Draft Environmental Impact Report
SCH No. 2015061040

Moreno Valley Logistics Center

City of Moreno Valley, California

Lead Agency
City of Moreno Valley
14177 Frederick Street
PO Box 88005
Moreno Valley, CA 92552

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Lead Agency Discretionary Permits
Specific Plan Amendment P15-036
Tentative Parcel Map No. 36150 PA15-0018
Building Plot Plans PA15-0014, PA15-0015, PA15-0016, and PA15-0017

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ACRONYMS AND ABBREVIATIONS

Acronym	Definition
§	Section
>	greater than
≥	greater than or equal to
a.m.	Ante Meridiem (between the hours of midnight and noon)
AB	Assembly Bill
ACOE	Army Corps of Engineers
ADP	Area Drainage Plan
ADT	Average Daily Traffic
AFY	acre feet a year
AIA	Airport Influence Area
AICUZ	Air Installation Compatible Use Zone
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
AMSL	Above Mean Sea Level
APS	Alternative Planning Strategy
APN	Assessor Parcel Number
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARB	Air Reserve Base
ARB/IRP	March Air Reserve Base/Inland Port Airport
ASTs	Above ground storage tanks
Av.	Avenue
AWS	All-way Stop
BAAQMD	Bay Area Air Quality Management District
BP	Business Park/Light Industrial (land use designation)
BFSA	Brian F. Smith & Associates
Bl.	Boulevard
BMPs	Best Management Practices
C_2F_6	Hexaflouroethane
C_2H_6	Ethane
CF_4	Tetraflouromethane
CF_3CH_2F	Tetrafluoroethane
CH_4	Methane
CH_3CHF_2	Difluorethane
CHF_3	Trifluormethane
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
CA	California

Acronym	Definition
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CadnaA	Computer Aided Noise Abatement software
CalEEMod™	California Emissions Estimator Model™
CalEPA	California Environmental Protection Agency
CalFire	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
Caltech	California Institute of Technology
Caltrans	California Department of Transportation
Calveno	California Vehicle Noise
CAPCOA	California Air Pollution Control Officers Association
CAPSSA	Criteria Area Plant Species Survey Area
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CBSC	California Building Standards Code
CCR	California Code of Regulations
CDC	California Department of Conservation
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFCs	Chlorofluorocarbons
CFR	Code of Federal Regulations
cfs	cubic feet per second
CHE	Cargo Handling Equipment
CLCA	California Land Conservation Act
CLOMR	Conditional Letter of Map Revision
CMP	Congestion Management Plan
CNEL	Community Noise Equivalent Level
CO	Carbon Monoxide
COHb	carboxyhemoglobin
CORPS	United States Army Corps of Engineers
CPUC	California Public Utilities Commission
CCC	Cross-street Stop
CCR	California Code of Regulations
CTP	Clean Truck Program
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
Db	Decibel
dBA	A-weighted Decibels
DBESP	Determination of Biologically Superior Preservation
DEH	Department of Environmental Health
DIF	Development Impact Fee

Acronym	Definition
DOT	Department of Transportation
DPM	Diesel Particulate Matter
DTSC	Department of Toxic Substances Control
du/ac	dwelling units per acre
e/o	East of
ECHO	Enforcement and Compliance History
EDR	Environmental Data Review
EIC	Eastern Information Center
EIR	Environmental Impact Report
EMFAC	Emissions Factor Model
EMWD	Eastern Municipal Water District
EO	Executive Office
EPA	Environmental Protection Agency
EPS	Emission Performance Standard
ESA	Environmental Site Assessment
et seq.	*et sequentia*, meaning "and the following"
F	Fahrenheit
FAR	floor area ratio
FEIR	Final Environmental Impact Report
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
GCC	Global Climate Change
GCCC	Global Climate Change Center
Gg	gigagrams
GgCO2e	Gigagrams of carbon dioxide equivalent
GHGs	Greenhouse Gases
GIS	Geographic Information System
GLA	Glenn Lukos Associates, Inc.
GVWR	Gross Vehicle Weight Rating
GWP	Global Warming Potential
H_2O	Water Vapor
HANS	Habitat Evaluation and Acquisition Negotiation Strategy
HCM	Highway Capacity Manual
HCP	Habitat Conservation Plan
HFCs	Hydrofluorocarbons
HHD	Heavy-Duty Trucks
HI	Hazard Index

Acronym	Definition
HMBEP	Hazardous Materials Business Emergency Plan
hp	horsepower
HRS	Hazard Ranking System
HSAA	Hazardous Substance Account Act
HVWAP	Harvest Valley/Winchester Area Plan
HWCL	Hazardous Waste Control Law
I-15	Interstate 15
I-215	Interstate 215
i.e.	that is
IA	Implementing Agreement
IEPR	Integrated Energy Policy Report
IPA	Inland Port Airport
IPCC	Intergovernmental Panel on Climate Change
ISTEA	Intermodal Surface Transportation Efficiency Act
ITE	Institute of Transportation Engineers
JPA	Joint Powers Authority
JPR	Joint Project Review
kBTU/yr	kilo-British Thermal Units per year
kWh/yr	kilowatt-hours of electricity per year
LCA	Life-cycle analysis
LCFS	Low Carbon Fuel Standard
LDA	Light-Duty-Auto Vehicles
LDMF	Local Development Mitigation Fee
LDN	Day-Night Sound Level
LEED	Leadership in Energy & Environmental Design
Leq	equivalent continuous sound level
LHD	Light-Heavy-Duty-Trucks
LNAP	Lakeview/Nuevo Area Plan
LOMR	Letter of Map Revision
LOS	Level of Service
LSTs	Localized Significance Thresholds
M^3	Cubic Meter
March ARB	March Air Reserve Base
March ARB/IPA	March Air Reserve Base/Inland Port Airport
MATES	Multiple Air Toxics Exposure Study in the South Coast Air Basin
MBTA	Migratory Bird Treaty Act
MDP	Master Drainage Plan
MEIR	maximally exposed individual receptor
MEISC	maximally exposed individual school child
MEIW	maximally exposed individual worker

Acronym	Definition
MHD	Medium-Heavy-Duty Trucks
MICR	Maximum Individual Cancer Risk
MM	Mitigation Measure
MMTs	million metric tons
$MTCO_{2e}$	Metric Tons of Carbon Dioxide Equivalent
MMTCO2e	million metric tons of carbon dioxide equivalent
Mph	Miles per hour
MPO	Metropolitan Planning Organization
MMT	Million Metric Tons
MPG	Miles per gallon
MSHCP	Multiple Species Habitat Conservation Plan
MT	metric ton
MUTCD	Manual on Uniform Traffic Control Devices
MVAP	Mead Valley Area Plan
MVFD	Moreno Valley Fire Department
MVIAP	Moreno Valley Industrial Area Plan
MWD	Metropolitan Water District
n/o	North of
N_2	Nitrogen
n.d.	no date
NAHC	Native American Heritage Commission
NAAQS	National Ambient Air Quality Standards
NB	Northbound
NEPSSA	Narrow Endemic Plant Species Survey Area
No.	Number
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxides
N_2	Nitrogen
N_2O	Nitrous Oxide
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
n.p.	no page
NPL	National Priorities List
O_2	Oxygen
O_3	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
OHWM	Ordinary High Water Mark
OPR	Office of Planning and Research
Ord.	Ordinance
Pb	Lead
PCE	Passenger Car Equivalent

Acronym	Definition
PFCs	Perfluorocarbons
p.m.	Post Meridiem (between the hours of noon and midnight)
PM	Particulate Matter
$PM_{2.5}$	Fine Particulate Matter (2.5 microns or smaller)
PM_{10}	Fine Particulate Matter (10 microns or smaller)
ppb	parts per billion
ppm	parts per million
pp.	pages
ppt	parts per trillion
PPV	Peak Particle Velocity
PUC	Public Utilities Commission
RCALUP	Riverside County Airport Land Use Plan
RCFCWCD	Riverside County Flood Control and Water Conservation District
RCRA	Resource Conservation and Recovery Act
RCTC	Riverside County Transportation Commission
RCLIS	Riverside County Land Information System
Rd.	Road
RECLAIM	Regional Clean Air Incentives Market
Regs	Regulations
REL	Reference Exposure Level
REMEL	Reference Mean Emission Level
RHSA	Regional System of Highways and Arterials
RivTAM	Riverside County Transportation Analysis Model
ROGs	Reactive Organic Gasses
RPS	Renewable Portfolio Standards
RTA	Riverside Transit Authority
RTP	Regional Transportation Plan
RTPA	Regional Transportation Planning Agency
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
s/o	south of
s.f.	square feet
SARA	Superfund Act and Reauthorization Act
SWPA	Santa Ana Watershed Project Authority
SB	Southbound
SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SCH	State Clearinghouse
SCS	Sustainable Communities Strategy

Acronym	Definition
SFS	Sustainable Freight Strategy
SO_2	Sulfur Dioxide
SO_4	Sulfates
SO_X	Sulfur Oxides
SPA	Specific Plan Amendment
SR-60	State Route 60
SR-74	State Route 74
SR-91	State Route 91
SRA	Source Receptor Area
St.	Street
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Regional Control Board
TAC	Toxic Air Contaminants
TEA	Transportation Equity Act
TPM	Tentative Parcel Map
TS	Traffic Signal
TSF	Thousand Square Feet
TUMF	Transportation Uniform Mitigation Fee
µg	microgram
UNFCCC	United Nations Framework Convention on Climate Change
U.S.	United States
USACE	United States Army Corps of Engineers
USCB	United States Census Bureau
USDA	U.S. Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United Stated Geological Society
USTs	Underground storage tanks
UTR	Utility Tractor
VdB	Vibration Decibels
VMT	Vehicle Miles Traveled
VOCs	Volatile Organic Compounds
w/o	West of
WQMP	Water Quality Management Plan
WRCOG	Western Riverside Council of Governments
WSA	Water Supply Assessment
Wy.	Way
YBP	Years before Present

ES EXECUTIVE SUMMARY

ES.1 Introduction

The California Environmental Quality Act (CEQA), Public Resources Code § 21000, et seq. requires that before a public agency makes a decision to approve a project that could have one or more adverse effects on the physical environment, the agency must inform itself about the project's potential environmental impacts, give the public an opportunity to comment on the environmental issues, and take feasible measures to avoid or reduce potential harm to the physical environment.

This Environmental Impact Report (EIR), having California State Clearinghouse (SCH) No. 2015061040 was prepared in accordance with CEQA Guidelines Article 9, § 15120 to § 15132, to evaluate the potential environmental impacts associated with planning, constructing, and operating the proposed Moreno Valley Logistics Center (hereafter, the "Project" or "proposed Project"). This EIR does not recommend approval, approval with modification, or denial of the proposed Project; rather, this EIR is a source of impartial information regarding potential impacts that the Project may cause to the physical environment. The Draft EIR will be available for public review for a minimum period of 45 days. After consideration of public comment, the City of Moreno Valley will consider certifying the Final EIR and adopting required findings in conjunction with Project approval. In the case that there are any adverse environmental impacts that cannot be fully mitigated, the City of Moreno Valley must adopt a Statement of Overriding Considerations, stating why the City is taking action to approve the Project with or without modification despite its unavoidable impacts.

This Executive Summary complies with CEQA Guidelines § 15123, "Summary." This EIR document includes a description of the proposed Project and evaluates the physical environmental effects that could result from Project implementation. The City of Moreno Valley determined that the scope of this EIR should cover ten (10) subject areas. The scope was determined through the completion of an Initial Study accepted by the City of Moreno Valley's independent judgment pursuant to CEQA Guidelines § 15063, and in consideration of public comment received by the City in response to this EIR's Notice of Preparation (NOP). The Initial Study, NOP, and written comments received by the City in response to the NOP, are attached to this EIR as *Technical Appendix A*. As determined by the Initial Study and in consideration of public comment on the NOP, the eleven (11) environmental subject areas that could be reasonably and significantly affected by planning, constructing, and/or operating the proposed Project are analyzed herein, including:

1. Aesthetics
2. Agricultural Resources
3. Air Quality
4. Biological Resources
5. Cultural Resources
6. Greenhouse Gas Emissions
7. Hazards and Hazardous Materials
8. Hydrology and Water Quality
9. Land Use and Planning
10. Noise
11. Transportation and Traffic

Refer to EIR Section 4.0, *Environmental Analysis*, for a full account and analysis of the subject matters listed above. As mentioned, the scope of this EIR includes these ten (10) subject areas as determined through the completion of an Initial Study pursuant to CEQA Guidelines §15063, and in consideration of public comment to this EIR's NOP. Subject areas for which the Initial Study concluded that impacts would be clearly less than significant and that do not warrant further analysis in this EIR are addressed in EIR Section 5.0, *Other CEQA Considerations*. For each of the ten (10) subject areas analyzed in detail in Section 4.0, this EIR describes: 1) the physical conditions that existed at the approximate time this EIR's NOP was filed with the California State Clearinghouse (June 17, 2015); 2) discloses the type and magnitude of potential environmental impacts resulting from Project planning, construction, and operation; and 3) if warranted, recommends feasible mitigation measures that have a proportional nexus to the Project's impacts and that would reduce or avoid significant adverse environmental impacts that the proposed Project may cause. A summary of the proposed Project's significant environmental impacts and the mitigation measures imposed by the City of Moreno Valley on the Project to lessen or avoid those impacts is included in this Executive Summary as Table ES-1, *Mitigation, Monitoring, and Reporting Program*.

This EIR also discusses alternatives to the proposed Project. Alternatives are described that would attain most of the Project's objectives while avoiding or substantially lessening the proposed Project's significant adverse environmental effects. A full discussion of Project alternatives is found in EIR Section 6.0, *Alternatives*.

ES.2 Project Overview

ES.2.1 Location and Regional Setting

The approximately 89.4-acre site is located in the southern portion of the City of Moreno Valley. The City of Moreno Valley is located in the northwestern portion of Riverside County, California, and is north of the City of Perris and southeast of the City of Riverside. The site's location in a regional context is shown on Figure 3-1, *Regional Map*, in EIR Section 3.0, *Project Description*. The Project site is located approximately 1.3 miles east of Interstate 215 (I-215), 4.2 miles south of State Route 60 (SR-60), and approximately 2.5 miles northwest of Lake Perris. Refer to EIR Section 2.1, *Regional Setting and Location*, for more information about the Project's regional setting.

At a local scale, the Project site is located south of Krameria Avenue, north of Cardinal Avenue, east of Heacock Street and the March Air Reserve Base, and west of Indian Street. Figure 3-2, *Vicinity Map*, in EIR Section 3.0, *Project Description* shows the specific location of the Project site. As shown on Figure 3-2, *Vicinity Map*, the Perris Valley Storm Drain Channel transects the Project site in a northwest to southeast direction. Approximately 15.3 acres of the Project site is located west of the Perris Valley Storm Drain Channel and approximately 74.1 acres of the Project site is located east of the Perris Valley Storm Drain Channel. The property lies within the southwestern portion of Section 30, Township 3 South, Range 3 West (San Bernardino Base and Meridian) and includes Assessor Parcel Numbers (APNs): 316-100-028, 316-100-030, 316-100-048, 316-100-051, and 316-100-052. Refer to EIR Section 2.0, *Environmental Setting*, for more information about the Project's local setting.

ES.2.2 Project Objectives

The Project's underlying purpose is to develop the subject property as a productive logistics center. The Project would achieve this purpose through the following basic objectives.

A. Implement the Moreno Valley Industrial Area Plan (MVIAP) through the construction and operation of a Class A logistics center in conformance with the land use designations applied to the property by the City of Moreno Valley General Plan and the MVIAP, as amended.

B. To develop and maximize the buildout potential of a vacant or underutilized property in the MVIAP area that has access to available infrastructure.

C. To attract new employment-generating businesses to the MVIAP area thereby providing a more equal jobs-housing balance both in the City of Moreno Valley and in the Riverside County/Inland Empire area and reducing the need for members of the local workforce to commute outside the area for employment.

D. To develop logistics buildings with loading bays and trailer parking within close proximity of regional transportation routes and designated City of Moreno Valley truck routes in order to facilitate the efficient movement of goods.

E. To develop logistics center buildings that are physically and economically feasible to construct and operate and that are economically competitive with other geographic markets in the Inland Empire to attract building users to Moreno Valley.

F. To develop a vacant or underutilized property with structures that have architectural design and operational characteristics that complement existing and planned warehouse development in the immediate vicinity.

G. To develop the subject property with land uses that are harmonious to the adjacent March Air Reserve Base.

ES.2.3 Project Description Summary

The Project consists of a proposal to develop an approximately 89.4-acre property to accommodate a logistics center with four (4) buildings with a combined total of 1,736,180 s.f. of floor space. The principal discretionary actions required of the City of Moreno Valley to implement the Project include the approval of a Specific Plan Amendment (P15-036), Tentative Parcel Map No. 36150 (PA15-0018), and four (4) individual Building Plot Plans (PA15-0014, PA15-0015, PA15-0016, and PA15-0017), and certification of this EIR. Other approvals and actions that are necessary to fully implement the proposed Project are listed in Table 3-5, *Matrix of Project Approvals/Permits*, in EIR Section 3.0, *Project Description*.

A. Specific Plan Amendment (P15-036)

The MVIAP, which was adopted by the City of Moreno Valley in 1989, includes a 300-foot setback requirement between industrial and residential land uses (refer to MVIAP Section III, C.1). The proposed Specific Plan Amendment (SPA) would amend this setback as it pertains to the Project site. The SPA proposes to amend the Project site's minimum setback distance requirement to the residential uses located on the opposite side (east side) of Indian Street from 300 feet to 100 feet and to add the requirement to install a minimum 50-foot-wide contiguous enhanced landscaping zone within the proposed 100-foot setback area. The building constructed to the north of the Project site and currently occupied by Proctor & Gamble has a 100-foot separation from residential uses on the east side of Indian Street; the proposed Project is proposing the same distance so that there is a consistent setback along the west side of Indian Street.

B. Tentative Parcel Map No. 36150

Tentative Parcel Map No. 36150 (TPM No. 36150; PA15-0018) proposes to consolidate three (3) parcels comprising an approximately 74.1-gross-acre portion of the Project site into two (2) parcels, as depicted on Figure 3-4, *Tentative Parcel Map No. 36150* of EIR Section 3.0, *Project Description.* Proposed Parcel 1 would contain approximately 62.6 net acres and proposed Parcel 2 would contain approximately 6.9 net acres. In addition, TPM No. 36150 identifies areas of public road dedication and vacation, and the size and location of proposed utility infrastructure improvements.

C. Plot Plans PA15-0014, PA15-0015, PA15-0016, PA15-0017

Four (4) individual Plot Plans are proposed as part of the Project. The individual Plot Plans provide site plans, including a detailed architectural and landscape designs, for Building 1 (PA15-0014), Building 2 (PA15-0015), Building 3 (PA15-0016), and Building 4 (PA15-0017). The site plans for Buildings 1 through 4 are presented on Figure 3-10 through Figure 3-13 of EIR Section 3.0, *Project Description*. Figure 3-14, *Moreno Valley Logistics Center Site Plan*, in EIR Section 3.0, *Project Description*, illustrates the full context of proposed development.

As summarized in Table 3-1, *Moreno Valley Logistics Center Statistical Summary,* of EIR Section 3.0, *Project Description*, the Project's proposed buildings would range in size from approximately 97,222 s.f. to approximately 1,351,763 s.f., with a combined total of 1,736,180 s.f. of floor area. The Project is proposed to accommodate a maximum of 174,000 s.f. of cold storage (i.e., refrigeration) in the event Project's building occupants require cold storage. At the time this EIR was prepared, the future occupants of the Project site's buildings are unknown. The buildings are designed to accommodate a high cube warehouse occupant in proposed Building 1 and industrial, warehousing, manufacturing, assembly, e-commerce, and similar uses in the smaller buildings.

The Project also includes an alternate site plan that would omit Building 2 and construct a 166-space truck trailer parking lot in its place on Parcel 2. In the event the alternate site plan is implemented, the truck trailer parking lot would be utilized as overflow parking for Building 1. The alternative site plan would not involve any changes to the intensity of use, size, location, configuration, or design of proposed Buildings 1, 3, or 4. Under the alternate site plan, the total building area on the Project site would be reduced to 1,613,905 s.f. (for an overall floor area ratio, FAR, of 0.44).

Vehicular access to the Project site would be provided by driveways distributed across the property. At Building 1, three driveways would be provided along Krameria Avenue (the center driveway would be restricted to automobiles only), one driveway would be provided at Indian Street, and one driveway would be provided at Cosmos Street. Building 1 would provide on-site parking lot striping and signage at proposed driveways along Krameria Avenue to direct exiting truck traffic to the west (i.e., toward Heacock Avenue). Building 2 would provide one driveway at Cosmos Street, Building 3 would provide one driveway at Cardinal Avenue, and Building 4 would provide two driveways along Heacock Avenue. All driveways proposed by the Project would be stop-sign controlled. The driveways would provide access to automobile parking areas, loading areas, and truck parking areas for the respective building. Access to loading and truck parking areas located interior to the Project site would be gated. Proposed truck check-in points and driveways are positioned interior to the Project site to create interior queuing areas and minimize the potential trucks accessing the property to stack onto abutting public streets.

Figure 3-10 through Figure 3-13 in EIR Section 3.0, *Project Description*, depict the proposed locations of parking spaces and loading bays (also called “docks”) for each building. Table 3-2, *Parking and Loading Summary*, in EIR Section 3.0, *Project Description*, summarizes the number of parking spaces and loading bays proposed for each building. On all four (4) buildings combined, the Project would provide a total of 255 loading bays (also called “docks”) for the shipping and receiving of goods.

ES.3 EIR Process

As a first step in complying with the procedural requirements of CEQA for an EIR, an Initial Study was prepared by the City of Moreno Valley to determine whether any aspect of the proposed Project, either individually or cumulatively, may cause a significant adverse effect on the physical environment (refer to EIR *Technical Appendix A* for a copy of the Initial Study). For this Project, the Initial Study indicated that this EIR should focus on ten (10) environmental subject areas listed above in Subsection ES.1. After completion of the Initial Study, the City filed a NOP with the California Office of Planning and Research (State Clearinghouse) to indicate that an EIR would be prepared. In turn, the Initial Study and NOP were distributed for a 30-day public review period, which began on June 17, 2015. The City of Moreno Valley received written comments on the scope of the EIR during those 30 days, which were considered by the City during the preparation of this EIR. In addition, and pursuant to CEQA Guidelines § 15082(c)(1), an advertised public meeting (called a scoping session) was held at the City of Moreno Valley City Hall on July 6, 2015.

This EIR will be circulated to the California State Clearinghouse, Trustee and Responsible Agencies, other public agencies that may be affected by or have an interest in the proposed Project, surrounding property owners, and other interested parties, agencies, and organizations for a 45-day review and comment period. During the 45-day public review period, public notices announcing availability of the Draft EIR will be mailed to interested parties, an advertisement will be published in the *Press Enterprise* (newspaper of general circulation in the Project area), and copies of the Draft EIR and its Technical Appendices will be available for review at the locations indicated in the public notices.

After the close of the 45-day Draft EIR public comment period, the City will prepare and publish responses to written comments it received on the environmental effects of the proposed Project. The Final EIR will be considered by the City of Moreno Valley Planning Commission and City Council, prior to deciding to approve, approve with modification, or reject the proposed Project. Approval of the proposed Project would be accompanied by the adoption of written findings and a statement of overriding considerations for any significant unavoidable environmental impacts identified in the Final EIR. In addition, the City must adopt a Mitigation, Monitoring, and Reporting Program (MMRP), which describes the process to ensure implementation of the mitigation measures identified in the Final EIR. The MMRP will ensure CEQA compliance during Project construction and operation.

ES.4 Areas of Controversy and Issues to be Resolved

CEQA Guidelines § 15123(b)(2) requires that areas of controversy known to the Lead Agency (City of Moreno Valley) be identified in the EIR's *Executive Summary*. The City of Moreno Valley applies mitigation measures which it determines a) are feasible and practical for project applicants to implement, b) are feasible and practical for the City of Moreno Valley to monitor and enforce, c) are legal for the City to impose, d) have an essential nexus to the Project's impacts, and e) would result in a benefit to the physical environment. CEQA does not require the Lead Agency to analyze an exhaustive list of every imaginable mitigation measure, and measures that are duplicative of mandatory regulatory requirements. This is identified as an area of controversy.

Regarding issues to be resolved, this EIR addresses the environmental issues that are known by the City, that are identified in the Initial Study prepared for the Project, and that were identified in the comment letters that the City of Moreno Valley received on this EIR's NOP (refer to *Technical Appendix A* of this EIR). Environmental topics raised in written comment to the NOP are summarized in Table 1-2, *Summary of NOP Comments*, in Section 1.0 of this EIR and include but are not limited to the topics of aesthetics, air quality, biological resources, cultural resources, noise, and transportation/traffic.

ES.5 Alternatives to the Proposed Project

In compliance with CEQA Guidelines § 15126.6, an EIR must describe a range of reasonable alternatives to the Project or to the location of the Project. Each alternative must be able to feasibly attain most of the Project's objectives and avoid or substantially lessen the Project's significant effects on the environment. A detailed description of each alternative evaluated in this EIR, as well as an analysis of the potential environmental impacts associated with each alternative, is provided in EIR Section 6.0, *Alternatives to the Proposed Project.* Also described in Section 6.0 is a list of alternatives that were considered but rejected from further analysis.

In reviewing the alternatives, the Southern California Association of Governments' (SCAG's) *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)* chapter titled "Goods Movement" is relevant. It explains that goods movement is essential to supporting the SCAG regional economy and quality of life. The *RTP/SCS* states that the SCAG region hosts one of the largest clusters of logistics activity in North America and that logistics activities, and the jobs that go with them, depend on a goods movement network, including warehousing and distribution facilities. According to SCAG, the SCAG region will run out of suitably zoned vacant land designated for warehouse facilities in about the year 2028. (SCAG, 2013, pp. 4-39). Thus, it is likely that the selection of any alternative that reduces building square footage on the Project site, which is designated and zoned for industrial development, is likely to displace the additional square footage to another property, which would result in the same or greater environmental effects, given the strong regional demand for logistics and warehousing space in the SCAG region.

