWMP and master plan for wastewater treatment during those plans' next update cycle(s) to reflect the Project land uses, as well as any other land uses changes or new development that may occur, within the JCSD Service Area.

Based on the preceding, the potential for the Project to require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects is considered less-than-significant.

Level of Significance: Less-Than-Significant.

[2] The JCSD "will-serve" letter is presented in EIR Appendix H.

Wastewater Treatment

Development of the Project would result in increased wastewater flows that would be collected and treated at the wastewater treatment plant that serves Eastvale, the Western Riverside County Regional Wastewater Authority (WRCRWA) plant. Wastewater conveyance services are provided by the JCSD. The JCSD discharges Eastvale-generated wastewater flows to the River Road Lift Station, which pumps the wastewater to the WRCRWA treatment plant.

The JCSD estimates that the WRCRWA treatment plant treats approximately 6 million gallons per day (mgd), with a current maximum capacity of 8 mgd, and the ability to expand to 14 mgd (JCSD 2015 Urban Water Management Plan, p. 6-25). As indicated, there is approximately 2 mgd residual wastewater treatment capacity currently available at the WCWRA.

According to the JCSD (2011) Standards Manual, commercial and industrial uses in the Eastvale area are estimated to generate an average of 2,000 gallons of wastewater daily per gross acre. Therefore, the Project can be expected to contribute 48,760 gallons of wastewater flow to the WRCRWA treatment plant daily (26.28 acres x 2,000 daily gallons per acre = 52,560 gallons daily). The Project increment of wastewater demand would comprise approximately 2.6 percent of the WCWRA estimated 2 mgd current residual capacity. Moreover, the Project wastewater treatment demand would comprise approximately 0.4 percent of the WCWRA ultimate 14 mgd treatment capacity.

The Applicant has obtained a Will-Serve letter from JCSD demonstrating the JCSD's willingness and ability to provide wastewater conveyance and treatment services to the Project.[3] Within the EIR analytic context, wastewater treatment demand resulting from the Project would not require new or expanded facilities.

[3] See Appendix H.

It is assumed that JCSD would amend the UWMP and master plan for wastewater treatment during those plans' next update cycle(s) to reflect the Project land uses, as well as any other land uses changes or new development that may occur, within the JCSD Service Area.

Based on the preceding, the potential for the Project to require the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects, is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.*

Impact Analysis:
There is an existing 48-inch storm drain (Lateral A-2) that is part of Riverside County's Master Drainage Plan (MDP) that runs west adjacent to the site in Limonite Avenue, turning south in Archibald Avenue. Under the Project storm water management system concept, storm water from the developed site would be discharged to this existing 48-inch storm drain.

As part of the MDP, the County developed hydrology calculations with an impervious ratio that assumes undefined single-family residential development of the subject site. The hydrology calculations appropriately assumed relatively low percentages of impervious coverage and relatively long times of concentration. Since the Project proposes Commercial/Retail and Industrial uses, rather than the single-family residential uses assumed in the MDP, the percentage of impervious coverage has increased when compared to the MDP estimates. Additionally, due to more precise overland flow lengths that can be calculated based on the current Project development concept, the time of concentration has decreased. As a result, the site peak flow rates from the developed Project site would be greater than the planned flow rates reflected in the MDP.

To accommodate the increase in peak flows that would result from the Project, and avoid potential exceedance of the area storm drain system capacities, the Project storm water management system incorporates on-site detention basins. These detention basins have been designed to attenuate the 100-year storm event peak flow difference between runoff that would result from the County's MDP assumed residential development of the site and runoff from the site resulting from development of the currently proposed Project.

The proposed drainage area will be comprised of thirty-six (36) sub-areas. Each sub-area contains a biofiltration system to treat the captured drainage. The biofiltration systems are connected to an underground storm drain system and the flow is conveyed to one of two underground detention systems, located near Limonite Avenue. The site detention basins have been designed to have a maximum outflow of 39.61 cfs discharging into Lateral A-2 in Limonite Avenue.

In combination, the Project's storm water management components, and compliance with regulatory requirements act to preclude potentially adverse drainage and storm water runoff impacts.

Based on the preceding discussion, the Project incorporates drainage and storm water management systems and the Project's potential to require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects, is determined to be less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed.*

Impact Analysis: Water service would be provided to the Project by the JCSD. The JCSD relies predominantly on groundwater and desalinated brackish groundwater from the Chino Groundwater Basin for its water supply (JCSD UWMP, 2015). Additionally, and via a joint powers authority, the JCSD partners with the Chino Desalter Authority (CDA),

the owner and operator of two water treatment plants (desalters), to treat potable water for the JCSD service area. Each of the desalters has the current capacity to treat 12 million gallons per day (mgd) of water (City of Eastvale General Plan). In addition, the CDA is currently in the process of expanding the treatment capacity of the desalters via local groundwater wells. Water is treated at the Chino I Desalter, the Chino II Desalter, and the Roger Teagarden Ion Exchange Treatment Plant.

As previously presented, the Project would have a total water demand of approximately 45.6 AFY. Project total water demand would equal approximately 0.3 percent (0.003) of current JCSD treated water supply capacity of 12 mgd (13,441.7 AFY). The Project would have a negligible incremental demand for treated water when compared to the current treated water supplies available through JCSD. No additional or non-standard treatment is required to specifically meet the Project's water demands.

Based on the preceding, the potential for the Project to result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments.*

Impact Analysis: The Project would connect to JCSD sanitary sewer lines adjacent to the Project site. A recently upgraded 18-inch sewer line located within Archibald Avenue will provide the connection point for wastewater generated by the Project.

Development of the Project would result in increased wastewater flows that would be collected and treated at the wastewater treatment plant that serves Eastvale, the Western Riverside County Regional Wastewater Authority (WRCRWA) plant. Wastewater conveyance services are provided by the JCSD. The JCSD discharges Eastvale-generated

wastewater flows to the River Road Lift Station, which pumps the wastewater to the WRCRWA treatment plant.

The JCSD estimates that the WRCRWA treatment plant treats approximately 6 million gallons per day (mgd), with a current maximum capacity of 8 mgd, and the ability to expand to 14 mgd (JCSD 2015 Urban Water Management Plan, p. 6-25). As indicated, there is currently approximately 2 mgd residual wastewater treatment capacity available at the WCWRA.

According to the JCSD (2011) Standards Manual, commercial and industrial uses in the Eastvale area are estimated to generate an average of 2,000 gallons of wastewater daily per gross acre. Therefore, the Project can be expected to contribute 48,760 gallons of wastewater flow to the WRCRWA treatment plant daily (26.28 acres x 2,000 daily gallons per acre = 52,560 gallons daily). The Project increment of wastewater demand would comprise approximately 2.6 percent of the WCWRA estimated 2 mgd current residual capacity. Moreover, the Project wastewater treatment demand would comprise approximately 0.4 percent of the WCWRA ultimate 14 mgd treatment capacity.

As previously discussed, the Applicant has obtained a Will-Serve letter from JCSD demonstrating the JCSD's willingness and ability to provide wastewater conveyance and treatment services to the Project.

Based on the preceding, the potential for the Project to result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs; Comply with federal, state, and local statutes and regulations related to solid waste.*

Impact Analysis: Using California Department of Resources Recycling and Recovery (CalRecycle) waste generation rates, the projected solid waste generation associated with the Project is presented below.

Table 4.10-1
Estimated Solid Waste Generation

Land Use	Waste Generation Factor	Proposed Development	Total Waste Generation
Industrial	6 lbs./day/1,000 sq. ft	336,501 sq. ft.	2,019 lbs./day
Commercial	5 lbs./day/1,000 sq. ft.	71,100 sq. ft.	356 lbs./day
Project Total			2,375 lbs./day

Sources: CalRecycle Waste Generation Figures

As shown, the Project would be expected to generate 2,375 lbs./day which equates to approximately 434 tons of solid waste on an annual basis. The El Sobrante Landfill has a capacity of 16,054 tons (32,108,000 lbs.) of solid waste per day and, as of April 2009, had 145,530,000 tons of capacity available (CalRecycle 2017). The facility is projected to reach capacity in 2045. The Lamb Canyon Sanitary Landfill has a capacity of 3,000 tons (6,000 lbs.) of solid waste per day and, as of January 2015, had 19,242,950 cubic yards (roughly 39,966,973 tons) of capacity available (CalRecycle 2017). Based on the capacity information and the information presented at Table 4.10-1, Project-generated solid waste would represent 0.007 percent (0.00007) of the permitted daily throughput of El Sobrante Landfill. Project-generated solid waste would represent 0.04 percent (0.0004) of the permitted throughput of Lamb Canyon Sanitary Landfill.

The Project contribution of 434 tons of solid waste annually would not substantially alter existing or future solid waste generation patterns and disposal services considering the permitted daily capacity at both the El Sobrante Landfill and the Lamb Canyon Sanitary Landfill.

Furthermore, the Project would be consistent with the County Integrated Waste Management Plan requirements and would be required to comply with the recommendations of the Riverside County Waste Management Department for any uses associated with the proposed Project. Additionally, the Projects would comply with all

federal, state, and local statutes and regulations related to solid waste, including the Solid Waste Reuse and Recycling Access Act of 1991. The act requires that adequate areas be provided for collecting and loading recyclable materials such as paper products, glass, and other recyclables. The Projects would not involve activities that would conflict with the applicable programmatic requirements.

Based on the preceding discussions, the Project would be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs and comply with federal, state, and local statutes and regulations related to solid waste. On this basis, the potential for the Project to exceed permitted capacities of serving landfills; or to conflict with federal, state, and local statutes and regulations related to solid waste is considered to be less-than-significant.

Level of Significance: Less-Than-Significant.

5.0 OTHER CEQA CONSIDERATIONS

5.0 OTHER CEQA CONSIDERATIONS

This Section of the EIR addresses other environmental considerations and topics mandated under the California Environmental Quality Act (CEQA). These topics include Cumulative Impacts, Alternatives to the Project, Growth Inducement, Significant Environmental Effects of the Project, Significant and Irreversible Environmental Changes, and Energy Conservation.

5.1 CUMULATIVE IMPACT ANALYSIS

The *CEQA Guidelines* require that an EIR identify any significant cumulative impacts associated with a project [*CEQA Guidelines*, Section 15130(a)]. When potential cumulative impacts are not deemed significant, the document should explain the basis for that conclusion. Cumulative impacts are "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." [*CEQA Guidelines*, Section 15355]. Thus, a legally adequate cumulative impact analysis is an analysis of a given project viewed over time and with other related past, present, and foreseeable probable future projects, whose impacts might compound or interrelate with those of the Project considered here.

CEQA notes that the discussion of cumulative impacts should be guided by standards of practicality and reasonableness [*CEQA Guidelines*, Section 15130(b)]. Only those projects whose impacts might compound or interrelate with those of the Project under consideration require evaluation. CEQA does not require as much detail in the analysis of cumulative environmental impacts as must be provided for the Project alone.

The *CEQA Guidelines* identify two basic methods for satisfying the cumulative impacts analysis requirement: the list-of-projects methodology, and the summary-of-projections methodology. Because each environmental resource is affected by its surroundings in

different manners, either of the two methodologies, or a combination of both, may be applied to the analysis of cumulative impacts to each resource. For example, because the approval process and construction phase of development typically takes at least one to two years, the list-of-projects method is likely to provide a more accurate projection of growth in the near term. This method may overstate potential cumulative impacts because the considered list-of-projects may include proposals that would never be developed. Similarly, because development proposals are rarely publicly known until within five years of the expected development, the summary-of-projections method provides a more accurate projection of growth over the long term. This method may not accurately predict growth in any given year but aggregates various growth trends over the long term.

For each topical discussion, the cumulative geographic context is identified which in turn relates to the amount and type of growth that is anticipated to occur within the geographic area under consideration. Where appropriate to the analysis in question, cumulative impacts are assessed with reference to a list of off-site "related projects," as described at *CEQA Guidelines* §15130(b). In this manner, the EIR appropriately characterizes and evaluates potential cumulative impacts.

Consistent with direction provided in the *CEQA Guidelines,* related projects considered in these cumulative analyses are "only those projects whose impacts might compound or interrelate with those of the Project under consideration require evaluation." In this regard, it is recognized that within the context of the cumulative impacts analysis, varied criteria are employed in determining the scope and type of "cumulative projects" considered. For example, the analysis of cumulative traffic impacts evaluates the Project's traffic impacts in the context of other known or probable "related" development proposals that would discernibly affect traffic conditions within the Traffic Impact Analysis Study Area. As another example, cumulative air quality impacts are considered in terms of the Project's contribution to other air emissions impacts affecting the encompassing Air Basin.

The manner in which each resource may be affected also dictates the geographic scope of the cumulative impacts analysis. For example, cumulative traffic impacts would typically be localized to the vicinity of a given project site because, after a relatively short distance, traffic patterns tend to normalize; whereas cumulative air quality impacts are more appropriately analyzed with a Basin-wide approach because the Basin's meteorological and geographic conditions generally define the extent of cumulative air quality considerations. Similar considerations are discussed in evaluating potential cumulative impacts for each of the EIR's environmental topics (Land Use and Planning, Transportation/Traffic, Air Quality, Global Climate Change and Greenhouse Gas Emissions, Noise, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Cultural Resources/Tribal Cultural Resources, and Public Services and Utilities).

5.1.1 DISCUSSION OF CUMULATIVE IMPACTS

Unless otherwise noted herein, the cumulative impact analysis ultimately evaluates effects of the Project within the context of anticipated buildout of the City as envisioned under the General Plan and related regional plans. Specific cumulative projects have also been identified where this information may be different, more detailed than that provided within the General Plan or applicable regional plans, or where such specific information otherwise benefits the cumulative impact analyses.

Section 15130(a) of the *CEQA Guidelines* notes that,

> " . . . an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in section 15065(a)(3). Where a lead agency is examining a project with an incremental effect that is not 'cumulatively considerable,' a lead agency need not consider that effect significant but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable."

Potential cumulative impacts for each of the EIR's environmental topics are presented below and include:

- Land Use and Planning;
- Transportation/Traffic;
- Air Quality;
- Global Climate Change and Greenhouse Gas Emissions;
- Noise;
- Geology and Soils;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Cultural Resources/Tribal Cultural Resources; and
- Public Services and Utilities.

For other topical areas of consideration, Project impacts have been determined to be less-than-significant. Further, under these topics, there are no known or anticipated projects or conditions whose impacts might compound or interrelate with those of the Project, and thereby result in potentially significant cumulative impacts. No further substantive analysis is provided under these topics. These topics include:

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;

- Substantially degrade the existing visual character or quality of the site and its surroundings; and

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

Agriculture and Forest Resources

- Conversion of 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, timberland, or timberland zoned "Timberland Production;"

- Result in the loss of forest land or conversion of forest land to non-forest use; or

- 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

- Potential to 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 Wildlife or US Fish and Wildlife Service;

- Potential to 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 Wildlife or US Fish and Wildlife Service;

- Potential to 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;

- Potential to 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;

- Potential to conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and

- Potential to conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

Mineral Resources

- Loss of availability of a known mineral resource that would be of value to the region and to the residents of the state; and

- Loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Population and Housing

- Induce substantial population growth in the area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through the extension of roads or other infrastructure);

- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; and

- Displace substantial numbers of people necessitating the construction of replacement housing elsewhere.

Recreation

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial deterioration of the facility would occur or be accelerated; and

- Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.

Please refer also to EIR Section 1.6, *Impacts Not Found to be Potentially Significant*.

5.1.1.1 Cumulative Impacts Related to Land Use and Planning

The cumulative impact area when considering potential cumulative land use and planning issues includes areas that are currently, or are anticipated to be, subject to provisions of the City of Eastvale General Plan, Zoning Ordinance, and/or Special Planning Documents (e.g., Specific Plans). The cumulative impact area includes incorporated areas of the City of Eastvale.

General Plan and Zoning Considerations

The Project incorporates the following proposed modifications to the City of Eastvale General Plan Land Use and Zoning designations:

- Approval of a General Plan Amendment (Land Use) for approximately 10.8 acres from Light Industrial (LI) to Commercial Retail (CR). Existing and proposed

General Plan Land Use designations are presented in EIR Section 3.0, *Project Description*, Figure 3.4-1.

- Approval of a Zone Change for approximately 10.8 acres from Heavy Agricultural (A-2) to General Commercial (C-1/C-P); and for approximately 15.4 acres from Heavy Agricultural (A-2) to Industrial Park (I-P).[1] Existing and proposed Zoning designations are presented in EIR Section 3.0, *Project Description*, Figure 3.4-2.

The Project is consistent with, and appropriately responds to, applicable General Plan Goals and Policies for the proposed General Plan Land Use designations; and standards and requirements of the proposed Zoning designations.

The City comprehensively updates and amends General Plan and Zoning documents to reflect cumulative land use changes within the impact area. Regional agencies employ development-specific information and General Plan/Zoning information provided by the City in developing regional plans and growth projections. In combination, these actions ensure that potential cumulative effects of evolving land use plans are appropriately addressed at local and regional levels. Compliance with the applicable land use plans is presented in EIR Section 4.1, *Land Use and Planning*.

Based on the preceding discussions, the Project's contributions to potential cumulative land use and planning impacts is not considerable, and the cumulative effects of the Project would be less-than-significant.

Other development projects within the cumulative impact area would incorporate, and would be required to comply with requirements of necessary land use and planning discretionary actions and permits, acting to preclude or minimize potential land use and planning impacts.

[1] The Project site is located within the Chino Airport Influence Area. Because amendment to existing Zoning designations is proposed by the Project, the Eastvale City Council must make a finding that the amendments are consistent with the most recent adopted version of the Riverside County Airport Land Use Compatibility Plan.

Summary

The Project land uses, development concepts, and operations conform to all governing land use plans, regulations and development standards. Land use amendments proposed by the Project would be reflected in the City General Plan and Zoning documents. The Project would not conflict with or obstruct relevant local and regional plans. The Project's contributions to potential cumulative land use and planning impacts is therefore not considerable, and the cumulative effects of the Project would be less-than-significant.

Other related projects within the cumulative impact area would incorporate, and would be required to comply with requirements of necessary land use and planning discretionary actions and permits. This would act to preclude or minimize potential land use and planning impacts. On this basis, with respect to land use and planning, impacts of the Project in combination with impacts of other related projects within the cumulative impact area would be less-than-significant.

5.1.1.2 Cumulative Impacts Related to Transportation/Traffic

The cumulative impact area for traffic impacts is defined by the Traffic Impact Study Area (Study Area), as described within *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018 (Project TIA, TIA).

The TIA Study Area (illustrated in EIR Section 4.2, *Transportation/Traffic*, Figure 4.2-1) includes potentially affected facilities under the jurisdiction of the City of Eastvale, City of Chino, City of Ontario City, and City of Jurupa Valley. All potentially affected Caltrans and Congestion Management Program facilities are also included in the Study Area.

Cumulative Traffic Growth

The Project TIA comprehensively reflects anticipated cumulative traffic increases affecting the Study Area and addresses related potential cumulative traffic impacts. Future year traffic forecasts reflect 3 years of general background (ambient) growth at 1.6 percent per year, approximating regional traffic growth.

The assumed 1.6 percent ambient traffic growth rate employed in the TIA is consistent with the projected ambient traffic growth for Riverside County in total and conforms with City of Eastvale growth rates reflected in the Southern California Association of Governments (SCAG) *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS)* (SCAG) April 2016.

To establish the basis for likely near-term (Opening Year) cumulative traffic impacts, ambient background traffic growth, and traffic generated by the development of known or probable related projects were added to existing daily and peak hour traffic volumes on Study Area roadways. Certain of the identified cumulative projects have been approved by the applicable governing agency, and not all would be completed prior to the Project's anticipated opening in 2021. Nonetheless, the TIA conservatively assumes that all cumulative related projects would be complete, fully occupied, and generating traffic by the Project Opening Year. Related projects are identified in Table 5.1-1 and are mapped in Figure 5.1-1.