ES.5.1 No Development Alternative

Under the No Development Alternative, no improvements would be made to the Project site and none of the Project's on- or off-site utility and infrastructure improvements would occur. Refer to the detailed description of the Project site's existing physical conditions in Section 2.0, *Environmental Analysis* of this EIR. The No Development Alternative would result in no physical environmental impacts to the Project site beyond those that have already occurred on the property. All significant effects of the Project would be avoided or lessened by the selection of the No Development Alternative.

ES.5.2 No Project Alternative

The No Project Alternative considers implementation of the MVIAP on the property with no amendment to the setback requirement. Under this Alternative, the property would be developed with the same building square footage as proposed by the Project (by adding mezzanine space to Building #1), with a 300-foot setback along Indian Street (as measured from the centerline of Indian Street). The 300-foot setback area would be planted with landscape materials.

The No Project Alternative would have the same ground-disturbing physical impacts as the proposed Project, construct the same amount of building area, and attract the same types of building users as the proposed Project. None of the Project's significant and unavoidable impacts would be reduced in severity or avoided by the No Project Alternative, and the No Project Alternative would result in a significant air quality impact related to diesel particulate matter (DPM) emissions (requiring mitigation) that would not occur under the Project. The No Project Alternative would meet most of the Project's objectives, although some of them would be met to a lesser degree than the Project.

ES.5.3 Reduced Project Alternative

Under the Reduced Project Alternative, the Project's building area would be reduced by 326,385 s.f., which is an approximately 19 percent reduction in building area compared to the proposed Project. Under this Alternative, 1,409,795 s.f. of building space would be provided in three (3) buildings, as compared to the Project's proposal to provide four (4) buildings with a combined total of 1,736,180 s.f. of floor space. The analysis for this Alternative assumes 1,153,550 s.f. of high cube warehouse space in one (1) building and 256,245 s.f. of light industrial space in two (2) buildings.

The Reduced Project Alternative would reduce – but not avoid – the Project's significant and unavoidable impacts to air quality, greenhouse gas, land use/planning, and transportation/traffic. The Reduced Project Alternative would have the same physical footprint as the Project, so all ground-disturbing impacts would be identical to the proposed Project. All other operational-related impacts of the Project would be reduced under this Alternative due to the reduction of building area on the subject property and/or the reduction in vehicle trips. The Reduced Project Alternative would meet most, but not all, of the Project's objectives, although many objectives would be met to a lesser degree than the Project.

ES.5.4 One Building Alternative

The One Building Alternative was selected by the Lead Agency to evaluate limited development on the Project site that would reduce all of the Project's significant and unavoidable environmental effects (air quality, greenhouse gas emissions, land use/planning, and traffic/transportation) to levels of less than significant. Under this Alternative, one (1) 400,000 s.f. high cube warehouse building would be constructed on the Project site northeast of the Perris Valley Storm Drain Channel. The remainder of the site would remain vacant. Under this Alternative, the Project's building area would be reduced by 1,336,180 s.f., which is an approximately 77 percent reduction in building area compared to the proposed Project.

The One Building Alternative is anticipated to avoid the Project's significant and unavoidable impacts to greenhouse gas and transportation traffic. In addition, the One Building Alternative is anticipated to reduce the severity of, but not avoid, the Project's significant and unavoidable impacts to air quality, and land use/planning. The One Building Alternative also would reduce the severity of all of the Project's less-than-significant impacts with the exception of aesthetics, which would be slightly increased due to a less cohesive visual character and a reduction in visual quality across the entire property. The One Building Alternative would fail to meet two of the Project's objectives and would meet four other objectives less successfully than the Project. The One Building Alternative is identified as the environmentally superior alternative.

ES.6 Summary of Impacts, Mitigation Measures, and Conclusions

ES.6.1 Effects Found not to be Significant

The scope of this EIR includes ten (10) subject areas determined through the completion of an Initial Study prepared by the City of Moreno Valley pursuant to CEQA Guidelines § 15063 and CEQA Statute § 21002(e), as well as consideration of public comments received by the City on this EIR's NOP and during the July 26, 2015 public scoping session. The Initial Study, NOP, and public comments received in response to the NOP, are attached to this EIR as *Technical Appendix A*. Subject areas for which the City concluded that impacts clearly would be less than significant and that do not warrant further analysis in this EIR include: Geology and Soils; Mineral Resources; Population and Housing; Public Services; Recreation; and Utilities and Service Systems. This EIR addresses these topics in EIR Subsection 5.0, *Other CEQA Considerations*.

ES.6.2 Impacts of the Proposed Project

Table ES-1, *Mitigation Monitoring and Reporting Program*, provides a summary of the proposed Project's environmental impacts, as required by CEQA Guidelines § 15123(a). Also presented are the mitigation measures imposed on the Project by the City of Moreno Valley to further avoid adverse environmental impacts or to reduce their level of significance.

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.1 Aesthetics					
Summary of Impacts					
Threshold a): Less-than-Significant Impact. The Project site does not comprise all or part of a scenic vista and does not contain any visually prominent scenic features. No unique views to scenic vistas are visible from the property. The Project would not substantially change a scenic view or substantially block or obscure a scenic vista; therefore, impacts to scenic vistas would be less than significant.	No mitigation is required	N/A	N/A	N/A	Less-than-Significant Impact
Threshold b): Less-than-Significant Impact. The Project has no potential to damage scenic resources within a scenic highway corridor because Project site is not located within the viewshed of a scenic highway and the Project site does not contain any scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings.	No mitigation is required	N/A	N/A	N/A	No Impact.
Threshold c): Less-than-Significant Impact. The Project would not substantially degrade the existing visual character or quality of the site or its surrounding areas during Project construction or operation. Although the Project would change the visual character of the site from a vacant property to a developed logistics center, the Project proposes a number of site design, architectural, and landscaping elements to ensure that the surrounding visual character and quality is not substantially affected. A	No mitigation is required	N/A	N/A	N/A	Less-than-Significant Impact

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
landscaped parkway, 50-foot-wide landscape buffer, and 14-foot-high screen wall are proposed along Indian Street to screen the Project from residential uses to the east. The Project would be consistent with the industrial character of the site and surrounding area to the north, south, and west, which is made up of warehouse and industrial facilities and the March Air Reserve Base.					
Threshold d): Less-than-Significant Impact. The Project would not create substantial light or glare. Compliance with the MVIAP requirements for lighting and mandatory compliance with City of Moreno Valley Municipal Code § 9.08.100 would ensure less-than-significant impacts associated with light and glare affecting day or nighttime views in the area.	**MM 4.1-1** In the event that solar panels are proposed for installation, then prior to the issuance of building permits the City of Moreno Valley shall review the construction drawings and ensure that: a) All solar panels shall be installed at a fixed angle (i.e., non-tracking); b) All solar panels shall contain a non-reflective coating or shall be otherwise designed, engineered, and/or installed to minimize glare; and c) All solar panels shall be directed toward the sky and not facing adjacent properties.	Project Applicant	City of Moreno Valley Planning Division & Building and Safety Division	Prior to building permit issuance	Less-than-Significant Impact
	MM 4.1-2 In the event that solar panels are proposed for installation, then prior to the issuance of building permits the Project Applicant shall provide the City of Moreno Valley with evidence that the proposed solar array(s) would not result in substantial glare effects to operations at the March Air Reserve Base as determined by Sandia National Laboratories' Solar Glare Hazard Analysis Tool (or equivalent analytical model) and to the satisfaction of the Riverside County Airport Land Use Commission.	Project Applicant	City of Moreno Valley Planning Division & Building and Safety Division	Prior to building permit issuance	

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.2 Agricultural Resources					
Summary of Impacts					
Threshold a): Less-than-Significant Impact. The Project site contains soils that are classified as Farmland of Local Importance but have severe limitations for agricultural use. The Project would not convert Farmland (i.e., Prime Farmland, Unique Farmland, or Farmland of Statewide Importance designated by the FMMP) to non-agricultural use.	No mitigation is required	N/A	N/A	N/A	Less-than-Significant
Threshold b): No Impact. No agricultural zoning or active Williamson Act contract occurs on the Project site or in the Project site's surrounding area. As such, there is no potential for the Project to result in changes to the environment that would conflict with agricultural zoning or a Williamson Act contract.	No mitigation is required	N/A	N/A	N/A	No Impact
Threshold c): No Impact. The Project site is not used for agriculture under existing conditions, contains poor-quality agricultural soils, does not contain Farmland, and is not located in the vicinity of Farmland; therefore, there is no potential for the Project to result in the direct or indirect conversion of Farmland or important agricultural resources to non-agricultural uses.	No mitigation is required	N/A	N/A	N/A	No Impact

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.3 Air Quality					
Summary of Impacts					
Threshold a): Significant Cumulatively Considerable Impact. Although the Project's location and design features are consistent with and support the AQMP's air pollution reduction strategies, because short-term construction and long-term operational air emissions generated by the Project would exceed the SCAQMD's regional threshold criteria for daily emissions, the Project has the potential to cumulatively contribute towards obstruction of the SCAQMD's ability to meet its AQMP attainment goals.	See Mitigation Measures MM 4.3-1 through MM 4.3-19 below.				Significant Cumulatively Considerable Impact
Threshold b) and c): Significant Direct and Cumulatively Considerable Impact. The Project would exceed the SCAQMD regional threshold for daily VOC and NO_X emissions during short-term construction activities. Additionally, the Project's long-term operational activities (i.e., full buildout) would exceed the regional thresholds for daily VOC and NO_X emissions. Because the Project proposes four buildings, there is a potential that operational and construction activities could overlap. If there is overlap, the Project would result in short-term VOC, NO_X, CO_2 PM_{10} and $PM_{2.5}$ emissions during the overlapping activities. As such, Project-related air emissions would violate the SCAQMD air quality standards and contribute to the non-attainment of criteria	**MM 4.3-1** Prior to building permit issuance, the City of Moreno Valley shall verify that a note is provided on all building plans specifying that compliance with SCAQMD Rule 1113 is mandatory during the application of architectural coatings. Project contractors shall be required to comply with the note and maintain written records of such compliance that can be inspected by the City of Moreno Valley upon request. This note also shall indicate that only "low-volatile organic compound" paint products (no more than 50 gram/liter of VOC) shall be used. All other architectural coatings shall comply with the VOC limits prescribed by SCAQMD Rule 1113.	Project Applicant; Project Construction Contractors	City of Moreno Valley Planning Division & Building and Safety Division	Prior to building permit issuance.	Significant and Unavoidable Direct and Cumulatively Considerable Impact

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
pollutants, which is a significant direct and cumulatively considerable impact.					
	MM 4.3-2 During construction activities, the construction contractor shall maintain a list of diesel-powered construction equipment used on the site, including type/engine year of equipment, number of equipment, and equipment horsepower. The construction contractor shall also maintain a log of the daily operating hours of each piece of diesel-powered equipment by horsepower hours. The construction contractor shall ensure that the usage of diesel-powered construction equipment does not exceed the horsepower-hours per day specified below. Lower tier types may be substituted for higher tier types. Tier 0 – 3,608 horsepower-hours/day Tier 1 – 7,760 horsepower-hours/day Tier 2 – 1,760 horsepower-hours/day Tier 3 – 11,128 horsepower-hours/day Tier 4 – 37,008 horsepower-hours/day	Project Applicant; Project Construction Contractors	City of Moreno Valley Building and Safety Division	During construction activities.	
	MM 4.3-3 The Project shall comply with California Code of Regulations Title 13, Division 3, Chapter 1, Article 4.5, Section 2025, "Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles" and California Code of Regulations Title 13, Division 3, Chapter 10, Article 1, Section 2485, "Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling" by complying with the following requirements. To ensure and enforce compliance with these requirements and thereby limit the release of diesel particulate matter, oxides of nitrogen, and other criteria pollutants into the atmosphere from the	Project Applicant; Project Construction Contractors	City of Moreno Valley Land Development Division. Building and Safety Division, and Planning Division	Prior to the issuance of a grading permits and building permits.	

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	burning of fuel, prior to grading permit and building permit issuance, the City of Moreno Valley shall verify that the following notes are included on the grading and building plans. Project construction contractors shall be required to ensure compliance with the notes and permit periodic inspection of the construction site by City of Moreno Valley staff or its designee to confirm compliance. These notes also shall be specified in bid documents issued to prospective construction contractors. a) Temporary signs shall be placed on the construction site at all construction vehicle entry points and at all loading, unloading, and equipment staging areas indicating that heavy duty trucks and diesel powered construction equipment are prohibited from idling for more than five (5) minutes. The signs shall be installed before construction activities commence and remain in place during the duration of construction activities at all loading, unloading, and equipment staging areas. b) Construction vehicles shall use the City's designated truck route. c) Construction parking shall be located and configured to minimize traffic interference on public streets. d) Temporary traffic controls such as a flag person shall be used at Project site construction entrances. e) A construction management plan shall be designed to minimize the number of large construction equipment operating during any given time period. f) To the extent feasible, construction truck trips shall be scheduled during non-peak hours to reduce				

Table ES-1 Mitigation Monitoring and Reporting Program

Threshold	Mitigation Measures (MM)	Responsible Party	Monitoring Party	Implementation Stage	Level of Significance After Mitigation
	peak hour emissions. g) CARB certified equipment shall be used for construction activities to the extent feasible. h) Contractors shall be required to turn off all construction equipment and delivery vehicles when not in use and/or idling in excess of 3 minutes. i) Construction equipment engine sizes shall be limited to the minimum practical size. j) Electrical powered equipment shall be utilized in-lieu of gasoline-powered engines where technically feasible. k) Temporary traffic controls, such as a flag person shall be provided during all phases of construction to maintain smooth traffic flow. l) Construction tucks shall be routed away from congested streets and sensitive receptor areas. m) Construction parking areas shall be configured to minimize traffic interference. n) Construction worker trips shall be reduced by encouraging carpooling and providing on-site food service options for the construction crew. o) Construction workers shall be encouraged to utilize shuttle service to transit stations/multimodal center.				
	MM 4.3-4 The Project shall comply with the provisions of South Coast Air Quality Management District Rule 403, "Fugitive Dust." Rule 403 requires implementation of best available dust control measures during construction activities that generate fugitive dust, such as earth moving, grading, and equipment travel on unpaved roads. Prior to grading permit issuance, the City of Moreno Valley shall	Project Applicant; Project Construction Contractors.	City of Moreno Valley Planning Division, Building and Safety Division, and Land Development Division	Prior to the issuance of a grading permit.	

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	verify that the following notes are specified on the grading plan. Project construction contractors shall be required to ensure compliance with the notes and permit periodic inspection of the construction site by City of Moreno Valley staff or its designee to confirm compliance. These notes shall also be specified in bid documents issued to prospective construction contractors. a) During grading and ground-disturbing construction activities, the construction contractor shall ensure that all unpaved roads, active soil stockpiles, and areas undergoing active ground disturbance within the Project site are watered at least three (3) times daily during dry weather. Watering, with complete coverage of disturbed areas by water truck, sprinkler system, or other comparable means, shall occur in the mid-morning, afternoon, and after work is done for the day. The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. b) Temporary signs shall be installed on the construction site along all unpaved roads indicating a maximum speed limit of 15 miles per hour (MPH). The signs shall be installed before construction activities commence and remain in place for the duration of construction activities that include vehicle activities on unpaved roads. c) Gravel pads must be installed at all access points to prevent tracking of mud onto public roads. d) Install and maintain trackout control devices in effective condition at all access points where paved and unpaved access or travel routes intersect (eg. Install wheel shakers, wheel washers, and limit site				

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	access.) e) Limit fugitive dust sources to 20 percent opacity. f) When materials are transported off-site, all material shall be covered or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained. g) All street frontages shall be swept at least once a day using SCAQMD Rule 1186 certified street sweepers utilizing reclaimed water trucks if visible soil materials are carried to adjacent streets. h) Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and initiate corrective action within 24 hours. i) Any vegetative cover to be utilized onsite shall be planted as soon as possible to reduce the disturbed area subject to wind erosion. Irrigation systems required for these plants shall be installed as soon as possible to maintain good ground cover and to minimize wind erosion of the soil. j) Any on-site stock piles of debris, dirt, or other dusty material shall be covered or watered as necessary to minimize fugitive dust pursuant to SCAQMD Rule 403. k) A high wind response plan shall be formulated for enhanced dust control if winds are forecast to exceed 25 mph in any upcoming 24-hour period.				

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	MM 4.3-5 The Project shall comply with the provisions of South Coast Air Quality Management District Rule 1186 "PM_{10} Emissions from Paved and Unpaved Roads and Livestock Operations" and Rule 1186.1, "Less-Polluting Street Sweepers" by complying with the following requirements. To ensure and enforce compliance with these requirements, prior to grading and building permit issuance, the City of Moreno Valley shall verify that the following notes are included on the grading and building plans. Project construction contractors shall be required to ensure compliance with the notes and permit periodic inspection of the construction site by City of Moreno Valley staff or its designee to confirm compliance. The notes also shall be specified in bid documents issued to prospective construction contractors. a) If visible dirt or accumulated dust is carried onto paved roads during construction, the contractor shall remove such dirt and dust at the end of each work day by street cleaning. b) Street sweepers shall be certified by the South Coast Air Quality Management District as meeting the Rule 1186 sweeper certification procedures and requirements for PM10-efficient sweepers. All street sweepers having a gross vehicle weight of 14,000 pounds or more shall be powered with alternative (non-diesel) fuel or otherwise comply with South Coast Air Quality Management District Rule 1186.1.	Project Applicant; Project Construction Contractors	City of Moreno Valley Land Development Division, Building and Safety Division, and Planning Division	Prior to the issuance of grading permits and building permits.	
	MM 4.3-6 The Project shall comply with the provisions of SCAQMD Rule 431.2, "Sulfur Content of Liquid Fuels" by complying with the following requirement. To ensure and enforce compliance with this requirement and thereby limit the release of	Project Applicant; Project Construction Contractors	City of Moreno Valley Land Development Division & Building and Safety Division	Prior to issuance of grading permits and building permits.	

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	sulfur dioxide (SO_X) into the atmosphere from the burning of fuel, prior to grading and building permit issuance, the City of Moreno Valley shall verify that the following note is included on the grading and building plans. Project contractors shall be required to ensure compliance with this note and permit periodic inspection of the construction site by City of Moreno Valley staff or its designee to confirm compliance. This note also shall be specified in bid documents issued to prospective construction contractors. a) All liquid fuels shall have a sulfur content of not more than 0.05 percent by weight, except as provided for by South Coast Air Quality Management District Rule 431.2.				
	MM 4.3-7 All indoor forklifts used in the Project's buildings shall be electric, natural gas, or propane powered. This requirement shall be noted in the buildings' sale and lease agreements and also shall be included on all tenant improvement plans submitted to the City of Moreno Valley.	Project Applicant	City of Moreno Valley Planning Division	Prior to issuance of occupancy permits.	
	MM 4.3-8 All outdoor cargo handling equipment (including yard trucks, hostlers, yard goats, pallet jacks, forklifts, and other on-site equipment) that are powered by diesel fuel shall comply with the CARB/U.S. EPA Tier IV Engine standards for off-road vehicles or better (defined as less than or equal to 0.015 g/bhp-hr. for PM10). This requirement shall be noted in the buildings' sale and lease agreements and also shall be noted on all tenant improvement plans.	Project Applicant	City of Moreno Valley Planning Division	Prior to issuance of occupancy permits.	

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	MM 4.3-9 Prior to the issuance of a building permit, documentation shall be provided to the City of Moreno Valley demonstrating that: 1) the building is designed to achieve efficiency equal to or exceeding the 2013 California Title 24 Energy Efficiency Standards and complies with the mandatory reductions in indoor water usage required by the California Building Standards Code, including the use of U.S. EPA Certified WaterSense labeled or equivalent faucets, high-efficiency toilets, and water-conserving shower heads; and 2) the landscaping design uses a plant palette emphasizing drought-tolerant plants and use of water-efficient irrigation techniques.	Project Applicant	City of Moreno Valley Planning Division & Building and Safety Division	Prior to the issuance of building permits.	
	MM 4.3-10 Prior to building final, documentation shall be provided to the City of Moreno Valley demonstrating the appliances and fixtures installed in restrooms and employee break areas are Energy Star rated and/or are U.S. EPA WaterSense labeled or equivalent.	Project Applicant	City of Moreno Valley Planning Division & Building and Safety Division	Prior to building final.	
	MM 4.3-11 Legible, durable, weather-proof signs shall be placed at truck access gates, loading docks, and truck parking areas that identify applicable California Air Resources Board (CARB) anti-idling regulations. At a minimum each sign shall include: 1) instructions for truck drivers to shut off engines when not in use; 2) a prohibition on the idling of trucks for more than three (3) minutes; 3) instructions for truck drivers to shut down engines after 300 seconds of continuous idling operation once the vehicle is stopped, the transmission is set to “neutral” or “park” and the parking break is engaged; and 4) telephone numbers of the building facilities manager and the CARB to report violations. Prior to building	Project Applicant	City of Moreno Valley Planning Division & Building and Safety Division	Prior to building final.	

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	final, the City of Moreno Valley shall conduct a site inspection to ensure that the signs are in place.				
	MM 4.3-12 Prior to building final, the City of Moreno Valley shall verify that: 1) the parking lot striping and security gating plan allows for adequate truck stacking at gates to prevent queuing of trucks outside the property; and 2) preferential parking locations are identified on the site for carpool, vanpool, EVs and CNG vehicles; and 3) secure, weather protected bicycle parking is provided for building employees.	Project Applicant	City of Moreno Valley Planning Division & Transportation Division	Prior to building final.	
	MM 4.3-13 Prior to the issuance of building final, the Project's property owner shall provide a model lease agreement to the Planning Division verifying that provisions are included in the building's lease agreement that inform tenants about the availability of the following and their benefits to air quality: 1) alternatively fueled cargo handling equipment; 2) grant programs for diesel fueled vehicle engine retrofit and/or replacement; 3) designated truck parking locations in the City of Moreno Valley; 4) access to alternative fueling stations in the City of Moreno Valley that supply compressed natural gas (closest station is located on Indian Street, south of Nandina Avenue); 5) the United States Environmental Protection Agency's SmartWay program; and 6) voluntary trip reduction programs, for which all employees shall be eligible to participate.		City of Moreno Valley Planning Division & Building and Safety Division	Prior to the issuance of building final.	
	MM 4.3-14 Prior to the issuance of building final, the Project's property owner shall provide a model lease agreement to the Planning Division verifying that provisions are included in the building's lease	Project Property Owner(s)	City of Moreno Valley Planning Division & Building and Safety Division	Prior to the issuance of building final	

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	agreement that encourages: 1) all fleet vehicles to conform to 2010 air quality standards or better; users shall maintain compliance through normal course of business; and 2) use of electrical equipment for landscape maintenance to the extent feasible; 3) use of electrical powered equipment in lieu of gasoline-powered engines where technically feasible; and 4) reduced-fee or no-fee parking for EVs and CNG vehicles.				
	MM 4.3-15 Prior to the issuance of building final, the Project's property owner shall provide a model lease agreement to the Planning Division verifying that provisions will be included in the building's lease agreement that 1) encourages tenants to display information about alternative transportation options in a common area of the building and 2) informs tenants about locations of the nearest existing and planned Metrolink stations and the benefits of implementing a voluntary carpool or rideshare program for employees.	Project Property Owner(s)	City of Moreno Valley Planning Division & Building and Safety Division	Prior to the issuance of building final.	
	MM 4.3-16 The building plans shall include conduit and plug-in locations for electric yard tractors, fork lifts, reach stackers, and sweepers.	Project Applicant	City of Moreno Valley Planning Division & Building and Safety Division	Prior to the issuance of building permits.	
	MM 4.3-17 Prior to building final, the City of Moreno Valley shall verify that a sign has been installed at each exit driveway, providing directional information to the City's truck route. Text on the sign shall read "To Truck Route" with a directional arrow.	Project Applicant	City of Moreno Valley Planning Division & Building and Safety Division	Prior to building final.	