Table 5.1-1
TIA Related Projects

ID #	Project/Location	Land Use[1]	Quantity	Units[2]
City of Eastvale				
E1	14-1077 - Grainger Site (APN:156-050-025, 156-050-026, 156-020-027)	Industrial	546.000	TSF
E2	10-0117 (TM36373)	SFDR	51	DU
E3	10-0271 - Eastvale Commerce Center (Phase 1 and 2)	Shopping Center	249.000	TSF
		Hotel	130	RM
		Business Park	610.000	TSF
E4	11-0354 - Arco Gas Station	Gas Station w/ convenience store and car wash	18.000	VFP
		Fast-Food w/o Drive-Thru	2.800	TSF
		Fast-Food with Drive-Thru	2.100	TSF
E5	The Marketplace at Enclave	Shopping Center	42.000	TSF
E6	Eastvale Shopping Center	Free-Standing Discount Superstore	192.000	TSF
		Specialty Retail	9.200	TSF
		Fast-Food Without Drive-Thru	7.200	TSF
		Coffee/Donut Shop w/ Drive-Thru	2.000	TSF

Table 5.1-1
TIA Related Projects

ID #	Project/Location	Land Use[1]	Quantity	Units[2]
		Fast-Food with Drive-Thru	3.500	TSF
		Gas Station w/ convenience store and car wash	16	VFP
E7	11-0363 TTM 36382 (Altfillisch Residential Project[5])	SFDR	146	DU
E8	SP00358 - The Ranch at Eastvale	Shopping Center	267.200	TSF
		General Light Industrial	801.500	TSF
		Business Park	1,121.100	TSF
E9	SC Limonite, LLC	SFDR	330	TSF
E10	13-0395 - 65th Street Residential (Copper Sky)	SFDR	250	DU
E11	PP23219 (PM35865)	General Light Industrial	738.430	TSF
E12	TR29997	SFDR	122	DU
E13	TR35751	Condo/Townhouse	243	DU
E14	13-0632 - Sumner Residential (Stratham Homes)	SFDR	129	DU
E15	14-0046 - Kasbergen/William Lyons Homes	Condo/Townhouse	220	DU
E16	TR32821	Condo/Townhouse	350	DU
E17	TR32909	SFDR	140	DU
E18	10-0124 - TR31252 (The Lodge)	SFDR	205	DU
City of Ontario				
O1	Countryside	SFDR	819	DU
	Armstrong Ranch	SFDR	994	DU
O2	Edenglen	SFDR	310	DU
		Multi-Family Attached (Condo)	274	DU
		Shopping Center	217.520	TSF
		Business Park	550.000	TSF
O3	Esperanza	SFDR	914	DU
		Multi-Family Attached (Apartments)	496	DU
O4	Grand Park	SFDR	484	DU
		Multi-Family Attached (Apartments)	843	DU
O5	Parkside	SFDR	437	DU
		Multi-Family Attached (Apartments)	1,510	DU
		Shopping Center	115.000	TSF
O6	Rich Haven	SFDR	2,732	DU

Table 5.1-1
TIA Related Projects

ID #	Project/Location	Land Use[1]	Quantity	Units[2]
		Multi-Family Attached (Condo)	1,524	DU
		Shopping Center	317.400	TSF
O7	Subarea 29 & Amendment	SFDR	2,149	DU
		Shopping Center	87.000	TSF
O8	The Avenue	SFDR	2,020	DU
		Multi-Family Attached (Apartments)	586	DU
		Shopping Center	250.000	TSF
O9	West Haven	SFDR	753	DU
		Shopping Center	87.000	TSF
O10	Tuscana Village	SFDR	176	DU
		Shopping Center	26.000	TSF
O11	PDEV10-011	SFDR	11	DU
O12	PDEV10-008 - Dry Food Storage	Mini-Warehouse	17.000	TSF
O13	PDEV08-008	Shopping Center	3.920	TSF
O14	Colony Commerce West	High-Cube Warehouse	2213.360	TSF
		Manufacturing	737.786	TSF
O15	West Ontario Commerce Center SP	High-Cube Warehouse	1976.535	TSF
		Manufacturing	658.845	TSF
		Business Park	548.856	TSF
O16	Colony Commerce East	High-Cube Warehouse	998.680	TSF
		Manufacturing	233.129	TSF
		Warehousing	699.387	TSF
City of Chino				
C1a	Bickmore Street Residential (TM 18858)	SFDR	185	DU
C1b	Barthelemy	SFDR	193	DU
		Condo/Townhouse	198	DU
		Apartments	288	DU
C1c	Farmer Boys	Fast-food w/ Drive-Thru	3.218	TSF
		Shopping Center	2.300	TSF
C1d	TM17635	SFDR	67	DU
C1e	Bouma Residential	SFDR	106	DU

Table 5.1-1
TIA Related Projects

ID #	Project/Location	Land Use[1]	Quantity	Units[2]
		Condo/Townhouse	94	DU
C1f	Kimball Business Park	Light Industrial	140.500	TSF
		Warehousing	564.000	TSF
		High-Cube Warehouse	352.000	TSF
		Business Park	146.550	TSF
C1g	Chino Parcel Delivery	Parcel Delivery Facility	765.274	TSF
C1h	Kimball Business Center	Warehousing	715.000	TSF
		Light Industrial	255.000	TSF
		Business Park	233.000	TSF
		Self-Storage	110.000	TSF
C2	TM17574	Condo/Townhouse	108	DU
C3	Falloncrest at the Preserve	SFDR	204	DU
		Condo/Townhouse	786	DU
		Apartments	412	DU
		Shopping Center	77.597	TSF
		General Office	77.597	TSF
C4	TM18778	SFDR	65	DU
C5	PL11-0047	Apartments	135	DU
	TM 18873	Condo/Townhouse	149	DU
	TM 16838-2 PA 7B	SFDR	67	DU
C6	TM17898	SFDR	77	DU
	TM 17899	SFDR	66	DU
	PL 13-0435	SFDR	41	DU
C7	SA 07-07 RV Storage	RV Storage	313	SPC
C8	Chaffey College Expansion	Junior/Community College	93.50	AC
	College Park Commercial	Commercial	7.50	AC
	TM 18891	SFDR	118	DU
	TM 17893	SFDR	34	DU
	TM 17894	SFDR	39	DU
	TM 17897	SFDR	93	DU
C9	PL13-0601	SFDR	209	DU

Table 5.1-1
TIA Related Projects

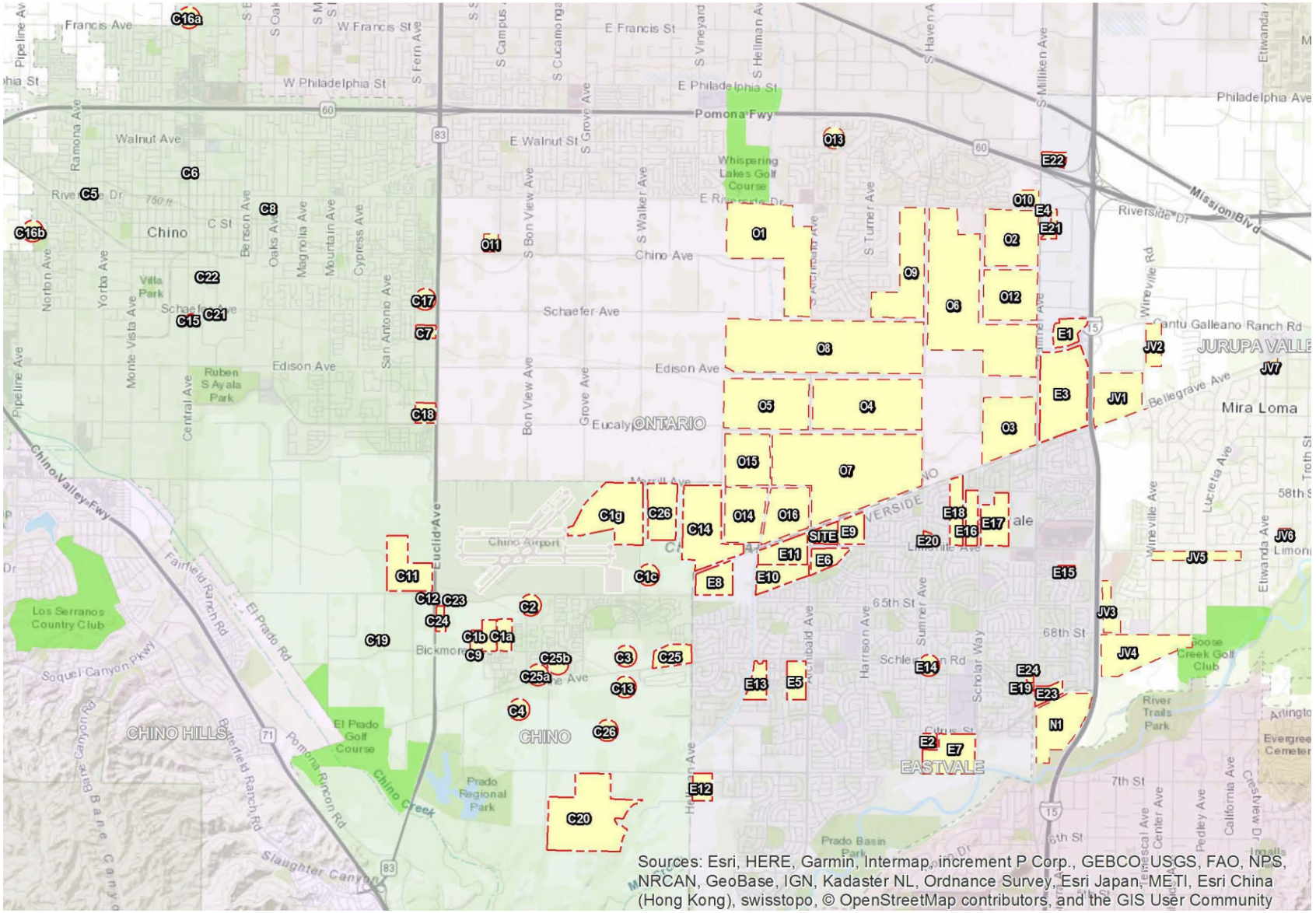
ID #	Project/Location	Land Use[1]	Quantity	Units[2]
C10	South of Pine	SFDR	1,351	DU
		Condo/Townhouse	732	DU
		Apartments	670	DU
C11	Majestic Gateway	High-Cube Warehouse	1,490.400	TSF
		Warehousing	180.000	TSF
		Specialty Retail	25.000	TSF
		Pharmacy/Drugstore with Drive-Thru	13.000	TSF
		Fast-Food with Drive-Thru	8.600	TSF
C12	PM18635	General Light Industrial	99.164	TSF
		High-Cube Warehouse	2,077.594	TSF
C13a	TM 18890	Condo/Townhouse	94	DU
C13b	TM 19980 Homecoming Phase 4 Apartments	Apartments	454	DU
C14	Watson Industrial Park	High-Cube Warehouse	3,889.900	TSF
C15	Chino Business Park	General Light Industrial	165.500	TSF
		Business Park	21.500	TSF
C16	Flores Site	Shopping Center	4.000	TSF
		Gas Station w/ convenience store	16	VFP
		Express Car Wash	5.000	TSF
C17	Brewart Residential (TM 18923)	SFDR	127	DU
C18	Fern and Riverside Residential (TM 18901)	SFDR	94	DU
C19a	Borba Chino Residential (TM 18957)	SFDR	84	DU
C20	Edgewater Communities	SFDR	415	DU
		Condo/Townhouse	659	DU
		Museum/Retail	6.500	TSF
		Church	15.200	TSF
		Park	15.0	AC
C21	TM 18480 Harvest	SFDR	600	DU
C22	Church	Church	47.979	TSF
		Daycare	190	STU
City of Chino Hills				
CH1	Vila Borba Specific Plan	SFDR	176	DU

Table 5.1-1
TIA Related Projects

ID #	Project/Location	Land Use[1]	Quantity	Units[2]
City of Norco				
N1	Silverlakes Equestrian	Soccer Field	14	Fields
		Soccer Field	10	Fields
		Equestrian Facility	400	Stalls
City of Jurupa Valley				
JV1	Thoroughbred Farms	General Light Industrial	42.6	AC
		Business Park	35.5	AC
		Commercial	19.1	AC
JV2	Harmony Trails	SFDR	176	DU
JV3	Vernola Marketplace Apartments	Apartments	397	DU
JV4	Riverbend	Residential	466	DU
JV5	Wineville Marketplace	Commercial	37.657	TSF
JV6	Express Car Wash	Car Wash	4.702	TSF
JV7	Shops @ Bellegrave	Commercial	10.000	TSF

Source: *The Merge Traffic Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 24, 2018.
Notes: [1] SFDR = Single Family Detached Residential
[2] TSF = Ten Thousand Square Feet; DU = Dwelling Unit; VFP = Vehicle Fueling Position; AC = Acres

Cumulative traffic volumes under Horizon Year Conditions were derived from the Riverside Transportation Analysis Model (RivTAM) for Study Area facilities located in Riverside County and the San Bernardino Transportation Analysis Model (SBTAM) for Study Area facilities located in San Bernardino County.



NOT TO SCALE

Source: Urban Crossroads, Inc.

applied planning inc

Figure 5.1-1
Related Projects Map

Cumulative Impacts

Cumulatively significant Study Area transportation/traffic impacts are summarized below. The Project would construct, or pay required fees toward, completion of City of Eastvale transportation/traffic system improvements. At the significantly-impacted locations noted, the Project cannot feasibly construct the required improvements, improvements are under the control of jurisdictions other than the City of Eastvale, and/or payment of fees would not assure timely completion of improvements. On this basis, impacts at the facilities identified below would be cumulatively significant and unavoidable.

Existing (2018) Conditions:

Intersections

Pending completion of required improvements, the Project's incremental contributions to Existing Conditions cumulative traffic impacts at or affecting the following intersections are considered cumulatively significant and unavoidable. Detailed discussions of specific impacts at each facility/location is presented in EIR Section 4.2, *Transportation/Traffic*.

ID No.	Intersection
2	Flight Ave. & Merrill Ave.
4	Hellman Ave. & Kimball Ave. (improvements currently under construction)
15	Archibald Ave. & Limonite Ave.

Roadway Segments

Pending completion of required improvements, the Project's incremental contributions to Existing Conditions cumulative traffic impacts at or affecting the following roadway segments are considered cumulatively significant and unavoidable:

ID No.	Roadway Segment
2	Limonite Ave. – Sumner Ave. to Hamner Ave.

Opening Year (2021) Conditions:

Intersections

Pending completion of required improvements, the Project's incremental contributions to Opening Year Cumulative traffic impacts at or affecting the following intersections are considered cumulatively significant and unavoidable:

ID No.	Intersection
1	Grove Ave. & Merrill Ave.
2	Flight Ave. & Merrill Ave.
3	Hellman Ave. & Merrill Ave.
4	Hellman Ave. & Kimball Ave. (improvements currently under construction)
6	Archibald Ave. & Riverside Dr.
8	Archibald Ave. & Schaefer Ave.
9	Archibald Ave. & Ontario Ranch Rd.
11	Archibald Ave. & Merrill Ave.
12	Archibald Ave. & Victoria Ln.
15	Archibald Ave. & Limonite Ave.
16	Archibald Ave. & 65th St.
17	Archibald Ave. & Schleisman Rd.
20	Harrison Ave. & Limonite Ave.
24	I-15 SB Ramps & Limonite Ave.
25	I-15 NB Ramps & Limonite Ave.

Roadway Segments

Pending completion of required improvements, the Project's incremental contributions to Opening Year Conditions cumulative traffic impacts at or affecting the following roadway segments are considered cumulatively significant and unavoidable:

ID No.	Roadway Segment
2	Limonite Ave. – Sumner Ave. to Hamner Ave.
3	Limonite Ave. – Hamner Ave. to I-15 Fwy.
5	Archibald Ave. – Limonite Ave. to 65th St.

Freeway Segments

The Project's incremental contributions to Opening Year Cumulative traffic impacts at or affecting the following freeway segments are considered cumulatively significant and unavoidable:

- I-15 Freeway Southbound, South of Limonite Ave. – LOS E AM and PM peak hours.

Horizon Year (2040) Conditions:

Intersections - Without Limonite Avenue Extension

Pending completion of required improvements, the Project's incremental contributions to Horizon Year traffic impacts at or affecting the following intersections are considered cumulatively significant and unavoidable:

ID No.	Intersection
1	Grove Ave. & Merrill Ave.
2	Flight Ave. & Merrill Ave.
3	Hellman Ave. & Merrill Ave.
4	Hellman Ave. & Kimball Ave.
6	Archibald Ave. & Riverside Dr.
7	Archibald Ave. & Chino Ave.
8	Archibald Ave. & Schaefer Ave.
9	Archibald Ave. & Ontario Ranch Rd.
10	Archibald Ave. & Eucalyptus Ave.
11	Archibald Ave. & Merrill Ave.
12	Archibald Ave. & Victoria Ln.
15	Archibald Ave. & Limonite Ave.
16	Archibald Ave. & 65th St.
17	Archibald Ave. & Schleisman Rd.
20	Harrison Ave. & Limonite Ave.
21	Sumner Ave. & Limonite Ave.

22 Scholar Way & Limonite Ave.
24 I-15 SB Ramps & Limonite Ave.
25 I-15 NB Ramps & Limonite Ave.

Intersections - With Limonite Avenue Extension

Pending completion of required improvements, the Project's incremental contributions to Horizon Year traffic impacts at or affecting the following intersections are considered cumulatively significant and unavoidable:

ID No.	Intersection
1	Grove Ave. & Merrill Ave.
2	Flight Ave. & Merrill Ave.
3	Hellman Ave. & Merrill Ave.
4	Hellman Ave. & Kimball Ave.
5	Hellman Ave. & Pine Ave.
6	Archibald Ave. & Riverside Dr.
7	Archibald Ave. & Chino Ave.
8	Archibald Ave. & Schaefer Ave.
9	Archibald Ave. & Ontario Ranch Rd.
10	Archibald Ave. & Eucalyptus Ave.
11	Archibald Ave. & Merrill Ave.
12	Archibald Ave. & Victoria Ln.
15	Archibald Ave. & Limonite Ave.
16	Archibald Ave. & 65th St.
17	Archibald Ave. & Schleisman Rd.
20	Harrison Ave. & Limonite Ave.
21	Sumner Ave. & Limonite Ave.
22	Scholar Way & Limonite Ave.
24	I-15 SB Ramps & Limonite Ave.
25	I-15 NB Ramps & Limonite Ave.

Roadway Segments - Without Limonite Avenue Extension

Pending completion of required improvements, the Project's incremental contributions to Horizon Year Conditions cumulative traffic impacts at or affecting the following roadway segments are considered cumulatively significant and unavoidable:

ID No.	Roadway Segment
2	Limonite Ave. – Sumner Ave. to Hamner Ave.
3	Limonite Ave. – Hamner Ave. to I-15 Fwy.
5	Archibald Ave. – Limonite Ave. to 65th St.

Roadway Segments - With Limonite Avenue Extension

Pending completion of required improvements, the Project's incremental contributions to Horizon Year Conditions cumulative traffic impacts at or affecting the following roadway segments are considered cumulatively significant and unavoidable:

ID No.	Roadway Segment
5	Archibald Ave. – Limonite Ave. to 65th St.

Freeway Ramp Merge/Diverge Areas

Pending completion of required improvements, the Project's incremental contributions to Post-2035 Cumulative traffic impacts at or affecting the following freeway merge/diverge areas are considered cumulatively significant and unavoidable:

- I-15 Freeway Southbound, On-Ramp at Limonite Ave. – (LOS E AM peak hour only)
- I-15 Freeway Northbound, Off-Ramp at Limonite Ave. – (LOS E AM peak hour only)

Summary

To mitigate incremental contributions to cumulative traffic impacts affecting Study Area facilities, the Project Applicant would pay requisite fees toward the construction of necessary improvements within the City of Eastvale. At the significantly-impacted locations noted, the Project cannot feasibly construct the required improvements,

improvements are under the control of jurisdictions other than the City of Eastvale, and/or payment of fees would not assure timely completion of improvements.

On this basis, pending completion of required improvements, the Project's contributions to cumulative impacts identified above are considered cumulatively significant and unavoidable. All other Project transportation/traffic impacts would be individually and cumulatively less-than-significant.

5.1.1.3 Cumulative Impacts Related to Air Quality

The cumulative impact area for air quality considerations is generally defined by the encompassing Air Basin and boundaries of the jurisdictional air quality management agency. In this case, the South Coast Air Basin (Basin) and the South Coast Air Quality Management District (SCAQMD) respectively. Project air pollutant emissions within the context of SCAQMD's regional emissions thresholds provide an indicator of potential cumulative impacts in the Basin. Due to the defining geographic and meteorological characteristics of the Basin, criteria pollutant emissions that could cumulatively impact air quality would be, for practical purposes, restricted to the Basin. Accordingly, the geographic area encompassed by the Basin is the appropriate limit for the cumulative Air Quality analysis.

Construction-source Air Quality Impacts

Regional Impacts

Project construction-source air pollutant emissions would not exceed applicable SCAQMD regional thresholds and would be less-than-significant. Per SCAQMD criteria, less-than-significant impacts at the Project level are not cumulatively considerable. The potential for Project construction-source air pollutant emissions to result in or cause cumulatively significant regional air quality impacts is therefore considered less-than-significant.

Localized Impacts

Mitigated Project construction-source air quality emissions would not exceed applicable SCAQMD Localized Significance Thresholds (LSTs) and would be less-than-significant. Per SCAQMD criteria, less-than-significant impacts at the Project level are not cumulatively considerable. The potential for Project construction-source emissions to result in or cause cumulatively significant localized air quality impacts is therefore considered less-than-significant.

Operational-source Air Quality Impacts

Regional Impacts

The Project would incorporate contemporary energy-efficient technologies and operational programs, and would be required to comply with SCAQMD emissions reductions measures and rules, acting to reduce Project air pollutant emissions generally. However, even with implementation of Project design features and operational programs, and compliance with all SCAQMD requirements, the Project would generate operational-source emissions of Oxides of Nitrogen (NO_X) that would exceed applicable SCAQMD regional thresholds. This is a significant individual and cumulative air quality impact.

Localized Impacts

Project operational-source air quality emissions would not exceed applicable SCAQMD Localized Significance Thresholds (LSTs) and would be less-than-significant. Per SCAQMD criteria, less-than-significant impacts at the Project level are not cumulatively considerable. The potential for Project operational-source emissions to result in or cause cumulatively significant localized air quality impacts is therefore considered less-than-significant.

Nonattainment Impacts

The Project is located within ozone and $PM_{10}/PM_{2.5}$ nonattainment areas (NO_x is a precursor to ozone and $PM_{10}/PM_{2.5}$). Over the life of the Project, operational-source NO_x emissions exceedances noted above would result in a cumulatively considerable net

increase in criteria pollutants (ozone and PM_{10}/$PM_{2.5}$) for which the encompassing region is nonattainment. This is a cumulatively significant and unavoidable air quality impact.

Air Quality Management Plan (AQMP) Consistency Impacts

The Project air quality mitigation measures, emissions-reducing design features, and operational programs are consistent with and support the current (2016) South Coast Air Basin Air Quality Management Plan (AQMP) air pollution reduction strategies. Project support of these strategies promotes timely attainment of AQMP air quality standards and would bring the Project into conformance with the AQMP to the extent feasible. Notwithstanding, based on the analysis presented in EIR Section 4.3, *Air Quality*, the Project is considered to be inconsistent with applicable AQMP Consistency Criteria. This is a cumulatively significant and unavoidable air quality impact.

CO Hotspot Impacts

The potential for the Project to cause or result in potential CO hotspot impacts would be less-than-significant. Per SCAQMD criteria, less-than-significant impacts at the Project level are not cumulatively considerable. The potential for Project CO emissions to result in or cause cumulatively significant CO hotspot impacts is therefore considered less-than-significant.

Health Risk Impacts

Project operations would yield a total maximum increased Toxic Air Contaminant (TAC)-source cancer risk exposure of 5.67 incidents per million population (includes effects of vehicle DPM emissions and retail fuel dispensing). The applicable SCAQMD significance threshold for Project-level TAC-source cancer risk impacts is 10 incidents per million population. The 5.67 incidents per million population increment resulting from the Project is therefore less-than-significant. Per SCAQMD criteria, less-than-significant impacts at the Project level are not cumulatively considerable.

The maximum non-cancer risk from Project activities would total 0.0009, and would not exceed the SCAQMD Hazard Index of 1.0. The non-cancer risk exposure resulting from

the Project is therefore less-than-significant. Per SCAQMD criteria, less-than-significant impacts at the Project level are not cumulatively considerable.

The potential for Project air pollutant emissions to result in or cause cumulatively significant health risk impacts is therefore considered less-than-significant.

Summary

- Project operational-source NOx emissions in exceedance of applicable SCAQMD regional thresholds would be cumulatively significant and unavoidable.

- Project operational-source NOx emissions exceedances would result in a cumulatively considerable net increase in criteria pollutants (ozone and PM_{10}/$PM_{2.5}$) for which the Project region is non-attainment. This is a cumulatively significant and unavoidable impact.

- Project inconsistency with the AQMP is a cumulatively significant and unavoidable impact.

- All other potential air quality impacts of the Project would be less-than-significant or would be reduced to less-than-significant levels with application of proposed mitigation measures. Per SCAQMD criteria, less-than-significant impacts at the Project level are not cumulatively considerable.

5.1.1.4 Cumulative Impacts Related to GHG Emissions/Global Climate Change

CEQA emphasizes that the effects of greenhouse gas emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impacts analysis. (*CEQA Guidelines* Section 15130(f)). The Project Greenhouse Gas (GHG) Analysis (EIR Appendix D) is by nature a cumulative analysis. Because GHG emissions and climate change are a global issue, any approved project regardless of its location has the potential to contribute to a cumulative global accumulation of GHG emissions. The geographic context of the cumulative contributions to GHGs and climate change is worldwide. Practically however, lead agencies and responsible agencies are only able to

regulate GHG emissions within their respective jurisdictions. Accordingly, for the purposes of this analysis, the cumulative impact area for GHG/Global Climate Change considerations is the City of Eastvale and the encompassing SCAQMD jurisdictional area.

Consistent with *CEQA Guidelines* direction, the Project GHG Analysis and this EIR evaluate Project GHG emissions under the following topical headings:

- Potential for the Project to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and

- Potential for the Project to conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The City has further determined that each of the above thresholds establish a separate and independent basis upon which to substantiate the significance of the Project's potential GHG emissions impact. Project impacts within the context of the above threshold considerations are evaluated in the following discussions.

Potential for the Project to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
As discussed in EIR Section 4.4, *Global Climate Change and Greenhouse Gas Emissions*, the Project cannot feasibly achieve the SCAQMD screening level threshold of 3,000 MTCO2e. Conformance with Title 24 Energy Efficiency requirements, CalGreen mandates, and other energy efficiency measures implemented by the state, as well as conservation measures implemented through City Ordinances (e.g., City of Eastvale Water Conservation Ordinance) would act to generally reduce area-source and energy-source GHG emissions, but would have no substantive effect on mobile-source GHG emissions, the primary contributor to the Project GHG emission impact.

Responsibility and authority for regulation of mobile-source emissions resides with the State of California (CARB, et al.). Neither the Applicant nor the Lead Agency can mandate substantive reductions in mobile-source GHG emissions, much less reductions that

would achieve the applicable SCAQMD threshold of 3,000 MTCO2e. On this basis, quantified net GHG emissions generated by the Project would be cumulatively considerable, and the Project net GHG emissions impact would be cumulatively significant and unavoidable.

Potential for the Project to conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

As also discussed in EIR Section 4.4, *Global Climate Change and Greenhouse Gas Emissions*, Project GHG emissions would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. The Project is consistent with and supports all applicable goals and policies. The Project promotes the goals of the Scoping Plan through implementation of design measures that reduce energy and water consumption and that would generally facilitate reductions in GHG emissions. In addition, the Project is required to comply with the regulations that have been adopted to implement the Scoping Plan and to achieve AB 32 (year 2020) and SB 32 (year 2030) GHG emissions reductions targets. The Project would also be required to conform to measures that may be included in the 2017 Scoping Plan Update as these would be regulatory requirements (when adopted). In summary, the Project does not conflict with any plans to reduce GHG emissions and furthers the state's goals relative to this impact.

On this basis, the potential for the Project to conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases is therefore less-than-significant and not cumulatively considerable.

Other related projects within the cumulative impact area would be required to demonstrate compliance with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

Summary

Project GHG emissions would exceed the SCAQMD 3,000 MTCO2e threshold. Quantified Project GHG emissions impacts would be cumulatively significant and unavoidable.

The Project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases would therefore be less-than-significant and not cumulatively considerable. Other related projects would be required to demonstrate compliance with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. On this basis, with respect to conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases, impacts of the Project in combination with impacts of other related projects within the cumulative impact area would be less-than-significant.

5.1.1.5 Cumulative Impacts Related to Noise

The cumulative impact area for noise considerations is generally defined as surrounding properties that could receive Project-generated noise (either construction-source or operational-source), and would also include roadway corridors affected by Project-related traffic and associated vehicular noise. Potential noise impacts of the Project are discussed in EIR Section 4.5, *Noise*, and EIR Appendix E.

Construction-Source Noise

As discussed in EIR Section 4.5, *Noise*, Project construction-source noise would not exceed applicable thresholds, and would not result in or contribute to ambient conditions and thereby resulting in cumulatively significant noise impacts. Other planned and approved projects would be required to mitigate construction-source noise impacts that could affect sensitive receptors.

Operational Noise-Area Sources

As discussed in EIR Section 4.5, *Noise*, with application of mitigation, Project operational noise from area sources would not exceed applicable thresholds. Mitigated noise levels resulting from Project operations would not substantively contribute to ambient noise conditions or to other related noise sources. Project operational area-source noise would

therefore not result in or cause cumulatively significant noise impacts. Other planned and approved projects would be required to mitigate operational area-source noise impacts that could affect sensitive receptors.

Operational Noise-Mobile Sources

Maximum cumulative effects of vehicular (mobile-source) noise are demonstrated by comparing noise levels under Existing Conditions (2018) and Horizon Year Conditions (2040). Noise contours for Study Area roadway segments are based on roadway average daily trip (ADT) estimates, Project trip generation, and trip distribution as presented in the Project TIA. Consistent with the Project TIA Horizon Year analyses, cumulative vehicular-source noise impacts are presented for "Without Limonite Avenue Extension" and "With Limonite Extension" scenarios.

When considering the cumulative effects of vehicular-source noise, the City General Plan 60 dBA CNEL residential "completely compatible" standard is defined as the maximum acceptable ambient condition.[2] Paralleling the Federal Interagency Committee on Noise (FICON)[3] guidance discussed in EIR Section 4.5, *Noise*, when ambient noise conditions are within acceptable parameters (less than 60 dBA CNEL) and cumulative effects of vehicular-source noise would be readily perceptible (≥ 5 dBA CNEL), cumulative vehicular-source noise impacts would be considered potentially significant. When ambient baseline conditions already exceed minimum acceptable standards (60 – 65 dBA CNEL) and subsequent increases in noise levels would be barely perceptible (≥ 3 dBA CNEL) cumulative vehicular-source noise impacts would be considered potentially significant. When ambient baseline conditions already exceed minimum acceptable standards (> 65 dBA CNEL) increases in noise levels of ≥ 1.5 dBA CNEL would be considered potentially significant.

As indicated in Table 5.1-2, the maximum cumulative noise increases along roadways within the Study Area over the considered 22-year cumulative time frame would range from 0.1 dBA CNEL to 19.5 dBA CNEL. Within Table 5.1-2, Study Area roadway

[2] General Plan Table N-3: *Noise Compatibility by Land Use Designation.*

[3] *Federal Agency Review of Selected Airport Noise Analysis* (Federal Interagency Committee on Noise) 1992.

segments affected by cumulatively significant vehicular-source noise impacts are indicated by ***bold italicized text***.

With the exception of the roadway segment: Hellman Avenue north of Merrill Avenue, ambient 2018 noise levels within the Study Area already exceed 65 dBA CNEL, and cumulative effects of vehicular-source noise would result in increases of at least 1.5 dBA CNEL. Along the noted Hellman Avenue north of Merrill Avenue roadway segment, ambient 2018 noise conditions are less than 60 dBA CNEL and cumulative effects of vehicular-source noise would result in an increase of approximately 19.5 dBA CNEL. In all instances, the Project's incremental contributions along the affected roadway segments would be less than 1.5 dBA and would therefore not be cumulatively considerable.

Table 5.1-2
Cumulative Vehicular-Source Noise

Roadway	Segment	CNEL at 100 feet (dBA)						
		Existing	2040 w/o Project		2040 With Project		Max. Cumulative CNEL Increase	Max. Project Increment
			w/o Limonite Ext.	With Limonite Ext.	w/o Limonite Ext.	With Limonite Ext.		
Grove Ave.	n/o Merrill Ave.	*71.4*	*73.1*	*72.3*	*73.1*	*72.3*	***1.7***	0.0
Hellman Ave.	n/o Merrill Ave.	***50.7***	***70.1***	***69.6***	***70.2***	***69.7***	***19.5***	0.1
Hellman Ave.	s/o Kimball Ave.	73.7	73.9	75.1	73.9	75.1	1.4	0.0
Archibald Ave.	n/o Riverside Dr.	75.4	75.8	75.8	75.9	75.9	0.5	0.1
Archibald Ave.	s/o Riverside Dr.	76.3	77.6	77.6	77.7	77.7	1.4	0.1
Archibald Ave.	s/o Chino Ave.	***75.5***	***77.5***	***77.5***	***77.5***	***77.5***	***2.0***	0.0
Archibald Ave.	s/o Schaefer Ave.	***75.5***	***77.2***	***77.2***	***77.3***	***77.3***	***1.8***	0.1
Archibald Ave.	s/o Ontario Ranch Rd.	***76.5***	***78.0***	***78.0***	***78.1***	***78.1***	***1.6***	0.1
Archibald Ave.	s/o Eucalyptus Ave.	***76.6***	***78.1***	***78.1***	***78.2***	***78.2***	***1.6***	0.1
Archibald Ave.	s/o Merrill Ave.	***76.8***	***77.5***	***78.2***	***77.7***	***78.3***	***1.5***	0.2
Archibald Ave.	s/o Limonite Ave.	***74.2***	***76.9***	***76.1***	***76.9***	***76.2***	***2.7***	0.1
Archibald Ave.	s/o 65th St.	***74.7***	***77.0***	***75.9***	***77.0***	***76.0***	***2.3***	0.1
Archibald Ave.	s/o Schleisman Rd.	***74.1***	***75.9***	***75.2***	***75.9***	***75.2***	***1.8***	0.0
Ontario Ranch Rd.	e/o Archibald Ave.	73.6	75.0	75.0	75.0	75.0	1.4	0.0
Merrill Ave.	w/o Grove Ave.	***73.5***	***76.3***	***77.5***	***76.4***	***77.6***	***4.1***	0.1
Merrill Ave.	w/o Flight Ave.	***73.9***	***77.6***	***78.1***	***77.7***	***78.1***	***4.2***	0.1

Table 5.1-2
Cumulative Vehicular-Source Noise

Roadway	Segment	CNEL at 100 feet (dBA)						
		Existing	2040 w/o Project		2040 With Project		Max. Cumulative CNEL Increase	Max. Project Increment
			w/o Limonite Ext.	With Limonite Ext.	w/o Limonite Ext.	With Limonite Ext.		
Merrill Ave.	e/o Hellman Ave.	***73.9***	***78.7***	***77.6***	***78.7***	***77.7***	***4.8***	***0.1***
Merrill Ave.	e/o Archibald Ave.	***67.2***	***69.5***	***70.6***	***69.6***	***70.7***	***3.5***	0.1
Kimball Ave.	w/o Hellman Ave.	***74.7***	***74.8***	***76.8***	***74.9***	***76.8***	***2.1***	0.1
Limonite Ave.	e/o Hellman Ave.	n/a	n/a	74.2	n/a	74.3	0.1	0.1
Limonite Ave.	e/o Archibald Ave.	***73.0***	***76.3***	***76.3***	***76.4***	***76.5***	***3.5***	0.2
Limonite Ave.	e/o Harrison Ave.	***73.7***	***76.6***	***76.6***	***76.7***	***76.7***	***3.0***	0.1
Limonite Ave.	e/o Sumner Ave.	***74.0***	***76.6***	***76.6***	***76.7***	***76.7***	***2.7***	0.1
Limonite Ave.	e/o Scholar Way	***74.5***	***76.6***	***76.6***	***76.7***	***76.7***	***2.2***	0.1
Limonite Ave.	e/o Hamner Ave.	75.1	75.9	75.9	76.0	76.0	0.9	0.1

Source: *The Merge Noise Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 20, 2018.
Notes: e/o = east of; w/o = west of; n/o = north of; s/o = south of.
n/a = Not an analysis location for this scenario. These segments do not yet exist or would not carry Project traffic under this scenario.

Summary

- Project construction-source noise levels received at nearby properties would not exceed applicable thresholds and would not be individually or cumulatively significant.

- Other related projects within the cumulative impact area would be required to mitigate construction-source noise impacts that could affect sensitive receptors. On this basis, with respect to construction-source noise, impacts of the Project in combination with impacts of other related projects within the cumulative impact area would be less-than-significant.

- Mitigated Project operational area-source noise levels received at nearby properties would not exceed applicable thresholds and would not be individually or cumulatively significant.

- Other related projects within the cumulative impact area would be required to mitigate operational area-source noise impacts that could affect sensitive receptors. On this basis, with respect to operational area-source noise, impacts of the Project in combination with impacts of other related projects within the cumulative impact area would be less-than-significant.

- Noise increases along certain roadway segments within the Study Area would be cumulatively significant over the time frame 2018 – 2040. However, in all instances, the Project's incremental contributions along the affected roadway segments would be less than 1.5 dBA and would therefore not be cumulatively considerable.

5.1.1.6 Cumulative Impacts Related to Geology and Soils

The Project site and all of Southern California lie within a seismically active area, generally susceptible to earthquake hazards. In this sense, Southern California is considered the cumulative impact area for geology and soils considerations. As substantiated in EIR Section 4.6, *Geology and Soils,* the Project's potential geology and soils impacts would be less-than-significant. No unique geologic features are present within the Project site or vicinity.

The Project would result in the construction of new light industrial and commercial land uses and supporting facilities. Infrastructure improvements and utility extensions implemented by the Project would include transportation system improvements, water lines, sewer lines, gas lines, electricity lines, storm water management systems, and communications lines (cable, telephone).

Based on the creation and occupation of additional uses and implementation of supporting infrastructure described above, the Project would incrementally increase concentrations of persons, structures, and infrastructure systems on a previously undeveloped site within an earthquake-prone region. Potential impacts of increased exposure to seismic effects as a result of new development were considered and determined to be less-than-significant based on conformance to seismic design and

engineering practices and requirements of the California Building Code (CBC), State Seismic Mapping Act, and City building standards. Similarly, potential impacts related to erosion, subsidence, shrinkage, expansion, and soil consolidation would be less-than-significant based on conformance with local, regional, state, and federal permitting and regulatory requirements. The Project does not propose or require uses or operations that would substantively contribute to or exacerbate any existing significant adverse geology and soils conditions.

Other related projects within the cumulative impact area would be subject to uniform site development and construction standards that protect public safety and structures and to reduce adverse effects to soils, such as erosion. Other related projects within the cumulative impact area would be subject to requirements of site- and development-specific geotechnical investigations, minimizing potential earthquake and seismically-induced impacts.

Summary

Mandated compliance with seismic design and engineering standards, soil conservation and erosion protection reduces the Project's potential contribution to cumulative impacts in regard to geology and soils to levels that would be less-than-significant. The Project would not substantively contribute to any existing significant adverse geology and soils conditions.

Other related projects within the cumulative impact area would be subject to uniform site development and construction standards that protect public safety and structures and to reduce adverse effects to soils, such as erosion. Other related projects within the cumulative impact area would be subject to requirements of site- and development-specific geotechnical investigations. On this basis, with respect to geology and soils, impacts of the Project in combination with impacts of other related projects within the cumulative impact area would be less-than-significant.

5.1.1.7 Cumulative Impacts Related to Hazards and Hazardous Materials

For the purposes of this analysis, the cumulative impact area when considering potential hazards and hazardous materials issues generally includes the area to be developed within the Project site, as well as off-site locations that might be affected by or contribute to hazards or hazardous conditions resulting from the Project and its operations. These areas generally include neighboring properties within the City of Eastvale. The cumulative hazards and hazardous materials impact analysis evaluates effects of the Project construction and operations and reflects long-term buildout conditions within the cumulative impact area.

The Project does not propose or require uses or operations that would result in potentially significant hazards or hazardous material impacts. That is, the Project does not propose uses or activities that would require substantive handling or use of hazardous materials, hazardous substances, or hazardous waste that could result in potential adverse effects. To the extent that such materials or substances may be present during Project construction or operations they would be transported, stored, used and disposed of consistent with the multiple and broad regulatory requirements, reducing potential impacts to levels that would be less-than-significant. Other related projects within the cumulative impact area would also be subject regulatory requirements that would act to avoiding hazards/hazardous materials impacts or reduce impacts to levels that would be less-than-significant.

The Project would not substantively contribute to any existing adverse hazards/hazardous materials conditions.

Review of the Project by the Riverside County Airport Land Use Commission (ALUC) is required. The Project Applicant has submitted the Project plans to the ALUC for that agency's independent review. As part of its review, the ALUC would evaluate the Project consistency with the Airport Land Use Compatibility Plan for Chino Airport (ALUCP). The ALUC would identify any Project revisions or limitations necessary to preclude or minimize potential airport/airstrip hazards that could affect or result from the Project. Prior to approval by the City, the Project Applicant would be required to document

review and approval of the Project by the ALUC. Any Project revisions or limitations required by the ALUC would be incorporated in the Project prior to approval by the City. Additionally, the City Council must make a finding that the requested Project Zone Change is consistent with the most recent adopted version of the ALUCP. As approved by the ALUC, the potential for the Project to result in a safety hazard for people residing or working in the project area due to airport/airstrip operations would be less-than-significant.

Specific consideration has been given to potentially hazardous air emissions as they may affect vicinity land uses. The analysis presented in EIR Section 4.3, *Air Quality*, concludes that, as mitigated, the Project construction-source emissions would not exceed applicable SCAQMD localized significance thresholds (LSTs). The analysis presented in EIR Section 4.3, *Air Quality*, concludes that unmitigated Project operational-source emissions would not exceed applicable SCAQMD LSTs. The EIR Air Quality analysis substantiates that Project-source diesel particulate matter (DPM) or other Toxic Air Contaminants (TACs) exposures at sensitive receptors would not exceed applicable SCAQMD health risk thresholds. Project-source health risk impacts would therefore be less-than-significant. Per SCAQMD criteria, less-than-significant impacts at the Project level are not cumulatively considerable.

The EIR Air Quality analysis also substantiates that the Project would not result exceedance of SCAQMD CO concentration thresholds and would therefore would not result in exposure to mobile-source CO hotspots. Per SCAQMD criteria, less-than-significant impacts at the Project level are not cumulatively considerable.

On this basis, the Project would not result in or contribute considerably to hazardous emissions or other hazardous air quality impacts that would adversely affect area land uses. Please refer also to EIR Section 4.3, *Air Quality*, as well as the detailed Air Quality Impact Analysis and Health Risk Assessment presented in EIR Appendix C.

Summary

The Project's potential contribution to cumulative impacts in regard to hazards/hazardous materials, including potential hazards associated with Chino Airport, and potential hazards from air pollutant emissions is not considerable; and the cumulative effects of the Project would be less-than-significant. The Project would not substantively contribute to any existing adverse hazards/hazardous materials conditions.

Other related projects within the cumulative impact area would also be subject regulatory requirements, acting to avoiding hazards/hazardous materials impacts or reduce impacts to levels that would be less-than-significant.

Other related projects within the cumulative impact area that are subject to provisions of the ALUCP are similarly required to document ALUC consistency determinations.

Per SCAQMD criteria, less-than-significant hazardous emissions/health risk impacts at the Project level are not cumulatively considerable.

On this basis, with respect to hazards and hazardous materials, impacts of the Project in combination with impacts of other related projects within the cumulative impact area would be less-than-significant.

5.1.1.8 Cumulative Impacts Related to Hydrology and Water Quality

The cumulative impact area for hydrology/water quality impact considerations is defined as the area encompassed by the Santa Ana Regional Water Quality Control Board (SARWQCB). Local oversight is also provided by the City of Eastvale and Riverside County. Development of the Project site would incrementally increase impervious surfaces within the cumulative impact area, with related potential increases in the rate and quantity of local storm water discharges. The Project incorporates storm water management components that would convey post-development storm water discharges to available receiving systems and would not exceed those systems' capacities.

As substantiated in EIR Section 4.8, *Hydrology and Water Quality*, and within the Project Drainage Study and Preliminary Water Quality Management Plan (EIR Appendix H), storm water discharges from the developed Project site would not exceed receiving systems capacities. Project storm water discharges would be required to comply with City NPDES Permit requirements and SARWQCB water quality policies and plans as outlined in the Santa Ana Region Basin Plan.[4] Related projects would also be subject to NPDES Permit requirements and SARWQCB water quality policies and plans. Compliance with NPDES permit and SARWQCB water quality policies and plans would avoid potentially significant contributions to cumulative impacts or would reduce cumulative impacts to levels that would be less-than-significant.

The Project storm water management system would be developed and operated in compliance with City/SARWQCB regulations and water quality standards. The City of Eastvale is required to comply with the Municipal Separate Storm Sewer System (MS4) Permit issued by the SARWQCB. Design, configuration, and locations of proposed drainage system improvements would be reviewed and approved by the City prior to, or concurrent with, application for grading permits.

Summary

The Project incorporates all necessary development-specific storm water management systems and facilities. The Project would be required to comply with established storm water management and storm water treatment policies and regulations. On this basis, the Project's potential contribution to cumulative impacts in regard to hydrology/water quality is not considerable, and the cumulative effects of the Project would be less-than-significant.

Other related projects within the cumulative impact area would be required to implement development-specific storm water management systems, and comply with established storm water management and storm water treatment policies and regulations. On this basis, with respect to hydrology and water quality, impacts of the Project in combination

[4] See: https://www.waterboards.ca.gov/santaana/water_issues/programs/basin_plan/

with impacts of other related projects within the cumulative impact area would be less-than-significant.