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	MM 4.3-18 Prior to the issuance of a building permit for any building that utilizes refrigerated storage, any spaces utilizing refrigerated storage shall provide an electrical hookup for refrigeration units on delivery trucks. As a condition of occupancy permits, trucks incapable of utilizing the electrical hookup for powering refrigeration shall be prohibited from accessing the site. **MM 4.3-19** Prior to the issuance of building permits, to ensure the shading of parking lots to reduce solar gain, the City of Moreno Valley shall review landscaping plans to verify that the plans call for the planting of shade trees so that at least 50% of the automotive parking lots (excluding the truck courts where trees cannot be planted due to interference with truck maneuvering) will be shaded within 15 years after Project construction is complete.	Project Applicant Project Applicant	City of Moreno Valley Planning Division & Building and Safety Division City of Moreno Valley Planning Division & Building and Safety Division	Prior to the issuance of building permits. Prior to the issuance of building permits.	
Threshold d): Significant Direct and Cumulatively Considerable Impact. Emissions during short-term construction activities would exceed the SCAQMD's localized significance thresholds for NO_2, PM_{10}, and $PM_{2.5}$.	See MM 4.3-1 through MM 4.3-19.				Less-than-Significant Impact
Threshold e): Less-than-Significant Impact. The Project would not produce unusual or substantial construction-related odors. Odors associated with long-term operation of the Project would be minimal and less than significant. The Project would comply with SCAQMD Rule 402, which prohibits the discharge of odorous emissions that would create a public nuisance.	**MM 4.3-20** The Project is required to comply with the provisions of SCAQMD Rule 402 "Nuisance." To ensure and enforce compliance with this requirement, which applies to the release of odorous emissions into the atmosphere, prior to the issuance of grading and building permits, the City of Moreno Valley shall verify that the following note is included on grading and building plans. During Project construction, contractors shall be required to ensure	Project Applicant; Project Construction Contractors	City of Moreno Valley Land Development Division, Planning Division, and Building and Safety Division	Prior to the issuance of grading permits and building permits.	Less-than-Significant Impact

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	compliance with Rule 402 and permit periodic inspection of the construction site by the City of Moreno Valley staff or its designee to confirm compliance. The note shall be specified in bid documents issued to prospective construction contractors and shall also be specified in the building's lease agreement. a) Compliance with South Coast Air Quality Management District (AQMD) Rule 402 "Nuisance" is required. Rule 402 states that air contaminants and other materials shall not be discharged from any source whatsoever in quantities that would cause injury, detriment, nuisance, or annoyance to a considerable number of persons or the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. Public nuisance violations can occur when a considerable number of individuals complain to AQMD of odors, paint overspray, or other bothersome conditions that appear to be related to the operation of a business in the neighboring vicinity.				
4.4 Biological Resources					
Summary of Impacts					
<u>Threshold a): Significant Direct and Cumulatively Considerable Impact</u>. No candidate, sensitive, or special-status plant species are located on the Project site. The loss of habitat for the San Diego black-tailed jackrabbit, as well as Western Riverside County MSHCP Covered Species with the potential to occupy or utilize the	**MM 4.4-1** Within 30 days prior to grading, a qualified biologist shall conduct a survey of the property and make a determination regarding the presence or absence of the burrowing owl in accordance with the Burrowing Owl Survey Instructions for the Western Riverside MSHCP Area. The determination shall be documented in a report and shall be submitted, reviewed, and accepted by the	Project Applicant; Project Biologist	City of Moreno Valley Planning Division & Land Development Division	Within 30 days prior to grading activities.	Less-than-Significant Impact

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Project site would be less than significant with mandatory Western Riverside County MSHCP compliance. Although the burrowing owl is not present on the Project site, the species could be impacted if it migrates onto the property prior to the commencement of ground-disturbing construction activities, which is a potentially significant direct and cumulatively considerable impact.	City of Moreno Valley Planning Division prior to the issuance of a grading permit and subject to the following provisions: a) In the event that the pre-construction survey identifies that no burrowing owls are present on the property, a grading permit may be issued without restriction. b) In the event that the pre-construction survey identifies the presence of at least one individual but less than three (3) mating pairs of burrowing owl, then prior to the issuance of a grading permit and prior to the commencement of ground-disturbing activities on the property, the qualified biologist shall passively or actively relocate any burrowing owls. Passive relocation, including the required use of one-way doors to exclude owls from the site and the collapsing of burrows, will occur if the biologist determines that the proximity and availability of alternate habitat is suitable for successful passive relocation. Passive relocation shall follow CDFW relocation protocol and shall only occur between September 15 and February 1. If proximate alternate habitat is not present as determined by the biologist, active relocation shall follow CDFW relocation protocol. The biologist shall confirm in writing that the species has fledged the site or been relocated prior to the issuance of a grading permit. c) In the event that the pre-construction survey identifies the presence of three (3) or more mating pairs of burrowing owl, the requirements of MSHCP Species-Specific Conservation Objectives 5 for the burrowing owl shall be followed. Objective 5 states that if the site (including adjacent areas) supports three (3) or more pairs of burrowing owls and				

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THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	supports greater than 35 acres of suitable Habitat, at least 90 percent of the area with long-term conservation value and burrowing owl pairs will be conserved onsite until it is demonstrated that Objectives 1-4 have been met. A grading permit shall only be issued, either: • Upon approval and implementation of a property-specific Determination of Biological Equivalent or Superior Preservation (DBESP) report for the western burrowing owl by the CDFW; or • A determination by the biologist that the site is part of an area supporting less than 35 acres of suitable Habitat, and upon passive or active relocation of the species following accepted CDFW protocols. Passive relocation, including the required use of one-way doors to exclude owls from the site and the collapsing or burrows, will occur if the biologist determines that the proximity and availability of alternate habitat is suitable for successful passive relocation. Passive relocation shall follow CDFW relocation protocol and shall only occur between September 15 and February 1. If proximate alternate Habitat is not present as determined by the biologist, active relocation shall follow CDFW protocol. The biologist shall confirm in writing that the species has fledged the site or been relocated prior to issuance of a grading permit.				
Threshold b): Less-than-Significant Impact. The Project would impact disturbed/ruderal habitat (on- and off-site) and unvegetated riverine habitat (off-site). Portions of the unvegetated riverine habitat that would be impacted by the Project are	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact

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THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
under the jurisdiction of the ACOE, RWQCB, and/or CDFW. The Project's impacts to jurisdictional areas would not result in substantial adverse effects to biological form and function and would be less than significant. The Project would not impact any riparian habitat.					
Threshold c): Less-than-Significant Impact. There are no federally protected wetlands on the Project site or within the off-site improvement area. Although the Project would discharge storm water runoff directly into the Perris Valley Storm Drain Channel, the discharge of storm water flows into the Perris Valley Storm Drain Channel would not result in substantial adverse effects to the form or function of any downstream natural habitats.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold d): Significant Direct and Cumulatively Considerable Impact. There is no potential for the Project to interfere with the movement of any resident migratory fish or with established native resident migratory corridors or impede the use of a native wildlife nursery site. However, the Project has the potential to impact nesting migratory birds protected by the MBTA and California Fish and Game Code.	**MM 4.4-2** As a condition of approval for all grading permits, vegetation clearing shall be prohibited during the migratory bird nesting season (February 1 through September 15), unless a migratory bird nesting survey is completed in accordance with the following requirements: a) A migratory nesting bird survey of all vegetation that may support nesting birds shall be conducted by a qualified biologist within three (3) days prior to initiating vegetation clearing. **MM 4.4-3** A copy of the migratory nesting bird survey results report shall be provided to the City of Moreno Valley Planning Division. If the survey	Project Applicant; Project Biologist	City of Moreno Valley Planning Division	Within 3 days prior to initiating vegetation clearing.	Less-than-Significant Impact

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THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	identifies the presence of active nests, then the qualified biologist shall provide the City of Moreno Valley Planning Division with a copy of maps showing the location of all nests and an appropriate buffer zone around each nest sufficient to protect the nest from direct and indirect impacts. The size and location of all buffer zones, if required, shall be subject to review and approval by the City of Moreno Valley Planning Division and shall be no less than a 300-foot radius around the nest for non-raptors and a 500-foot radius around the nest for raptors. The nests and buffer zones shall be field checked weekly by a qualified biological monitor. The approved buffer zone shall be marked in the field with construction fencing, within which no vegetation clearing or ground disturbance shall commence until the qualified biologist and City Planning Division verify that the nests are no longer occupied and the juvenile birds can survive independently from the nests				
Threshold e): Less-than-Significant Impact. The Project would not conflict with any local policies or ordinances governing biological resources.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold f): Significant Direct and Cumulative Impact. The Project site is subject to the Western Riverside County MSHCP and its survey requirements for the burrowing owl. Although the Project is compliant with all MSHCP provisions and although burrowing owl is absent from the subject property under existing conditions, the subject property contains habitat suitable for the species. If the species is present on the property at the time a grading	See MM 4.4-1.	Project Applicant; Project Biologist	City of Moreno Valley Planning Division	Prior to grading activities.	Less-than-Significant Impact

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
permit is issued, impacts would be significant.					
4.5 Cultural Resources					
Summary of Impacts					
Threshold a): No Impact. The Project would not impact a historic resource. No historic resources are present on the Project site or the Project's off-site improvement area; therefore, no historic resources could be altered or destroyed by construction or operation of the proposed Project.	No mitigation is required.	N/A	N/A	N/A	No Impact
Threshold b): Significant Direct and Cumulatively Considerable Impact. Although no archaeological resources were identified on the Project site, implementation of the Project has the potential, however unlikely, to unearth and adversely impact significant archaeological resources that may be buried beneath the ground surface and discovered during Project construction activities.	**MM 4.5-1** Prior to issuance of a grading permit, the Project Applicant shall provide evidence to the City of Moreno Valley that a qualified professional archaeological monitor has been retained by the Project Applicant to conduct monitoring of all mass grading and trenching activities in previously undisturbed soils and has the authority to halt and redirect earthmoving activities in the event that suspected archaeological resources are unearthed during Project construction.	Project Applicant	City of Moreno Valley Planning Division	Prior to the issuance of a grading permit.	Less-than-Significant Impact
	MM 4.5-2 Prior to the issuance of a grading permit, the Project Applicant shall provide evidence to the City of Moreno Valley that appropriate Native American representative(s) shall be allowed to monitor and have received or will receive a minimum of 15 days advance notice of mass grading activities in previously undisturbed soils.	Project Applicant	City of Moreno Valley Planning Division	Prior to the issuance of a grading permit.	

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THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	MM 4.5-3 During grading operations in previously undisturbed soils, a professional archaeological monitor shall observe the grading operation until such time as the monitor determines that there is no longer any potential to uncover buried cultural deposits. If the monitor suspects that an archaeological resource may have been unearthed, the monitor shall immediately halt and redirect grading operations in a 100-foot radius around the find to allow identification and evaluation of the suspected resource. If the monitor determines that the suspected resource is potentially significant, the archaeologist shall notify the appropriate Native American Tribe(s) and invite a tribal representative to consult on the resource evaluation. In consultation with the appropriate Native American Tribe(s), the archaeological monitor shall evaluate the suspected resource and make a determination of significance pursuant to California Public Resources Code Section 21083.2. If the resource is significant, MM 4.5-4 shall apply.	Project Archaeological Monitor	City of Moreno Valley Planning Division	During grading operations in previously undisturbed soils.	
	MM 4.5-4 If a significant archaeological resource(s) is discovered on the property, ground disturbing activities shall be suspended 100 feet around the resource(s). The archaeological monitor and a representative of the appropriate Native American Tribe(s), the Project Applicant, and the City Planning Division shall confer regarding mitigation of the discovered resource(s). A treatment plan shall be prepared and implemented by the archaeologist to protect the identified archaeological resource(s) from damage and destruction. The landowner shall relinquish ownership of all archaeological artifacts that are of Native American origin found on the Project site to the culturally affiliated Native	Project Applicant / Landowner; Project Construction Contractor; Project Archaeological Monitor	City of Moreno Valley Planning Division	During ground disturbing activities.	

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	American tribe for proper treatment and disposition. A final report containing the significance and treatment findings shall be prepared by the archaeologist and submitted to the City Planning Division, the appropriate Native American tribe(s), and the Eastern Information Center.				
Threshold c): Significant Direct and Cumulatively Considerable Impact. The Project would not impact any known paleontological resource or unique geological feature. However, the Project site and off-site improvement area contain alluvium soils with a high sensitivity for paleontological resources. Implementation of the Project has the potential to unearth and adversely impact paleontological resources that may be buried beneath the ground surface and discovered during Project-related grading and excavation activities.	**MM 4.5-5** Prior to the issuance of a grading permit, the Project Applicant shall provide evidence to the City of Moreno Valley that a qualified paleontologist has been retained by the Project Applicant to conduct monitoring of excavation activities and has the authority to halt and redirect earthmoving activities in the event that suspected paleontological resources are unearthed.	Project Applicant; Project Paleontologist	City of Moreno Valley Planning Division	Prior to issuance of grading permit	Less-than-Significant Impact
	MM 4.5-6 The paleontological monitor shall conduct full-time monitoring during grading and excavation operations in undisturbed, very old alluvial fan sediments and shall be equipped to salvage fossils if they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. The paleontological monitor shall be empowered to temporarily halt or divert equipment to allow of removal of abundant and large specimens in a timely manner. Monitoring may be reduced if the potentially fossiliferous units are not present in the subsurface, or if present, are determined upon exposure and examination by qualified	Project Paleontologist	City of Moreno Valley Planning Division	On-going during construction	

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	paleontological personnel to have a low potential to contain or yield fossil resources.				
	MM 4.5-7 Recovered specimens shall be properly prepared to a point of identification and permanent preservation, including screen washing sediments to recover small invertebrates and vertebrates, if necessary. Identification and curation of specimens into a professional, accredited public museum repository with a commitment to archival conservation and permanent retrievable storage, such as the Western Science Museum in Hemet, California, is required for significant discoveries.	Project Paleontologist	City of Moreno Valley Planning Division	Prior to grading permit final inspection.	
	MM 4.5-8 A final monitoring and mitigation report of findings and significance shall be prepared, including lists of all fossils recovered, if any, and necessary maps and graphics to accurately record the original location of the specimens. The report shall be submitted to the City of Moreno Valley prior to building final.	Project Paleontologist	City of Moreno Valley Planning Division	Prior to building final.	
<u>Threshold d): Less-than-Significant Impact.</u> In the unlikely event that human remains are discovered during Project grading or other ground disturbing activities, the Project would be required to comply with the applicable provisions of California Health and Safety Code §7050.5 and California Public Resources Code §5097 et. seq. Mandatory compliance with State law would ensure that human remains, if encountered, are appropriately treated and would preclude the potential for significant impacts to human remains.	No Mitigation is Required.	N/A	N/A	N/A	Less-than-Significant Impact

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THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.6 Greenhouse Gas Emissions					
Summary of Impacts					
Threshold a): Significant Cumulatively Considerable Impact. The Project is estimated to generate approximately 42,404.68 MTCO2e annually, which would exceed the SCAQMD screening threshold of 10,000 MTCO2e. As such, the Project would generate substantial, cumulatively considerable GHG emissions that may have a significant impact on the environment.	**MM 4.6-1** Prior to issuance of a building permit, the City of Moreno Valley shall verify that the roofs for Buildings #1, #2, #3, and #4 are designed to support solar panels. The entire roof area of each building is not required to support panels; the portion of the roof that is to support panels shall be determined by the City and the building's architect at time of building design and building permit issuance.	Project Applicant	City of Moreno Valley Planning Division & Building and Safety Division	Prior to the issuance of building permits.	Significant and Unavoidable Cumulatively Considerable Impact.
	MM 4.6-2 Prior to building final, the City of Moreno Valley shall verify that the parking lot is marked in compliance with the California Green Building Standards Code, which requires that a certain number of parking spaces be designated for any combination of low-emitting, fuel-efficient and carpool/vanpool vehicles. The designated parking stalls are required to be painted "Clean Air Vehicle."	Project Applicant	City of Moreno Valley Planning Division	Prior to building final.	
	MM 4.6-3 Prior to issuance of building permits for the landscape plan, the City of Moreno Valley shall review landscape plans to verify that trees will be planted in locations where tree placement would assist with passive solar heating and cooling of the structure, while also avoiding interference with vehicle movements and building operations.	Project Applicant	City of Moreno Valley Planning Division	Prior to building final.	
	MM 4.6-4 Prior to the approval of permits and approvals that would permit cold storage in Buildings #1, #2, #3, and/or #4, the Project Applicant shall provide information to the City of Moreno Valley demonstrating that the cooling system design is energy efficient.	Project Applicant	City of Moreno Valley Planning Division & Building and Safety Division	Prior to the approval of permits and approvals that would permit cold storage in Buildings #1, #2, #3, and/or #4.	

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THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Threshold b): Less-than-Significant Impact. The Project would be consistent with the CARB Scoping Plan and would not conflict with the GHG reduction mandates of AB 32. In addition, the Project would be consistent with applicable regulations, policies, plans, and policy goals that would further reduce GHG emissions, including the City of Moreno Valley's Energy Efficiency and Climate Action Strategy.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
4.7 Hazards and Hazardous Materials					
Summary of Impacts					
Threshold a) and b): Less-than-Significant Impact. During Project construction and operation, mandatory compliance to federal, state, and local regulations would ensure that the proposed Project would not create a significant hazard to the environment due to routine transport, use, disposal, or upset of hazardous materials.	Less-than-Significant Impact	N/A	N/A	N/A	Less-than-Significant Impact
Threshold c): No Impact. The Project site is not located within one-quarter mile of any existing or proposed school. Accordingly, the Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	No mitigation is required.	N/A	N/A	N/A	No Impact

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THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Threshold d): No Impact. The Project site is not located on any list of hazardous materials sites complied pursuant to Government Code §65962.5.	No mitigation is required.	N/A	N/A	N/A	No impact
Threshold e): Less-than-Significant Impact. The Project is consistent with the restrictions and requirements of the March ARB/IPA Compatibility Plan, assuming mandatory compliance with standard ALUC conditions of approval. As such, the Project would not result in an airport safety hazard for people residing or working in the Project area	**MM 4.7-1** Prior to the issuance of building permits, a photometric plan shall be submitted to the City of Moreno Valley and approved. Any outdoor lighting installed shall be hooded or shielded to prevent either the spillage of lumens or reflection into the sky. Outdoor lighting shall be downward facing.	Project Applicant	City of Moreno Valley Planning Division & Building and Safety Division	Prior to issuance of building permits.	Less-than-Significant Impact
	MM 4.7-2 The following uses shall be prohibited: a) Any use which would direct a steady light or flashing light of red, white, green, or amber colors associated with airport operations toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing at an airport, other than an FAA-approved navigational signal light or visual approach slope indicator. b) Any use which would cause sunlight to be reflected towards an aircraft engaged in an initial straight climb following takeoff or towards an aircraft engaged in a straight final approach towards a landing at an airport. c) Any use which would generate smoke or water vapor or which would attract large concentrations of birds, or which may otherwise affect safe air navigation within the area. (Such uses include landscaping utilizing water features, aquaculture, production of cereal grains, sunflower, and row	Project Applicant	City of Moreno Valley Planning Division & Building and Safety Division	Prior to the issuance of building permit; prior to building final.	

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THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	crops, composting operations, trash transfer stations that are open on one or more sides, recycling centers containing putrescible wastes, construction and demolition debris facilities, fly ash disposal, and incinerators.) d) Any use which would generate electrical interference that may be detrimental to the operation of aircraft and/or aircraft instrumentation. e) In Buildings 3 and 4: Children's schools, day care centers, libraries, hospitals, skilled nursing and care facilities, congregate care facilities, noise sensitive outdoor nonresidential uses and hazards to flight.				
	MM 4.7-3 The "Notice of Airport in Vicinity," included in the ALUC's October 8, 2015 staff report, shall be given to all prospective purchasers of the property and tenants of the buildings, and shall be recorded as a deed notice. Prior to building final, the Project Applicant shall provide to the City of Moreno Valley a copy of the title report and a model lease agreement for the subject property that includes the airport proximity notice.	Project Applicant	City of Moreno Valley Planning Division & Building and Safety Division	Prior to building final.	
	MM 4.7-4 The proposed detention basins on the site (including water quality management basins) shall be designed so as to provide for a maximum 48-hour detention period following the conclusion of the storm event for the design storm (may be less, but not more), and to remain totally dry between rainfalls. Vegetation in and around the detention basins that would provide food or cover for bird species that would be incompatible with airport operations shall not be utilized in project landscaping. Trees shall be spaced so as to prevent large expanses of contiguous	Project Applicant	City of Moreno Valley Building and Safety Division, Land Development Division, and Planning Division	Prior to the issuance of grading permits; prior to the issuance of building permits.	

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THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	canopy, when mature. Landscaping in and around the detention basins located westerly of the Perris Valley Storm Drain Channel shall not include trees that produce seeds, fruits, or berries.				
	MM 4.7-5 March Air Reserve Base must be notified of any land use having an electromagnetic radiation component to assess whether a potential conflict with Air Base radio communications could result. Sources of electromagnetic radiation include radio wave transmission in conjunction with remote equipment inclusive of irrigation controllers, access gates, etc. All sources of electromagnetic radiation shall be noted on building plans and tenant improvement plans.	Project Applicant	City of Moreno Valley Planning Division & Building and Safety Division	Prior to issuance of building permits.	
	MM 4.7-6 The Federal Aviation Administration has conducted aeronautical studies of each of the proposed buildings (Aeronautical Study Nos. 2015-AWP-8676-0E through 2015-AWP-8679-0E) and has determined that neither marking nor lighting of these structures is necessary for aviation safety. However, if marking and/or lighting for aviation safety are accomplished on a voluntary basis, such marking and/or lighting (if any) shall be installed in accordance with Federal Advisory Circular 70/7460-1 K Change 2 and shall be maintained therewith for the life of the Project. All voluntary marking and/or lighting shall be identified on building plans.	Project Applicant	City of Moreno Valley Planning Division & Building and Safety Division	Prior to issuance of building permits.	
	MM 4.7-7 The maximum height of Building 1 shall not exceed 60 feet above ground level, and the maximum elevation at top point (including any roof-mounted equipment) shall not exceed 1,549 feet above mean sea level.	Project Applicant	City of Moreno Valley Planning Division & Building and Safety Division	Prior to the issuance of building permits.	

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THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	MM 4.7-8 The maximum height of Building 2 shall not exceed 52 feet above ground level, and the maximum elevation at top point (including any roof-mounted equipment) shall not exceed 1,541 feet above mean sea level.	Project Applicant	City of Moreno Valley Planning Division & Building and Safety Division	Prior to issuance of building permits.	
	MM 4.7-9 The maximum height of Building 3 shall not exceed 52 feet above ground level, and the maximum elevation at top point (including any roof-mounted equipment) shall not exceed 1,532 feet above mean sea level	Project Applicant	City of Moreno Valley Planning Division & Building and Safety Division	Prior to issuance of building permits.	
	MM 4.7-10 The maximum height of Building 4 shall not exceed 52 feet above ground level, and the maximum elevation at top point (including any roof-mounted equipment) shall not exceed 1,545 feet above mean sea level	Project Applicant	City of Moreno Valley Planning Division & Building and Safety Division	Prior to issuance of building permits.	
	MM 4.7-11 The specific coordinates, heights, and top point elevations of the proposed buildings shall not be amended without further review by the Airport Land Use Commission and the Federal Aviation Administration; provided, however, that reduction in building height or elevation shall not require further review by the Airport Land Use Commission.	Project Applicant	City of Moreno Valley Planning Division	Prior to issuance of building permits.	
	MM 4.7-12 Temporary construction equipment used during actual construction of Building 1 shall not exceed a height of 60 feet and temporary construction equipment used during actual construction of Buildings 2, 3, and 4 shall not exceed a height of 52 feet, unless separate notice is provided to the Federal Aviation Administration through the Form 7460-1 process.	Project Applicant	City of Moreno Valley Planning Division & Building and Safety Division	Prior to issuance of building permits.	

Table ES-1 Mitigation Monitoring and Reporting Program

Threshold	Mitigation Measures (MM)	Responsible Party	Monitoring Party	Implementation Stage	Level of Significance After Mitigation
	MM 4.7-13 Within five (5) days after construction of each of the buildings reaches its greatest height and prior to building final, FAA Form 7460-2 (Part II), Notice of Actual Construction or Alteration, shall be completed by the project proponent or his/her designee and e-filed with the Federal Aviation Administration, with documentation provided to the City of Moreno Valley. (Instructions are available at https://oeaaa.faa.gov.) This requirement is also applicable in the event the project is abandoned or a decision is made not to construct the applicable building.	Project Applicant	City of Moreno Valley Planning Division & Building and Safety Division	Within five (5) days after construction of each building and prior to building final.	
Threshold f): No Impact. The Project site is not located within the vicinity of a private airstrip or a helipad. Accordingly, implementation of the Project would have no potential to expose on-site workers to safety hazards associated with a private airfield or an airstrip.	No mitigation is required.	N/A	N/A	N/A	No impact
Threshold g): Less-than-Significant Impact. The Project site does not contain any emergency facilities nor does it serve as an emergency evacuation route. During construction and long-term operation, the adequate emergency access is required to be provided for emergency vehicles. Accordingly, implementation of the Project would not impair implementation of or physically interfere with an adopted emergency response plan or an emergency evacuation plan.	No mitigation is required.	N/A	N/A	N/A	No impact

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THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Threshold h): No Impact. The Project site is not located in close proximity to wildlands or areas with high fire hazards. Thus, the Project would not expose people or structures to a significant wildfire risk.	No mitigation is required.	N/A	N/A	N/A	No impact
4.8 Hydrology and Water Quality					
Summary of Impacts					
Threshold a): Less-than-Significant Impact. The Project would not violate any water quality standards or waste discharge requirements on a direct or cumulatively considerable basis. The Project is required to prepare a SWPPP to address construction-related water quality issues, and is required to comply with a site-specific WQMP and its associated BMPs.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold b): Less-than-Significant Impact. The Project does not propose the installation of any water wells on the Project site that would extract groundwater. Also, the proposed Project would not interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or lowering of the local groundwater table level.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold c): Less-than-Significant Impact. The Project would maintain the existing general drainage pattern of the site and would not result in substantial erosion or siltation on- or off-site.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact

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THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Threshold d): Less-than-Significant Impact. The Project would not significantly increase flood hazards and would not result in a substantial increase in the rate of surface runoff in a manner that would result in increased flood hazards on- or off-site.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold e): Less-than-Significant Impact. The Project would not create or contribute runoff which would exceed the capacity of existing or planned stormwater drainage systems, nor would the Project provide substantial additional sources of polluted runoff.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold f): No Impact. There are no conditions associated with the proposed Project that would otherwise result in the substantial degradation of water quality.	No mitigation is required.	N/A	N/A	N/A	No Impact
Threshold g): No Impact. The Project does not propose housing and would not place housing within a 100-year flood hazard area.	No mitigation is required.	N/A	N/A	N/A	No Impact
Threshold h): Less-than-Significant Impact. The Project would construct buildings within an area subject to shallow flooding (i.e., depths of one-foot or less) during a 100-year storm event; however, the Project is designed to ensure that redirected flood flows would not result in substantial adverse effects to on-site and/or off-site areas	**MM 4.8-1** Prior to building final, the Project Applicant shall provide evidence to the City of Moreno Valley that an application for a Final Letter of Map Revision (LOMR) has been submitted to FEMA to permanently remove the development area from the FEMA 100-year floodplain, and shall demonstrate to the satisfaction of the City of Moreno Valley that the finished floor height of the structure is outside the 100-year floodplain elevation as mapped by FEMA.	Project Applicant	City of Moreno Valley Building and Safety Division & Land Development Division	Prior to building final	Less-than-Significant Impact

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THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Threshold i): Less-than-Significant Impact. The proposed Project would not 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 mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold j): No impact. The Project site is not subject to hazards associated with seiches, tsunamis, or mudflow.	No mitigation is required.	N/A	N/A	N/A	No Impact
4.9 Land Use and Planning					
Summary of Impacts					
Threshold a): No impact. The proposed Project would not physically divide an established community.	No mitigation is required.	N/A	N/A	N/A	No Impact
Threshold b): Significant Cumulatively Considerable Impact. The proposed Project would result in cumulatively considerable impacts due to a conflict with SCAQMD's AQMP and the SCAG's RTP/SCS's Goal G6 related to regional air quality, and the Riverside County CMP. Although mitigation measures are presented in EIR Subsections 4.3, *Air Quality*, and 4.11, *Traffic/Transportation*, to reduce the Project's significant air quality impacts and traffic impacts to CMP arterial intersections and CMP freeway mainline, freeway ramp merge/diverge junctions and freeway ramps, the required mitigation would not reduce the Project's impacts to below a level of significance.	Refer to all mitigation measures presented in this EIR. No additional, feasible mitigation measures are available to mitigate the Project's air quality impacts and traffic impacts to CMP facilities beyond the mitigation already provided in EIR Subsections 4.3 and 4.11.				Significant and Unavoidable Cumulatively Considerable Impact.

Table ES-1 Mitigation Monitoring and Reporting Program

Threshold	Mitigation Measures (MM)	Responsible Party	Monitoring Party	Implementation Stage	Level of Significance After Mitigation
Threshold c): No Impact. The proposed Project would not conflict with the Western Riverside County MSHCP.	No mitigation is required.	N/A	N/A	N/A	No Impact
4.10 Noise					
Summary of Impacts					
Threshold a): Less-than-Significant Impact. The Project would not generate noise levels in excess of the noise levels allowed by the Moreno Valley Municipal Code.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold b): Less-than-Significant Impact. The Project's construction and operational activities would not result in a perceptible human response (annoyance) to vibration because vibration levels at sensitive receiver locations would be below 80 vibration decibels (VdB).	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Thresholds c) and d): Significant Short-Term Direct and Cumulatively Considerable Impact. Phase I of Project-related construction activities would result in a short-term direct impact to one noise-sensitive receiver, a residential home located east of Indian Street near the Project site's southwestern corner. In the event that construction activities occur on any properties surrounding the Project site simultaneously with Project-related construction activities, and that also would contribute construction noise to this residential home, a cumulative impact may occur and the Project's construction-related noise contribution to the overall noise level	**MM 4.10-1** All construction activities shall comply with the City of Moreno Valley Noise Ordinance (Chapter 11.80 of the City of Moreno Valley Municipal Code). This requirement shall be noted on all grading and building plans and in bid documents issued to construction contractors.	Project Applicant; Project Construction Contractor	City of Moreno Valley Planning Division, Building and Safety Division, and Land Development Division	Prior to issuance of grading and building permits.	Less-than-Significant Impact

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
at this off-site property would also be cumulatively considerable.	**MM 4.10-2** Prior to the issuance of grading permits and building permits that would authorize grading and paving construction activities within 280 feet of Indian Street between Superior Avenue and the Perris Valley Storm Drain Channel, the construction contractor shall install a minimum 6-foot high temporary noise control barrier at the southeast corner of Parcel 1 (the Building 1 site) extending northward approximately 400 feet along Indian Street. Alternatively, with the approval of the property owner at 16950 Indian Street (noise receiver location R8), the temporary noise barrier can instead be installed along the west property line of that existing residential home. The temporary noise control barrier must present a solid face from top to bottom and must be a minimum of 6 feet high. The temporary noise control barrier shall comply with the following: a) The noise barrier shall be constructed using an acoustical blanket (e.g. vinyl acoustic curtains or quilted blankets) attached to the construction site perimeter fence or equivalent temporary fence posts. b) The noise barrier shall be maintained in good repair during the duration of grading and paving activities on Parcel 1. Any damage shall be promptly repaired. Gaps, holes, or weaknesses in the barrier or openings between the barrier and the ground shall be promptly repaired. c) The noise control barrier and associated elements shall be completely removed upon the conclusion of the grading and paving construction activity on Parcel 1.	Project Applicant; Project Construction Contractor	City of Moreno Valley Planning Division, Building and Safety Division, and Land Development Division	Prior to the issuance of grading permits and building permits that would authorize grading and paving construction activities within 280 feet of Indian Street between Superior Avenue and the Perris Valley Storm Drain Channel.	

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	d) In the event that the noise barrier is constructed at 16950 Indian Street (noise receiver location R8), documentation of property owner approval to construct the noise barrier shall be provided to the City of Moreno Valley Planning Division prior to construction of the barrier.				
	MM 4.10-3 Prior to issuance of any grading and building permits, the City of Moreno Valley shall review grading and building plans to ensure the following notes are included on the plans. Project contractors shall be required to comply with these notes and maintain written records of such compliance that can be inspected by the City of Moreno Valley upon request. a) Construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with the manufacturer's standards. The construction contractor shall place all stationary equipment so that emitted noise is directed away from noise sensitive receivers located east and northeast of the Project site. b) During construction activities on Parcel 1, construction contractors shall locate equipment staging in the vicinity of the intersection of Cosmos Street and Krameria Avenue to create distance between construction-related noise sources and noise-sensitive receivers located east and northeast of Indian Street. c) Haul truck deliveries shall use approved truck routes and occur during the same hours specified for construction equipment (7:00 a.m. to 8:00 p.m. on any given day) by the Moreno Valley Municipal	Project Applicant; Project Contractors.	City of Moreno Valley Planning Division, Building and Safety Division, and Land Development Division	Prior to issuance of any grading and building permits.	

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	Code Section 11.80.030.D.7 The construction contractor shall prepare a haul route exhibit for review and approval by the City of Moreno Valley Public Works Department, Land Development Division and shall design delivery routes to minimize exposure of sensitive land uses or residential dwellings to haul truck-related noise (Moreno Valley Municipal Code Section 8.21.050.H.7). **MM 4.10-4** Prior to the issuance of building permits, the City of Moreno Valley shall review building plans to ensure that the following notes are included on the plans. Contractors shall be required to comply with these notes and maintain written records of such compliance that can be inspected by the City of Moreno Valley upon request. Additionally, prior to building permit issuance, the Project's property owner(s) shall provide documentation to the City of Moreno Valley verifying that provisions are made in the buildings' lease agreements that inform tenants of the following: a) All on-site operating equipment under the control of the building user that is used in outdoor areas (including but not limited to trucks, tractors, forklifts, and hostlers), shall be operated with properly functioning and well-maintained mufflers. b) Speed bumps are not allowed. Quality pavement conditions shall be maintained on the property that is free of vertical deflection (i.e. speed bumps) to minimize truck noise.	Project Applicant; Project Contractors; Project's Property Owner(s).	City of Moreno Valley Planning Division & Building and Safety Division	Prior to the issuance of building permits.	
<u>Threshold e): Less-than-Significant Impact.</u> The Project site is within the March Air Reserve Base Airport Influence Area boundary but outside of the 60 CNEL range	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact.

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
for aircraft noise. In addition, the Project does not propose noise sensitive land uses that could be disturbed by periodic aircraft noise.					
Threshold f): No Impact. There are no private airfields or private airstrips in the vicinity of the Project site. Therefore, the proposed Project would not expose people to excessive noise levels associated with operations at a private airstrip.	No mitigation is required.	N/A	N/A	N/A	No Impact.
4.11 Transportation and Traffic					
Summary of Impacts					
Threshold a): Significant Direct and Cumulatively Considerable Impact. The Project would be directly responsible for LOS deficiencies at Project study area intersections and roadway segments under short-term construction and Existing plus Project traffic conditions (without and with the Indian Street Bridge). In addition, the Project would contribute to LOS deficiencies at numerous Project study area intersections and roadway segments under short-term construction, Existing plus Project, Opening Year (2020) and General Plan Buildout (Post-2035) traffic conditions.	**MM 4.11-1** Prior to the issuance of the first grading permit, the traffic signal at the Heacock Street / San Michele Road intersection shall be modified to provide overlap phasing on the westbound right turn lane. **MM 4.11-2** Prior to the issuance of grading or building permits, the Project Applicant shall prepare and submit a temporary traffic control plan to the City of Moreno Valley for approval. The temporary traffic control plan shall comply with the applicable requirements of the California Manual on Uniform Traffic Control Devices. A requirement to comply with the temporary traffic control plan shall be noted on all grading and building plans and also shall be specified in bid documents issued to prospective construction contractors. The temporary traffic control plan shall require the following: a) The construction contractor shall assure that construction-related trips, including employee trips	Project Applicant Project Applicant; Construction Contractor	City of Moreno Valley Planning Division Land Development Division, and Transportation Engineering Division City of Moreno Valley Planning Division, Building and Safety Division, and Transportation Engineering Division	Prior to the issuance of the first grading permit. Prior to the issuance of grading or building permits and bid documents.	Significant and Unavoidable Direct and Cumulatively Considerable Impact.

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	and delivery trucks, shall utilize the most direct route between the Project site and the I-215 freeway via Harley Knox Boulevard.				
	MM 4.11-3 Prior to building final for the Project's first building, the Project Applicant shall assure the Heacock Street / Cactus Avenue intersection is improved with the following geometrics: a) Re-stripe the two northbound left turn lanes to provide 315 feet of lane storage for each lane.	Project Applicant	City of Moreno Valley Planning Division, Building and Safety Division, and Transportation Engineering Division	Prior to building final for the first building.	
	MM 4.11-4 Prior to building final for the Project's first building, a traffic signal (as programmed under the City of Moreno Valley Development Impact Fee program) shall be installed at the Heacock Street / Gentian Avenue intersection.	Project Applicant	City of Moreno Valley Planning Division, Building and Safety Division, and Transportation Engineering Division	Prior to building final for the first building.	
	MM 4.11-5 Prior to building final for the Project's first building, a traffic signal (as programmed under the City of Moreno Valley Development Impact Fee program) shall be installed at the Heacock Street / Iris Avenue intersection.	Project Applicant	City of Moreno Valley Planning Division, Building and Safety Division, and Transportation Engineering Division	Prior to building final for the first building.	
	MM 4.11-6 In the event a bridge has been constructed over the Perris Valley Storm Drain Channel to connect Indian Street on the north/south sides of the Channel prior to building final for the Project's first building, then the Project Applicant shall use reasonable efforts to make a fee payment to the City of Perris that shall be used to modify the traffic signal at the Indian Street / Harley Knox Boulevard intersection to provide overlap phasing on the southbound right turn lane.	Project Applicant	City of Moreno Valley Planning Division, Building and Safety Division, and Transportation Engineering Division	In the event a bridge has been constructed over the Perris Valley Storm Drain Channel to connect Indian Street on the north/south sides of the Channel prior to the issuance of the Project's first building final.	

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	MM 4.11-7 Prior to issuance of building permits, the Project shall comply with the City of Moreno Valley Development Impact Fee (DIF) program, which requires the payment of a fee to the City (less fee credits), a portion of which is applied to reduce traffic congestion by funding the installation of roadway improvements.	Project Applicant	City of Moreno Valley Planning Division, Building and Safety Division, Transportation Engineering Division, and Land Development Division	Prior to the issuance of building permits.	
	MM 4.11-8 Prior to issuance of building permits, the Project shall comply with the Transportation Uniform Mitigation Fee (TUMF) program, which funds off-site regional transportation improvements.	Project Applicant	City of Moreno Valley Planning Division, Building and Safety Division, Transportation Engineering Division, and Land Development Division	Prior to the issuance of building permits.	
	MM 4.11-9 Prior to issuance of building final for Buildings 1, 2, 3, and 4 the Project Applicant shall make a fair share fee payment to the City of Moreno Valley for the roadway improvements listed in Table 6-6 and Table 7-6 of the "Moreno Valley Logistics Center Traffic Impact Analysis," prepared by Urban Crossroads (dated February 26, 2016), that are located within the geographical limits of the City of Moreno Valley. These roadway improvements are not included within the City of Moreno Valley's Development Impact Fee (DIF) program. The fair share fee attributable to Buildings 1, 2, 3, and 4 shall be calculated according to the percentages specified in EIR Table 4.11-35, *Project Fair Share Calculations.*	Project Applicant	City of Moreno Valley Planning Division, Building and Safety Division, and Transportation Engineering Division	Prior to issuance of building final for Buildings 1, 2, 3, and/or 4.	

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	MM 4.11-10 Prior to issuance of the building final for Buildings 1, 2, 3, 4 and 4, the Project Applicant shall use reasonable efforts to make a fair share fee payment to the March Joint Powers Authority, for the roadway improvements listed in Table 6-6 and Table 7-6 of the "Moreno Valley Logistics Center Traffic Impact Analysis," prepared by Urban Crossroads (dated February 26, 2016), that are located within the March Joint Powers Authority's jurisdiction. The needed roadway improvements are not included within an existing mitigation program where the Project can participate. The fair share fee attributable to Buildings 1, 2, 3, and 4 shall be calculated according to the percentages specified in EIR Table 4.11-35, *Project Fair Share Calculations.* **MM 4.11-11** Prior to issuance of the building final for Buildings 1, 2, 3, and 4, the Project Applicant shall use reasonable efforts to make a fair share fee payment to the City of Perris, for the improvements listed in Table 6-6 and Table 7-6 of the "Moreno Valley Logistics Center Traffic Impact Analysis," prepared by Urban Crossroads (dated November 18, 2015), that are located within the City of Perris' jurisdiction. The needed roadway improvements are not included within an existing mitigation program where the Project can participate. The fair share fee attributable to Buildings 1, 2, 3, and 4 shall be calculated according to the percentages specified in EIR Table 4.11-35, *Project Fair Share Calculations.*	Project Applicant Project Applicant	City of Moreno Valley Planning Division, Building and Safety Division, and Transportation Engineering Division City of Moreno Valley Planning Division, Building and Safety Division, and Transportation Engineering Division	Prior to the issuance of building final for Buildings 1, 2, 3, and/or 4. Prior to issuance of the building final for Buildings 1, 2, 3, and/or 4.	
<u>Threshold b): Cumulatively Considerable Impact.</u> The Project would contribute cumulatively considerable traffic volumes	**MM 4.11-12** In the event that Caltrans prepares a valid study, as defined below, that identifies fair share contribution funding sources	Project Applicant	City of Moreno Valley Planning Division, Building and Safety	In the event that Caltrans prepares a valid study that identifies fair share	Significant and Unavoidable Cumulatively Considerable Impact.

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
at numerous intersections and freeway facilities included within the Riverside County CMP roadway networks under Opening Year (2020) and General Plan Buildout (Post-2035) traffic conditions.	attributable to and paid from private and public development to supplement other regional and State funding sources necessary undertake improvements to I-215 and SR-91 in the Project study area, then the Project Applicant shall use reasonable efforts to pay the applicable fair share amount to Caltrans. The study shall include fair share contributions related to private and or public development based on nexus requirements contained in the Mitigation Fee Act (Govt. Code § 66000 et seq.) and 14 Cal. Code of Regs. § 15126.4(a)(4) and, to this end, the study shall recognize that impacts to Caltrans I-215 and SR-91 facilities that are not attributable to development located within the City of Moreno Valley are not required to pay in excess of such developments' fair share obligations. The fee study shall also be compliant with Government Code § 66001(g) and any other applicable provisions of law. The study shall set forth a timeline and other relevant criteria for implementation of the recommendations contained within the study to the extent the other agencies agree to participate in the fee study program. In the event the study has been prepared, the Project Applicant shall use reasonable efforts to pay the fair share amount to Caltrans. If Caltrans chooses to accept the Project Applicant's fair share payment, Caltrans shall apply the payment to the fee program adopted by Caltrans or agreed upon by the Project Applicant and Caltrans as a result of the fair share fee study. Caltrans shall only accept the fair share payment if the fair share fee study has been completed. If, within five years from the date that the first building permit is issued for the Project, Caltrans		Division, and Transportation Engineering Division	contribution funding sources in the Project study area.	

Table ES-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	has not completed the fair share fee study, then the Project Applicant shall have no further obligation to comply with this mitigation measure.				
Threshold c): Less-than-Significant Impact. The proposed Project does not include an air travel component and would not affect local air traffic levels. In addition, the Project would not introduce any feature into the local area that would alter or obstruct air traffic patterns.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact.
Threshold d): Less-than-Significant Impact. Implementation of the proposed Project would not substantially increase transportation safety hazards due to incompatible uses or design features.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact.
Threshold e): Less-than-Significant Impact. Adequate emergency access would be provided to the Project site during both short-term construction and long-term operation. The Project would not result in inadequate emergency access to the site or surrounding properties.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant
Threshold f): Less-than-Significant Impact. The proposed Project is consistent with adopted policies and programs regarding public transit, bicycle, and pedestrian facilities, and is designed to minimize potential conflicts with non-vehicular means of transportation. Potential impacts to the performance or safety of transit, bicycle, and pedestrian systems would be less than significant.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact

1.0 INTRODUCTION

1.1 Purposes of CEQA and this EIR

As stated by the California Environmental Quality Act (CEQA) Guidelines Section (§) 15002(a), the basic purposes of CEQA are to:

- *"Inform governmental decision makers and the public about the potential, significant environmental effects of proposed government actions" (CEQA Guidelines § 15002(a)(1))*;

- *"Identify the ways that environmental damage can be avoided or significantly reduced" (CEQA Guidelines § 15002(a)(2));*

- *"Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible" (CEQA Guidelines § 15002(a)(3);*" and

- *"Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved (CEQA Guidelines § 15002(a)(4)."*

This Environmental Impact Report (EIR P15-037) is an informational document that represents the independent judgment of the City of Moreno Valley and discloses the physical environmental effects that could result from constructing and operating the proposed Moreno Valley Logistics Center project (hereafter, the "Project"). Governmental approvals requested from the City of Moreno Valley by the Project Applicant to implement the Project include a Specific Plan Amendment (P15-036), Tentative Parcel Map Number (No.) 36150 (PA15-0018), four (4) individual Building Plot Plans (PA15-0014, PA15-0015, PA15-0016, and PA15-0017), and other related discretionary and administrative actions that are required to construct and operate the Project described in this EIR.

As a first step in the CEQA compliance process, an Initial Study was prepared by the City of Moreno Valley pursuant to CEQA Guidelines § 15063 to determine if the Project could have a significant effect on the environment. The Initial Study determined that implementation of the Project has the potential to result in significant environmental effects, and a Project EIR, as defined by CEQA Guidelines § 15161, is required. Pursuant to CEQA Guidelines § 15161, a Project EIR should "…focus primarily on the changes in the environment that would result from the development project," and "…examine all phases of the project including planning, construction, and operation."

Accordingly, and in conformance with CEQA Guidelines § 15121(a), the purposes of this Project EIR are to: (1) disclose information by informing public agency decision makers and the public generally of the significant environmental effects associated with all phases of the Project, (2) identify possible ways to minimize or avoid those significant effects, and (3) to describe a reasonable range of alternatives to the Project that would feasibly attain most of the basic Project objectives but would avoid or substantially lessen its significant environmental effects.

1.2 Summary of the Project Evaluated by this EIR

For purposes of this EIR, the term "Project" refers to the discretionary actions required to implement the Moreno Valley Logistics Center as proposed and all of the activities associated with its implementation including planning, construction, and ongoing operation. In summary, the Project proposes to develop an 89.4-acre property as a logistics center with four (4) buildings together providing up to 1,736,180 square feet (s.f.) of total floor space. Associated improvements to the property would include loading docks, surface parking areas, drive aisles, roadway improvements, utility infrastructure, landscaping, exterior lighting, signage, and water quality detention basins. The Project proposes the following discretionary actions that are under consideration by the City of Moreno Valley:

- **Specific Plan Amendment (P15-036)** proposes to amend the setback requirement between industrial and residential uses specified in the Moreno Valley Industrial Area Plan (MVIAP) (Specific Plan 208) as it pertains to the Project site. The Specific Plan Amendment (SPA) proposes to reduce the Project site's minimum setback distance to residential zones from 300 feet to 100 feet in order to provide a consistent setback with the warehouse building already constructed immediately north of the Project site, and to add the requirement for a contiguous enhanced landscaping zone that is at least 50 feet wide within the 100-foot setback area.

- **Tentative Parcel Map No. 36150 (PA15-0018)** proposes to consolidate three (3) parcels on an approximately 73.4-gross-acre portion of the Project site into two (2) parcels. Proposed Parcel 1 would contain approximately 62.6 net acres and proposed Parcel 2 would contain approximately 6.9 net acres. In addition, the Tentative Parcel Map identifies areas of public road dedication and vacation and the sizes and locations of proposed utility infrastructure improvements.

- **Plot Plan (PA15-0014)**, **Plot Plan (PA15-0015), Plot Plan (PA15-0016), and Plot Plan (PA15-0017)** provide detailed site plans for proposed Buildings 1, 2, 3, and 4. Each plot plan application includes a site plan, architectural plans, and landscape design. Building 1 would be constructed with a maximum of 1,351,763 s.f. of total floor space. Building 2 would be constructed with a maximum of 122,275 s.f. of total floor space. Building 3 would be constructed with a maximum of 97,222 s.f. of total floor space. Building 4 would be constructed with a maximum of 164,920 s.f. of total floor space. Plot Plan (PA15-0015) also includes an alternate site plan that would omit Building 2 and construct a 166-space truck trailer parking lot in its place.

Refer to Section 3.0, *Project Description*, for a detailed description of the proposed Project, including a list of permits and actions that would be required of the City of Moreno Valley and other agencies to construct and operate the Project.

1.3 Prior CEQA Review

The Project site is located within the geographical limits of the MVIAP. The MVIAP was originally titled the "Oleander Specific Plan" when first approved by the City of Moreno Valley in 1989 and was the subject of previous environmental review under CEQA as part of an EIR certified for the Specific Plan (SCH No. 1988080813). The Specific Plan was renamed the MVIAP in 2001 after 40 acres of additional area was added to the Specific Plan boundaries, bringing the total land area within the MVIAP to 1,540 acres. The City amended the MVIAP again in 2002 to consolidate the "Business Park," "Mixed Use," "Light Industry," and "Heavy Industry" land use designations of the original Specific Plan into a single "Industrial" land use designation in order to more readily accommodate and attract economic development opportunities (MVIAP, 2002).

The Project site also was evaluated more recently as part of the Program EIR (SCH No. 2000091075) for the 2006 update to the City of Moreno Valley General Plan. The General Plan EIR assumed full buildout of the Project site in accordance with the land use designation applied by the General Plan and MVIAP (i.e., "Business Park/Light Industrial (BP)," which allows the site to be developed with up to approximately 3.8 million square feet of industrial building area). The General Plan also assumed full buildout of the MVIAP area in accordance with the land use designations applied by the General Plan and MVIAP, including both the development of vacant lands and the redevelopment of underdeveloped property.

In summary, the Project site was the subject of previous environmental reviews conducted under CEQA as part of the EIR certified in 1989 for the Oleander Specific Plan (SCH No. 1988080813) and the EIR certified in 2006 for the City of Moreno Valley General Plan (SCH No. 2000091075). These previously certified EIR are herein incorporated by reference and are available for review at the City of Moreno Valley, Planning Division, 14177 Frederick Street, Moreno Valley, CA 92553. Both of these EIRs analyzed development of the Project site with industrial land uses in accordance with CEQA; as such, use of the property for industrial purposes does not need to be re-evaluated. This EIR focuses on the particular aspects of the Tentative Parcel Map, Plot Plans, and Specific Plan Amendment proposed by the Project Applicant to implement the industrial land use designation.

1.4 Legal Authority

This EIR has been prepared in accordance with all criteria, standards, and procedures of CEQA (California Public Resource Code § 21000 *et seq*.) and the CEQA Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3, § 15000 *et seq*.).

Pursuant to CEQA § 21067 and CEQA Guidelines Article 4 and § 15367, the City of Moreno Valley is the Lead Agency under whose authority this EIR has been prepared. "Lead Agency" refers to the public agency that has the principal responsibility for carrying out or approving a project. Serving as the Lead Agency and before taking action to approve the Project, the City of Moreno Valley has the obligation to: (1) ensure that this EIR has been completed in accordance with CEQA; (2) review and consider the information contained in this EIR as part of its decision making process; (3) make a statement that this EIR reflects the City of Moreno Valley's independent judgment; (4) ensure that all significant effects on the environment are eliminated or substantially lessened where feasible; and, if necessary, (5) make written findings for each unavoidable significant environmental effect stating the reasons why mitigation measures or project alternatives identified in this EIR are infeasible and citing the specific benefits of the proposed Project that outweigh its unavoidable adverse effects (CEQA Guidelines §§ 15090 through 15093).

Pursuant to CEQA Guidelines §§ 15040 through 15043, and upon completion of the CEQA review process, the City of Moreno Valley will have the legal authority to do any of the following:

- Approve the proposed Project;

- Require feasible changes in any or all activities involved in the Project in order to substantially lessen or avoid significant effects on the environment;

- Deny approval of the Project, if necessary, in order to avoid one or more significant effects on the environment that would occur if the Project was approved as proposed; or

- Approve the Project even through the Project would cause a significant effect on the environment if the City makes a fully informed and publicly disclosed decision that: 1) there is no feasible way to lessen the effect or avoid the significant effect; and 2) expected benefits from the Project will outweigh significant environmental impacts of the Project.

This EIR fulfills the CEQA environmental review requirements for the proposed Specific Plan Amendment (P15-036), Tentative Parcel Map No. 36150 (PA15-0018), and four (4) individual Building Plot Plans (PA15-0014, PA15-0015, PA15-0016, and PA15-0017), and all other governmental discretionary and administrative actions related to the Project.

1.5 Responsible and Trustee Agencies

The California Public Resource Code (§ 21104) requires that all EIRs be reviewed by state responsible and trustee agencies (see also CEQA Guidelines § 15082 and § 15086(a)). As defined by CEQA Guidelines § 15381, "the term 'Responsible Agency' includes all public agencies other than the Lead Agency which have discretionary approval power over the project." A Trustee Agency is defined in CEQA Guidelines § 15386 as "a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California."

For the proposed Project, the Santa Ana Regional Water Quality Control Board (RWQCB) is identified as a Trustee Agency that is responsible for the protection of the State's water resources. The Santa Ana RWQCB is responsible for issuance of a National Pollutant Discharge Elimination System (NPDES) Permit to ensure that during and after Project construction, on-site water flows do not result in siltation, other erosional actions, or degradation of surface or subsurface water quality. Responsible Agencies for the Project include: the United States Army Corps of Engineers (USACE), Riverside County Airport Land Use Commission (RCALUC), Riverside County Flood Control and

Water Conservation District (RCFCWCD), Southern California Edison (SCE), and the Eastern Municipal Water District (EMWD). The USACE is responsible for administering and enforcing the provisions of Section 404 of the Clean Water Act. The RCALUC is responsible for determining consistency with the Riverside County Airport Land Use Plan. The RCFCWCD is responsible for issuance of permits for the Project to connect to the Perris Valley Storm Drain Channel. SCE is responsible for approvals associated with removing and relocating power lines, polies, and associated facilities. EMWD is responsible for approval of a Water Supply Assessment (WSA) for the Project as well as approval of domestic water and sewer system design.