5.1.1.9 Cumulative Impacts Related to Cultural Resources/Tribal Cultural Resources

The cumulative impact area for prehistoric, archaeological, and historic resources generally includes the City of Eastvale and surrounding areas of Riverside County. Impacts to any cultural resources/tribal cultural resources within this area would be site-specific. Consistent with CEQA requirements, in the event that potentially significant cultural resources/tribal cultural resources are encountered within the cumulative impact area, mitigation measures would be applied to ensure the preservation and protection of potentially significant resources. (*CEQA Guidelines* §15064.5. et al.) As substantiated in EIR Section 4.9, *Cultural Resources/Tribal Cultural Resources*, the Project's potential impacts to cultural resources/tribal cultural resources would be less-than-significant as mitigated. With the application of proposed mitigation measures, the Project's potential contribution to cumulative impacts in regard to cultural resources/tribal cultural resources is not considerable, and the cumulative effects of the Project would be less-than-significant.

As with the Project, in the event that potentially significant cultural resources/tribal cultural resources are encountered at other sites within the cumulative impact area, mitigation measures would be applied to ensure the preservation and protection of potentially significant resources.

Summary

With the application of proposed mitigation measures, the Project's contributions to potential cumulative cultural resources/tribal cultural resources impacts would be less-than-significant and the cumulative effects of the Project would be less-than-significant. In the event that potentially significant cultural resources/tribal cultural resources are encountered at other sites within the cumulative impact area, mitigation measures would be applied to ensure the preservation and protection of potentially significant resources. On this basis, with respect to cultural resources/tribal cultural resources, impacts of the

Project in combination with impacts of other related projects within the cumulative impact area would be less-than-significant.

5.1.1.10 Cumulative Impacts Related to Public Services and Utilities

Cumulative impact topical considerations under the general heading of Public Services and Utilities are discussed below.

Fire and Police Protection Services

The cumulative impact areas for fire and police protection services are generally defined by respective protection service boundaries of the Riverside County Fire Department/California Department of Forestry and Eastvale Police Department/ Riverside County Sheriff's Department. It is recognized that these agencies also provide and receive extra-jurisdictional mutual aid support, allowing for additional and supplemental services under emergency situations.

The Project and other related projects in the cumulative impact area would add to cumulative demands on fire protection, law enforcement, and emergency medical response services. Cumulative demands for these services are reduced through review and coordination of development projects with potentially affected service providers, and incorporation of appropriate design and construction elements which act to enhance safety and minimize potential hazards. The Project site and building plans are subject to review and approval by responsible fire protection and law enforcement agencies, acting to reduce or avoid potential increased demands on fire protection and law enforcement services. Other related projects within cumulative impact area are also subject to review and approval by responsible fire protection and law enforcement agencies, acting to reduce or avoid potential increased demands on fire protection and law enforcement services

Cumulatively, areawide demands for fire protection and law enforcement services within the cumulative impact area are funded through payment of taxes and fees that support government services. Tax revenues and fees generated by the Project and other related projects within the cumulative impact area would contribute to funds available to

improve facilities and equipment, and to hire and train additional staff and officers. Police and fire protection service providers, in combination with area decision-makers, would determine the most effective use of revenues generated by the Project and other developments within the cumulative impact area.

Based on the preceding, the Project's potential impacts to fire and police protection services are not cumulatively considerable and cumulative impacts to fire and police protection services would be less-than-significant. Based on the preceding, with respect to fire and police protection services, impacts of the Project in combination with impacts of other related projects within the cumulative impact area would be less-than-significant.

Schools, Parks, Other Public Facilities

The cumulative impact areas for schools, parks, and other public facilities are the Corona-Norco Unified School District (schools)[5], Jurupa Community Services District Service Area (parks), and the City of Eastvale generally (other public facilities).

The Project does not propose any residential uses and therefore would not result in direct population growth or associated growth in resident school populations. Indirectly, the Project's light industrial and commercial land uses may result in additional though not substantive increased student demands on existing school facilities. School impacts attributable to light industrial/commercial development proposals are customarily mitigated by mandated payment of applicable school impact fees. The Corona-Norco Unified School District (CNUSD, District) uses these fees to pay for facility expansion and upgrades needed to serve new students. Prior to the issuance of building permits, the Applicant is required to pay applicable school impacts fees.

The Project does not propose any residential uses and therefore would not result in direct population growth that would use parks or recreational facilities. Nor does the Project

[5] Grades K-12 public schools in the City of Eastvale are administered by the Corona-Norco Unified School District.

include the construction of recreational facilities. The Project would therefore not result in substantial substantive impacts to parks or recreational facilities.

There are no known or probable other public facilities that would be potentially adversely affected by the Project.

Based on the preceding, the Project's potential impacts to schools, parks, or other public facilities would not be cumulatively considerable and cumulative impacts to schools, parks, and other public facilities would be less-than-significant.

Water Treatment

The cumulative impact area for water treatment demands is defined by the Service Area of the water provider, in this case the Jurupa Community Services District (JCSD, District). All potable water distributed within the City is treated to remove contaminants in compliance with state and federal drinking water standards. A substantiated in EIR Section 4.10, *Public Services and Utilities*, the Project would not result in potentially significant water treatment impacts. Cumulative impacts to water treatment facilities are addressed through JCSD water treatment master plans and associated capital improvements programs.

Additionally, a Will-Serve letter from JCSD demonstrating the District's ability to provide water service to the Project has been provided.[6] The Will-Serve letter states in pertinent part: "The District's current water supply exceeds the projected maximum day demand projected in the next five years . . . In addition the District presently maintains excess wastewater capacity at the City of Riverside Wastewater Reclamation Plant and the Western Riverside County Regional Wastewater Treatment Plant." Water treatment demand resulting from the Project would not require new or expanded facilities.

Decision-makers in consultation with JCSD would determine when and in what manner water treatment facilities would be constructed and/or upgraded to meet increasing

[6] Please refer to the JCSD water/sewer "Will-Serve" letter presented in EIR Appendix H.

water treatment demands of areawide development, including the demands of the Project and other related projects within the cumulative impact area.

It is assumed that JCSD would amend the District's Urban Water Management Plan (UWMP) and master plan for wastewater treatment during those plans' next update cycle(s) to reflect the Project land uses as well as any other land uses changes or new development that may occur within the JCSD Service Area.

Based on the preceding, Project impacts to water treatment facilities would not be cumulatively considerable and cumulative impacts to water treatment facilities would be less-than-significant. Based on the preceding, with respect to water treatment, impacts of the Project in combination with impacts of other related projects within the cumulative impact area would be less-than-significant.

Wastewater Treatment

The cumulative impact area for wastewater treatment demands is defined by the Service Area of the water provider, in this case JCSD. Wastewater conveyance services are provided by JCSD. Project wastewater would be collected at the Western Riverside County Regional Wastewater Authority (WRCRWA) plant. A substantiated in EIR Section 4.10, *Public Services and Utilities*, the Project would not result in potentially significant wastewater treatment impacts. Cumulative impacts to wastewater treatment facilities are addressed through JCSD wastewater treatment master plans and associated capital improvements programs.

Decision-makers in consultation with JCSD would determine when and in what manner wastewater treatment facilities would be constructed and/or upgraded to meet incremental demands of the Project and other related projects in the cumulative impact area. In this latter regard, the District's January 3, 2016 "Will-Serve" letter addressing water and sewer availability to the Project states in pertinent part: "The District's current water supply exceeds the projected maximum day demand projected in the next five years . . . In addition the District presently maintains excess wastewater capacity at the City of Riverside Wastewater Reclamation Plant and the Western Riverside County

Regional Wastewater Treatment Plant." Wastewater treatment demand resulting from the Project would not require new or expanded facilities.

It is assumed that JCSD would amend the UWMP and master plan for wastewater treatment during those plans' next update cycle(s) to reflect the Project land uses as well as any other land uses changes or new development that may occur within the JCSD Service Area.

Based on the preceding, Project impacts to wastewater treatment facilities would not be cumulatively considerable and cumulative impacts to water treatment facilities would be less-than-significant. Based on the preceding, with respect to water treatment, impacts of the Project in combination with impacts of other related projects within the cumulative impact area would be less-than-significant.

Storm Water Management

Cumulative impacts to storm water management facilities have been previously addressed in Section 5.1.1.8, *Cumulative Impacts Related to Hydrology and Water Quality*.

Water Supply

The cumulative impact area for water supply demands is defined by the Service Area of the water provider, in this case JCSD. A substantiated in EIR Section 4.10, *Public Services and Utilities*, the Project would not result in potentially significant water supply impacts. The Project would have a nominal incremental water demand when compared to the current water JCSD supply capabilities.

Cumulative impacts to water supplies and water distribution facilities are addressed through the JCSD Urban Water Management Plan and associated capital improvements programs.

Decision-makers in consultation with JCSD would determine when and in what manner water would be supplied and water distribution facilities would be constructed and/or upgraded to meet water demands of the Project and other related projects in the

cumulative impact area. The District's January 3, 2016 "Will-Serve" letter addressing water and sewer availability to the Project states in pertinent part: "The District's current water supply exceeds the projected maximum day demand projected in the next five years . . . In addition the District presently maintains excess wastewater capacity at the City of Riverside Wastewater Reclamation Plant and the Western Riverside County Regional Wastewater Treatment Plant."

It is assumed that JCSD would amend the UWMP and master plan(s) for water supply and distribution during those plans' next update cycle(s) to reflect the Project land uses as well as any other land uses changes or new development that may occur within the JCSD Service Area.

Based on the preceding, the Project's potential impacts to water supplies would not be cumulatively considerable and cumulative impacts to water supplies would be less-than-significant. Based on the preceding, with respect to water supply, impacts of the Project in combination with impacts of other related projects within the cumulative impact area would be less-than-significant.

Solid Waste Management

Solid waste disposal and landfill services are available to all residents and public/private enterprises on a Countywide basis. Typically, proximity to a given landfill is the determining factor in its selection for waste disposal. The cumulative impact area for solid waste management is Riverside County in general; and more specifically, the six landfills operated by the County (Badlands, Blythe, Desert Center, Lamb Canyon, Mecca II, and Oasis); and the privately owned and operated El Sobrante Landfill.[7]

It is anticipated that Project-generated solid waste would be conveyed by existing trash haulers to either the El Sobrante Landfill in the City of Corona, or to the Lamb Canyon Landfill in Riverside County. As discussed in EIR Section 4.10, *Public Services and Utilities*,

[7] The El Sobrante Landfill provides waste disposal services under contract to the County.

there is sufficient daily throughput and total capacity at potentially affected landfills to meet the Project demands and demands of existing and anticipated customers.

Assembly Bill 939 (Integrated Solid Waste Management Act of 1989; Public Resources Code 40050 et seq., AB 939) required every California city and county to divert a minimum of 50 percent of its waste from landfills by the year 2000. On-going monitored compliance with AB 939 requirements is provided by CalRecycle.

Additionally, as of July 1, 2012, commercial uses such as those that would be implemented by the Project are required to comply with applicable provisions of AB 341. AB 341 focuses on increased commercial waste diversion as a method to reduce greenhouse gas (GHG) emissions. To achieve the measure's objective, an additional 2 to 3 million tons of materials will need to be recycled from the commercial sector by the year 2020 and beyond. Recyclable material types targeted can include, but are not limited to: paper, plastics, glass, metals, cardboard, green waste, food waste, and construction and demolition materials. Any business that generates four cubic yards or more of commercial solid waste per week would be subject to AB 341 recycling requirements.

The City is currently meeting or exceeding all state-mandated solid waste diversion targets. The Project would be required to comply with the California Integrated Waste Management Act and AB 341 as implemented by the City.[8]

Consistent with Section 5.408 "Construction Waste Reduction, Disposal, and Recycling" of the California Green Building Standards Code (CALGreen Code), as implemented by the City of Eastvale, the Project in total would be required to recycle or salvage for reuse a minimum of 50 percent of the nonhazardous construction and demolition waste. A Construction Waste Management Plan would also be required consistent with Section 5.408.1.1 of the CALGreen Code. These measures would reduce Project construction waste and would act to reduce demands on solid waste management resources.

[8] See: http://www.eastvaleca.gov/city-hall/recycling-and-waste-disposal/ab-341-mandatory-recycling.

There is sufficient daily throughput and total capacity at potentially affected landfills to meet the Project demands and demands of existing and anticipated customers. Additionally, other related projects within the cumulative impact area would be required to comply with applicable waste reduction and recycling provisions of Assembly Bill 939, AB 341, and the CALGreen Code.

Based on the preceding, the Project's potential impacts to solid waste management facilities and services would not be cumulatively considerable and cumulative impacts to solid waste management facilities and services would be less-than-significant.

Based on the preceding, with respect to solid waste management, impacts of the Project in combination with impacts of other related projects within the cumulative impact area would be less-than-significant.

Summary

Compliance with existing regulations, ordinances, plans and programs acts to generally reduce cumulative effects of the Project and other related projects within the respective cumulative impact areas. Further, areawide demands for, and impacts to, public services and utilities are offset through payment of taxes and fees that support service providers and utilities purveyors. Tax revenues and fees generated by the Project and other related projects within the respective cumulative impact areas would provide funding available for facilities and equipment, and to hire and train additional personnel. Service providers, and utility purveyors in combination with decision-makers, would ultimately determine the most effective use of revenues generated by the Project and other cumulative projects within the respective cumulative impact areas, and how these may be employed for the provision and enhancement of services and infrastructure.

Based on the preceding discussion, the Project's potential contribution to cumulative impacts in regard to public services and utilities is not considerable, and effects of the Project in combination with other related projects within the respective cumulative impact areas would be less-than-significant.

5.2 ALTERNATIVES ANALYSIS

5.2.1 Alternatives Overview

Consistent with provisions of the *CEQA Guidelines*, this EIR evaluates alternatives to the Project that would lessen its significant environmental effects while allowing for attainment of the basic Project Objectives.

Alternatives to the Project considered in detail within this analysis include:

- No Project Alternative;
- Reduced Intensity Alternative;

Several other Alternatives were also considered and rejected. These are:

- Alternative Sites;
- Avoidance of Significant Traffic Impacts Alternative;
- Avoidance of Significant Air Quality Impacts Alternative;
- Avoidance of AQMP Inconsistency Impacts Alternative; and
- Avoidance of Significant GHG Emissions Impacts Alternative.

These Alternatives are described in greater detail in Section 5.2.2, *Description of Alternatives*. To provide context for the subsequent consideration of Alternatives, significant Project impacts are summarized below in Table 5.2-1.

Table 5.2-1
Summary of Significant and Unavoidable Impacts

Environmental Topic	Comments
Transportation/ Traffic	To address potentially significant impacts affecting Study Area facilities, the Applicant would pay all requisite fees, offsetting the Project's proportional contributions to cumulative traffic impacts thereby fulfilling the Applicant mitigation responsibilities. Notwithstanding, payment of fees consistent with TUMF, RBBD, and DIF mandates, and fair share fees required by the EIR Mitigation Measures would not ensure timely completion of required improvements at affected Study Area facilities. Moreover, there are no current plans to improve the affected facilities, and the City does not have an existing agreement with extra-jurisdictional agencies regarding the funding of improvements, construction of improvements, or timing of improvements at locations along, or beyond the City corporate boundaries. Thus, while the physical improvements identified in the EIR

Table 5.2-1
Summary of Significant and Unavoidable Impacts

Environmental Topic	Comments
	and TIA would be capable of mitigating potentially significant impacts, these improvements cannot be timely assured. On this basis, pending completion of required improvements, Project impacts at the facilities listed below would be cumulatively considerable, and impacts would be cumulatively significant. **Existing (2018) Conditions:** ***Intersections*** Pending completion of required improvements, the Project's incremental contributions to Existing Conditions cumulative traffic impacts at or affecting the following intersections are considered cumulatively significant and unavoidable: **ID No.** — **Intersection** 2 — Flight Ave. & Merrill Ave. 4 — Hellman Ave. & Kimball Ave. (improvements currently under construction) 15 — Archibald Ave. & Limonite Ave. ***Roadway Segments*** Pending completion of required improvements, the Project's incremental contributions to Existing Conditions cumulative traffic impacts at or affecting the following roadway segments are considered cumulatively significant and unavoidable: **ID No.** — **Roadway Segment** 2 — Limonite Ave. – Sumner Ave. to Hamner Ave. **Opening Year (2021) Conditions:** ***Intersections*** Pending completion of required improvements, the Project's incremental contributions to Opening Year Cumulative traffic impacts at or affecting the following intersections are considered cumulatively significant and unavoidable: **ID No.** — **Intersection** 1 — Grove Ave. & Merrill Ave. 2 — Flight Ave. & Merrill Ave. 3 — Hellman Ave. & Merrill Ave. 4 — Hellman Ave. & Kimball Ave. (improvements currently under construction) 6 — Archibald Ave. & Riverside Dr.

Table 5.2-1
Summary of Significant and Unavoidable Impacts

Environmental Topic	Comments

8	Archibald Ave. & Schaefer Ave.
9	Archibald Ave. & Ontario Ranch Rd.
11	Archibald Ave. & Merrill Ave.
12	Archibald Ave. & Victoria Ln.
15	Archibald Ave. & Limonite Ave.
16	Archibald Ave. & 65th St.
17	Archibald Ave. & Schleisman Rd.
20	Harrison Ave. & Limonite Ave.
24	I-15 SB Ramps & Limonite Ave.
25	I-15 NB Ramps & Limonite Ave.

Roadway Segments
Pending completion of required improvements, the Project's incremental contributions to Opening Year Conditions cumulative traffic impacts at or affecting the following roadway segments are considered cumulatively significant and unavoidable:

ID No.	Roadway Segment
2	Limonite Ave. – Sumner Ave. to Hamner Ave.
3	Limonite Ave. – Hamner Ave. to I-15 Fwy.
5	Archibald Ave. – Limonite Ave. to 65th St.

Freeway Segments
The Project's incremental contributions to Opening Year Cumulative traffic impacts at or affecting the following freeway segments are considered cumulatively significant and unavoidable:

- I-15 Freeway Southbound, South of Limonite Ave. – LOS E AM and PM peak hours.

Horizon Year (2040) Conditions:

Intersections -Without Limonite Avenue Extension
Pending completion of required improvements, the Project's incremental contributions to Horizon Year traffic impacts at or affecting the following intersections are considered cumulatively significant and unavoidable:

ID No.	Intersection
1	Grove Ave. & Merrill Ave.
2	Flight Ave. & Merrill Ave.
3	Hellman Ave. & Merrill Ave.
4	Hellman Ave. & Kimball Ave.
6	Archibald Ave. & Riverside Dr.
7	Archibald Ave. & Chino Ave.
8	Archibald Ave. & Schaefer Ave.
9	Archibald Ave. & Ontario Ranch Rd.
10	Archibald Ave. & Eucalyptus Ave.
11	Archibald Ave. & Merrill Ave.
12	Archibald Ave. & Victoria Ln.

Table 5.2-1
Summary of Significant and Unavoidable Impacts

Environmental Topic	Comments
	15 Archibald Ave. & Limonite Ave. 16 Archibald Ave. & 65th St. 17 Archibald Ave. & Schleisman Rd. 20 Harrison Ave. & Limonite Ave. 21 Sumner Ave. & Limonite Ave. 22 Scholar Way & Limonite Ave. 24 I-15 SB Ramps & Limonite Ave. 25 I-15 NB Ramps & Limonite Ave. ***Intersections -With Limonite Avenue Extension*** Pending completion of required improvements, the Project's incremental contributions to Horizon Year traffic impacts at or affecting the following intersections are considered cumulatively significant and unavoidable: **ID No. Intersection** 1 Grove Ave. & Merrill Ave. 2 Flight Ave. & Merrill Ave. 3 Hellman Ave. & Merrill Ave. 4 Hellman Ave. & Kimball Ave. 5 Hellman Ave. & Pine Ave. 6 Archibald Ave. & Riverside Dr. 7 Archibald Ave. & Chino Ave. 8 Archibald Ave. & Schaefer Ave. 9 Archibald Ave. & Ontario Ranch Rd. 10 Archibald Ave. & Eucalyptus Ave. 11 Archibald Ave. & Merrill Ave. 12 Archibald Ave. & Victoria Ln. 15 Archibald Ave. & Limonite Ave. 16 Archibald Ave. & 65th St. 17 Archibald Ave. & Schleisman Rd. 20 Harrison Ave. & Limonite Ave. 21 Sumner Ave. & Limonite Ave. 22 Scholar Way & Limonite Ave. 24 I-15 SB Ramps & Limonite Ave. 25 I-15 NB Ramps & Limonite Ave. ***Roadway Segments - Without Limonite Avenue Extension*** Pending completion of required improvements, the Project's incremental contributions to Horizon Year Conditions cumulative traffic impacts at or affecting the following roadway segments are considered cumulatively significant and unavoidable: **ID No. Roadway Segment** 2 Limonite Ave. – Sumner Ave. to Hamner Ave.

Table 5.2-1
Summary of Significant and Unavoidable Impacts

Environmental Topic	Comments
	3 Limonite Ave. – Hamner Ave. to I-15 Fwy. 5 Archibald Ave. – Limonite Ave. to 65th St. ***Roadway Segments - With Limonite Avenue Extension*** Pending completion of required improvements, the Project's incremental contributions to Horizon Year Conditions cumulative traffic impacts at or affecting the following roadway segments are considered cumulatively significant and unavoidable: **ID No. Roadway Segment** 5 Archibald Ave. – Limonite Ave. to 65th St. ***Freeway Ramp Merge/Diverge Areas*** Pending completion of required improvements, the Project's incremental contributions to Horizon Year Cumulative traffic impacts at or affecting the following freeway merge/diverge areas are considered cumulatively significant and unavoidable: • I-15 Freeway Southbound, On-Ramp at Limonite Ave. (#3) – LOS E AM peak hour only • I-15 Freeway Northbound, Off-Ramp at Limonite Ave. (#6) – LOS E AM peak hour only
Air Quality	**NOx Regional Threshold Exceedance** Project operational-source emissions of nitrogen oxides (NO_x) would exceed applicable South Coast Air Quality Management District (SCAQMD) regional thresholds. This is a Project-level and cumulatively significant impact. **Contributions to Non-Attainment Conditions** The Project is located within ozone and PM_{10}/$PM_{2.5}$ non-attainment areas (NO_x is a precursor to ozone, PM_{10}, and $PM_{2.5}$). Project operational-source NO_x emissions exceedances would therefore result in a cumulatively considerable net increase in criteria pollutants (ozone, PM_{10}, and $PM_{2.5}$) for which the Project region is non-attainment. These are cumulatively significant air quality impacts. **AQMP Inconsistency** The Project land uses are not reflected in land use plans and regional development assumed in the AQMP. On this basis, the Project is assumed to generate operational-source emissions not reflected within the AQMP regional emissions inventory for the Basin. The Project is therefore considered to be inconsistent with the AQMP. This is a Project-level and cumulatively significant impact.
GHG Emissions	Project GHG emissions would exceed the SCAQMD screening-level threshold of 3,000 MTCO2e/Year. On this basis, quantified net Project GHG emissions would be cumulatively considerable, and the Project net GHG emissions impact would be cumulatively significant and unavoidable.