1.6 EIR Scope, Format, and Content

1.6.1 EIR Scope

As a first step in complying with the procedural requirements of CEQA, the City of Moreno Valley prepared an Initial Study to preliminarily identify the environmental issue areas that may be adversely impacted by the Project. Following completion of the Initial Study, the City filed a Notice of Preparation (NOP) with the California Office of Planning and Research (OPR) (State Clearinghouse) to indicate that an EIR would be prepared to evaluate the Project's potential to impact the environment. The NOP was filed with the State Clearinghouse and distributed to property owners located within 300 feet of the Project site, Responsible Agencies, Trustee Agencies, and other interested parties on June 17, 2015, for a 30-day public review period. The City of Moreno Valley also advertised the NOP in the *Press Enterprise*, a newspaper of general circulation in the Project area, and posted the Initial Study and NOP to its website (http://www.moval.org/index.shtml) for review by the general public. The City distributed the NOP for public review to solicit responses that may assist the City in identifying the full scope and range of potential environmental concerns associated with the Project so that these issues could be fully examined in this EIR. In addition, a publicly noticed EIR Scoping Meeting was held at the City of Moreno Valley City Hall on July 6, 2015, which provided members of the general public an additional opportunity to comment on the scope and range of potential environmental concerns to be addressed in this EIR. Four (4) members of the general public attended the EIR Scoping Meeting.

Based on the information contained in the Initial Study and in consideration of all comments received by the City on the NOP and during the Scoping Meeting, this EIR evaluates the Project's potential to cause adverse effects to the following environmental issue areas:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Greenhouse Gas Emissions
- Hazards & Hazardous Materials
- Hydrology/Water Quality
- Land Use/Planning
- Noise
- Transportation/Traffic

CEQA Guidelines § 15183(a) mandates that projects that are consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified, shall not require additional environmental review, except as might be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site. In the case of the Project site, use of the subject property by Industrial land uses was previously and adequately evaluated in accordance with CEQA by two prior EIRs (an EIR certified in 1989 for the MVIAP and an EIR certified in 2006 for the City's General Plan, as previously noted). Because the land use proposed by the Project would be consistent with the City's existing General Plan and zoning, this EIR does not need to re-analyze planned use of the subject property for industrial land uses pursuant to CEQA Guidelines § 15183(a). Therefore, this EIR focuses on the specific effects that are peculiar to the proposed Project and its 89.4-acre property.

The Initial Study, NOP, public review distribution list, and written comments received by the City of Moreno Valley during the NOP public review period are provided in *Technical Appendix A* to this EIR. Substantive issues raised in response to the NOP are summarized below in Table 1-1, *Summary of NOP Comments*. The purpose of this table is to present the primary environmental issues of concern raised during the NOP review period. The table is not intended to list every comment received by the City during the NOP review period. Regardless of whether or not a comment is listed in the table, all applicable comments received in responses to the NOP and at the EIR Scoping Meeting are addressed in this EIR.

Table 1-1 Summary of NOP Comments

Commenter	Date	Comments	Location in EIR Where Comment(s) Addressed
State Clearinghouse	June 16, 2015	Acknowledge receipt of NOP and distribution to State Agencies for review and comment.	Informational comment. No response necessary.
San Manuel Band of Mission Indians	June 22, 2015	The Project site is located within the Tribe's ancestral territory. No record of significant Native American cultural resources at Project site.	EIR Subsection 4.5, *Cultural Resources* EIR Subsection 4.5, *Cultural Resources*
California Department of Transportation (Caltrans)	June 23, 2015	Request that traffic impact report be prepared in accordance with criteria listed in letter.	EIR Subsection 4.11, *Transportation / Traffic* & EIR Technical Appendices I1, I2, & I3
California Department of Fish and Wildlife (CDFW)	July 2, 2015	Recommend that a biological resources assessment be prepared in accordance with the criteria listed in letter. Request that EIR include an analysis of potential direct, indirect, and cumulative impacts to biological resources and provide mitigation, if necessary.	EIR Technical Appendix C1 EIR Subsection 4.4, *Biological Resources*

Table 1-1 Summary of NOP Comments

Commenter	Date	Comments	Location in EIR Where Comment(s) Addressed
David Padilla	July 6, 2015 (EIR Scoping Meeting)	Request that EIR include analysis of potential traffic impacts and noise impacts on nearby residential uses.	EIR Subsections 4.10, *Noise*, and 4.11, *Transportation/Traffic*
		Request that EIR include analysis of potential fiscal impacts to City public services.	EIR Section 5.0, *Other CEQA Considerations*
Johnson & Sedlack	July 8, 2015	Request that EIR evaluate potential cumulative impacts.	EIR Subsections 4.1 through 4.11 and EIR Section 5.0.
		Request that EIR include health risk analysis related to cancer and non-cancer risks from diesel air emissions.	EIR Subsection 4.3, *Air Quality* & EIR Technical Appendix B2
		Request that EIR evaluate potential impacts associated with Project alternative site plan.	All EIR sections, as applicable
		Request than EIR evaluate Project alternatives that do not require SPA or include warehouse uses.	EIR Section 6.0, *Alternatives to the Proposed Project*
		Request that EIR evaluate potential impacts to Perris Valley Storm Drain Channel and downstream areas.	All EIR sections, when applicable.
		Request that EIR evaluate potential impacts to wildlife species and biological resources.	EIR Subsection 4.4, *Biological Resources* & EIR Technical Appendix C1
		Request that EIR include fiscal impact analysis of potential impacts to public services.	EIR Subsection 5.0, *Other CEQA Considerations* & EIR Technical Appendix O
		Request preparation of a Water Supply Assessment.	EIR Subsection 5.0, *Other CEQA Considerations* & EIR Technical Appendix J
		Request EIR include evaluation of Project-related greenhouse gas emissions in relation to State regulations and policy goals.	EIR Subsection 4.6, *Greenhouse Gas Emissions*
South Coast Air Quality Management District (SCAQMD)	July 9, 2015	Request that air quality impact analysis be prepared in accordance with criteria listed in letter.	EIR Subsection 4.3, *Air Quality* & EIR Technical Appendices B1 and B2

Table 1-1 Summary of NOP Comments

Commenter	Date	Comments	Location in EIR Where Comment(s) Addressed
Stephanie Grosveld	July 13, 2015	Concerned about the amount of pollution and noise that the Project could cause to properties on the opposite side of Krameria Avenue and Indian Street.	EIR Subsections 4.3, *Air Quality*, and 4.10, *Noise*
		Concerned about pollution from large trucks.	EIR Subsection 4.3, *Air Quality*
Riverside County Airport Land Use Commission	July 14, 2015	Acknowledge the Project will require review before the RCALUC	EIR Subsection 4.8, *Land Use and Planning*
		Request the EIR include an analysis of potential glare impacts.	EIR Subsection 4.1, *Aesthetics*
		Request EIR include a discussion of Project design measures to minimize potential hazards to air traffic.	EIR Subsection 4.11, *Transportation/Traffic*
Lozeau Drury, LLP	July 15, 2015	Request for notice of future CEQA actions and public hearings.	Informational item; no response necessary.
Southern California Association of Governments (SCAG)	July 16, 2015	Encourage side-by-side comparison of SCAG's RTP/SCS goals with discussion of consistency with supported analysis	EIR Section 5.0, *Other CEQA Considerations*
Eastern Municipal Water District (EMWD)	July 16, 2015	Acknowledge the Project's future Plan of Service will be subject to EMWD review.	EIR Section 3.0, *Project Description*
Pechanga Band of Luiseño Indians	July 20, 2015	The Project site is located in located within the Tribe's ancestral territory.	EIR Subsection 4.5, *Cultural Resources*
		Recommend that an archaeological study be prepared for the Project.	EIR Technical Appendix D1
		Request EIR include analysis of potential direct and cumulative impacts to tribal resources.	EIR Subsection 4.5, *Cultural Resources*

The Lead Agency has not identified any issues of controversy associated with the proposed Project after consideration of all comments received in response to the NOP. The Lead Agency identified issues of local concern, including potential direct and cumulative impacts to air quality, biological resources, cultural resources, noise, and traffic, but the City does not consider these concerns to be controversial.

1.6.2 EIR Format and Content

This EIR contains all of the information required to be included in an EIR as specified by the CEQA Statutes and Guidelines (California Public Resources Code, § 21000 *et. seq*. and California Code of Regulations, Title 14, Chapter 5). CEQA requires that an EIR contain, at a minimum, certain specified content. Table 1-2, *Location of CEQA Required Topics in this EIR*, provides a quick reference in locating the CEQA-required sections within this document.

In summary, the content and format of this EIR is as follows:

- **Section 1.0, Introduction**, provides introductory information about the CEQA process and the responsibilities of the City of Moreno Valley, serving as the Lead Agency of this EIR.

- **Section 2.0, Environmental Setting,** describes the environmental setting, including descriptions of the Project site's physical conditions and surrounding context. The existing setting is defined as the condition of the Project site and surrounding area at the approximate date this EIR's NOP was released for public review (June 17, 2015).

- **Section 3.0, Project Description**, serves as the EIR's Project Description for purposes of CEQA and contains a level of specificity commensurate pursuant to CEQA Guidelines § 15123.

- **Section 4.0, Environmental Analysis,** provides an analysis of potential direct, indirect and cumulative impacts that may occur with implementation of the proposed Project. A conclusion concerning significance is reached for each discussion; mitigation measures are presented as warranted. The environmental changes identified in Section 4.0 and throughout this EIR are referred to as "effects" or "impacts" interchangeably. The CEQA Guidelines also identify the terms "effects" and "impacts" as being synonymous (CEQA Guidelines § 15358). In the environmental analysis subsections of Section 4.0, the existing conditions are disclosed that are pertinent to the subject area being analyzed, accompanied by a specific analysis of physical impacts that may be caused by implementation of the proposed Project. The analyses are based in part upon technical reports that are appended to this EIR. Information also is drawn from other sources of analytical materials that directly or indirectly relate to the proposed Project and cited in Section 7.0, *References*. Where the analysis demonstrates that a physical adverse environmental effect may or would occur without undue speculation, feasible mitigation measures are recommended to reduce or avoid the significant effect. In most cases, implementation of the mitigation measures would reduce the adverse environmental impact to below a level of significance. If mitigation measures are not available or feasible to reduce an identified impact to below a level of significance, the environmental effect is identified as a significant and unavoidable adverse impact, for which a statement of overriding considerations would need to be adopted by the City of Moreno Valley pursuant to CEQA § 15093.

Table 1-2 Location of CEQA Required Topics in this EIR

CEQA Required Topic	CEQA Guidelines Reference	Location in this EIR
Table of Contents	§ 15122	Table of Contents
Summary	§ 15123	Section S.0
Project Description	§ 15124	Section 3.0
Environmental Setting	§ 15125	Section 2.0
Consideration and Discussion of Environmental Impacts	§ 15126	Section 4.0
Significant Environmental Effects Which Cannot be Avoided if the Proposed Project is Implemented	§ 15126.2(b)	Section 4.0 & Subsection 5.1
Significant Irreversible Environmental Changes Which Would be Caused by the Proposed Project Should it be Implemented	§ 15126.2(c)	Subsection 5.2
Growth-Inducing Impact of the Proposed Project	§ 15126.2(d)	Subsection 5.3
Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects	§ 15126.4	Section 4.0 & Table S-1
Consideration and Discussion of Alternatives to the Proposed Project	§ 15126.6	Section 6.0
Effects Not Found to be Significant	§ 15128	Subsection 5.5
Organizations and Persons Consulted	§ 15129	Section 7.0 & Technical Appendices
Discussion of Cumulative Impacts	§ 15130	Section 4.0
Energy Conservation	Appendix F	Subsection 5.4

- **Section 5.0, Other CEQA Considerations**, includes specific topics that are required by CEQA. These include a summary of the Project's significant and unavoidable environmental effects, a discussion of the significant and irreversible environmental changes that would occur should the Project be implemented, potential growth-inducing impacts of the proposed Project, as well as an evaluation of the Project's energy consumption. Section 5.0 also includes a discussion of the potential environmental effects that were found not be significant during this EIR's Initial Study and NOP process and that, therefore, do not require a detailed evaluation in this EIR.

- **Section 6.0, Project Alternatives,** describes and evaluates alternatives to the proposed Project that could reduce or avoid the Project's adverse environmental effects. CEQA does not require an EIR to consider every conceivable alternative to the Project but rather to consider a reasonable range of alternatives that will foster informed decision making and public participation. A range of three (3) alternatives is presented in Section 6.0.

- **Section 7.0, References,** cites all reference sources used in preparing this EIR and lists the agencies and persons that were consulted in preparing this EIR. Section 7.0 also lists the persons who authored or participated in preparing this EIR.

- **Technical Appendices.** CEQA Guidelines § 15147 states that the "information contained in an EIR shall include summarized…information sufficient to permit full assessment of significant environmental impacts by reviewing agencies and members of the public," and that the "placement of highly technical and specialized analysis and data in the body of an EIR shall be avoided." Therefore, the detailed technical studies, reports, and supporting documentation that were used in preparing this EIR are bound separately as Technical Appendices. The Technical Appendices are available for review at the City of Moreno Valley Community Development Department Planning Division, 14177 Frederick Street, Moreno Valley, California, 92552, during the City's regular business hours or can be requested in electronic form by contacting the City Planning Division. The individual technical studies, reports, and supporting documentation that comprise the Technical Appendices are as follows:

  A. Initial Study, Notice of Preparation, and Written Comments on the NOP
  B1. Air Quality Impact Analysis
  B2. Mobile Source Diesel Health Risk Assessment
  B3. Supplemental Air Quality Analysis
  C1. Biological Technical Report
  C2. Jurisdictional Delineation
  D1. Phase I Cultural Resources Survey
  D2. Paleontological Resource and Monitoring Assessment
  E. Greenhouse Gas Analysis
  F. Phase I Environmental Site Assessment
  G1. Preliminary Hydrology Calculations
  G2. Project Specific Preliminary Water Quality Management Plan
  H. Noise Impact Analysis
  I1. Traffic Impact Analysis
  I2. Supplemental Basic Freeway Segment Impact Analysis
  I3. Construction Traffic Evaluation
  I4. Fair Share Calculations
  J. Water Supply Assessment Report
  K. Energy Analysis
  L. Geotechnical Investigation

M. Pesticide Sampling Analysis
N. Vapor Migration Analysis
O. Fiscal Impact Study

- **Documents Incorporated by Reference**. CEQA Guidelines § 15150 allows for the incorporation "by reference all or portions of another document…[and is] most appropriate for including long, descriptive, or technical materials that provide general background but do not contribute directly to the analysis of a problem at hand." Documents, analyses, and reports that are incorporated into this EIR by reference are listed in Section 7.0, *References*, of this EIR. The purpose of incorporation by reference is to assist the Lead Agency in limiting the length of an EIR. Where this EIR incorporates a document by reference, the document is identified in the body of the EIR, citing the appropriate section(s) of the incorporated document and describing the relationship between the incorporated part of the referenced document and this EIR.

2.0 ENVIRONMENTAL SETTING

As required by CEQA Guidelines § 15125(c), the environmental setting should identify any inconsistencies between a proposed project and applicable general, specific, or regional plans, and place special emphasis on resources that are rare or unique to that region and would be affected by the project. The Project Applicant proposes to develop a master-planned logistics center on a vacant, disturbed property, in accordance with the MVIAP's Industrial land use designation. Refer to Subsection 2.4, *Planning Context*, for additional information about applicable plans. There are no rare or unique resources on the property.

2.1 Regional Setting and Location

The approximately 89.4-acre Project site is located in the City of Moreno Valley, in western Riverside County, California. Western Riverside County abuts San Bernardino County to the northeast, Orange County to the west, and San Diego County to the south. Los Angeles County is located further to the northwest. The Project site's location in a regional context is shown on Figure 3-1, *Regional Map*, in EIR Section 3.0, *Project Description*.

Riverside County is located in an urbanizing area of southern California commonly referred to as the Inland Empire. The Inland Empire is an approximate 28,000 square mile region comprising San Bernardino County, Riverside County, and the eastern tip of Los Angeles County. The Southern California Association of Governments (SCAG) estimates that the majority of growth in the entire Southern California region will take place in Riverside and San Bernardino Counties (SCAG, 2012a). According to U.S Census data, the 2010 population of Riverside County was 2,189,641 (USCB, 2014). SCAG forecast models predict that the population of Riverside County will grow to approximately 3.324 million persons (an approximate 1.1-million-person increase) by the Year 2035 (SCAG, 2012b).

2.2 Local Setting and Location

The Project site is located in the southern portion of the City of Moreno Valley, south of Krameria Avenue, north of Cardinal Avenue, east of Heacock Street and the March Air Reserve Base, and west of Indian Street. The Project site is located approximately 1.3 miles east of Interstate 215 (I-215), 4.2 miles south of State Route 60 (SR-60), and 2.5 miles northwest of Lake Perris. The property lies within the southwestern portion of Section 30, Township 3 South, Range 3 West (San Bernardino Base and Meridian) and includes Assessor Parcel Numbers (APNs): 316-100-028, 316-100-030, 316-100-048, 316-100-051, and 316-100-052. Figure 3-2, *Vicinity Map* in EIR Section 3.0, *Project Description* identifies the location of the Project site.

The Perris Valley Storm Drain Channel transects the Project site in a northwest to southeast direction. Approximately 15.3 acres of the Project site are located west of the Perris Valley Storm Drain Channel and approximately 74.1 acres of the Project site are located east of the Perris Valley Storm Drain Channel.

2.3 Surrounding Land Uses and Development

The Project site is located within the geographical limits of the MVIAP, which covers approximately 1,500 acres in southern Moreno Valley. Property in the MVIAP was once rural in nature; but, over the past decade has been transitioning into an important industrial and economic center for the City of Moreno Valley, as planned by the MVIAP. The pace of industrial development in the MVIAP area was very slow until about 2007 when the warehouse distribution industry began to locate distribution warehouse facilities in the MVIAP area. Since that time, development has occurred swiftly, with more than 15 large warehouse buildings located in the MVIAP as of June 2016. Land uses in the immediate vicinity of the Project site are illustrated on Figure 2-1, *Surrounding Land Uses and Development*, and summarized below.

North. The Project site is bordered by land on the northwest that is under construction as a warehouse distribution center (March Business Center). A large warehouse building occupied by Proctor & Gamble abuts the Project site on the north (north of Krameria Avenue). Located farther north of the Project site is Iris Avenue, undeveloped land, and residential development. Approximately 0.6-mile northeast of the Project site is Rainbow Ridge Elementary School and March Middle School.

South. The Project site is bordered on the south by partially developed Cardinal Avenue, a large warehouse building occupied by Amazon, and the Perris Valley Storm Drain Channel. Located farther south are a collection of warehouse distribution buildings (including but not limited to buildings currently occupied by Harbor Freight Tools and O'Reilly Auto Parts), undeveloped lands that are designated for future industrial development, and small parcels that contain small commercial, industrial, or manufacturing structures.

East. Immediately to the east of the Project site is Indian Street. East of Indian Street is land developed primarily with single-family residential land uses, with pockets of undeveloped land designated for future residential development. Further east are Morning Dove Christian Academy (approximately 0.6-mile), Mary McLeod Bethune Elementary School (approximately 0.9-mile), and Vista Verde Middle School (approximately 1.25 miles).

West. The Project site is bordered on the west by a large warehouse building occupied by Lowe's, an industrial building occupied by Cardinal Glass Industries, and Heacock Street. West of Heacock Street is the March Air Reserve Base. The March Air Reserve Base was established as a military airport in 1918 and operated as March Air Force Base until 1996 when it was transitioned to a reserve base. Today, the property contains an airfield, active military uses, aviation-related uses, and areas designated for civilian development called the March Inland Port Airport (IPA).

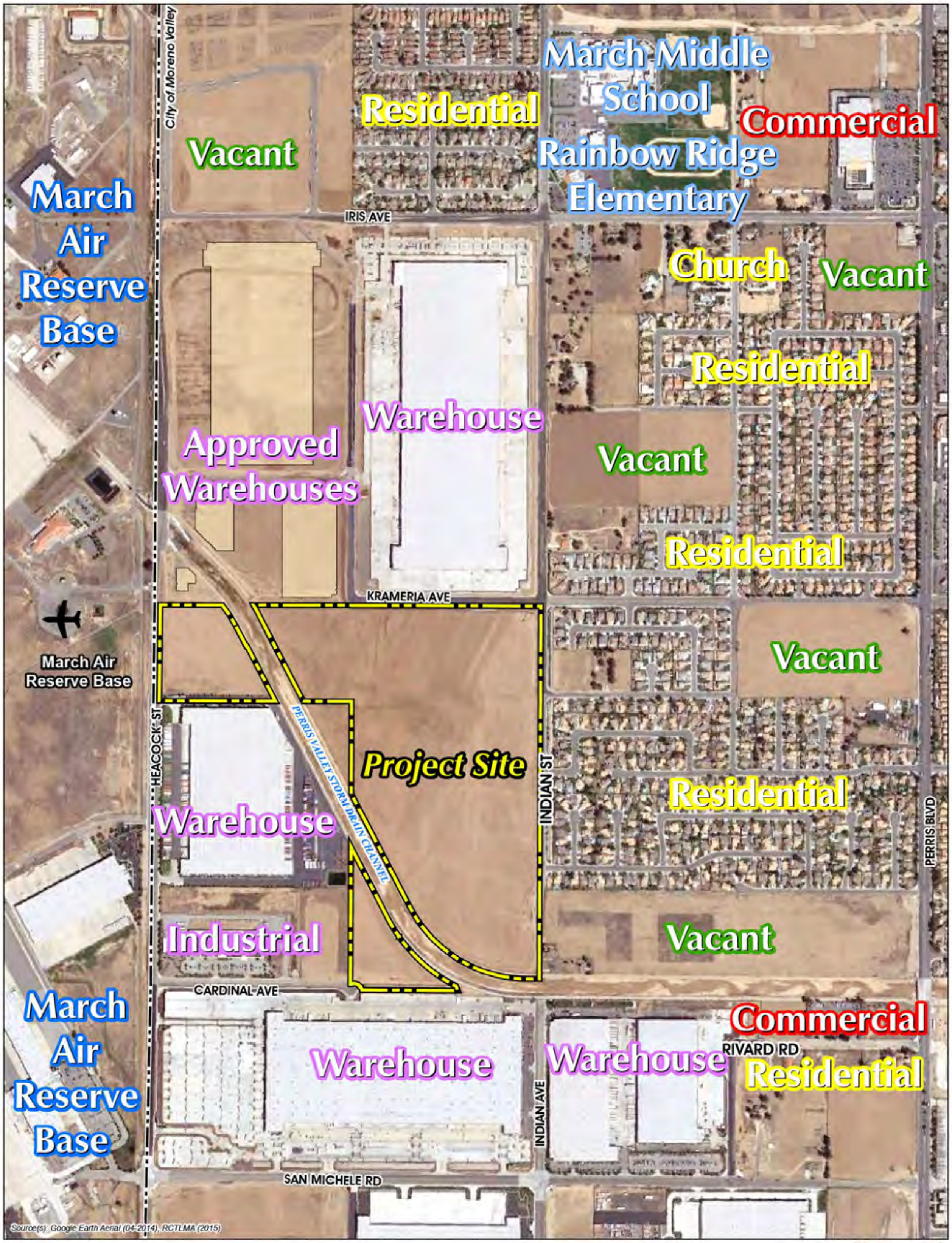


Figure 2-1

SURROUNDING LAND USES AND DEVELOPMENT

2.4 Planning Context

2.4.1 City of Moreno Valley General Plan

The prevailing planning document for the Project site and its surrounding area is the City of Moreno Valley General Plan. The General Plan designates the Project site for "Business Park/Light Industrial (BP)" land uses (refer to Figure 2-2, *Existing General Plan Land Use Designations*). The BP land use designation provides for employee intensive uses, including manufacturing, research and development, warehousing and distribution, as well as office and support commercial activities, with a building intensity up to a floor area ratio (FAR) of 1.0.

2.4.2 Moreno Valley Industrial Area Plan (Specific Plan 208)

The Project site is located within the geographical boundaries of the MVIAP. The MVIAP "establishes development regulations and design standards that will ensure quality development which will contribute to the City's industrial employment base…" (City of Moreno Valley, 2002, pp. I-4). The MVIAP includes specific zoning designations and standards for development within its geographical boundaries. As shown on Figure 2-3, *Moreno Valley Industrial Area Plan Land Use Map*, the MVIAP applies an "Industrial" zoning designation to the Project site. The Industrial zoning designation permits industrial and distribution warehousing uses proposed by the Project.

2.4.3 City of Moreno Valley Zoning

The development regulations and design standards contained within the MVIAP supersede the zoning standards contained in the City's Municipal Code for the Project site. The MVIAP applies the Industrial zoning designation to the proposed Project site. Refer to MVIAP Section III, *Development Standards and Guidelines*, and Section IV, *Development Framework*, for more information on the specific development regulations and design standards that apply to the Project site. The MVIAP is herein incorporated by reference pursuant to CEQA Guidelines § 15150 and is available for review at the physical location indicated in EIR Section 7.0, *References*.

2.4.4 SCAG Regional Transportation Plan (RTP)

SCAG is a Joint Powers Authority (JPA) under California state law, established as an association of local governments and agencies that voluntarily convene as a forum to address regional issues. Under federal law, SCAG is designated as a Metropolitan Planning Organization (MPO) and under state law as a Regional Transportation Planning Agency and a Council of Governments. The SCAG region encompasses six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) and 191 cities in an area covering more than 38,000 square miles. SCAG develops long-range regional transportation plans including sustainable communities strategy and growth forecast components, regional transportation improvement programs, regional housing needs allocations and other plans for the region.

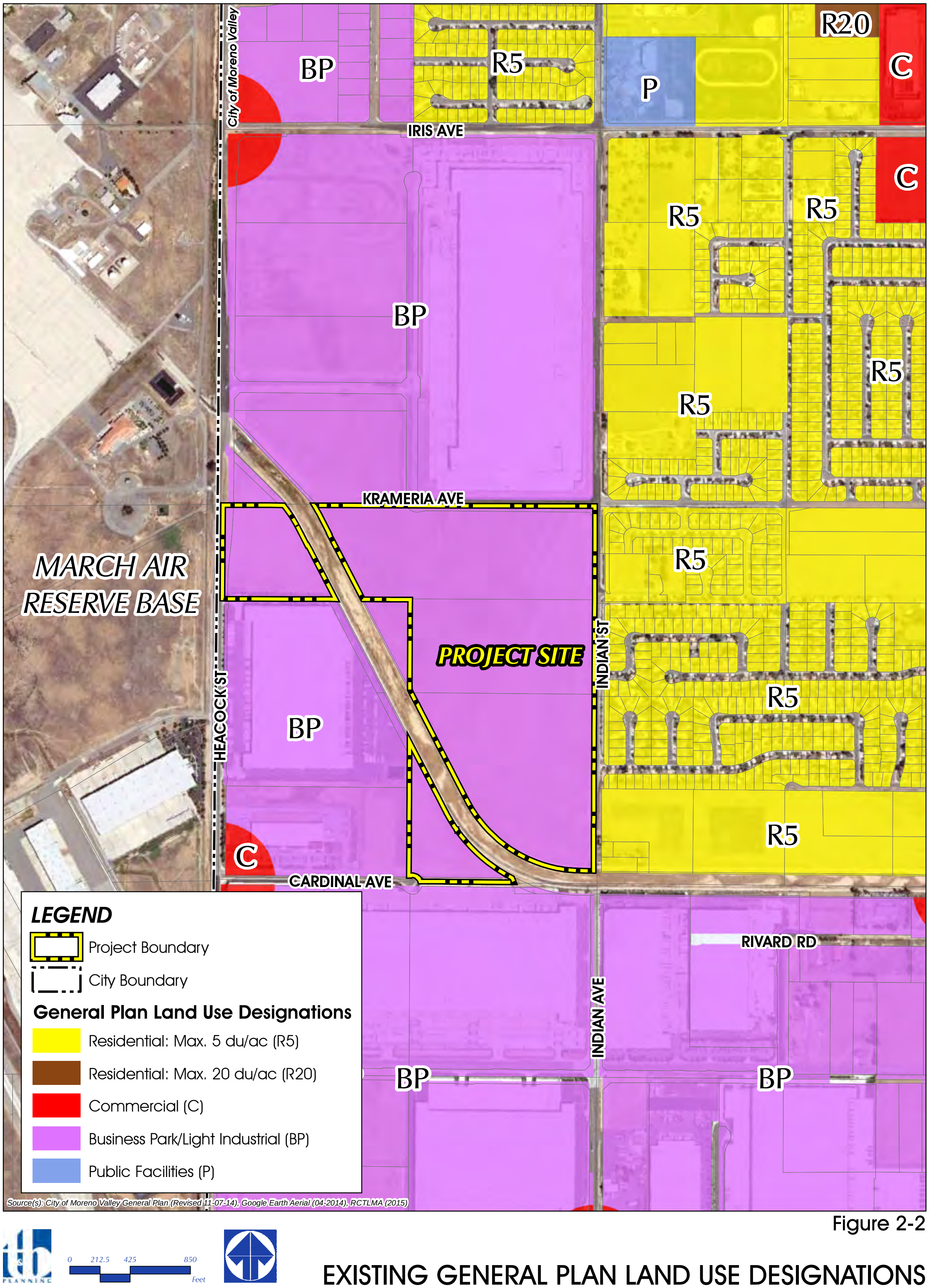


Figure 2-2

EXISTING GENERAL PLAN LAND USE DESIGNATIONS

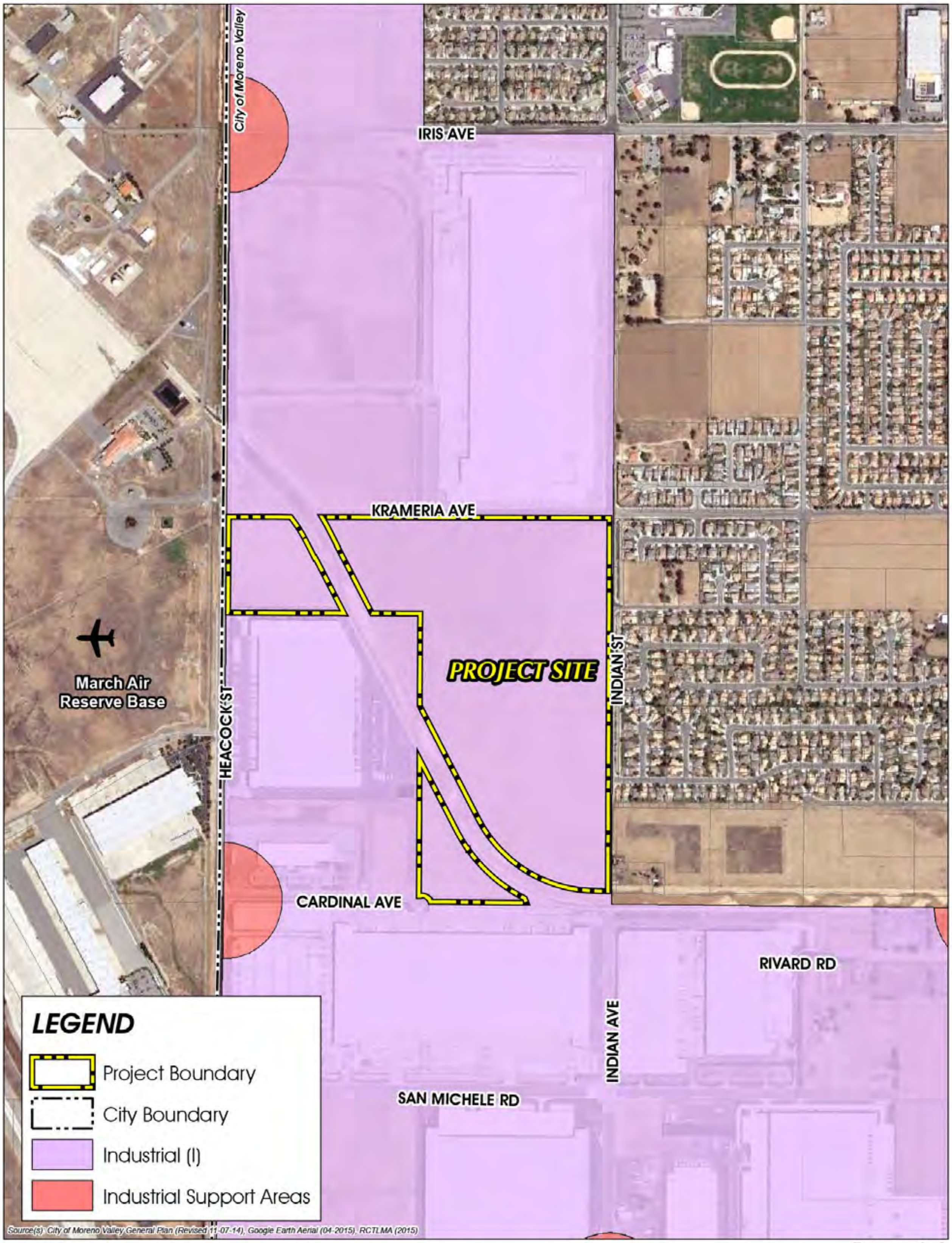


Figure 2-3
MORENO VALLEY INDUSTRIAL AREA PLAN
LAND USE MAP

As a MPO and public agency, SCAG develops transportation and housing plans that transcend jurisdictional boundaries that affect the quality of life for Southern Californian as a whole. SCAG's *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)* includes a chapter titled "Goods Movement" that is applicable to the Project because the Project proposes four industrial buildings in the SCAG region that would provide for a variety of light industrial, distribution warehousing, and logistics tenants. The Goods Movement chapter states that the SCAG region hosts one of the largest clusters of logistics activity in North America. Logistics activities, and the jobs that go with them, depend on a network of warehousing and distribution facilities, highway and rail connections, and intermodal rail yards. To that end, the *Goods Movement Appendix* of the *RTP/SCS* sets forth regional strategies to achieve an efficient movement of goods which states the following:

> *"Goods movement and freight transportation are essential to supporting the SCAG regional economy and quality of life. The goods movement system in the SCAG region is a multimodal, coordinated network that includes deep water marine ports, international border crossings, Class I rail lines, interstate highways, state routes and local roads, air cargo facilities, intermodal facilities, and regional distribution and warehousing clusters. In 2010, over 1.15 billion tons of cargo valued at almost $2 trillion moved across the region's transportation system. Whether carrying imported goods from the San Pedro Bay Ports to regional distribution centers, supplying materials for local manufacturers, or delivering consumer goods to SCAG residents, the movement of freight provides the goods and services needed to sustain regional industries and consumers on a daily basis."* (SCAG, 2012a, p. 1)

According to SCAG's *Comprehensive Regional Goods Movement Plan and Implementation Strategy*, the SCAG region has a large demand for warehouse space and the demand will continue into the foreseeable future, resulting in a large unmet demand by the year 2035 (SCAG, 2013, pp. 4-39 and 4-40). SCAG reports that a substantial amount of available industrial land for this type of development is located in the vicinity of the SR-60 corridor, particularly in Moreno Valley, Perris, and near March Air Reserve Base (i.e., the vicinity of the Project site) (SCAG, 2013, p. 6-16).

2.4.5 Riverside County Airport Land Use Compatibility Plan

The March Air Reserve Base Airport Land Use Compatibility Plan (ALUCP) identifies land use standards and design criteria for new development located in the proximity of the March Air Reserve Base to ensure compatibility between the airport and surrounding land uses and to maximize public safety. The Project site is located within the influence area of March Air Reserve base and is subject to the March Air Reserve Base ALUCP. The portions of the Project site located west of the Perris Valley Storm Drain Channel are located within "Compatibility Zone C1" and the portions of the Project site located east of the Perris Valley Storm Drain Channel are located within "Compatibility Zone D." Within Compatibility Zone C1, noise-sensitive land uses (e.g., schools, libraries, hospitals) and land uses that accommodate the habitation/congregation of very large groups of people are discouraged and design features that may pose a hazard to flight are prohibited (e.g., extremely tall objects, visual or electronic forms of interference). Within Compatibility Zone D, there are no land use or design restrictions, with the exception of hazards to flight. (RCALUC, 2014, p. 9, Map MA-1)

Refer to EIR Subsections 4.7, *Hazards and Hazardous Materials*, and 4.9, *Land Use/Planning*, for a detailed discussion of the Project's compatibility with the March Air Reserve Base ALUCP.

2.4.6 Western Riverside County Multiple Species Habitat Conservation Plan

The Western Riverside County Multiple Species Habitat Plan (MSHCP) is a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP) focusing on conservation of species and their habitats in Western Riverside County. The Project site is located within the Reche Canyon/Badlands Area Plan of the Western Riverside County MSHCP but is not located within a Cell Group, Criteria Cell, or Sub-Unit and is not targeted for conservation (Riverside County, 2015).

2.5 Existing Physical Site Conditions

Pursuant to CEQA Guidelines § 15125, the physical environmental conditions for purposes of establishing the setting of an EIR is the environment as it existed at the time the EIR's NOP was released for public review. The NOP for this EIR was released for public review on June 17, 2015, and the following subsections provide a description of the Project site's physical environmental conditions as of that approximate date ("existing conditions"). More information regarding the Project site's environmental setting is provided in the various subsections of EIR Section 4.0, *Environmental Analysis*.

2.5.1 Land Use

Under existing conditions, the Project site is vacant and does not contain any buildings or permanent structures/facilities, with the exception of overhead utility lines located along the eastern property boundary adjacent to Indian Street. The Project site is routinely maintained (i.e., disced) to remove vegetation from the site to reduce the risk of fire as required by the Riverside County Fire Department. Figure 2-4, *Aerial Photograph*, depicts the existing condition of the Project site.

Historically, the Project site has been either vacant or used for agricultural activities since at least 1938. An ephemeral stream bed transected the Project site in a northwest to southwest direction until the time period between the mid-1950s and mid-1960s, when the stream bed was channelized as part of the man-made Perris Valley Storm Drain Channel. (Farallon Consulting, 2015, p. 5-1)

2.5.2 Aesthetic and Topographic Features

The Project site is located within a flat valley floor surrounded by rugged hills and mountains. The Project site is relatively flat with elevations ranging from approximately 1,497 feet above mean sea level (AMSL) at its northern boundary to approximately 1,468 AMSL at the southeast corner of the property. The topographic relief of the Project site is approximately 29 feet. There are no rock outcroppings or unique topographic features on the Project site. Figure 3-3, *USGS Topographic Map*, of EIR Section 3.0, *Project Description*, depicts the site's existing topographic conditions.

Figure 2-4

AERIAL PHOTOGRAPH

The Project site does not contain any ornamental landscaping; the vegetation that does exist on the property is characterized by ruderal plants and weeds and is routinely disced as part of weed abatement activities. No buildings, permanent man-made structures/facilities or other discernable man-made features are present on the Project site, with the exception of overhead utility lines located along the eastern property boundary adjacent to Indian Street and the Perris Valley Storm Drain Channel that bisects the property.

Refer to EIR Subsections 4.1, *Aesthetics*, for a more detailed account of the Project site's existing aesthetic and topographic features.

2.5.3 Air Quality and Climate

The Project site is located in the 6,745-square-mile South Coast Air Basin (SCAB), which includes portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County. The SCAB is bound by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The SCAB is within the jurisdiction of the South Coast Air Quality Management District (SCAQMD), the agency charged with bringing air quality in the SCAB into conformity with federal and state air quality standards. As documented in the Project's air quality report (*Technical Appendix B1* to this EIR), although the climate of the SCAB is characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. More than 90% of the SCAB's rainfall occurs from November through April. Temperatures during the year range from an average minimum of 36°F in January to over 100°F maximum in the summer. During the late autumn to early spring rainy season, the SCAB 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.

Air quality in the SCAB is documented by the SCAQMD to have dramatically improved over the past several decades. Ambient concentrations of ozone (O_3), nitrogen oxides (NO_X), volatile organic compounds (VOCs), and carbon monoxide (CO) have decreased within the SCAB since 1975 due to regulatory controls and advances in technology and are projected by the SCAQMD to continue to decrease through at least 2020. Additionally, overall trends in particulate matter (PM_{10} and $PM_{2.5}$) emissions have improved since 1975 due to improved management practices. Regardless, the SCAB is currently not in attainment of state and/or federal standards established for ozone (O_3) one-hour and eight-hour, particulate matter (PM_{10} and $PM_{2.5}$), and also not in attainment for lead (Pb) in Los Angeles County. (Urban Crossroads, 2015a, pp. 13-23)

Similarly, toxic air contaminant (TAC) concentrations within the SCAB have fallen substantially since the mid-1980s, when the California Air Resources Board (CARB) adopted regulations to curtail TAC emissions. TACs are responsible for most of the known cancer risk associated with airborne pollutants in California. Diesel particulate matter (DPM), a pollutant generated by diesel combustion engines, is responsible for approximately 70 percent of the TAC-associated cancer risk in the SCAB. Statewide, DPM emissions declined by approximately 68 percent between 1984 and

2000 and are projected to decline by an additional 71 percent between 2000 and 2020 due to the use of cleaner fuels, fleet upgrades (i.e., replacing older, more polluting diesel-fueled trucks with newer, cleaner trucks), and other regulatory requirements. The SCAQMD conducts in-depth analysis of toxic air contaminants and their resulting health risks for the SCAB and documents their findings in a report titled *Multiple Air Toxics Exposure Study in the South Coast Air Basin* (2015). Overall, the 2015 iteration of this study (referred to as *MATES-IV*) reported that the ambient, excess cancer risk in the SCAB fell by more than 50 percent between the 2008 iteration (*MATES-III*) and *MATES-IV*. According to *MATES-IV*, the ambient excess cancer risk for the vicinity of the Project site is approximately 211 in one million. (Urban Crossroads, 2015a, pp. 24-26; SCAQMD, 2015b; SCAQMD, 2015c)

Refer to EIR Subsections 4.3, *Air Quality* and 4.6, *Greenhouse Gas Emissions,* for a more detailed discussion of the Project site's existing air quality and climatic setting.

2.5.4 Cultural Resources

From an archaeological perspective, regional prehistory within the Project area is defined by the *Paleo-Indian Period* (11,500 to 9,000 years ago), the *Archaic Period* (9,000 to 1,300 years ago), and the *Late Prehistoric Period* (approximately 1,300 years ago). Each of these periods in prehistory are discussed in EIR Subsection 4.5, *Cultural Resources*. In summary, human habitation of Southern California dates back to approximately 11,500 years ago. Over a series of cultural periods, the area transitioned from a hunting and gathering society, to settlements of small groups of people, to large occupations near natural water sources, to formations of distinct ethnographic groups. Moreno Valley is located in the traditional tribal use areas of several Native American Tribes, particularly the Cahuilla, Gabrielino, and Luiseño Indians. (BFSA, 2106a, pp. 3.0-1 to 3.0-4) According to correspondence received by the City of Moreno Valley in relation to the Project, three Native American tribes indicate that the Project site is located within their ancestral tribal territory: San Manuel Band of Mission Indians, Soboba Band of Luiseño Indians, and the Pechanga Band of Luiseño Indians.

The Project site is not known to have historical significance to the region and is not listed on the national, state, or local registers of historic places (BFSA, 2106a,p. 5.0-1).

Refer to EIR Subsection 4.5, *Cultural Resources,* for a more thorough discussion of the Project's site existing cultural setting.

2.5.5 Geology and Soils

The Project site is located within the Peninsular Range Geomorphic Province, a prominent natural geomorphic province that extends from the Santa Monica Mountains approximately 900 miles south to the tip of Baja California, Mexico, and is bounded on the east by the Colorado Desert. The Peninsular Range is characterized by steep, elongated ranges and valleys that generally trend northwesterly (California Department of Conservation, 2002). More specifically, the Project site is situated within the Perris Block unit, which is mass of granitic rock. The Perris Block is bounded by the San Jacinto fault zone to the northeast, the Elsinore fault zone to the southwest, and the Santa Ana River (City of Moreno Valley, 2006b, p. 5.6-1). Geologic formations underlying the Project site include lower Pleistocene deposits and very old alluvial fan deposits (BFSA, 2016b, p. 1).

The Project site is not located within an active Alquist-Priolo earthquake zone or a City-designated fault hazard zone, meaning that no active faults are mapped or known to exist on the Project site or in the immediate surrounding area (SoCalGeo, 2015, p. 10) (City of Moreno Valley, 2006a,pp. 6-16-6-17, Figure 6-3). The nearest known active fault to the Project site, the San Jacinto Valley section of the San Jacinto Fault Zone (Casa Loma Fault), is located approximately six miles to the east of the subject property (USGS, 2015).

Native alluvial soils are present across the Project site, from ground surface to at least 30 feet below ground surface. The on-site alluvial soils generally consist of very stiff to hard sandy clays, clayey silts and silty clays as well as medium dense to very dense sands, silty sands and clayey sands. (SoCalGeo, 2015, p. 6)

2.5.6 Hydrology

The Project site is located in the Santa Ana River Watershed (San Jacinto Sub-Watershed). The Santa Ana River Watershed drains a 2,650 square-mile area and is the principal surface flow water body within the region. The Santa Ana River's headwaters are in the San Bernardino Mountains from which the River flows southwesterly for approximately 96 miles across San Bernardino, Riverside, Los Angeles, and Orange counties before spilling into the Pacific Ocean. (SAWPA, 2012)

The Perris Valley Storm Drain Channel, which transects the Project site in a northwest to southeast direction, is one of three major storm drains that serve the City of Moreno Valley. The Perris Valley Storm Drain Channel confluences with the San Jacinto River and discharges to Canyon Lake, and ultimately to Lake Elsinore. Under existing conditions, stormwater runoff generally surface drains southeasterly across the Project site as sheet flow into the Perris Valley Storm Drain Channel. (Thienes, 2016a, p. n.p.)

According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panels 06065C0765G and 06065C1430H, the north-central portion of the Project site is located within Flood Zone AO, while the remaining portions of the Project site are located within Flood Zone X (un-shaded). Areas within Flood Zone AO are subject to inundation by 1-percent-annual-chance shallow flooding (average depths between one and three feet). Flood Zone X (unshaded) is classified by FEMA as an area of minimal flood hazard and is located above the 0.2-percent-annual-flood-chance floodplain. (FEMA, 2015)

The Project site does not contain any surface water. Free water was encountered during geologic field investigations in one (1) subsurface boring on the Project site at a depth of approximately 27 feet below the ground surface. Based on the observed moisture content of recovered soil samples and a review of historic groundwater documentation, Southern California Geotechnical, Inc.

determined the static groundwater table at the Project site exists at depths in excess of 30 feet below the existing ground surface. (SoCalGeo, 2015, pp. 6, 17)

Refer to EIR Subsection 4.8, *Hydrology/Water Quality*, for a more detailed discussion of the Project site's existing hydraulic setting.

2.5.7 Noise

Primary sources of noise in the Project site's vicinity include vehicle noise and aircraft noise. To determine the existing acoustical setting, 24-hour noise measurements were taken by Urban Crossroads, Inc. at nine locations in the Project study area on March 9, 2015. Measured hourly noise levels ranged from 50.2 to 75.3 equivalent-level decibels (dBA Leq), which correlates to a Community Noise Equivalent Level (CNEL) ranging from 58.2 dBA CNEL to 79.7 dBA CNEL (Urban Crossroads, 2015d, p. 31).

Refer to EIR Subsection 4.10, *Noise*, for a more detailed discussion of the Project site's existing noise setting.

2.5.8 Transportation

Major vehicular travel routes in the Project region include I-215, SR-60, State Route 91 (SR-91), and Interstate 15 (I-15). The Project site is located approximately 1.3 miles east of the Harley Knox Boulevard/I-215 interchange in the City of Perris. From the Harley Knox interchange, I-215 connects with SR-60 approximately six roadway miles to the north, and connects with SR-91 approximately 11 roadway miles to the north, and connects with I-15 approximately 24 roadway miles to the south.

The Project site is located south of Krameria Avenue, north of Cardinal Avenue, west of Indian Street, and east of Heacock Street. Other primary roadways in the vicinity of the Project site include Perris Boulevard, Cactus Avenue, and Harley Knox Boulevard (located in the City of Perris). Existing traffic on nearby roadways consists of both passenger vehicles and heavy trucks.

Refer to EIR Subsection 4.11, *Transportation/Traffic*, for a detailed discussion of the Project area's existing transportation and circulation setting, including local roadways in the City of Moreno Valley and City of Perris that would be used by Project-related traffic.

2.5.9 Utilities and Service Systems

The Project site is located in the service area of the Eastern Municipal Water District (EMWD) for domestic water and sewer service. EMWD manages the domestic water supply and delivery service within its 555 square mile service area, including the City of Moreno Valley, all or portions of six other cities, and a portion of unincorporated Riverside County. As documented in EMWD's *2010 Urban Water Management Plan*, EMWD's water supply is obtained from four sources: 1) imported water from the Metropolitan Water District (MWD); 2) recycled water; 3) local groundwater production; and 4) desalted groundwater (EMWD, 2011, p. Ch. 3). EMWD has an adopted Water Shortage Contingency Plan (EMWD Ordinance 117.2) that applies regulations and restrictions on the delivery of and consumption of water during water shortages.

Wastewater flows generated within the Project area are conveyed to two different EMWD wastewater treatment facilities: the Moreno Valley Regional Water Reclamation Facility or the Perris Valley Regional Water Reclamation Facility. The Moreno Valley Regional Water Reclamation Facility generally receives wastewater flows produced in areas north and east of the Perris Valley Storm Drain Channel, while the Perris Valley Regional Water Reclamation Facility generally receives wastewater flows produced in areas south of the Perris Valley Storm Drain Channel.

Solid waste collection and disposal in the Project area is conducted by Waste Management of the Inland Empire, a division of Waste Management, Inc. Landfills that have the potential of receiving solid waste from the Project site include the El Sobrante Landfill, the Badlands Sanitary Landfill, and the Lamb Canyon Sanitary Landfill.

2.5.10 Vegetation

The entire Project site has been disturbed, either by past agricultural activities or by on-going weed abatement (i.e., discing). According to a biological field survey conducted on the Project site by Glenn Lukos Associates (GLA), vegetation observed on-site includes common species, such as London rocket (*Sisymbrium irio*), common goldfields (*Lasthenia californica*), common fiddleneck (*Amsinkia menziessii var. intermedia*), redstem filaree (*Erodium cicutarium*), cultivated barley (*Hordeum vulgare*), wild oat (*Avena fatua*), Russian thistle (*Salsola tragus*), cheeseweed (*Malva parviflora*), red brome (*Bromus madritensis ssp. rubens*), stinknet (*Oncosiphon piluliferum*), wild radish (*Raphanus sativus*), minature lupine (*Lupinus bicolor*), and summer mustard (*Brassica geniculata*). (GLA, 2015, p. 20) A complete list of plant species observed on the Project site is included in *Technical Appendix B1*. GLA did not observe any special-status plants on the Project site (GLA, 2015, p. 21).

Refer to EIR Subsection 4.4, *Biological Resources*, for a detailed discussion of the Project site's existing biological setting.

2.5.11 Wildlife

One special-status wildlife species was observed on the Project site during GLA's biological survey: the San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). A complete list of animals species observed on the Project site is included in *Technical Appendix B1*. Although no other special-status wildlife species were observed on the Project site, based on the physical characteristics of the site and surrounding area, the following nine species have the potential of occupy or use (e.g., forage, nest) the subject property: burrowing owl (*Athene cunicularia*), ferruginous hawk (*Buteo regalis*), golden eagle (*Aquila chrysaetos*), loggerhead shrike (*Lanius ludovicianus*), northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), Los Angeles pocket mouse (*Perognathus* *longimembris brevinasus*), Northwestern San Diego pocket mouse (*Chaetoipus fallax fallax*), and Stephens' kangaroo rat (*Dipodomys stephensi*). (GLA, 2015, pp. 24-28)

Refer to EIR Subsection 4.4, *Biological Resources*, for a detailed discussion of the Project site's existing biological setting.

3.0 PROJECT DESCRIPTION

This section provides all of the information required of an EIR Project Description by CEQA Guidelines § 15124, including a description of the Project's precise location and boundaries; a statement of the Project's objectives; a description of the Project's technical, economic, and environmental characteristics; and a description of the intended uses of this EIR, including a list of the government agencies that are expected to use this EIR in their decision-making processes; a list of the permits and approvals that are required to implement the Project; and a list of related environmental review and consultation requirements.

Under existing conditions, the approximately 89.4-acre Project site is vacant and undeveloped. The proposed Project involves the construction and operation of a logistics center with four (4) buildings and a combined 1,736,180 square feet (s.f.) of total floor space. No future building occupants are yet identified, but the types of occupants are anticipated to include high cube warehousing in the largest building and uses such as general warehousing, industrial, manufacturing, assembly, e-commerce, and similar use types in the smaller buildings. Associated improvements to the Project site would include, but not be limited to, surface parking areas, vehicle drive aisles, truck courts, utility infrastructure, landscaping, exterior lighting, signage, and water quality/detention basins. The Project also would construct frontage improvements to Krameria Avenue, Heacock Avenue, and Indian Street, and construct storm drain outlets to the Perris Valley Storm Drain Channel, a segment of which bifurcates the site.