5.2.2 Description of Alternatives

Alternatives to the Project that are considered in this analysis are described below.

5.2.2.1 No Project Alternative Overview

The *CEQA Guidelines* specifically require that an EIR include evaluation of a No Project Alternative. The No Project Alternative should make a reasoned assessment as to future disposition of the subject site should the Project under consideration not be developed. In this latter regard, the *CEQA Guidelines* state in pertinent part:

> "If the project is other than a land use or regulatory plan, for example a development project on identifiable property, the "no project" alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this "no project" consequence should be discussed. In certain instances, the no project alternative means "no build" wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment (*CEQA Guidelines*, Section 15126.6 (e)(3)(b))."

In the case considered here, the subject site is a vacant and available property absent any significant environmental or physical constraints. Further, the Project area is fully served by proximate available utilities and supporting public services; and is provided appropriate access. Areas around the subject site are developed with or are being developed with urban uses. The Project area is not substantively constrained by physical conditions or environmental considerations.

Given the availability of infrastructure/services, lack of environmental or physical constraints; and proximity of other urban development, it is considered unlikely that the subject site would remain vacant or in a "No Build" condition. Evaluation of a No Build condition would therefore "analyze a set of artificial assumptions that would be required to preserve the existing physical environment." This is inconsistent with direction provided at *CEQA Guidelines*, Section 15126.6 (e)(3)(b), as presented above. On this basis, a No Build condition is rejected as a potential EIR No Project Alternative.

Evaluated No Project Alternative

In light of the preceding discussions, for the purposes of this Alternatives Analysis, and to provide for analysis differentiated from the Project, the No Project Alternative considered herein assumes development of the Project site allowed under the site's current Light Industrial General Plan Land Use designation. Under the No Project Alternative, it is assumed that the entire 26.28-acre Project site would be developed with light industrial uses. The EIR Project includes approximately 336,501 square feet of light industrial uses on approximately 15.4 acres, yielding a floor-to-area ratio (FAR) of approximately 0.50.[9] Translated over the entire 26.28-acre site, this would yield approximately 574,237 square feet of light industrial development under the No Project Alternative.

Light industrial uses implemented under the No Project Alternative conform to development anticipated under the AQMP. The No Project Alternative would therefore avoid AQMP inconsistencies otherwise resulting from the Project.

NOx emissions exceedances resulting from the Project would not occur under the No Project Alternative. The No Project Alternative would therefore avoid individually and cumulatively significant NOx emissions impacts and non-attainment pollutant contribution impacts otherwise resulting from the Project.

[9] The Applicant's current plans on file with the City propose a lesser development intensity.

The No Project Alternative would reduce traffic impacts and GHG emissions impacts when compared to the Project. These impacts, while diminished under the No Project Alternative, would not be reduced to levels that would be less-than-significant, and would therefore remain significant and unavoidable.

5.2.2.2 Reduced Intensity Alternative Overview

The Project would result in certain cumulatively significant traffic impacts (roadway segments and intersections), air quality impacts (operational-source regional NOx threshold exceedance, cumulative contributions to Basin non-attainment conditions, Air Quality Management Plan inconsistency); and GHG emissions impacts (exceedance of SCAQMD screening-level threshold, 3,000 MTCO2e/year). The Reduced Intensity Alternative considered in this EIR is directed at reduction of the Project's significant NOx emissions impacts and would also diminish the scope of Project impacts in general. However, there are no feasible means to completely avoid significant impacts otherwise occurring under the Project; or to reduce these impacts to levels that would be less-than-significant.

Evaluated Reduced Intensity Alternative

The Reduced Intensity Alternative considers a development scenario that would reduce the operational-source NOx emissions that would occur under the Project as proposed by the Applicant.

Of the total operational-source NOx emissions generated by the Project, more than 99 percent (by weight) are due to Project-related traffic. The most effective way to reduce NOx emissions, therefore, would be to reduce the total amount of Project-related vehicle travel (expressed as Average Daily Trips [ADT]).[10]

The Reduced Intensity Alternative would also reduce the extent of significant traffic, GHG emissions, non-attainment air pollutant contributions, and the AQMP

[10] Within the following discussions, trip generation and ADT volumes are expressed in terms of Passenger Car Equivalents (PCE).

inconsistency issues that would result from implementation of the Project as proposed by the Applicant.

For purposes of the EIR Alternatives Analysis, the Reduced Intensity Alternative is based on an overall reduction in Project trip generation of 25 percent. Project vehicular-source NOx emissions would be reduced proportionally. To achieve the 25 percent reduction in trip generation, the scope of Project uses could be reduced, and/or the types and variety of occupancies proposed by the Project could be modified.

In addition to a general reduction in operational-source NOx emissions, the Reduced Intensity Alternative would reduce the extent of significant traffic and GHG emissions impacts otherwise occurring under the Project. The Reduced Intensity Alternative would also reduce contributions to Basin pollutant non-attainment conditions, and would reduce the scope of development considered inconsistent with the AQMP. These impacts would be diminished under the Reduced Intensity Alternative, but would not be reduced to levels that would be less-than-significant. The impacts would therefore remain significant and unavoidable.

5.2.2.3 Alternatives Considered and Rejected

Alternative Sites Considered and Rejected

As stated in the *CEQA Guidelines* §15126.6 (f)(1)(2)(A), the "key question and first step in [the] analysis [of alternative locations] is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR." *CEQA Guidelines* §15126.6 (f) (1) also provides that when considering the feasibility of potential alternative sites, the factors that may be taken into account include: "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). None of these factors establishes a fixed limit on the scope of reasonable alternatives."

As discussed in the body of the Draft EIR and summarized previously in Table 5.2-1, the Project will result in the following significant impacts:

- Cumulatively significant traffic impacts;
- Operational-source NO_x emissions exceeding SCAQMD regional thresholds and related cumulative air quality impacts and nonattainment impacts;
- AQMP inconsistency impacts; and
- Cumulatively significant GHG emissions impacts.

All other potential Project impacts would be either less-than-significant, or less-than-significant after mitigation.

Relocation to an Alternative Site is not likely to achieve any measurable reduction in the Project's traffic impacts. Specifically, implementation of traffic improvements, including intersection signalization and roadway segment widening as envisioned under the City General Plan Circulation Element, are on-going processes undertaken in conjunction with the development of vacant or underutilized properties throughout the City. As such, it is unlikely that a suitable Alternative Site could be identified that would distribute Project trips only to roadways that have already been improved to their ultimate General Plan configurations, thus completely avoiding the Project's cumulatively significant impacts at transportation facilities. Further, there are no feasible alternative sites under control or likely control of the Applicant that would allow for relocation of the Project and associated reassignment of traffic.

Relocation to an Alternative Site would not likely achieve any measurable reduction in the Project's operational-source air quality impacts. Specifically, Project operational-source NOx emissions would exceed the applicable SCAQMD regional threshold. The Project operational-source NOx exceedance is a regional air quality impact. Relocation of

the Project anywhere within the South Coast Air Basin would not alter or diminish the significance of this impact.

The AQMP land use inconsistency resulting from the Project could not be feasibly avoided by relocation of the Project to an alternative site. That is, there are no alternative sites under control or likely control of the Applicant that would allow for relocation of the Project and that would preclude a changes or changes in land use designations.

GHG emissions impacts are by definition cumulative and global in their effects. Relocation of the Project would not alter or diminish the significance of its GHG emissions impacts.

Based on the preceding considerations, analysis of an Alternative Site was not further considered.

Avoidance of Significant Traffic Impacts Alternative Considered and Rejected

Specific improvements identified in the Project TIA (EIR Appendix B) and summarized in EIR Section 4.2, *Transportation/Traffic*, would, to the extent feasible, provide a physical solution to identified potentially significant cumulative traffic impacts. Notwithstanding, timely implementation of improvements required as mitigation for potentially significant cumulative traffic impacts cannot be assured. Impacts are therefore considered cumulatively significant and unavoidable pending completion of the required improvements.

Any viable development of the subject site would generate trips likely affecting some or all of the facilities that would be affected by Project traffic. Additional traffic contributed to the facilities noted previously in this Section would result in cumulatively significant transportation/traffic impacts similar to those occurring under the Project. No feasible mitigation exists that would avoid these impacts or reduce these impacts to levels that would be less-than-significant. However, this impact would be diminished under the EIR Reduced Intensity Alternative.

Avoidance of Significant Air Quality Impacts Alternative Considered and Rejected

Operational-source NOx Threshold Exceedances

Of the total operational-source NOx emissions generated by the Project, more than 99 percent (by weight) are due to Project-related traffic. Responsibility and authority for regulation of vehicular-source NOx emissions resides with the State of California (CARB, et al.). Neither the Applicant nor the Lead Agency can effect or mandate substantive reductions in vehicular-source NOx emissions, much less reductions that would achieve the SCAQMD regional threshold for NOx emissions. At a minimum, an approximate 73 percent reduction in Project vehicular-source NOx emissions and correlating reductions in Project traffic and Project scope would be required to achieve the SCAQMD operational-source NOx regional emissions threshold. At such a reduction in scope, the Project Objectives would be substantively marginalized and/or not realized in any meaningful sense; and the Project would likely not be further pursued by the Applicant. In terms of its practical application, such a reduction in scope would constitute a "no build" condition.

Based on the preceding, there are no feasible means to or alternatives to avoid this impact or reduce the impact to levels that would be less-than-significant. However, this impact would be diminished under the EIR Reduced Intensity Alternative evaluated subsequently in this Section.

Cumulative Contributions to Basin Pollutant Non-Attainment Conditions

The Project operational-source NOx emissions exceedances noted above would result in cumulatively considerable contributions to existing Basin pollutant non-attainment conditions. For the same reasons noted above, there are no feasible means to or alternatives to avoid this impact or reduce the impact to levels that would be less-than-significant. However, this impact would be diminished under the EIR Reduced Intensity Alternative.

Avoidance of AQMP Inconsistency Impacts Alternative Considered and Rejected

The Project incorporates the necessary City of Eastvale General Plan Land Use and Zoning amendments that would allow for implementation of the Project uses. Because the change in land use designation proposed by the Project allow for greater developments not reflected in the AQMP, the Project is considered to be inconsistent with AQMP emissions assumptions and projected AQMP emissions inventory.

Avoidance of the Project proposed changes in land use designations in order to maintain AQMP consistency would effectively negate the Project in total. There are no alternative locations under control or likely control of the Applicant that would preclude any potential change in land use designations, thereby avoiding potential inconsistencies with the AQMP.

Based on the preceding, there are no feasible means to or alternatives to avoid this impact or reduce the impact to levels that would be less-than-significant. However, the effects of AQMP inconsistency in terms of the AQMP emissions assumptions and projected AQMP emissions inventory would be diminished under the EIR Reduced Intensity Alternative.

Avoidance of Significant GHG Emissions Impacts Alternative Considered and Rejected

The Project cannot feasibly achieve no net increase in GHG emissions, nor can the applicable SCAQMD screening-level threshold (3,000 MTCO2e/year) be achieved. In this regard, the majority (approximately 86.1 percent) of the Project GHG emissions would be generated by Project vehicular traffic. Responsibility and authority for regulation of vehicular-source emissions resides with the State of California (CARB, et al.). Neither the Applicant nor the Lead Agency can effect or mandate substantive reductions in vehicular-source GHG emissions, much less reductions that would achieve no net increase condition or achieve the SCAQMD screening-level 3,000 MTCO2e/year threshold. In effect, all Project traffic would need to be eliminated or be "zero GHG emissions sources" in order to achieve the SCAQMD threshold. There is no feasible means to or alternatives to eliminate all Project traffic, or to ensure that Project traffic would zero GHG emissions sources. In terms of its practical application, this would

constitute a "no build" condition. Based on the preceding, there are no feasible means to or alternatives to avoid this impact or reduce the impact to levels that would be less-than-significant. However, this impact would be diminished under the EIR Reduced Intensity Alternative.

5.2.3 Comparative Impacts of Alternatives

For each environmental topic addressed in the EIR, environmental impacts associated with each of the considered Alternatives are described relative to impacts of the Project. At the conclusion of these discussions, Table 5.2-6 summarizes and compares relative impacts of the considered Alternatives. Comparative attainment of the Project Objectives is also presented in Table 5.2-6.

5.2.3.1 Comparative Land Use Impacts

In order to implement the Project, while precluding or reducing potential land use impacts, the following City discretionary and permitting actions are necessary:

- CEQA Compliance/EIR Certification. The City must certify the EIR prior to, or concurrent with, any approval of the Project.

- Approval of a General Plan Amendment (Land Use) for approximately 10.8 acres from Light Industrial (LI) to Commercial Retail (CR).

- Approval of a Zone Change for approximately 10.8 acres from Heavy Agricultural (A-2) to General Commercial (C-1/C-P); and for approximately 15.4 acres from Heavy Agricultural (A-2) to Industrial Park (I-P).[11]

- Approval of Major Development Review.

[11] The Project site is located within the Chino Airport Influence Area. Because amendment to existing Zoning designations is proposed by the Project, as required under the City of Eastvale Zoning Code, the Eastvale City Council must make a finding that the amendment(s) is/are consistent with the most recent adopted version of the Riverside County Airport Land Use Compatibility Plan.

- Approval of Tentative Parcel Map(s).

- Approval of Conditional Use Permits (CUPs) for the sale of alcohol for off-site consumption, and for drive-throughs including restaurants, car washes, and a drugstore pick-up window.

- Approval of a variance to Eastvale Municipal Code Section 120.05.040 to allow for landscape reductions consistent with Riverside County Airport Land Use Commission recommendations.

- Additionally, the Project would require a number of non-discretionary construction, grading, drainage and encroachment permits from the City to allow implementation of the Project facilities.

Based on the current Project design concept, other anticipated consultation and permits necessary to realize the proposal would likely include, but would not be limited to the following:

- Consultation with requesting Tribes as provided for under *AB 52, Gatto. Native Americans: California Environmental Quality Act*; and *SB 18, Burton. Traditional tribal cultural places*.

- Permitting by/through the Regional Water Quality Control Board (RWQCB) consistent with requirements of the City's National Pollutant Discharge Elimination System (NPDES) Permit.

- Permitting by/through the South Coast Air Quality Management District (SCAQMD) for certain equipment or land uses that may be implemented within the Project Site.

- Permitting (i.e., utility connection permits) from serving utility providers including but not limited to approval from Jurupa Community Services District for water and wastewater connections.

- Airport Land Use Compatibility Plan compatibility determination by the Riverside County Airport Land Use Commission.

- Other ministerial permits necessary to realize all on- and off-site improvements related to the development of the site.

Approval of the requested discretionary actions, completion of required consultations, acquisition of required permits and Project compliance with associated requirements incorporated therein, would reduce potential land use impacts of the Project below levels of significance.

No Project Alternative

The No Project Alternative would develop the site with approximately 574,237 square feet of light industrial uses. Commercial/retail uses proposed under the Project would not be constructed.

The No Project Alternative reflects development of the Project site consistent with site's current General Plan land use designations (Light Industrial) and would not require the changes in land use designations otherwise required under the Project. Other discretionary actions and permits/consultation(s) required under the Project, or similar actions, would likely be required under the No Project Alternative. When compared to the Project, the scope of discretionary actions and associated potential land use impacts under the No Project Alternative would be reduced. Under the No Project Alternative and the Project land use impacts would be less-than-significant.

Reduced Intensity Alternative

The Reduced Intensity Alternative would reflect an overall reduction in development scope or modification in occupancies that would reduce the Project ADT by 25 percent.

Discretionary actions required under the Reduced Intensity Alternative and the Project would be the same. Under either the Project or the Reduced Intensity Alternative, land use impacts would be less-than-significant.

5.2.3.2 Comparative Transportation/Traffic Impacts

At buildout, implementation of the Project would generate approximately 6,917 net ADT on the Study Area roadway system. Traffic improvements constructed as components of the Project would act to preclude on-site and site-adjacent traffic impacts. Additionally, the Project Applicant would pay required fees toward completion of City of Eastvale transportation/traffic system improvements. At the significantly-impacted transportation/traffic facilities identified in this EIR, one or more of the following conditions are present: the Project cannot feasibly construct the required improvements; improvements are under the control of jurisdictions other than the City of Eastvale; and/or payment of fees would not assure timely completion of improvements. On this basis, impacts at the affected facilities would be cumulatively significant and unavoidable.

The Project designs respond to existing and anticipated alternative transportation modes. The Project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

ALUC review and approval of the Project is required, acting to avoid potential conflicts with Chino Airport operations and reducing potential airport/airfield hazards to levels that would be less-than-significant.

The Project does not propose inherently hazardous traffic/circulation design features. The Project would not impair or conflict with emergency access. The Project Site Plan Concept provides for adequate and safe access. Final Site Plan design, including site access, internal circulation, and parking are subject to review and approval by the City. On this basis, the potential for the Project to result in or cause adverse impacts related to

hazardous features or improper access and internal circulation features would be less-than-significant. See also Section 4.2, *Transportation/Traffic*.

No Project Alternative

The Project would generate approximately 6,917 net ADT. In comparison, the No Project Alternative would generate approximately 1,308 net ADT.[12]

The 1,308 net ADT generated under the No Project Alternative would represent an approximate 81 percent reduction in the 6,917 net ADT that would be generated by the Project. Resulting potential traffic impacts under the No Project Alternative would likely be comparably reduced. Based on the 81 percent reduction in ADT, the extent Study Area traffic improvements required under this Alternative would likely be reduced when compared to the Project. Because the No Project Alternative would generate less traffic than the Project, fair share fee responsibilities, (which are based on proportional traffic contributions), would be reduced when compared to the Project.

It is assumed that like the Project, development of the subject site under the No Project Alternative would incorporate those site adjacent and on-site circulation system improvements necessary to avoid or mitigate development-specific traffic impacts. As with the Project, potentially significant cumulative traffic impacts may affect certain Study Area facilities under the No Project Alternative. Pending physical construction of the necessary improvements, these impacts under the No Project Alternative would be considered cumulatively significant and unavoidable.

Reduced Intensity Alternative

The Reduced Intensity Alternative would Project trip generation by 25 percent. Project trip generation = 6,917 ADT. The Reduced Intensity Alternative trip generation = 0.75 x 6,917 ADT = 5,188 ADT.

[12] Based on ITE Land Use Code 150 Warehouse (2.277 ADT [PCE]/TSF) = 2.277 ADT/TSF x 574.237 TSF = 1,308 ADT [PCE]. Assumes no internal trip capture.

Based on the 25 percent reduction in ADT, the extent Study Area traffic improvements required under this Alternative would likely be reduced when compared to the Project. Because the Reduced Intensity Alternative would generate less traffic than the Project, fair share fee responsibilities, (which are based on proportional traffic contributions), would be reduced when compared to the Project. It is assumed that like the Project, development of the subject site under the Reduced Intensity Alternative would incorporate those site adjacent and on-site circulation system improvements necessary to avoid or mitigate development-specific traffic impacts. As with the Project, the Reduced Intensity Alternative would result in potentially significant cumulative traffic impacts at certain Study Area facilities. Pending physical construction of the necessary improvements, these impacts under the Reduced Intensity Alternative would be considered cumulatively significant and unavoidable.

5.2.3.3 Comparative Air Quality Impacts

Project construction and operations would generate additional air pollutant emissions. Project operational-source emissions would exceed SCAQMD regional threshold for NO_x. This is an individually and cumulatively significant and unavoidable air quality impact. The Project lies within a region classified as nonattainment for ozone and $PM_{10}/PM_{2.5}$. NO_x is an ozone and $PM_{10}/PM_{2.5}$ precursor. Project NO_x exceedances within the encompassing ozone and $PM_{10}/PM_{2.5}$ nonattainment areas would therefore be considered a cumulatively significant impact to regional nonattainment conditions.

Because the Project land uses would allow for greater development intensities than is reflected in the AQMP, the Project would be inconsistent with the AQMP.

Mitigation is incorporated in the Project that would reduce localized construction-source emissions impacts to levels that would be less-than-significant.

All other Project air quality impacts would be less-than-significant. See also Section 4.3, *Air Quality*.

No Project Alternative

Under the No Project Alternative and the Project similar construction activities and use of construction equipment would occur. The maximum daily area of disturbance would be the same under both scenarios. Mitigation is incorporated in the Project that would reduce localized construction-source emissions impacts to levels that would be less-than-significant. Equivalent mitigation would be incorporated in the No Project Alternative. Under the No Project Alternative and the Project, construction-source emissions impacts would be less-than-significant as mitigated.

The reduction in vehicular trips under the No Project Alternative would reduce operational-source air pollutant emissions. The approximately 81 percent reduction in ADT generation under the No Project alternative would translate to roughly proportional reductions in air pollutant emissions. Table 5.2-2 provides a comparison of operational-source air pollutant emissions under the Project and No Project Alternative.