This EIR (P15-037) analyzes the physical environmental effects associated with all components of the Project, including planning, construction, and on-going operation. Governmental approvals requested from the City of Moreno Valley by the Project Applicant to implement the Project include a Specific Plan Amendment (P15-036), a Tentative Parcel Map (PA15-0018), and four individual Building Plot Plans (PA15-0014, 15-0015, PA15-0016, and PA15-0017). These applications, as submitted to the City of Moreno Valley by the Project Applicant, are herein incorporated by reference pursuant to CEQA Guidelines § 15150 and are available for review at the City of Moreno Valley Community & Economic Development Department, Planning Division, 14177 Frederick Street, Moreno Valley, CA 92552. No other discretionary actions are required on the part of the City of Moreno Valley to approve the Project; nonetheless, any and all other discretionary and administrative approvals that may be required of the City of Moreno Valley or other governmental agencies to fully implement the proposed Project are also within the scope of the Project analyzed in this EIR.

3.1 Project Location

The Project site is located in the southern portion of the City of Moreno Valley. The City of Moreno Valley is located in the northwestern portion of Riverside County, California, and is north of the City of Perris and southeast of the City of Riverside. As shown on Figure 3-1, *Regional Map*, the Project site is located approximately 1.3 miles east of Interstate 215 (I-215), 4.2 miles south of State Route 60 (SR-60) and approximately 2.5 miles northwest of Lake Perris.

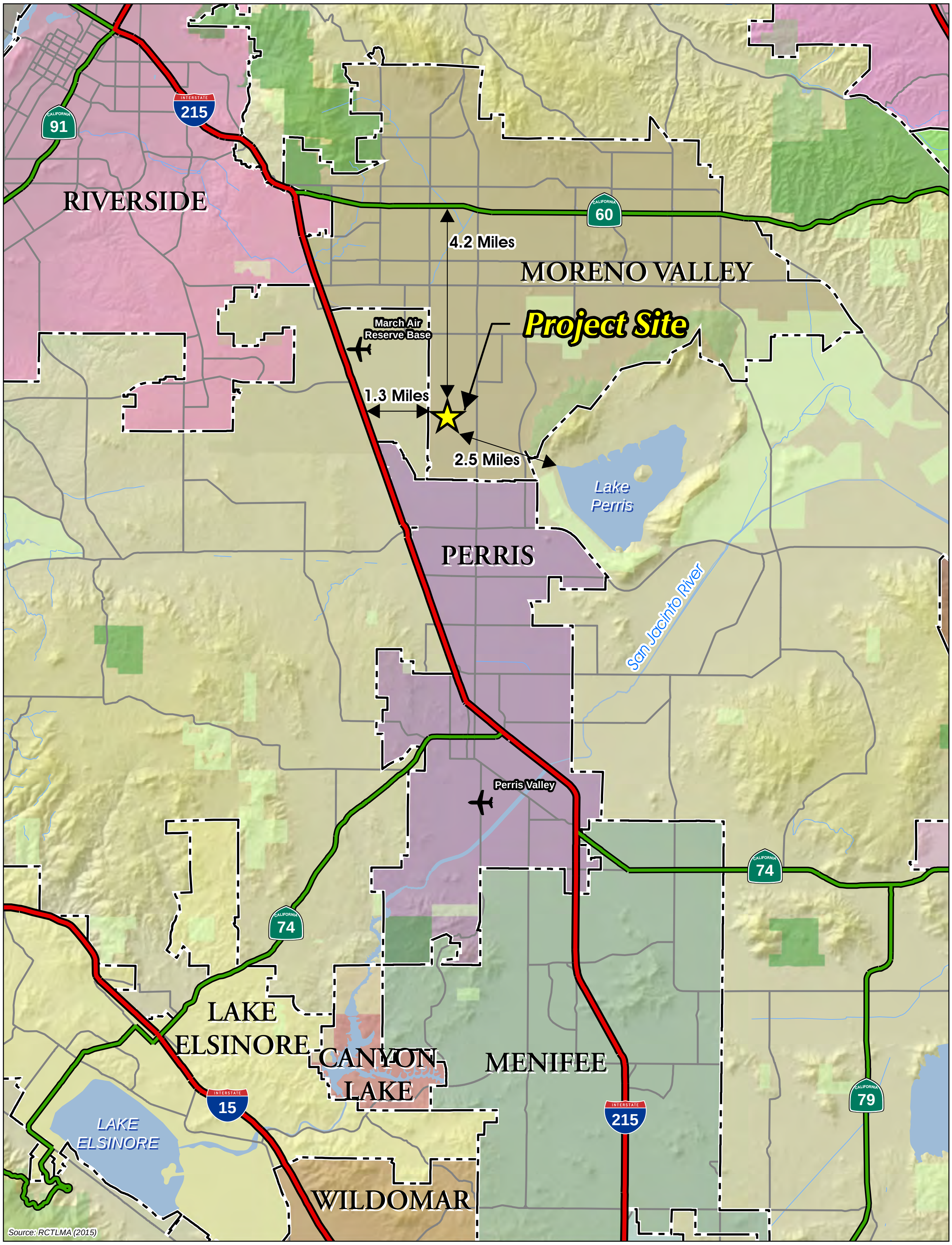


Figure 3-1

REGIONAL MAP

Specifically, the Project site is located south of Krameria Avenue, north of Cardinal Avenue, east of Heacock Street and the March Air Reserve Base, and west of Indian Street (see Figure 3-2, *Vicinity Map*, and Figure 3-3, *USGS Topographic Map*). The Perris Valley Storm Drain Channel transects the Project site in a northwest to southeast direction. Approximately 15.3 acres of the Project site is located west of the Perris Valley Storm Drain Channel and approximately 74.1 acres of the Project site is located east of the Perris Valley Storm Drain Channel.

A detailed discussion of the Project site's location and setting is provided in EIR Section 2.0, *Environmental Setting*.

3.2 Statement of Objectives

The Project's goal is to develop the subject property as a productive logistics center. The Project would achieve this goal through the following basic objectives.

A. Implement the Moreno Valley Industrial Area Plan (MVIAP) through the construction and operation of a Class A logistics center in conformance with the land use designations applied to the property by the City of Moreno Valley General Plan and the MVIAP, as amended.

B. To develop and maximize the buildout potential of a vacant or underutilized property in the MVIAP area that has access to available infrastructure.

C. To attract new employment-generating businesses to the MVIAP area thereby providing a more equal jobs-housing balance both in the City of Moreno Valley and in the Riverside County/Inland Empire area and reducing the need for members of the local workforce to commute outside the area for employment.

D. To develop logistics buildings with loading bays and trailer parking within close proximity of regional transportation routes and designated City of Moreno Valley truck routes in order to facilitate the efficient movement of goods.

E. To develop logistics center buildings that are physically and economically feasible to construct and operate and that are economically competitive with other geographic markets in the Inland Empire to attract building users to Moreno Valley.

F. To develop a vacant or underutilized property with structures that have architectural design and operational characteristics that complement existing and planned warehouse development in the immediate vicinity.

G. To develop the subject property with land uses that are harmonious to the adjacent March Air Reserve Base.

Figure 3-2

VICINITY MAP

Figure 3-3

0 500 1,000 2,000 Feet

USGS TOPOGRAPHIC MAP

3.3 Project's Component Parts

The Project consists of a proposal to develop an approximately 89.4-acre property to accommodate a logistics center with four (4) buildings with a combined total of 1,736,180 s.f. of floor space. The principal discretionary actions required of the City of Moreno Valley to implement the Project include the approval of a Specific Plan Amendment (P15-036), Tentative Parcel Map No. 36150 (PA15-0018), and four (4) individual Building Plot Plans (PA15-0014, PA15-0015, PA15-0016, and PA15-0017), and certification of this EIR. Other approvals and actions that are necessary to fully implement the proposed Project are listed in Table 3-5, *Matrix of Project Approvals/Permits*, at the end of this EIR section. A detailed description of the proposed Project is provided in the following subsections.

3.3.1 Specific Plan Amendment (P15-036)

The MVIAP, which was adopted by the City of Moreno Valley in 1989, includes a 300-foot setback requirement between industrial and residential land uses (refer to MVIAP Section III, C.1). The proposed Specific Plan Amendment (SPA) would amend this setback as it pertains to the Project site. The SPA proposes to amend the Project site's minimum setback distance requirement to the residential zoning located on the opposite side (east side) of Indian Street from 300 feet to 100 feet and to add the requirement to install a minimum 50-foot-wide contiguous enhanced landscaping zone within the proposed 100-foot setback area. The building constructed to the north of the Project site and currently occupied by Proctor & Gamble has a 100-foot separation from residential uses on the east side of Indian Street; the proposed Project is proposing the same distance so that there is a consistent setback along the west side of Indian Street.

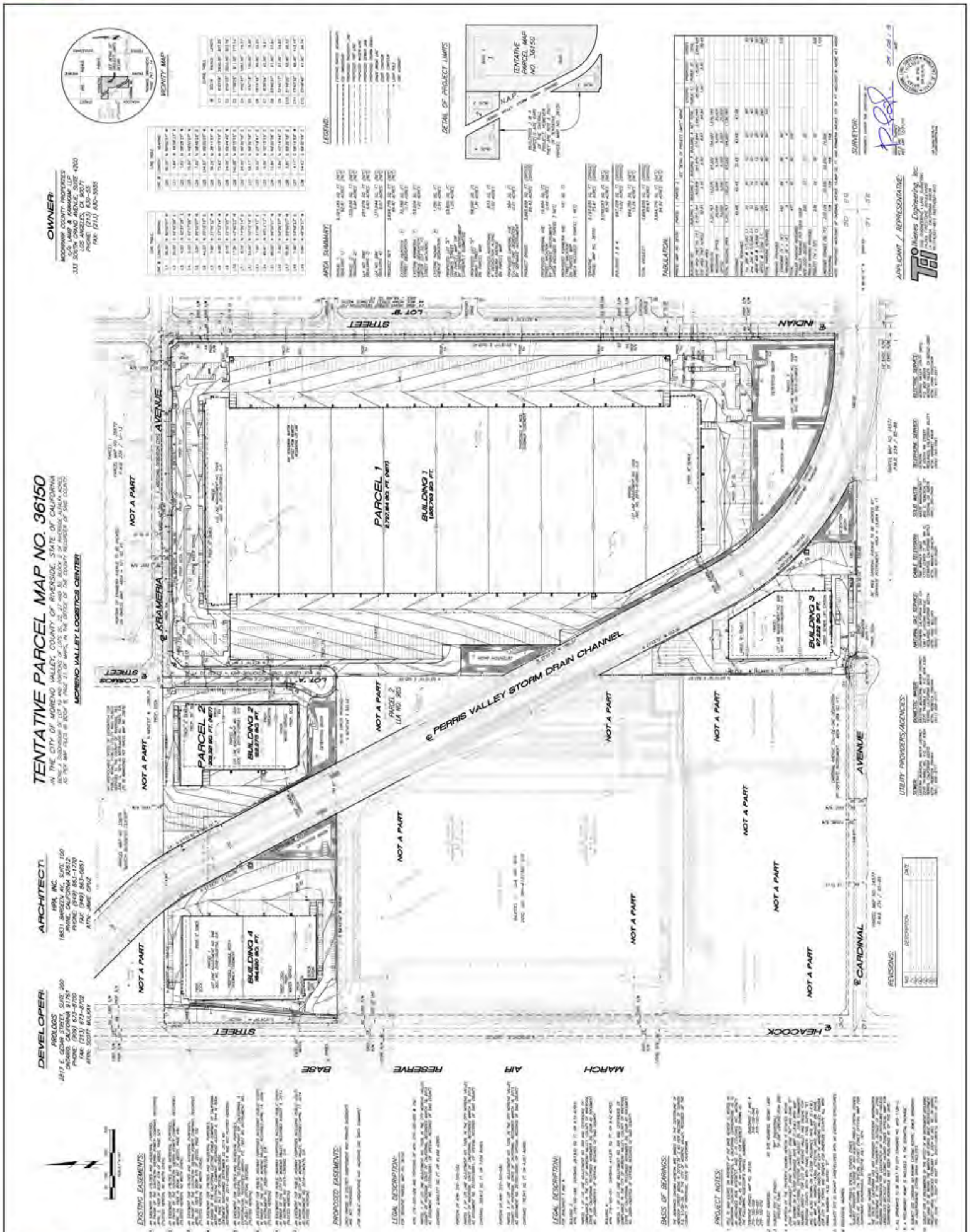
3.3.2 Tentative Parcel Map No. 36150

A. General Description

Tentative Parcel Map No. 36150 (TPM No. 36150; PA15-0018) proposes to consolidate three (3) parcels comprising an approximately 74.1-gross-acre portion of the Project site into two (2) parcels, as depicted on Figure 3-4, *Tentative Parcel Map No. 36150.* Proposed Parcel 1 would contain approximately 62.6 net acres and proposed Parcel 2 would contain approximately 6.9 net acres. In addition, TPM No. 36150 identifies areas of public road dedication and vacation, and the size and location of proposed utility infrastructure improvements.

B. Public Roadway Vacations, Dedications, and Improvements

TPM No. 36150 would dedicate land as public right-of-way to the City of Moreno Valley for the construction/widening of Krameria Avenue (0.02-acre), Indian Street (1.34 acres), Cosmos Street (1.23 acres). In addition, TPM No. 36150, would vacate roadway right-of-way that were previously offered to the City of Moreno Valley but never constructed. The right-of-way to be vacated is also known by the term "paper street" because the alignment exists only on maps, with no physical attributes constructed on the property. The "paper street" to be vacated by TPM No. 36150 includes



Source: Thienes Engineering (09-08-15)

Figure 3-4

NOT TO SCALE

TENTATIVE PARCEL MAP NO. 36150

an approximately 101 s.f. area of unbuilt Krameria Avenue. The Project also would dedicate approximately 0.01-acre to the City as right-of-way for Cardinal Avenue and would vacate an approximately 0.46-acre "paper street" for Cardinal Avenue via subsequent administrative action(s). The proposed Project would provide frontage improvements to roadways abutting the subject property, including Indian Street, Krameria Avenue, Heacock Street, and Cardinal Avenue as detailed in the City of Moreno Valley's Conditions of Approval for the Project and shown on Figure 3-5, *Roadway Cross-Sections*. In addition, the Project would construct the on-site cul-de-sac segment of Cosmos Street. Improvements would be consistent with City of Moreno Valley roadway standards.

C. Utility Infrastructure Improvements

❑ Water Service Facilities

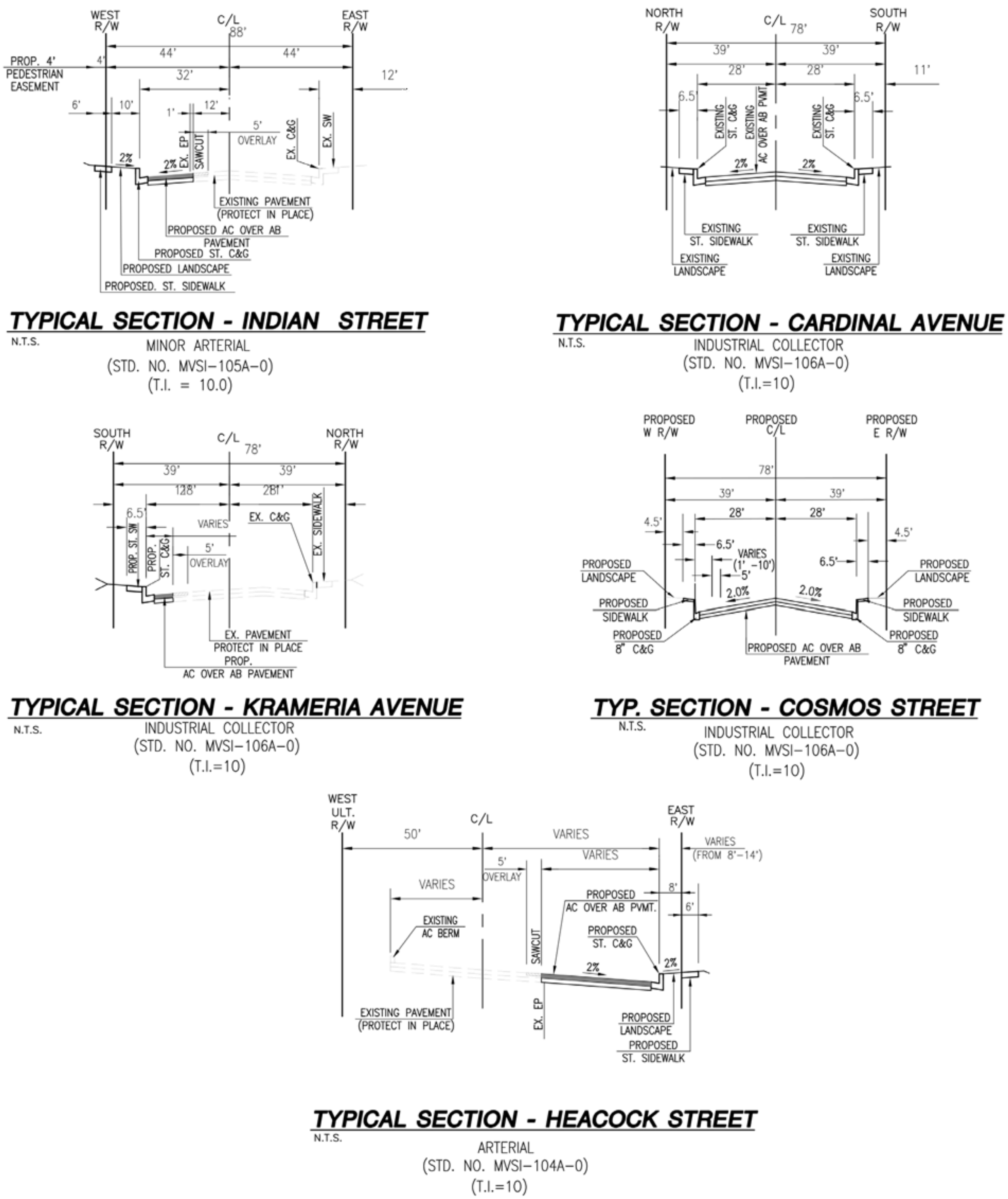
The Eastern Municipal Water District (EMWD) would provide water service to the Project. As depicted on Figure 3-6, *Water Plan*, TPM No. 36150 proposes numerous connection points to the existing water lines installed beneath Indian Street, Krameria Avenue, Heacock Street, and Cardinal Avenue for indoor, outdoor (i.e., landscape irrigation), and fire protection (i.e., fire hydrant) services. Additionally, TPM No. 36150 would install a water line beneath the proposed on-site segment of Cosmos Avenue for the purposes of on-site indoor, outdoor, and fire protection services. All proposed water facilities would be designed and constructed in accordance with EMWD standards.

❑ Wastewater Service Facilities

EMWD would provide wastewater conveyance and treatment services to the Project. As shown on Figure 3-7, *Sewer Plan*, TPM No. 36150 would extend the existing sewer line installed beneath Heacock Street approximately 90 feet to the north to provide sewer service to the northwest portion of the Project site (i.e., proposed Building 4) and would construct a sewer line beneath Cardinal Avenue to provide sewer service to the southwest portion of the Project site (i.e., proposed Building 3). TPM No. 36150 also specifies the installation of two private sewer lift stations on the northwest and southwest portions of the Project site to facilitate sewer service to proposed Buildings 3 and 4. The eastern portion of the Project site (i.e., proposed Buildings 1 and 2) would receive wastewater service via two proposed connections to the existing sewer line installed along the eastern edge of the Perris Valley Storm Drain Channel. All proposed wastewater facilities are required to be designed and constructed in accordance with EMWD standards.

❑ Stormwater Drainage Plan

The drainage system for TPM No. 36150 is depicted on Figure 3-8, *Drainage Plan*. Stormwater flows from the parcels for Buildings 1, 2, 3, and 4 would be captured by on-site storm drains and routed to one of six (6) on-site water quality/detention basins. In addition to stormwater drainage functions, these basins also would provide water quality functions. The water quality/detention basins would be designed to treat and temporarily detain stormwater runoff to ensure that post-development discharge from the site is less than, or equal to, pre-development conditions. All on-site



Source: Thienes Engineering (09-08-15)

Figure 3-5

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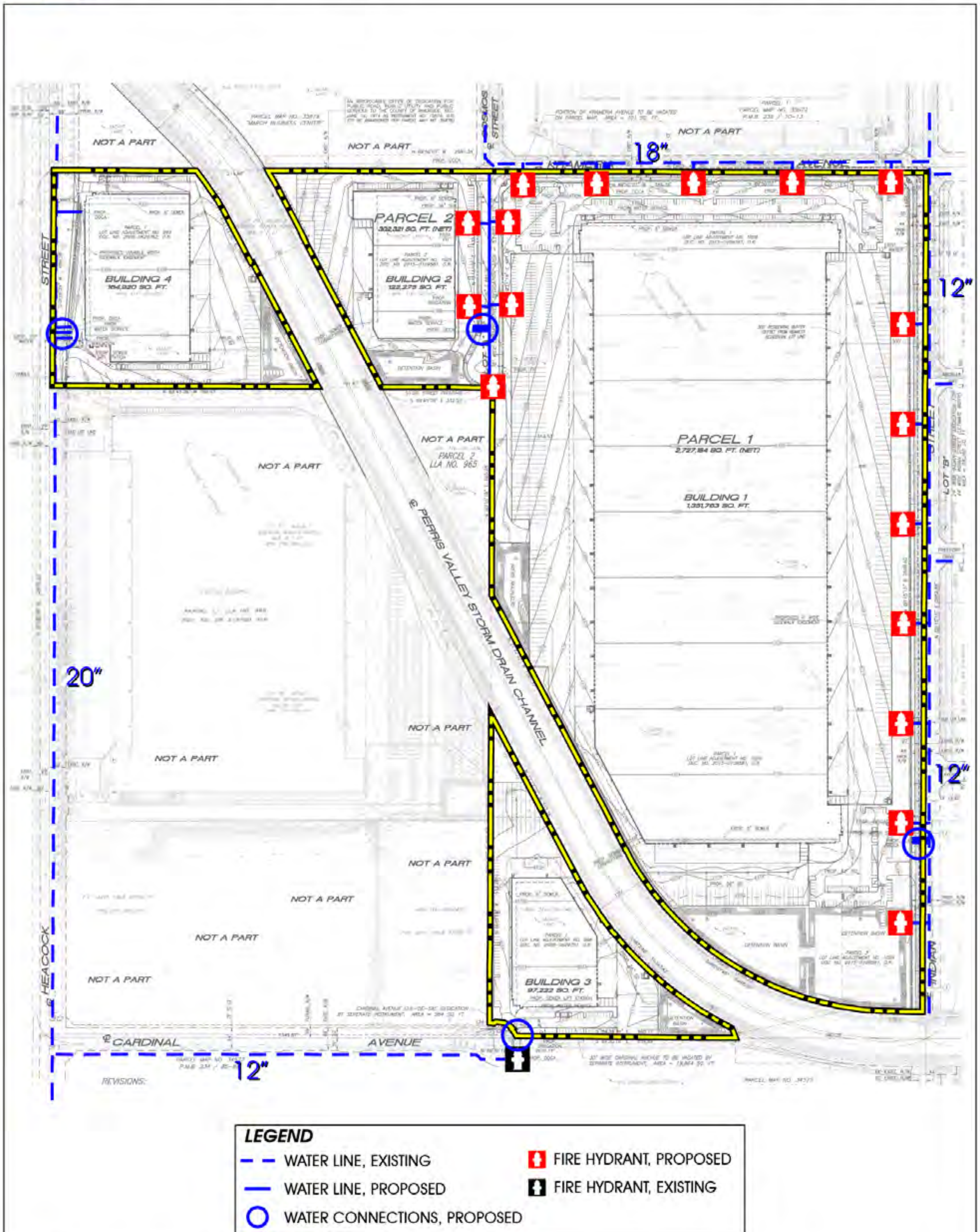
ROADWAY CROSS-SECTIONS



Source: Thienes Engineering (09-08-15)

Figure 3-6

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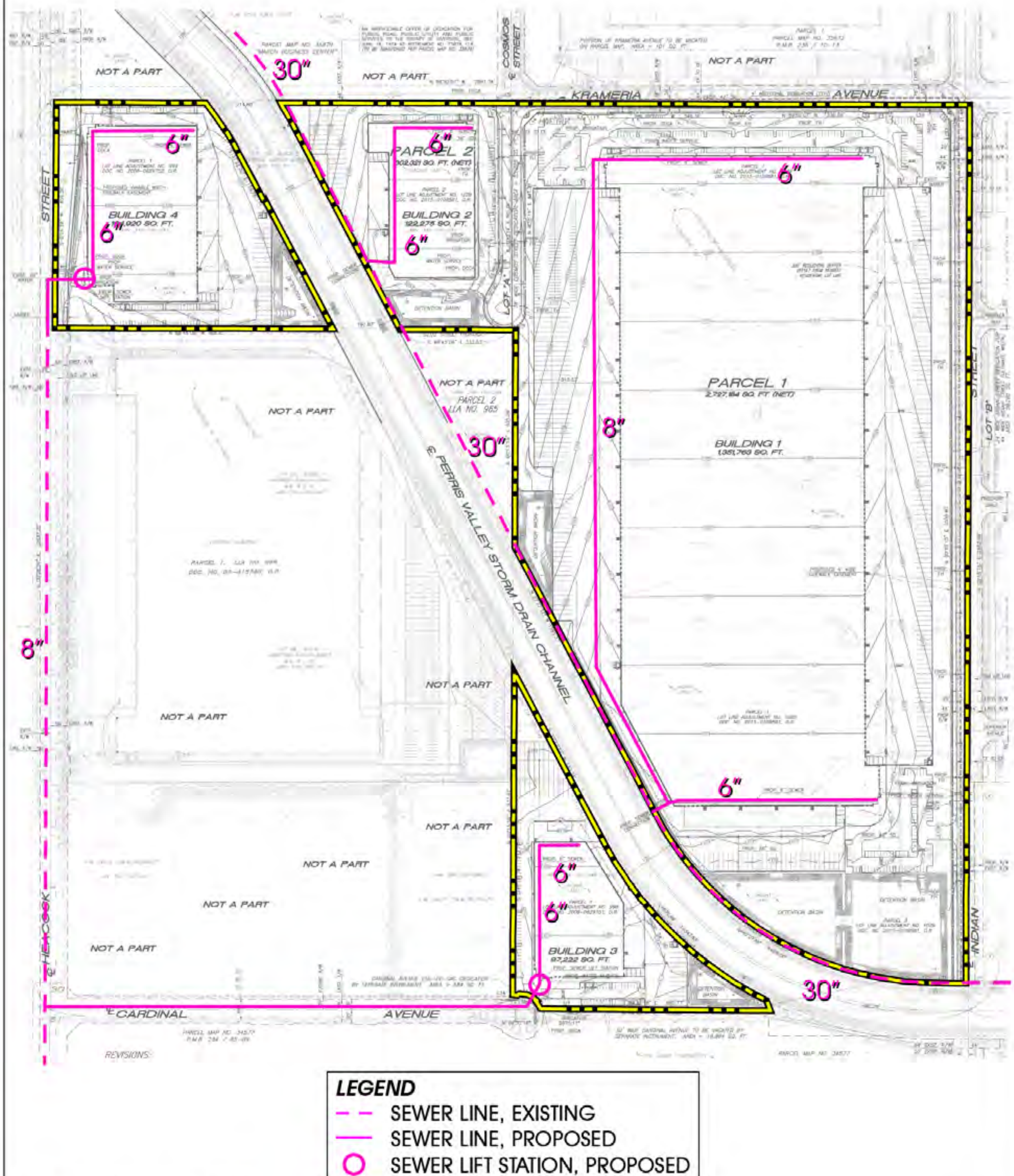
WATER PLAN