Table 5.2-2
Project and No Project Alternative
Operational-Source Emissions Comparison
(Pounds per Day, Maximum Total Summer/Winter Emissions)

Pollutant	SCAQMD Threshold	Project		No Project Alternative	
		Emissions	Threshold Exceeded?	Emissions	Threshold Exceeded?
VOC	55	36.98	No	7.03	No
NOx	55	205.1	**YES**	38.97	No
CO	550	197.76	No	35.57	No
SOx	150	0.90	No	0.17	No
PM_{10}	150	52.24	No	9.93	No
$PM_{2.5}$	55	14.57	No	2.77	No

Sources: Project operational-source emissions estimates from: *The Merge Air Quality Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018. No Project Alternative operational-source emissions estimates–Applied Planning, Inc.

As indicated in Table 5.2-2, the reduced trip generation under the No Project Alternative, would result in reductions in all operational-source air pollutant emissions otherwise resulting from the Project. NO_x emissions thresholds exceedances otherwise occurring under the Project would be avoided under the No Project Alternative. Because the No

Project Alternative would result in no significant air quality impacts, non-attainment impacts otherwise resulting from the Project would be avoided.

Because the No Project Alternative land uses would conform to development reflected in the AQMP, the No Project Alternative would be considered consistent with the AQMP. AQMP inconsistencies otherwise occurring under the Project would be avoided.

Increased truck traffic generated by the No Project Alternative uses would likely increase DPM-source cancer and non-cancer risks when compared to the Project. However, even assuming that maximum DPM-source cancer and non-cancer risks under the No Project Alternative would be double or triple that resulting from the Project (2.19 in one million cancer risk; 0.0009 non-cancer risk), applicable SCAQMD thresholds (10 in one million cancer risk; 1.0 non-cancer risk) would not be exceeded.

The Project gas station uses would not be implemented under the No Project Alternative, precluding cancer and non-cancer risks otherwise resulting from the Project gas station operations. In net, the No Project Alternative may increase total TAC-source cancer and non-cancer risks. However, applicable SCAQMD cancer and non-cancer risk thresholds would not be exceeded.

Other operational-source air quality impacts under the No Project Alternative would be generally reduced when compared to the Project and would be less-than-significant.

Reduced Intensity Alternative

Under the Reduced Intensity Alternative, the overall trip generation of the Project would be reduced by 25 percent. Construction activities and use of construction equipment would be similar to the Project. As with the Project, mitigated construction-related emissions would not exceed SCAQMD emissions thresholds.

Air quality impacts of light industrial/commercial developments are largely correlated to a development's trip generation. The 25 percent reduction in trip generation under the Reduced Intensity Alternative would translate roughly to a 25 percent reduction in air

pollutant emissions when compared to the Project. Table 5.2-3 provides a comparison of operational-source air pollutant emissions under the Project and Reduced Intensity Alternative.

Table 5.2-3
Project and Reduced Intensity Alternative
Operational-Source Emissions Comparison
(Pounds per Day, Maximum Total Summer/Winter Emissions)

Pollutant	SCAQMD Threshold	Project		No Project Alternative	
		Emissions	Threshold Exceeded?	Emissions	Threshold Exceeded?
VOC	55	36.98	No	27.74	No
NOx	55	205.1	**YES**	153.83	**YES**
CO	550	197.76	No	148.32	No
SOx	150	0.90	No	0.66	No
PM_{10}	150	52.24	No	39.18	No
$PM_{2.5}$	55	14.57	No	10.93	No

Sources: Project operational-source emissions estimates from: *The Merge Air Quality Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018. No Project Alternative operational-source emissions estimates–Applied Planning, Inc.

As indicated in Table 5.2-3, when compared to the Project, operational emissions would be incrementally reduced for all criteria pollutants under the Reduced Intensity Alternative. As with the Project, operational-source NO_x emissions under the Reduced Intensity Alternative would continue to exceed applicable SCAQMD regional thresholds and would be considered individually and cumulatively significant and unavoidable. As with the Project, the Reduced Intensity Alternative's NO_x regional threshold exceedances within the encompassing ozone and $PM_{10}/PM_{2.5}$ nonattainment areas would be considered cumulatively significant and unavoidable contributions to nonattainment conditions.

The Reduced Intensity Alternative land uses are not reflected in land use plans and regional development assumed in the AQMP. The Reduced Intensity Alternative would therefore be inconsistent with the AQMP. AQMP inconsistencies occurring under the Project would persist.

Other operational-source air quality impacts under the Reduced Intensity Alternative would be generally reduced when compared to the Project and would be less-than-significant.

5.2.3.4 Comparative Greenhouse Gas/Global Climate Change Impacts

Project emissions would exceed the SCAQMD screening-level threshold of 3,000 $MTCO_2E$/year. Exceedance of this threshold indicates that the Project would result in a potentially significant and cumulatively considerable GHG emissions impact. Project GHG emissions cannot be feasibly reduced below the SCAQMD screening-level threshold (3,000 $MTCO_2E$/year) employed in this analysis. Project GHG emissions would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. See also Section 4.4, *Global Climate Change and Greenhouse Gas Emissions*.

No Project Alternative

The scope of the No Project Alternative light industrial uses (574,237 sf) would be approximately 1.71 times greater than the scope of the Project light industrial uses (336,501 sf). For comparison purposes, light industrial GHG emissions under the No Project Alternative are estimated to be 1.71 times the Project light industrial use GHG emissions. The Project commercial uses would not be implemented under the No Project Alternative and there would be no GHG emissions generated by commercial uses. A comparison of Project and No Project GHG emissions is presented in Table 5.2-4.

Table 5.2-4
Project and No Project Alternative
GHG Emissions Comparison

Source	Project $MTCO_2E$/year	No Project Alternative Total $MTCO_2E$/yr
Mobile Sources	**14,226.46**	**5,753.19**
All Other	**2,296.92**	**948.70**
Total	**16,523.38**	**6,701.89**

Sources: Project GHG emissions estimates from: *The Merge Greenhouse Gas Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018. No Project Alternative GHG emissions estimates–Applied Planning, Inc.

The predominance of Project-source GHG emissions would be generated by mobile sources. More specifically, Project mobile sources would generate an estimated 14,226.26 $MTCO_2E$/year. Similarly, the predominance of GHG emissions under the No Project Alternative would be generated by mobile sources. Mobile sources under the No Project Alternative would generate an estimated 5,753.19 $MTCO_2E$/year. Responsibility and authority for regulation of mobile-source emissions resides with the State of California (CARB, et al.). Neither the Applicant nor the Lead Agency can mandate substantive reductions in mobile-source GHG emissions, much less reductions that would achieve the applicable SCAQMD threshold of 3,000 $MTCO_2E$/year. Specifically, as noted above, the No Project Alternative mobile-source GHG emissions alone total approximately 5,753.19 $MTCO_2E$/year, which would exceed the SCAQMD 3,000 $MTCO_2E$/year threshold.

GHG emissions generated by the No Project Alternative would be reduced when compared to the Project. GHG emissions generated by the No Project Alternative would nonetheless be cumulatively considerable. Under No Project Alternative and the Project net GHG emissions impacts would be cumulatively significant and unavoidable.

The No Project Alternative is assumed to comply with applicable plans and policies addressing GHG emissions. On this basis, the No Project Alternative would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Impacts would be comparable to the Project.

Reduced Intensity Alternative

Reduced trip generation, and associated reduction in mobile-source emissions under the Reduced Intensity Alternative would result in diminished GHG emissions when compared to the Project. For the purposes of this analysis, mobile-source GHG emissions under the Reduced Intensity Alternative are estimated to be reduced roughly proportional to the reduction in trip generation (approximately percent 25 percent) that would result from this Alternative. For analytic purposes GHG emissions from all other sources is also assumed to be reduced by up to 25 percent. A comparison of Project and Reduced Intensity Alternative GHG emissions is presented in Table 5.2-5.

Table 5.2-5
Project and Reduced Intensity Alternative
GHG Emissions Comparison

Source	Project GHG Emissions $MTCO_2E$/year	Reduced Intensity Alternative GHG Emissions $MTCO_2E$/year
Mobile Sources	14,226.46	10,669.85
All Other	2,296.92	1,722,69 – 2,296.92 *
Total	**16,523.38**	**12,460.85 – 12,966.77**

Sources: Project GHG emissions estimates from: *The Merge Greenhouse Gas Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018. No Project Alternative GHG emissions estimates–Applied Planning, Inc.
Notes: * GHG emissions from "All Other" sources would depend on the types and scope of light industrial and commercial/retail uses implemented under the Reduced Intensity Alternative. It is likely that some reduction in GHG emissions would be achieved, not exceeding this Alternative's proportional reduction in trip generation.

The predominance of GHG emissions under the Project and the Reduced Intensity Alternative would be generated by mobile sources. Mobile sources under the Project would generate an estimated 14,226.46 $MTCO_2E$/year. Mobile sources under the Reduced Intensity Alternative would generate an estimated 10,669.85 $MTCO_2E$/year.

Neither the Applicant nor the Lead Agency can mandate substantive reductions in mobile-source GHG emissions, much less reductions that would achieve the applicable SCAQMD threshold of 3,000 $MTCO_2E$/year. The Reduced Intensity Alternative mobile-source GHG emissions alone total approximately 10,669.85 $MTCO_2E$/year, which would exceed the SCAQMD ,000 $MTCO_2E$/year threshold. On this basis, GHG emissions generated by the Reduced Intensity Alternative would be cumulatively considerable, and net GHG emissions impact would be cumulatively significant and unavoidable.

It is assumed that the Reduced Intensity Alternative would be required to comply with applicable plans and policies addressing GHG emissions. On this basis, the Reduced Intensity Alternative would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Impacts would be comparable to the Project.

5.2.3.5 Comparative Noise Impacts

Project construction-source noise and construction-source vibration impacts would be less-than-significant. Project operational area-source noise impacts would be less-than-significant with application of proposed mitigation. Project operational-source vibration impacts would be less-than-significant. The Project would not be adversely affected by airport/airfield noise. The Project would not contribute to any existing adverse airport/airfield noise conditions. See also Section 4.5, *Noise*.

No Project Alternative

Under the No Project Alternative the types of construction activities and equipment employed would likely be similar to those associated with construction of the Project. Maximum construction-source noise/vibration levels received at off-site locations would be comparable to those resulting from construction of the Project. Under the No Project Alternative and the Project, construction-source noise/vibration would be less-than-significant.

The No Project Alternative does not propose uses that would generate or result in operational area-source noise or vibration impacts substantively different than would result from uses proposed by the Project. Mitigation would be implemented to reduce noise received from on-site noise sources to levels that would be less-than-significant. The No Project Alternative would not require or implement uses that would be substantive vibration sources. Under the No Project Alternative and the Project, operational area-source noise impacts and operational area-source vibration impacts would be less-than-significant as mitigated.

The reduction in vehicle trips under the No Project Alternative may reduce perceived vehicular-source noise levels along area roadways. Under the No Project Alternative and the Project vehicular-source noise impacts would be less-than-significant.

The No Project Alternative would not be adversely affected by airport/airfield noise. The No Project Alternative would not require uses or programs that would substantively

contribute to any existing adverse airport/airfield noise conditions. Under the No Project Alternative and the Project airfield/airport noise impacts would be less-than-significant.

Reduced Intensity Alternative

Under the Reduced Intensity Alternative, the types of construction activities and equipment employed would likely be similar to those associated with construction of the Project. Maximum construction-source noise/vibration levels received at off-site locations would be comparable to those resulting from construction of the Project. Under the Reduced Intensity Alternative and the Project, construction-source noise/vibration would be less-than-significant.

The Reduced Intensity Alternative uses would not generate or result in operational area-source noise substantively different than would result from uses proposed by the Project. Mitigation would be implemented to reduce noise received from on-site noise sources to levels that would be less-than-significant. The Reduced Intensity Alternative would not require or implement uses that would be substantive vibration sources. Under the Reduced Intensity Alternative and the Project, operational area-source noise impacts and operational vibration impacts would be less-than-significant as mitigated.

The reduction in vehicle trips under the Reduced Intensity Project Alternative may reduce perceived vehicular (mobile-source) noise levels along area roadways. Under the Reduced Intensity Alternative and the Project vehicular-source noise impacts would be less-than-significant.

The Reduced Intensity Alternative would not be adversely affected by airport/airfield noise. The Reduced Intensity Alternative would not require uses or programs that would substantively contribute to any existing adverse airport/airfield noise conditions. Under the Reduced Intensity Alternative and the Project airfield/airport noise impacts would be less-than-significant.

5.2.3.6 Comparative Geology and Soils Impacts

As concluded in the Project Geotechnical Investigation (Geotechnical Investigation), the subject site can be developed as proposed under the Project, contingent on adherence to the recommendations and requirements of the Geotechnical Investigation and incorporation of applicable City and California Building Code (CBC) design/construction requirements. Based on mandated compliance with seismic design and building code requirements, potential geology/soils impacts affecting the Project would be less-than-significant. The Project would connect to the existing City/JCSD sanitary sewer system and would not implement or require use of septic tanks or alternative waste water disposal systems. The Project would not implement uses or programs that would exacerbate any existing adverse geology/soils conditions. See also Section 4.6, *Geology and Soils.*

No Project Alternative

Under the No Project Alternative compliance with requirements and recommendations identified in the geotechnical investigation, and incorporation of applicable City and CBC design/construction requirements would reduce potential geology/soils impacts to levels that would be less-than-significant. The No Project Alternative would connect to the existing City/JCSD sanitary sewer system and would not implement or require use of septic tanks or alternative waste water disposal systems. The No Project Alternative would not require uses or programs that would exacerbate any existing adverse geology/soils conditions. Potential geology/soils impacts of the No Project Alternative and the Project and would be comparable and would be less-than-significant.

Reduced Intensity Alternative

Under the Reduced Intensity Alternative compliance with requirements and recommendations identified in the geotechnical investigation, and incorporation of applicable City and CBC design/construction requirements would act to reduce potential geology/soils impacts to levels that would be less-than-significant. Because the scope of development under the Reduced Intensity Alternative may be diminished, the overall exposure of facilities and persons to seismic events would be reduced. The Reduced Intensity Alternative would connect to the existing City/JCSD sanitary sewer system and

would not implement or require use of septic tanks or alternative waste water disposal systems. The Reduced Intensity Alternative would not require uses or programs that would exacerbate any existing adverse geology/soils conditions. Potential geology/soils impacts of the Reduced Intensity Alternative and the Project would be comparable and would be less-than-significant.

5.2.3.7 Comparative Hazards and Hazardous Materials Impacts

The Project would not implement uses or programs that would exacerbate any existing adverse hazards/hazardous materials conditions. Review and approval by the ALUC is required, and would reduce potential airport/airfield hazards to levels that would be less-than-significant.

No Project Alternative

Increased truck traffic under the No Project Alternative may increase DPM-source cancer/non-cancer risk impacts when compared to the Project. DPM-source health risk impacts would however remain less-than-significant (see also: previous Section 5.2.3.3, *Comparative Air Quality Impacts*). The Project gas station uses would not be implemented under the No Project Alternative, precluding cancer and non-cancer risks otherwise resulting from gas station operations.

The No Project Alternative uses would not otherwise result in hazards and hazardous materials impacts different than those resulting from the Project. The No Project Alternative would not implement uses or programs that would exacerbate any existing adverse hazards/hazardous materials conditions. Potential hazards/hazardous material impacts of the No Project Alternative and the Project would be comparable and would be less-than-significant.

Reduced Intensity Alternative

The Reduced Intensity Alternative land uses would be similar to the Project and would not result in hazards and hazardous materials impacts different than those resulting from the Project. The Reduced Intensity Alternative would not implement uses or programs that would exacerbate any existing adverse hazards/hazardous materials conditions.

Potential hazards/hazardous materials impacts of the Reduced Intensity Alternative and the Project would be comparable and would be less-than-significant.

5.2.3.8 Comparative Hydrology and Water Quality Impacts

The Project would implement storm water management systems that would connect to existing storm drains with sufficient capacities. The Project would implement a construction Storm Water Pollution Prevention Plan (SWPPP) and operational Water Quality Management Plan (WQMP) reducing potential impacts to water quality to levels that would be less-than-significant. On this basis, the Project's impacts to hydrology and water quality would be less-than-significant. See also EIR Section 4.8, *Hydrology and Water Quality*.

No Project Alternative

The area subject to development with impervious surfaces under the No Project Alternative and the Project would be comparable. The No Project Alternative and Project would therefore result in comparable rates and quantities of post-development storm water runoff. The No Project Alternative would be required to implement storm water management systems, reducing impacts to existing storm drain capacities to levels that would be less-than-significant. The No Project Alternative would be required to comply with applicable SWPPP and WQMP provisions, thereby reducing potential water quality impacts to levels that would be less-than-significant. Potential hydrology and water quality impacts of the No Project Alternative and the Project would be comparable and would be less-than-significant.

Reduced Intensity Alternative

When compared to the Project, the area subject to development with impervious surfaces under the Reduced Intensity Alternative may be reduced. The Reduced Intensity Alternative may therefore result in reduced rates and quantities of post-development storm water runoff. The Reduced Intensity Alternative would be required to implement storm water management systems, reducing impacts to existing storm drain capacities to levels that would be less-than-significant. The Reduced Intensity Alternative would be required to comply with applicable SWPPP and WQMP provisions, thereby reducing

potential water quality impacts to levels that would be less-than-significant. Hydrology and water quality impacts of the Reduced Intensity Alternative and the Project would be comparable and would be less-than-significant.

5.2.3.9 Comparative Cultural Resources/Tribal Cultural Resource Impacts

There are no known historic, archaeological, paleontological, or tribal cultural resources within the Project site. Tribal consultation is in process as required under *AB 52, Gatto. Native Americans: California Environmental Quality Act*. The Project incorporates mitigation that reduces potential impacts to cultural resources/tribal cultural resources to levels that would be less-than-significant. See also Section 4.9, *Cultural Resources/Tribal Cultural Resources*.

No Project Alternative

Maximum site disturbance and potential impacts to cultural resources would similar to those of the Project. It is assumed that the No Project Alternative would incorporate mitigation that would reduce potential impacts to cultural resources/tribal cultural resources to levels that would be less-than-significant. Cultural resources/tribal cultural resources impacts of the No Project Alternative and the Project would be comparable and would be less-than-significant as mitigated.

Reduced Intensity Alternative

Maximum site disturbance and potential impacts to cultural resources would be similar to those of the Project. It is assumed that the Reduced Intensity Alternative would incorporate mitigation that would reduce potential impacts to cultural resources/tribal cultural resources to levels that would be less-than-significant. Cultural resources/tribal cultural resources impacts of the Reduced Intensity Alternative and the Project would be comparable and would be less-than-significant as mitigated.

5.2.3.10 Comparative Public Services and Utilities Impacts

The Project would not result in or cause potentially significant public services and utilities impacts. All necessary supporting public services and utilities are currently available to the Project site. The Project would not result in demands for public services

and utilities that would exceed existing and planned capacities and capabilities of service providers and utility purveyors. Compliance with existing regulations, ordinances, plans and programs reduces public services and utilities impacts of the Project to levels that would be less-than-significant. Tax revenues and fees generated by the Project would be available to fund facilities, purchase/upgrade equipment, and hire and train additional personnel. Service providers, and utility purveyors in combination with affected decision-makers, would ultimately determine the most effective use of revenues generated by the Project, and how these may be employed for the provision and enhancement of services and infrastructure. See also EIR Section 4.10, *Public Services and Utilities*.

No Project Alternative

Because the No Project Alternative would implement only light industrial uses, water/sewer demands may be diminished when compared water/sewer demands of the mixed light industrial/commercial development proposed by the Project. Already less-than-significant water/wastewater impacts of the Project would be diminished under the No Project Alternative. Other public services and utilities impacts under the No Project Alternative would likely be similar to those resulting from the Project and would be less-than-significant.

Reduced Intensity Alternative

The scope of development may be diminished under the Reduced Intensity Alternative. Public services and utilities impacts under the Reduced Intensity Alternative may be reduced when compared to the Project and would be less-than-significant.

5.2.4 Comparative Attainment of Project Objectives

The following discussions compare attainment of the Project Objectives under the No Project and Reduced Intensity Alternatives. For ease of reference, the Project Objectives are restated below. See also Section 3.7, *Project Objectives*.

5.2.4.1 Project Objectives

The primary goal of the Project is the development of the subject site with a mix of light industrial and commercial/retail uses. Project Objectives include the following:

- To provide light industrial and commercial/retail uses that serve the local market area and beyond; and that attract new customers and businesses to Eastvale;

- Improve and maximize economic viability of the site through the establishment of light industrial and commercial/retail uses;

- Maximize and broaden the City's sales tax base by providing local and regional tax-generating uses and by increasing property tax revenues;

- Provide light industrial and commercial/retail uses within contemporary energy-efficient buildings, at a location that is readily accessible by patrons and employees;

- Create additional employment-generating opportunities for the citizens of Eastvale and surrounding communities.

No Project Alternative Attainment of Project Objectives

Because the No Project Alternative would implement only light industrial uses, none of the Project commercial/retail Objectives would be realized. Other Project Objectives would likely be realized but in a diminished capacity.

Reduced Intensity Alternative Attainment of Project Objectives

The Reduced Intensity Alternative would reduce the scope and/or modify the types of uses otherwise resulting from the Project. Under the Reduced Intensity Alternative, limited attainment of Project Objectives would be achieved.

5.2.5 Comparison of Alternatives

Table 5.2-6 provides a summary, by topic, of the preceding alternatives analysis, indicating comparative impacts of the Project and the considered Alternatives.

Table 5.2-6
Summary of Potential Impacts, Alternatives Compared to Project, By Topic

EIR Topic: Project Impacts	No Project Alternative	Reduced Intensity Alternative
Land Use and Planning: Project impacts would be less-than-significant.	Impacts would be similar to those of the Project and would be less-than-significant.	Impacts would be similar to those of the Project and would be less-than-significant.
Transportation/Traffic: Project-related transportation/traffic impacts would be cumulatively significant and unavoidable at the Study Area facilities listed in Table 5.2-1.	Cumulatively significant and unavoidable impacts otherwise occurring under the Project would likely be reduced. Trip generation (total PCE) would be reduced by approximately 84.7 percent under the No Project Alternative. Related, under the No Project Alternative, the scope of off-site Study Area circulation system improvements would likely be reduced.	Cumulatively significant and unavoidable impacts otherwise occurring under the Project would likely persist. Trip generation (total PCE) would be incrementally reduced by an estimated 25.9 percent under the Reduced Intensity Alternative. Related, under the Reduced Intensity Alternative, the scope of off-site Study Area circulation system improvements would likely be reduced.
Air Quality: Construction-source air quality impacts would be less-than-significant as mitigated. Operational-source exceedances of SCAQMD regional thresholds for NO_x would be significant. NO_x exceedances would also be cumulatively considerable within the encompassing ozone and $PM_{10}/PM_{2.5}$ nonattainment areas. The Project land uses are not reflected in the AQMP and AQMP inconsistencies would result and would be considered individually and cumulatively significant and unavoidable.	Construction-source air quality impacts would be similar to those of the Project and would be less-than-significant as mitigated. Operational-source NO_x threshold exceedances otherwise occurring under the Project would be avoided. AQMP inconsistency associated with the Project would be avoided. Operational-source emissions would be likely be reduced in proportion to reduced trip generation under the No Project Alternative.	Construction-source air quality impacts would be similar to those of the Project and would be less-than-significant as mitigated. Operational-source NO_x threshold exceedances otherwise occurring under the Project would be diminished but not avoided. Other operational-source emissions would be likely be reduced in proportion to reduced trip generation under the Reduced Intensity Alternative. The scope of AQMP inconsistency associated with the Project would be diminished but not avoided.
Greenhouse Gas Emissions (GHG)/Global Climate Change (GCC): - Quantified GHG/GCC impacts of the Project would exceed the SCAQMD 3,000 $MTCO_2E$/year screening-level threshold and would be significant and unavoidable. -The No Project Alternative would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	When compared to the Project, GHG emissions would be reduced in proportion to reduced trip generation under the No Project Alternative. GHG emissions would nonetheless exceed applicable thresholds and would be considered cumulatively significant and unavoidable. The No Project Alternative would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	When compared to the Project, GHG emissions would be reduced in proportion to reduced trip generation under the Reduced Intensity Alternative. GHG emissions would nonetheless exceed applicable thresholds and would be considered cumulatively significant and unavoidable. The Reduced Intensity Alternative would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.
Noise: -Project construction-source noise would be less-than-significant. -Operational area-source noise impacts would be less-than-significant as mitigated. -Vehicular-source noise impacts would be less-than-significant.	-Construction-source noise impacts would be similar to those of the Project and would be less-than-significant. -Operational area-source noise impacts would be similar to those of the Project and would be less-than-significant as mitigated. -Vehicular-source noise may be perceptibly diminished, reducing already less-than-significant impacts anticipated under the Project.	-Construction-source noise impacts would be similar to those of the Project and would be less-than-significant. -Area operational-source noise impacts would be similar to those of the Project and would be less-than-significant as mitigated. -Vehicular-source noise impacts would be similar to those of the Project and would be less-than-significant.

Table 5.2-6
Summary of Potential Impacts, Alternatives Compared to Project, By Topic

EIR Topic: Project Impacts	No Project Alternative	Reduced Intensity Alternative
Geology and Soils: Project geology and soils impacts would be less-than-significant.	Geology and soils impacts under the No Project Alternative would be similar to the Project and would be less-than-significant.	Geology and soils impacts under the Reduced Intensity Alternative would be similar to the Project and would be less-than-significant.
Hazards/Hazardous Materials: Project hazards/hazardous materials impacts would be less-than-significant.	When compared to the Project, cancer/non-cancer risks from DPM emissions may be increased but would remain less-than-significant under the No Project Alternative. Hazards/hazardous materials impacts under the No Project Alternative would otherwise be similar to the Project and would be less-than-significant.	Hazards/hazardous materials impacts under the Reduced Intensity Alternative would be similar to the Project and would be less-than-significant.
Hydrology/Water Quality: Project hydrology/water quality impacts would be less-than-significant.	Hydrology/water quality impacts under the No Project Alternative would be similar to those of the Project and would be less-than-significant.	Hydrology/water quality impacts under the Reduced Intensity Alternative would be similar to those of the Project and would be less-than-significant.
Cultural Resources: Project cultural resources/tribal cultural resources impacts would be less-than-significant as mitigated.	Cultural resources impacts under the No Project Alternative would be similar to those of the Project and would be less-than-significant as mitigated.	Cultural resources impacts under the Reduced Intensity Alternative would be similar to those of the Project and would be less-than-significant as mitigated.
Public Services and Utilities: Project public services and utilities impacts would be less-than-significant.	Public services and utilities impacts under the No Project Alternative would be similar to those of the Project and would be less-than-significant.	Project public services and utilities impacts under the Reduced Intensity Alternative would be similar to those of the Project and would less-than-significant.
Relative Attainment of Project Objectives: All Project Objectives would be attained.	Because the No Project Alternative would implement only light industrial uses, none of the Project commercial/retail Objectives would be realized. Other Project Objectives would likely be realized, but in a diminished capacity.	The Reduced Intensity Alternative would reduce the scope and/or modify the types of uses otherwise resulting from the Project. Under the Reduced Intensity Alternative, limited attainment of Project Objectives would be achieved.

5.2.6 Environmentally Superior Alternative

The *CEQA Guidelines* require that the environmentally superior alternative (other than the No Project Alternative) be identified among the Project and other Alternatives considered in an EIR.

As indicated in Table 5.2-6, with exclusion of the No Project Alternative as provided of under CEQA[13], the Reduced Intensity Alternative would likely result in a general reduction in other environmental effects when compared to the Project. For the purposes of CEQA, the Reduced Intensity Alternative is identified as the "environmentally superior alternative."

Significant Impacts Diminished but Not Eliminated or Avoided

Environmental impacts would be generally diminished under the Reduced Intensity Alternative. However, significant and unavoidable traffic impacts, operational-source air quality impacts, GHG emissions impacts, and AQMP inconsistency impacts and otherwise occurring under the Project would persist.

Summary and Conclusions

The Reduced Intensity Alternative would reduce but would not avoid significant environmental impacts under the topics of Traffic, Air Quality, and GHG Emissions otherwise occurring under the Project. Under the Reduced Intensity Alternative, limited attainment of Project Objectives would be achieved.

5.3 GROWTH-INDUCING IMPACTS OF THE PROPOSED ACTION

5.3.1 Overview

The California Environmental Quality Act requires a discussion of the ways in which a project could be growth-inducing. (Public Resources Code, §21100, subd. (b)(5); *CEQA Guidelines*, § 15126, subd. (d), 15126.2, subd (d.).) The *CEQA Guidelines* identify a project as growth-inducing if it would foster economic or population growth or the construction

[13] If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (*CEQA Guidelines* Section 15126.6 (e)(2)).

of additional housing, either directly or indirectly, in the surrounding environment. Under CEQA, growth inducement is not considered necessarily detrimental, beneficial, or of significance to the environment. New employees from commercial or industrial development and new population from residential development represent direct forms of growth. These direct forms of growth have a secondary effect of expanding the size of local markets and inducing additional economic activity in the area.

A project could indirectly induce growth by reducing or removing barriers to growth, or by creating a condition that attracts additional population or new economic activity. However, a project's potential to induce growth does not automatically result in growth. Growth can only happen through capital investment in new economic opportunities by the private or public sectors. Development pressures are a result of localized economic investments. These pressures help to structure the local politics of growth and the local jurisdiction's posture on growth management and land use policy. The land use policies of local municipalities and counties regulate growth at the local level.

Impacts related to growth inducement would also be realized if a project provides infrastructure or service capacity which accommodates growth beyond the levels currently permitted by local or regional plans and policies. In general, growth induced by a project is considered a significant impact if it directly or indirectly affects the ability of agencies to provide needed public services, or if it can be demonstrated that the potential growth significantly affects the environment in some other way.

5.3.2 Direct Growth-Inducing Effects

The Project does not propose housing or a change in land use that would result in additional residential development and associated direct growth in the City resident population.

The Project would realize new light industrial and commercial/retail uses and associated employment opportunities. The extent to which new job opportunities are filled by the existing resident population tends to reduce any growth-inducing effect of a project. It is anticipated that employment opportunities arising from the Project would be filled

predominantly by local residents and would not induce substantial growth or result in permanent relocation of populations.

Based on the preceding discussion, the Project would not directly result in unanticipated significant population growth or other direct growth-inducing effects.

5.3.3 Indirect Growth-Inducing Effects

Investment in the Project would engender local and regional economic growth which may result in indirect growth-inducing effects. The Project's potential economic benefits could indirectly result in employment growth in the region. This growth, in combination with other anticipated employment growth in the region, could indirectly result in population growth. Such growth has a variety of potential effects on the physical environment, including but not limited to, effects on air quality, ambient noise levels, traffic impacts, and water quality.

Development of the Project as envisioned would entail upgrades to infrastructure in the immediate Project vicinity, including abutting roadways. Infrastructure improvements necessitated by the implementation of the Project could serve to facilitate and encourage development of nearby properties. The characteristics and intensities of development that could occur on properties near the Project site are governed by governing General Plan documents. Development of these properties within the context of approved General Plan(s) should not result in unforeseen or unmitigable impacts.

5.4 SIGNIFICANT ENVIRONMENTAL EFFECTS

An EIR must identify any significant environmental effects that would result from the Project. (Public Resources Code, §21100, subd. (b)(2)(B).) Significant environmental impacts of the Project are identified previously in Table 5.2-1.

5.5 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA Guidelines sections 15126 (c), 15126.2 (c) & 15127 require that for certain types or categories of projects, an EIR must address significant irreversible environmental changes that would occur should the project be implemented. As presented at *CEQA Guidelines*

section 15127, the topic of Significant Irreversible Environmental Changes need be addressed in EIRs prepared in connection with any of the following activities:

> (a) The adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency;
> (b) The adoption by a local agency formation commission of a resolution making determinations; or
> (c) A project which will be subject to the requirements for preparing of an environmental impact statement pursuant to the requirements of the National Environmental Policy Act of 1969, 42 U.S.C. Section 43214347.

The Project qualifies under *CEQA Guidelines* section 15127 (a) because a General Plan Amendment and Zone Change are required to implement the Project. Accordingly, this EIR addresses potential significant irreversible environmental changes involved in the proposed action should it be implemented [*CEQA Guidelines*, §§ 15126(e) and 15127]. An impact would fall into this category if:

- A project would involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of a project would generally commit future generations to similar uses;
- A project involves uses in which irreversible damage could result from any potential environmental incidents associated with the project; or
- The proposed consumption of resources is not justified (e.g., the project results in wasteful use of energy).

Regarding the above, a given development proposal may result in significant irreversible effects should key resources be degraded or destroyed such that there would be little possibility of restoring them. No such degradation or destruction of resources is anticipated because of the Project. While the Project would represent a permanent commitment of the currently vacant site to new retail, commercial, service and civic uses, no important natural resources would be lost because of Project implementation. Various natural resources, in the form of construction materials and energy resources, would be

used in the construction of the Project, but their use is not expected to result in shortfalls in the availability of these resources.

Construction of the Project would commit the subject site to the proposed light industrial and commercial/retail uses for the foreseeable future, and thereby limit the range of other future uses of the properties. Similarly, any development of the site (irrespective of the Project) would limit the range of other future uses of this land. Given the current undeveloped nature of the site, the limited amount of unencumbered vacant property in the City, and the urbanization of surrounding properties, transition of the subject site to a developed state such as would occur under the Project is considered consistent with the highest and best uses of the site. The Project site does not contain any significant natural features which should be preserved for public recreation or open space purposes. The Project site does not contain any known features of significant cultural or historical value. Mitigation is proposed for any cultural/tribal cultural resources which may be encountered during Project development activities.

5.6 ENERGY CONSERVATION

5.6.1 Overview

Consistent with *CEQA Guidelines* Appendix F, this Section of the EIR addresses the potential for the Project to result in the inefficient, wasteful, or unnecessary consumption of energy.

The Project would provide for, and promote, energy efficiencies consistent with applicable state or federal standards and regulations, and in so doing would meet or exceed all Title 24 standards. Moreover, energy consumed by the Project would be comparable to, or less than, energy consumed by other development proposals of similar scale and intensity. On this basis, the Project would not result in the inefficient, wasteful or unnecessary consumption of energy, and potential Project impacts in these regards would be less-than-significant.

Further, the Project would not cause or result in the need for additional energy producing facilities or energy delivery systems. The Project, therefore, would not create or result in a potentially significant impact on energy resources.

5.6.2 Background and Introduction

In 1975, largely in response to the oil crisis of the 1970s, the State Legislature adopted AB 1575, which created the California Energy Commission (CEC). The statutory mission of the CEC is to forecast future energy needs; license thermal power plants of 50 megawatts or larger; develop energy technologies and renewable energy resources; plan for and direct responses to energy emergencies; and, perhaps most importantly, to promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards.

Germane to the Project and this EIR, AB 1575 also amended Public Resources Code Section 21100(b)(3) to require EIRs to consider the potential for wasteful, inefficient, and/or unnecessary consumption of energy caused by or resulting from a project. Appendix F to the *CEQA Guidelines* assists EIR preparers in this regard. More specifically, Appendix F is an advisory document establishing parameters and context for determining whether a project would result in the inefficient, wasteful, and unnecessary consumption of energy.

5.6.3 Existing Conditions

5.6.3.1 Overview

A summary of, and context for, energy consumption and energy demands within the State is presented in *U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts* excerpted below:

- Excluding federal offshore areas, California ranked third in the nation in crude oil production in 2015, despite an overall decline in production rates since the mid-1980s.

- California also ranked third in the nation in refining capacity as of January 2016, with a combined capacity of almost 2 million barrels per calendar day from its 18 operable refineries.

- In 2014, California's per capita energy consumption ranked 49th in the nation; the state's low use of energy was due in part to its mild climate and its energy efficiency programs.

- In 2015, California ranked fourth in the nation in conventional hydroelectric generation, second in net electricity generation from other renewable energy resources, and first as a producer of electricity from geothermal energy.

- In 2015, California ranked 15th in net electricity generation from nuclear power after one of its two nuclear plants was taken out of service in January 2012; as of June 2013, operations permanently ceased at that plant, the San Onofre Nuclear Generating Station.[14]

As indicated above, California is one of the nation's leading energy-producing states, and California per capita energy use is among the nation's most efficient.

5.6.3.2 Electricity and Natural Gas Resources

Electricity

Electricity would be provided to the Project by Southern California Edison (SCE). SCE provides electric power to an estimated 15 million persons in 15 counties and in 180 incorporated cities, within a service area encompassing approximately 50,000 square miles.[15] SCE derives electricity from varied energy resources including: fossil fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power

[14] U.S. Energy Information Administration. "California State Profile and Energy Estimates. California Energy Consumption by End-Use Sector." *U.S. Energy Information Administration.* Web. 07 March 2018.
[15] Southern California Edison. "About Us. Who We Are." *Southern California Edison*. Web. 07 March 2018.

generation, and wind farms. SCE also purchases from independent power producers and utilities, including out-of-state suppliers.

California's electricity industry is an organization of traditional utilities, private generating companies, and state agencies, each with a variety of roles and responsibilities to ensure that electrical power is provided to consumers. The California Independent Service Operator ("ISO") is a nonprofit public benefit corporation and is the impartial operator of the State's wholesale power grid and is charged with maintaining grid reliability, and to direct uninterrupted electrical energy supplies to California residential and commercial users. While utilities [such as SCE] still own transmission assets, the ISO routes electrical power along these assets, maximizing the use of the transmission system and its power generation resources. The ISO matches buyers and sellers of electricity to ensure that sufficient power is available to meet demand. To these ends, every five minutes the ISO forecasts electrical demands, accounts for operating reserves, and assigns the lowest cost power plant unit to meet demands while ensuring adequate system transmission capacities and capabilities.[16]

Part of the ISO's charge is to plan and coordinate grid enhancements to ensure that electrical power is provided to California consumers. To this end, transmission owners (investor-owned utilities such as SCE) file annual transmission expansion/modification plans to accommodate the State's growing electrical needs. The ISO reviews and either approves or denies the proposed additions. In addition, and perhaps most importantly, the ISO works with other areas in the western United States electrical grid to ensure that adequate power supplies are available to the State. In this manner, continuing reliable and affordable electrical power is assured to existing and new consumers throughout the State.

Natural Gas

Natural gas would be provided to the Project by The Gas Company (Southern California Gas, SoCalGas). The following summary of natural gas resources and service providers,

[16] California ISO. "Understanding the ISO." *California ISO - Our Business*. California ISO, n.d. Web. 07 March 2018.

delivery systems, and associated regulation is excerpted from information provided by the California Public Utilities Commission (PUC).

> The California Public Utilities Commission (PUC) regulates natural gas utility service for approximately 10.8 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller natural gas utilities. The CPUC also regulates independent storage operators Lodi Gas Storage, Wild Goose Storage, Central Valley Storage and Gill Ranch Storage.
>
> The vast majority of California's natural gas customers are residential and small commercial customers, referred to as "core" customers, who accounted for approximately 32% of the natural gas delivered by California utilities in 2012. Large consumers, like electric generators and industrial customers, referred to as "noncore" customers, accounted for approximately 68% of the natural gas delivered by California utilities in 2012.
>
> Most of the natural gas used in California comes from out-of-state natural gas basins. In 2012, California customers received 35% of their natural gas supply from basins located in the Southwest, 16% from Canada, 40% from the Rocky Mountains, and 9% from basins located within California. California gas utilities may soon also begin receiving biogas into their pipeline systems.
>
> Most of the natural gas transported via the interstate pipelines, as well as some of the California-produced natural gas, is delivered into the PG&E and SoCalGas intrastate natural gas transmission pipeline systems (commonly referred to as California's "backbone" natural gas pipeline system). Natural gas on the utilities' backbone pipeline systems is then delivered into the local transmission and distribution pipeline systems, or

> to natural gas storage fields. Some large noncore customers take natural gas directly off the high-pressure backbone pipeline systems, while core customers and other noncore customers take natural gas off the utilities' distribution pipeline systems. The PUC has regulatory jurisdiction over 150,000 miles of utility-owned natural gas pipelines, which transported 82% of the total amount of natural gas delivered to California's gas consumers in 2012.
>
> SDG&E and Southwest Gas' southern division are wholesale customers of SoCalGas, and currently receive all of their natural gas from the SoCalGas system (Southwest Gas also provides natural gas distribution service in the Lake Tahoe area). Some other municipal wholesale customers are the cities of Palo Alto, Long Beach, and Vernon, which are not regulated by the CPUC.
>
> California's regulated utilities do not own any natural gas production facilities. All of the natural gas sold by these utilities must be purchased from suppliers and/or marketers. The price of natural gas sold by suppliers and marketers was deregulated by the FERC in the mid-1980's and is determined by "market forces." However, the PUC decides whether California's utilities have taken reasonable steps in order to minimize the cost of natural gas purchased on behalf of their core customers.[17]

As indicated in the preceding discussions, natural gas is available from a variety of in-state and out-of-state sources and is provided throughout the state in response to market supply and demand. Complementing available natural gas resources, biogas may soon be available via existing delivery systems, thereby increasing the availability and reliability of resources in total. The PUC oversees utility purchases and transmission of natural gas to ensure reliable and affordable natural gas deliveries to existing and new consumers throughout the state.

[17] California Public Utilities Commission. "Natural Gas and California." *Natural Gas and California*. CPUC, 2017. Web. 07 March 2018.

5.6.3.3 Transportation Energy Resources

The Project would generate additional vehicle trips with resulting consumption of energy resources, predominantly gasoline. Gasoline (and other vehicle fuels) are commercially-provided commodities and would be available to the Project patrons and employees via commercial outlets.

More than 22.2 billion gallons of gasoline equivalent (GGE) were consumed in California in 2014. Gasoline and diesel are the primary fuels used in the transportation sector, including 14.7 billion gallons of finished gasoline and 3.8 billion gallons of diesel in 2014. Generally, gasoline is used primarily to fuel personal automobiles, diesel is the primary fuel for goods movement and long-distance transit, and natural gas is the primary fuel for short-distance urban mass transit.[18]

Policies, rules, and regulations at the federal and state levels have been enacted to improve vehicle fuel efficiency; promote the development and use of alternative fuels; reduce transportation-source air pollutants and GHG emissions; and reduce vehicle miles traveled (VMT). Market forces and technological advances have made use of alternative energy resources or alternative transportation modes increasingly feasible.

Largely as a result of and in response to these multiple factors, gasoline consumption within the state has declined in recent years, while availability of other alternative fuels/energy sources has increased. In total, the quantity, availability, and reliability of transportation energy resources have increased in recent years, and this trend may continue and accelerate. Increasingly available and diversified transportation energy resources act to promote continuing reliable and affordable means to support vehicular transportation within the state.

5.6.4 Regulatory Setting

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the

[18] *Transportation Energy Demand Forecast 2016-2026* (CEC) February 2016, p. 4.

United States Department of Energy, and the United States Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. On the state level, the PUC and the CEC are two agencies with authority over different aspects of energy. Relevant federal and state energy-related laws and plans are summarized below. Project consistency with applicable federal and state regulations is summarized.

5.6.4.1 Federal Energy Policy and Conservation Act

The Federal Energy Policy and Conservation Act of 1975 (Act) intends that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the U.S. Under the Act, the National Highway Traffic and Safety Administration, which is part of the United States Department of Transportation, is responsible for establishing additional vehicle standards and for revising existing standards.

Project Consistency: *Vehicles accessing the Project site are subject to the Federal Energy Policy and Conservation Act (Act). The Project is therefore consistent with, and would not otherwise interfere with, nor obstruct implementation of the Act.*

5.6.4.2 Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions.

Project Consistency: *Access to the Project site is provided primarily by the local and regional roadway systems. The Project would not interfere with, nor otherwise obstruct ISTEA intermodal transportation plans or projects.*

5.6.4.3 The Transportation Equity Act for the 21st Century (TEA-21)

The Transportation Equity Act for the 21st Century (TEA-21) was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety.

Project Consistency: *The Project site is located along major transportation corridors with proximate access to the Interstate freeway system. The site selected for the Project facilitates access; takes advantage of existing infrastructure systems; and as approved by the Lead Agency, would introduce compatible development at the subject site. In this manner, the Project supports the strong planning processes emphasized under TEA-21. The Project is therefore consistent with, and would not otherwise interfere with, nor obstruct implementation of TEA-21.*

5.6.4.4 State of California Energy Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access.

Project Consistency: *The Project site is located along major transportation corridors with proximate access to the Interstate freeway system. The site selected for the Project facilitates access; takes advantage of existing infrastructure systems; and as approved by the Lead Agency, would*

introduce compatible commercial/retail development at the subject site. The Project therefore supports urban design and planning processes identified in the State of California Energy Plan, is consistent with, and would not otherwise interfere with, nor obstruct implementation of the State of California Energy Plan.

5.6.4.5 California Code Title 24, Part 6, Energy Efficiency Standards

California Code Title 24, Part 6 (also referred to as the California Energy Code), was promulgated by the CEC in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption. To these ends, the California Energy Code provides energy efficiency standards for residential and nonresidential buildings. According to the CEC, the Energy Commission's energy efficiency standards have saved Californians more than $74 billion in reduced electricity bills since 1977.[19]

California energy efficiency standards are updated on an approximately three-year cycle. CEC 2016 building energy efficiency standards went in to effect January 1, 2017. The Project would be required to comply with energy efficiency standards in effect at the time of building permit application(s).

The 2016 Energy Efficiency Standards in their entirety can be reviewed at: http://www.energy.ca.gov/title24/. Energy Efficiency Standards can be obtained at the California Energy Commission, 1516 Ninth Street, MS-37, Sacramento, CA 95814-5512.

Project Consistency: *The Project would be designed, constructed and operated to meet or exceed incumbent Title 24 Energy Efficiency Standards. On this basis, the Project is determined to be consistent with, and would not interfere with, nor otherwise obstruct implementation of Title 24 Energy Efficiency Standards.*

5.6.5 Project Energy Demands and Energy Efficiency/Conservation Measures

Estimated energy demands of Project construction and Project operations are summarized in the following discussions. Project design features and operational

[19] CEC. "California's Energy Efficiency Standards Have Saved Billions." *California's Energy Efficiency Standards Have Saved Billions*. CEC, n.d. Web. August 2017.

programs, as well as regulations that promote energy conservation end energy conservation are also identified. The Project in total would be required to comply with incumbent performance standards established under the Building Energy Efficiency Standards contained in the California Code of Regulations (CCR), Title 24, Part 6 (Title 24, Energy Efficiency Standards). Also, developers and owners/tenants have vested financial incentives to avoid imprudent energy consumption practices. In this regard, there is growing recognition among developers and owners/tenants that efficient and sustainable construction and operational practices yield both environmental and economic benefits. On this basis, and as further supported by the following discussions, the Project would not result in or cause wasteful, inefficient, and unnecessary consumption of energy.

5.6.5.1 Construction Energy Demands and Energy Efficiency/Conservation Measures

Construction Energy Demands

Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction. Project construction activity timeline estimates, construction equipment schedules, equipment power ratings, load factors, and associated fuel consumption estimates are presented in Table 5.6-1. Eight-hour daily use of all equipment is assumed. The aggregate fuel consumption rate for all construction equipment is estimated at 18.5 hp-hr-gal., obtained from CARB 2013 Emissions Factors Tables, and fuel consumption rate factors cited in Table D24 of the Moyer guidelines.[20] For the purposes of this analysis, it is assumed that all construction equipment would be diesel-powered. Diesel fuel would be supplied by existing commercial fuel providers serving the City and region. As presented in Table 5.6-1, Project on-site construction activities would consume an estimated 96,278.57 gallons of diesel fuel. Project

[20] *Methods to Find the Cost-Effectiveness of Funding Air Quality Projects for Evaluating Motor Vehicle Registration Fee Projects and Congestion Mitigation and Air Quality Improvement (CMAQ) Projects, Emission Factor Tables* (California Air Resources Board) May 2013; Table D24 Moyers Guidelines Fuel Consumption Rate Factors All Engines < 750 hp = 18.5 hp-hr-gal.

construction would represent a "single-event" diesel fuel/gasoline demand and would not require ongoing or permanent commitment of fuel resources for this purpose.

Table 5.6-1
Construction-Source Fuel Consumption Estimates

Activity/ Duration	Equipment	HP Rating	Quantity	Load Factor	HP-hrs./day	Total HP-hrs.	Total Fuel Consumption (gal. diesel fuel)
Site Preparation (20 days)	Crawler Tractors	212	4	0.43	2,917.12	58,342.40	3,153.64
	Rubber Tired Dozers	247	3	0.40	2,371.2	23,712.00	1,281.73
Grading (45 days)	Excavators	158	2	0.38	960.64	43,228.80	2,336.69
	Graders	187	1	0.41	613.36	27,601.20	1,491.96
	Rubber Tired Dozers	247	1	0.4	790.40	35,568.00	1,922.59
	Crawler Tractors	212	2	0.43	1,458.56	65,635.20	3,547.85
	Scrapers	361	2	0.48	2,772.48	124,762	6,743.87
Building Construction (325 days)	Crawler Tractors	212	3	0.43	2,187.84	711,048.00	38,435.03
	Cranes	231	1	0.29	535.92	174,174.00	9,414.81
	Forklifts	89	3	0.2	427.20	138,840.00	7,504.86
	Generator Sets	84	1	0.74	497.28	161,616.00	8,736.00
	Welders	46	1	0.45	165.60	53,820.00	2,909.19
Paving (45 days)	Pavers	130	2	0.42	873.60	39,312.00	2,124.97
	Paving Equipment	132	2	0.36	760.32	34,214.40	1,849.43
	Rollers	80	2	0.38	486.40	21,888.00	1,183.14
Architectural Coating (70 days)	Air Compressors	78	1	0.48	624	43,680.00	2361.08
TOTAL CONSTRUCTION FUEL DEMAND (gallons diesel fuel)							***96,278.57***

Notes: Construction equipment schedules, power ratings, load factors populated from CalEEMod data presented in *The Merge Air Quality Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018. All equipment assumed to operate 8 hours/day.

Construction Energy Efficiency/Conservation Measures

Equipment used for Project construction would conform to CARB regulations and California emissions standards, and would demonstrate related fuel efficiencies. There are no unusual Project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and

related fuel efficiencies). Equipment employed in construction of the Project would therefore not result in inefficient, wasteful, or unnecessary consumption of fuel.

Additionally, certain incidental construction-source energy efficiencies would likely accrue through implementation of California regulations. More specifically, California Code of Regulations Title 13, Motor Vehicles, section 2449(d)(3) *Idling*, limits idling times of construction vehicles to no more than five minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints.

Where feasible, indirect construction energy efficiencies and energy conservation would be achieved through the use of recycled/recyclable materials and related procedures, and energy efficiencies realized from bulk purchase, transport and use of construction materials. Use of recycled and recyclable materials and use of materials in bulk also reduces energy demands associated with preparation and transport of construction materials as transport and disposal of construction waste and solid waste in general, with corollary reduced demands on area landfill capacities and energy consumed by waste transport and landfill operations.

Construction Waste Management Plan

Consistent with Section 5.408, *Construction Waste Reduction, Disposal, and Recycling* of the California Green Building Standards Code (CALGreen Code), as adopted by the City of Eastvale, the Project would recycle or salvage for reuse a minimum of 50 percent of the nonhazardous construction and demolition waste. A Project Construction Waste Management Plan would also be prepared consistent with Section 5.408.1.1 of the CALGreen Code.

Summary

Construction equipment used by the Project would result in single event consumption of approximately 96,278.57 gallons of diesel fuel. Diesel fuel would be supplied by City and regional commercial vendors. Construction equipment use of fuel would not be atypical

for the type of construction proposed, and Project construction equipment would conform to CARB emissions standards, acting to promote equipment fuel efficiencies. CCR Title 13, Title 13, Motor Vehicles, section 2449(d)(3) *Idling*, limits idling times of construction vehicles to no more than five minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints. Where feasible, indirect construction energy efficiencies and energy conservation would be achieved through the use of recycled/recyclable materials and related procedures, and energy efficiencies realized from bulk purchase, transport and use of construction materials. As supported by the preceding discussions, Project construction energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

5.6.5.2 Operational Energy Demands and Energy Efficiency/Conservation Measures

Energy consumption in support of or related to Project operations would include transportation energy demands (energy consumed by employee and patron vehicles accessing the Project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

Transportation Energy Demands

Energy that would be consumed by Project-generated traffic is a function of total VMT and estimated vehicle fuel economies of vehicles accessing the Project site. With respect to estimated VMT, the Project would generate an estimated total 23,120,907 annual VMT along area roadways.[21] With regard to vehicle fuel economies, approximately 89.2 percent of the Project VMT (or 20,977,402 VMT) would be generated by Light Duty Vehicles (LDVs); with the remaining approximately 10.8 percent (or 2,143,505 VMT) generated by Heavy Duty Vehicles (HDVs). Gasoline is assumed to be the primary fuel for LDVs; and

[21] Estimated VMT from: *The Merge Air Quality Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018.

diesel fuel is assumed as the primary fuel for HDVs. As presented in *Annual Energy Outlook 2015, with projections to 2040* (U.S. Energy Information Administration USEIA) April 2015, average fuel economies of LDVs are projected to improve from approximately 21.9 mpg in 2013, to approximately 37.0 mpg by 2040.[22] *Annual Energy Outlook 2015* also estimates that average fuel economies of HDVs are projected to improve from approximately 6.7 mpg in 2013, to approximately 7.8 mpg by 2040.[23] Reflecting these ranges of fuel economies, estimated Project transportation energy demands resulting from vehicle fuel consumption are summarized in Table 5.6-2. Fuel demands of all vehicles accessing the Project site would be met through commercial fuel providers.

Table 5.6-2
Project-Generated Traffic Annual Fuel Consumption

Annual Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
Light Duty Vehicles		
20,977,402	21.9	957,872
20,977,402	37.0	566,957
Heavy Duty Vehicles		
2,143,505	6.7	319,926
2,143,505	7.8	274,808

Source: *The Merge Air Quality Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018.
Notes: Estimated VMT from: Average fuel economies from: *Annual Energy Outlook 2014, with projections to 2040* (U.S. Energy Information Administration, USEIA) April 2014, p. MT-14.

Facilities Energy Demands

Project building operations and Project site maintenance activities would result in the consumption of natural gas and electricity. Natural gas would be supplied to the Project by The Gas Company; electricity would be supplied to the Project by SCE. Annual natural gas and electricity demands of the Project are summarized in Table 5.6-3.

[22] "U.S. Energy Information Administration - EIA - Independent Statistics and Analysis." *Annual Energy Outlook 2015*. USEIA, 14 Apr. 2015. Web. 18 Oct. 2015.
[23] Ibid.

Table 5.6-3
Project Annual Operational Energy Demand Summary

Natural Gas Demand	**kBTU/year**
Industrial	683,097
Convenience Mkt. w/Gas Pumps	0.097
Fast Food Restaurant w/o Drive Through	1.87
Fast Food Restaurant w/Drive Through	10.30
Automobile Care Center	0.356
Parking Lot	0.0
Pharmacy/Drugstore with Drive Through	0.09
Regional Shopping Center	0.28
Supermarket	1.58
Total Natural Gas Demand	**683,111.58 kBTU/year**
Electricity Demand	**kWh/year**
Industrial	794,142.00
Convenience Mkt. w/Gas Pumps	202,080.00
Fast Food Restaurant w/o Drive Through	118,700.00
Fast Food Restaurant w/Drive Through	652,850.00
Automobile Care Center	40,600.00
Parking Lot	47,740.00
Pharmacy/Drugstore with Drive Through	184,398.00
Regional Shopping Center	59,992.50
Supermarket	1,110,900.00
Total Electricity Demand	**3,211,402.50 kWh/year**

Source: *The Merge Greenhouse Gas Impact Analysis, City of Eastvale* (Urban Crossroads, Inc.) August 27, 2018. Appendix 3.1, Appendix 3.2 : CalEEMod Emissions Model Outputs (Operations).

Operational Energy Efficiency/Conservation Measures

The Project would meet standards established under the California Code Title 24, Part 6 (the California Energy Code) and California Green Building Standards Code (CALGreen; CCR, Title 24, Part 11) as implemented by the City of Eastvale.

Enhanced Vehicle Fuel Efficiencies

Estimated annual fuel consumption estimates presented previously in Table 5.6-3 represent likely potential maximums that would occur under Project Opening Year (2021) Conditions. Under future conditions, average fuel economies of vehicles accessing the

Project site can be expected to improve as older, less fuel-efficient vehicles are removed from circulation. Average fuel economies of vehicles accessing the Project site can also be expected to improve over time in response to fuel economy and emissions standards imposed on newer vehicles entering the transportation system.

Project Design and Access

The Project proposes commercial, retail, service, and industrial uses within an urban context, proximate to, and readily accessible from regional and local roadways. In these regards, the Project's urbanized setting promotes local patronage of the proposed commercial, retail, service, and civic uses; and availability of regional and local roadways acts to facilitate access to the Project generally.

Alternative Transportation – Pedestrian, Bicycle/Multi-Use Trails, Transit Facilities

Pedestrian Access

Project construction of the ultimate half-section of Archibald Avenue and Limonite Avenue would include curb and gutter and sidewalk improvements consistent with City Conditions of Approval.

Bicycle/Multi-Use Trails Access

The JCSD Parks and Recreation Master Plan (JCSD Master Plan) indicates planned Class II bike lanes along Archibald Avenue and Limonite Avenue adjacent to the Project site. The JCSD Master Plan also indicates a planned off-street Class I Multi-Use Trail along the Project northerly boundary adjacent to the existing Riverside County Flood Control and Water Conservation District (RCFCWCD) flood control channel.

The Project concept does not propose or require facilities or programs that would conflict or interfere with development and implementation of planned or proposed bicycle and/or multipurpose trail facilities. The Applicant would coordinate final Project designs to ensure accommodation of planned or proposed bicycle and/or multipurpose trail facilities. On-site Project bicycle amenities would be provided consistent with

requirements and guidance provided in the City of Eastvale *Design Standards and Guidelines*.

Transit Accommodations

The Applicant and City generally would coordinate Project final designs with the Riverside Transit Agency (RTA) to evaluate propriety of Project transit access and amenities. The Project would also construct pedestrian access and bicycle facilities improvements consistent with City standards and requirements.

A future bus stop is proposed on the south (eastbound) side of Limonite Avenue opposite the Project site. The Applicant will coordinate with the City and RTA for provision of crosswalks at the intersections of Archibald Avenue at Limonite Avenue and Project Driveway 4 at Limonite Avenue, facilitating pedestrian/bicycle access to the future bus stop.

Landscaping

Drought-tolerant plants would be used where appropriate. The Project would install recycled water distribution system for landscaping and connect reclaimed water system(s) when available to the Project Site. Project use of reclaimed water for non-potable purposes reduces the Project's potable water demands.

Project landscaping would conform to City requirements and per the recommendations of the ALUC. A variance to Eastvale Municipal Code Section 120.05.040 is proposed to allow for landscape reductions consistent with the recommendations of the ALUC.

Solid Waste Diversion/Recycling

The Project would be required to comply with applicable State of California, County of Riverside, and City of Eastvale solid waste diversion/recycling rules and regulations, acting to reduce the amount of solid waste transported to, and disposed at area landfills. Corollary reduced demands on area landfill capacities and energy consumed by waste transport and landfill operations would likely result.

Summary

Transportation Energy Demands

Passenger car (LDV) trips and related VMT generated by the Project would result in an estimated 566,957 – 957,872 gallons of gasoline consumption per year. Truck (HDV) trips and related VMT generated by the Project would result in an estimated 274,808 – 319,926 gallons of diesel consumption per year. Fuel would be provided by current and future commercial vendors. Trip generation and VMT generated by the Project are consistent with other uses of similar scale and configuration. The Project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips and VMT. On this basis, the Project would not result in excess and wasteful vehicle energy consumption.

Enhanced fuel economies resulting from federal and state regulatory actions, and transition of vehicles to alternative energy sources (e.g., electricity, natural gas, bio fuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT.

The Project would also implement sidewalks, pedestrian paths, and bicycle amenities encouraging pedestrian and bicycle access. The Project would not interfere or conflict with existing or proposed pedestrian or bicycle facilities.

Bus stop facility recommendation(s) provided by RTA are recognized. As part of the City's standard development review process, the need for and appropriateness of transit-related facilities including, but not limited to, bus shelters would be coordinated between the City and the Project Applicant, with input from RTA.

Facilities Energy Demands

Project facility operational energy demands are estimated at 683,111.58 kBTU/year natural gas and 3,211,402.50 kWh/year electricity. Natural gas would be supplied to the Project by The Gas Company; electricity would be supplied by SCE. The Project proposes conventional development types, reflecting contemporary energy efficient/energy conserving designs and operational programs. Uses proposed by the Project are not

inherently energy intensive, and the Project energy demands in total would be comparable to, or less than, other similar projects of like scale and configuration.

The Project would be required comply with incumbent Title 24 energy efficiency mandates. Project energy demands are further reduced through compliance with CalGreen standards and requirements, and City Ordinance requirements (e.g., the City Water Conservation Ordinance).

Based on the preceding, Project facilities energy demands and energy consumption would not be inefficient, wasteful, or otherwise unnecessary.

5.6.6 Conclusion

As supported by the preceding analyses, Project construction and operations would not result in the inefficient, wasteful or unnecessary consumption of energy, and potential Project impacts in these regards would be less-than-significant. Further, energy demands of the Project can be accommodated within the context of available resources and energy delivery systems. The Project would therefore not cause or result in the need for additional energy producing or energy transmission facilities and would not create or result in a potentially significant impact affecting energy resources or energy delivery systems.

6.0 ACRONYMS AND ABBREVIATIONS

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ADT	average daily trip
af	acre-feet
ALUCP	Airport Land Use Compatibility Plan
amsl	above mean sea level
APN	Assessor's Parcel Number
AQMP	Air Quality Management Plan
BAAQMD	Bay Area Air Quality Management District
BACM	best available control measures
BAU	business as usual
bgs	below ground surface
BMP	Best Management Practice
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CBSC	California Building Standards Commission
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CF_4	Tetrafluoromethane

C_2F_6	Hexafluoroethane
CFC	Chlorofluorocarbon
cfs	cubic feet per second
CH_4	Methane
C_2H_6	Ethane
CIP	Capital Improvement Plan
CMP	Congestion Management Plan
CNEL	Community Noise Equivalent Level
CO	Carbon monoxide
CO_2	Carbon dioxide
CPUC	California Public Utilities Commission
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DEIR	Draft Environmental Impact Report
DIF	Development Impact Fees
DPM	Diesel Particulate Matter
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FAR	Floor-to-Area Ratio
FHWA	Federal Highway Administration
FICON	Federal Interagency Committee on Noise
FTA	Federal Transit Administration
GCC	Global Climate Change
GFA	gross floor area
Gg	Gigagram
GHG	Greenhouse Gas

GWP	Global Warming Potential
HCM	Highway Capacity Manual
HCP	Habitat Conservation Plan
HFC	Hydrofluorocarbon
HI	Hazard Index
H_2O	Water
HOV	high-occupancy vehicle
HRA	Health Risk Assessment
HVAC	Heating, Ventilation, & Air Conditioning
ICU	Intersection Capacity Utilization
IS	Initial Study
ISTEA	Intermodal Surface Transportation Efficiency Act
ITE	Institute of Transportation Engineers
JCSD	Jurupa Community Services District
lbs/day	pounds per day
Ldn	day/night average sound level
LED	light-emitting diodes
Leq	equivalent sound level
LEED	Leadership in Energy and Environmental Design
LOS	Level of Service
LST	Localized Significance Threshold
MBTA	Migratory Bird Treaty Act
MEIR	Maximally Exposed Individual Receptor
MEISC	Maximally Exposed Individual School Child
MEIW	Maximally Exposed Individual Worker
mgd	million gallons per day
$MMTCO_2e$	Million Metric Ton of Carbon Dioxide Equivalent
MOE	measures of effectiveness
MPO	Metropolitan Planning Organization
MSHCP	Multiple Species Habitat Conservation Plan
msl	mean sea level
MUTCD	Manual of Uniform Traffic Control Devices

μg/m^3	micrograms per cubic meter
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NIOSH	National Institute for Occupational Health and Safety
N_2O	Nitrous Oxide
NOP	Notice of Preparation
NO_x	Oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
O_3	Ozone
OEHHA	California Office of Environmental Health Hazard Assessment
OPR	State of California Office of Planning and Research
OSHA	Occupational Safety and Health Administration
Pb	Lead
PCE	passenger car equivalency
PFC	Perfluorocarbon
$PM_{2.5}$	Particulate Matter Less Than 2.5 Microns in Diameter
PM_{10}	Particulate Matter Less Than 10 Microns in Diameter
ppb	parts per billion
ppm	parts per million
ppt	parts per trillion
RBBD	Road and Bridge Benefit District
RCALUC	Riverside County Airport Land Use Commission
RCFCWCD	Riverside County Flood Control and Water Conservation District
RECs	Recognized Environmental Conditions
REL	Reference Exposure Level
RMP	Risk Management Plan
ROG	Reactive Organic Gases
RTA	Riverside Transit Agency
RTP	Regional Transportation Plan

RWQCB	Regional Water Quality Control Board
SARWQCB	Santa Ana Regional Water Quality Control Board
SAWPA	Santa Ana Watershed Project Authority
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCH	State Clearinghouse
SCS	Sustainable Communities Strategy
SF_6	Sulfur Hexafluoride
SIP	State Implementation Plan
SKR HCP	Stephens' Kangaroo Rat Habitat Conservation Plan
SO_x	Oxides of sulfur
SRRE	Source Reduction and Recycling Element
SSC	Species of Special Concern
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminants
TEA-21	Transportation Equity Act for the 21st Century
TIA	Traffic Impact Analysis
TUMF	Transportation Uniform Mitigation Fee
UBC	Uniform Building Code
URF	Unit Risk Factor
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UWMP	Urban Water Management Plan
VFP	Vehicle fueling position
V/C	Volume to Capacity
VdB	vibration decibel
VMT	vehicle miles traveled
VOC	Volatile Organic Compound
WQMP	Water Quality Management Plan
WRCOG	Western Riverside Council of Governments

7.0 REFERENCES

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PERSONS AND ORGANIZATIONS CONSULTED

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APPENDICES

Please refer to accompanying CD