Source: Thienes Engineering (09-08-15)

Figure 3-7

NOT TO SCALE

SEWER PLAN

Source: Thienes Engineering (09-08-15)

NOT TO SCALE

Figure 3-8

DRAINAGE PLAN

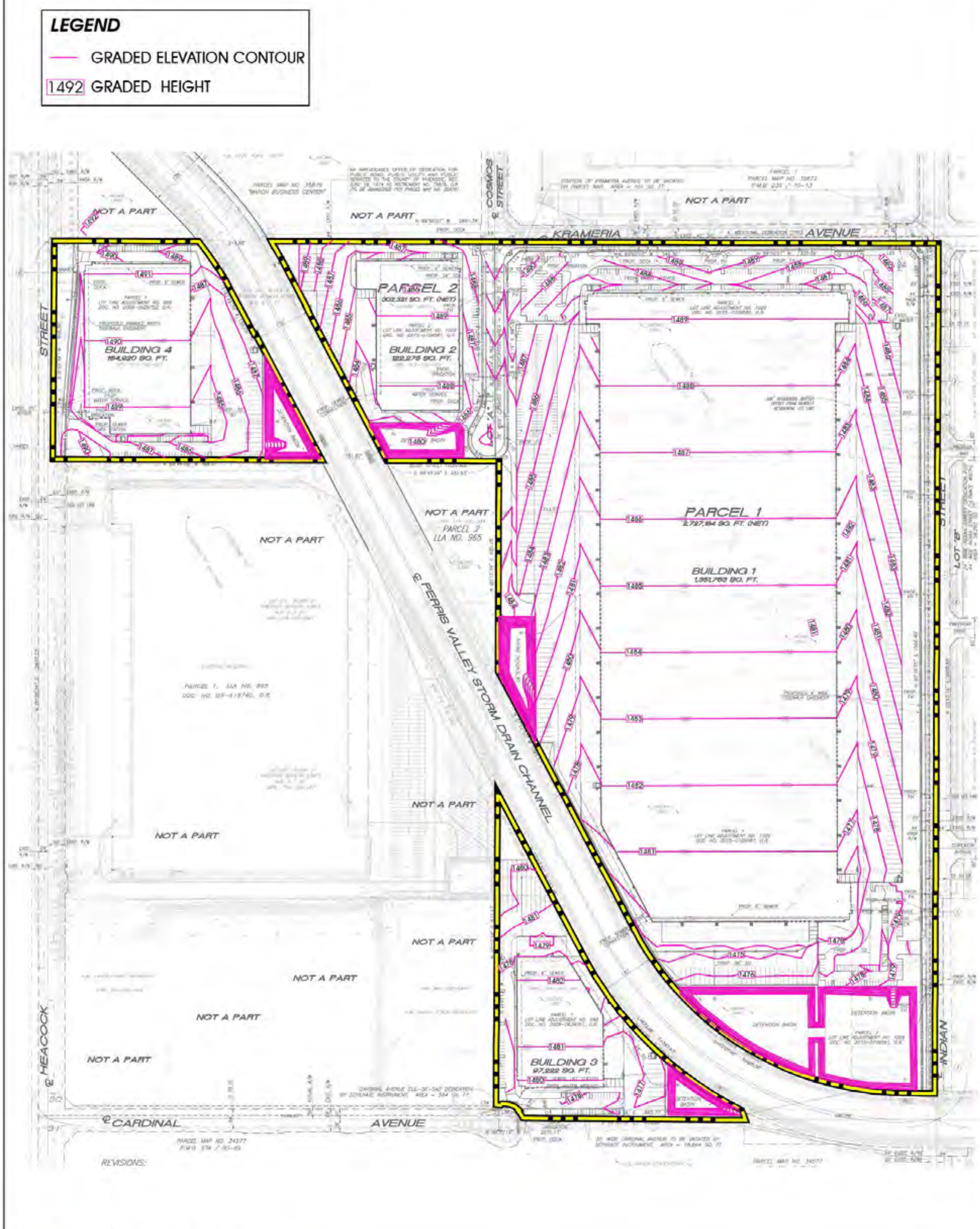
water quality/detention basins would drain completely within 48 hours after storm events. Stormwater runoff would be conveyed from the on-site water quality/detention basins to one of four (4) discharge points to the Perris Valley Storm Drain Channel via a network of underground storm drain pipes. Runoff flows within Cosmos Street would be captured by a proposed system of storm drains within the street and then would be routed to existing storm drain facilities installed beneath Krameria Avenue.

TPM No. 36150 would install an off-site storm drain segment beneath the Krameria Avenue/Indian Street intersection to connect the existing storm drain line beneath Krameria Avenue to an existing open storm drain channel abutting the eastern edge of Indian Street. TPM No. 36150 also would install an off-site segment of storm drain beneath a portion of Indian Avenue to capture stormwater runoff that originates within Indian Avenue south of Superior Avenue and convey the captured flows into the Perris Valley Storm Drain Channel. Within the Perris Valley Storm Drain Channel, proposed improvements include the construction of outlet structures and headwalls at the four (4) discharge points from the Project's on-site water quality/detention basins and the discharge point for the new off-site storm drain line beneath Indian Street (as described above). Rip-rap would be installed within the Perris Valley Channel at all proposed drainage outlets to preclude scour and erosion.

All proposed stormwater drainage improvements are required to be designed and constructed in accordance with Riverside County Flood Control and Water Conservation District (RCFCWCD) and City of Moreno Valley standards.

D. Earthwork and Grading

As shown on Figure 3-9, *Conceptual Grading Plan*, grading would occur over the entire Project site. No area of the site would be left undisturbed. Proposed earthwork and grading activities, considering excavation and over-excavation quantities, fill quantities, and material subsidence and shrinkage, would balance on each of the four (4) development parcels. At proposed building pads and parking areas, the maximum depth of excavation would range between three (3) and five (5) feet below the ground surface. At proposed detention basin areas, the maximum depth of excavation could reach up to nine (9) feet below ground surface. Collectively, earthwork would involve 494,477 cubic yards of cut (including over-excavation) and 169,183 cubic yards of fill. Due to the expected shrinkage and compaction of on-site soils, earthwork activities are expected to balance and no import or export of soil materials would be required. When grading is complete, the Project site would have a slight, northwest-to-southeast slope; the highest point of the site would be approximately 1,493 feet above mean sea level (AMSL) at the northwest corner of the site and would slope downward to an elevation of approximately 1,476 AMSL in the southeast portion of the Project site. Proposed grading would not create manufactured slopes except around the proposed water/quality detention basins in the eastern portion of the site, where proposed slopes would measure up to five (5) feet in height with a maximum incline of 4:1.



Source: Thienes Engineering (09-04-15)

Figure 3-9

NOT TO SCALE

CONCEPTUAL GRADING PLAN

3.4 Plot Plans PA15-0014, PA15-0015, PA15-0016, PA15-0017

Four (4) individual Plot Plans are proposed as part of the Project. The individual Plot Plans provide site plans, including a detailed architectural and landscape designs, for Building 1 (PA15-0014), Building 2 (PA15-0015), Building 3 (PA15-0016), and Building 4 (PA15-0017). The site plans for Buildings 1 through 4 are presented on Figure 3-10 through Figure 3-13. Figure 3-14, *Moreno Valley Logistics Center Site Plan,* illustrates the full context of proposed development.

A. General Description

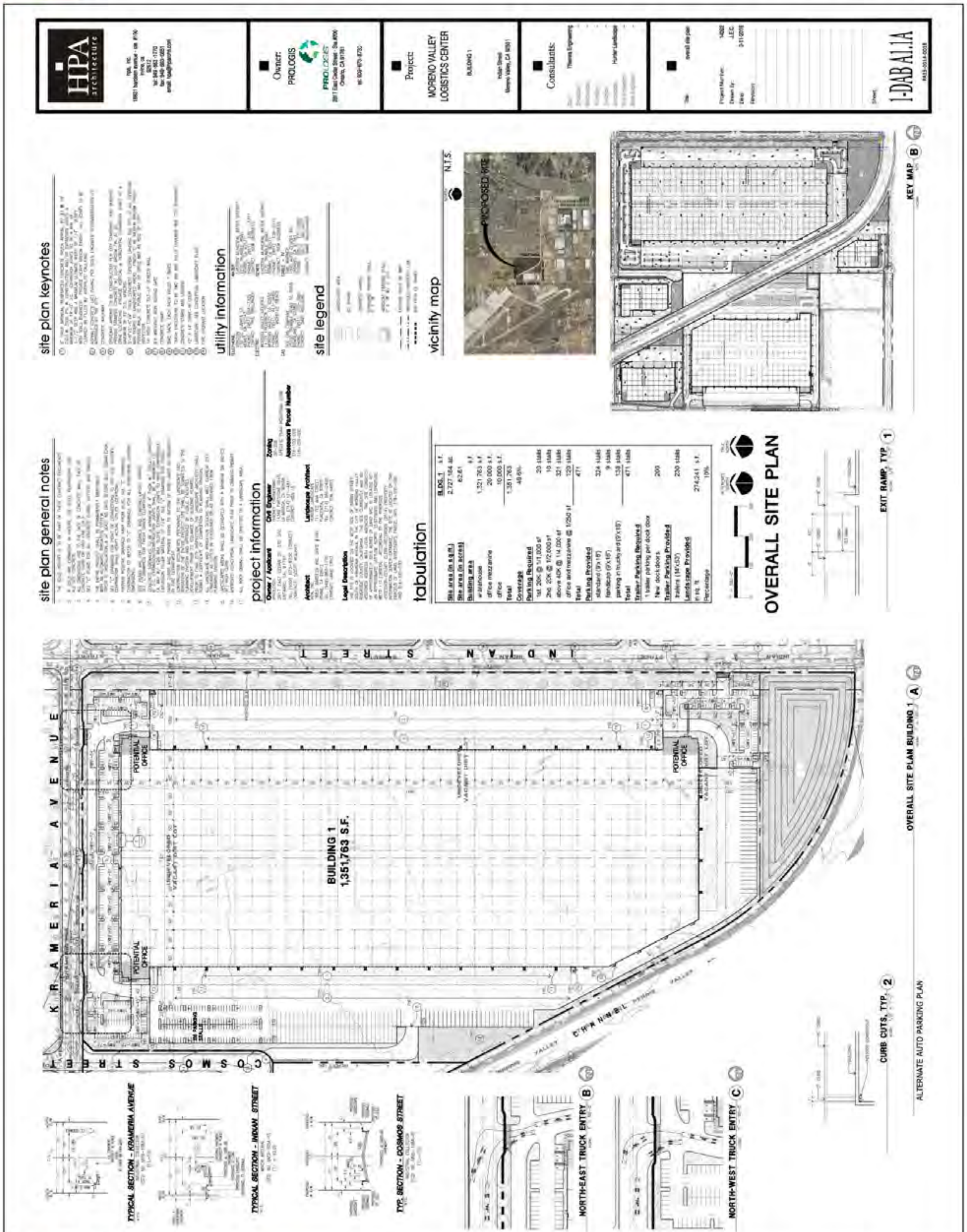
As summarized in Table 3-1, *Moreno Valley Logistics Center Statistical Summary,* the Project's proposed buildings would range in size from approximately 97,222 s.f. to approximately 1,351,763 s.f., with a combined total of 1,736,180 s.f. of floor area. The Project is proposed to accommodate a maximum of 174,000 s.f. of cold storage (i.e., refrigeration) in the event Project's building occupants require cold storage. At the time this EIR was prepared, the future occupants of the Project site's buildings are unknown. The buildings are designed to accommodate a high cube warehouse occupant in proposed Building 1 and industrial, warehousing, manufacturing, assembly, e-commerce, and similar uses in the smaller buildings.

Table 3-1 Moreno Valley Logistics Center Statistical Summary

Building	Net Site Area (s.f.)	Total Building Area (s.f.)	FAR
1	2,727,184	1,351,763	0.50
2	302,839	122,275	0.40
3	287,679	97,222	0.34
4	377,844	164,920	0.44
Total	**3,695,546**	**1,736,180**	**0.47**

The Project also includes an alternate site plan that would omit Building 2 and construct a 166-space truck trailer parking lot in its place on Parcel 2. In the event the alternate site plan is implemented, the truck trailer parking lot would be utilized as overflow parking for Building 1. The alternative site plan would not involve any changes to the intensity of use, size, location, configuration, or design of proposed Buildings 1, 3, or 4. Under the alternate site plan, the total building area on the Project site would be reduced to 1,613,905 s.f. (for an overall floor area ratio, FAR, of 0.44).

Vehicular access to the Project site would be provided by driveways distributed across the property. At Building 1, three driveways would be provided along Krameria Avenue (the center driveway would be restricted to automobiles only), one driveway would be provided at Indian Street, and one driveway would be provided at Cosmos Street. Building 1 would provide on-site parking lot striping and signage at proposed driveways along Krameria Avenue to direct exiting truck traffic to the west (i.e., toward Heacock Avenue). Building 2 would provide one driveway at Cosmos Street, Building 3 would provide one driveway at Cardinal Avenue, and Building 4 would provide two driveways along Heacock Avenue. All driveways proposed by the Project would be stop-sign controlled. The

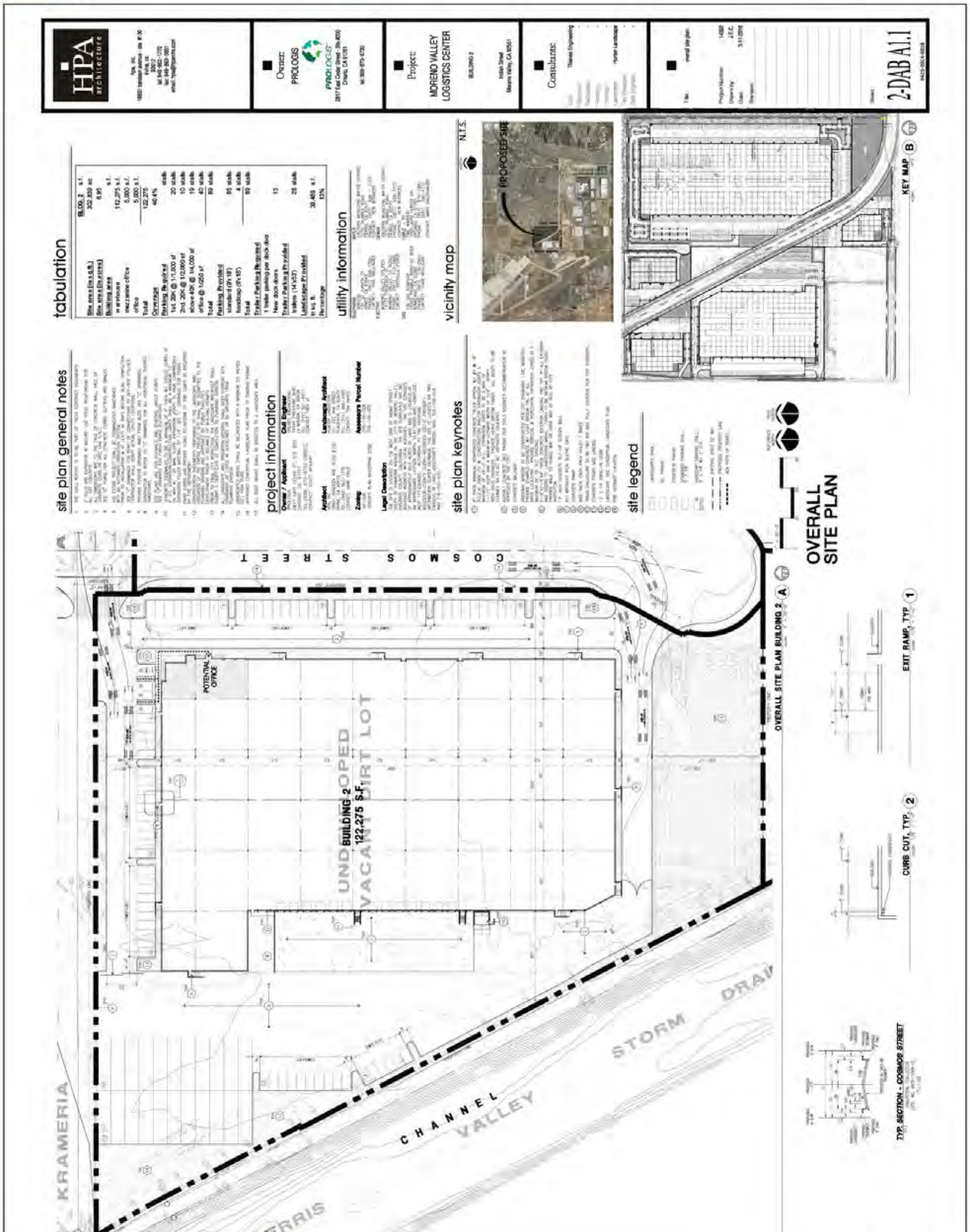


Source: HPA architecture (03-31-16)

Figure 3-10

NOT TO SCALE

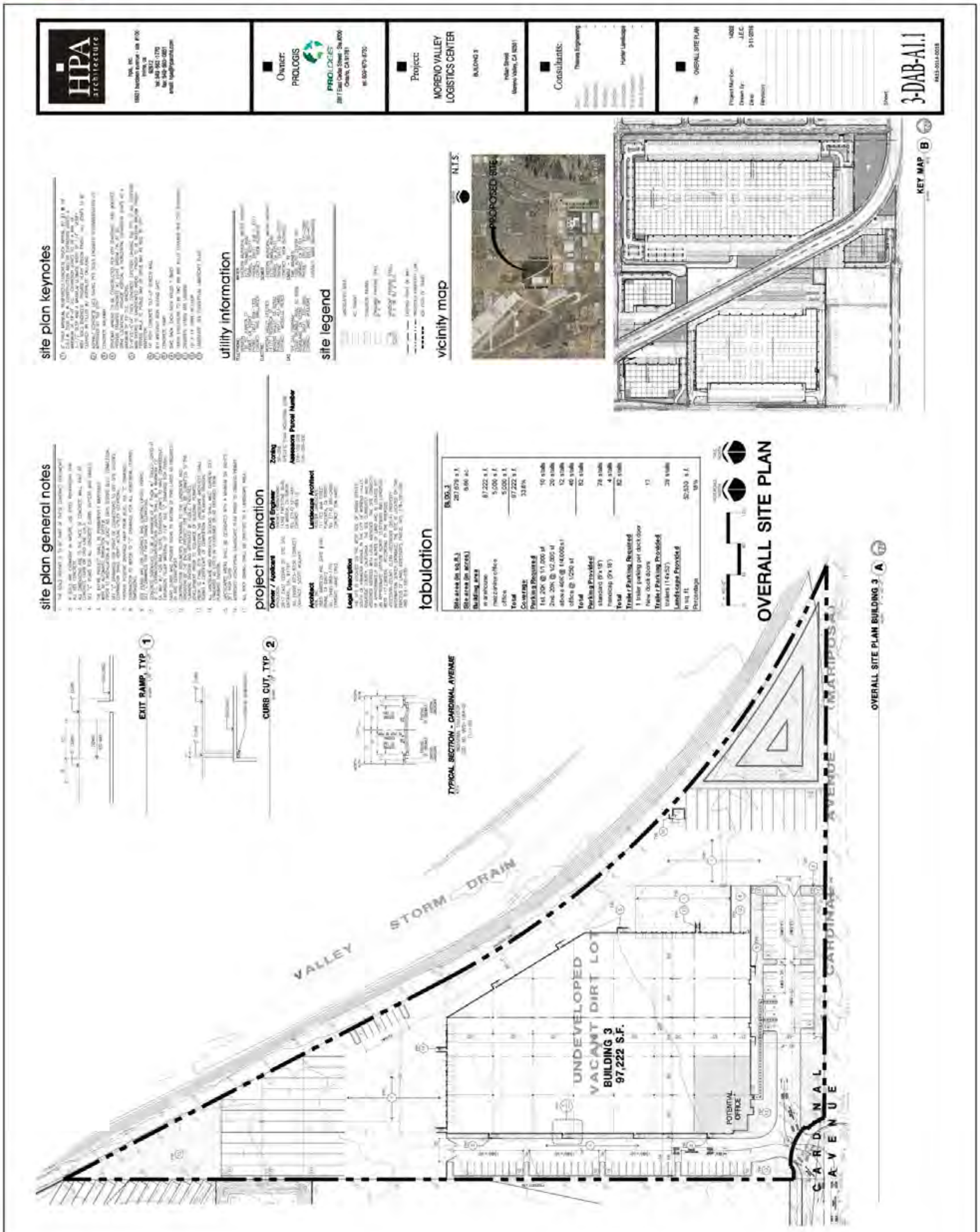
BUILDING 1 PLOT PLAN



Source: HPA architecture (03-31-16)

Figure 3-11

BUILDING 2 PLOT PLAN

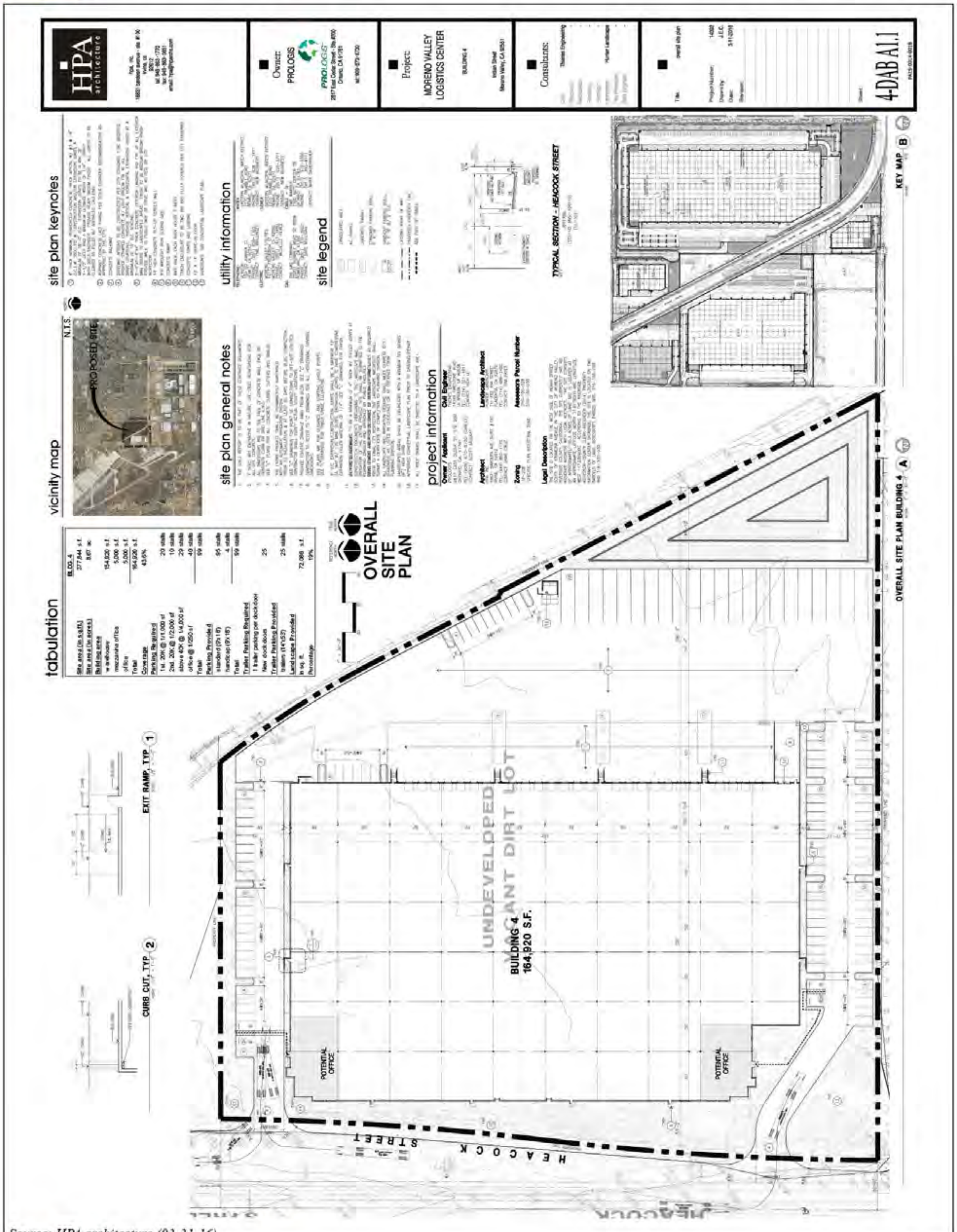


Source: HPA architecture (03-31-16)

Figure 3-12

NOT TO SCALE

BUILDING 3 PLOT PLAN

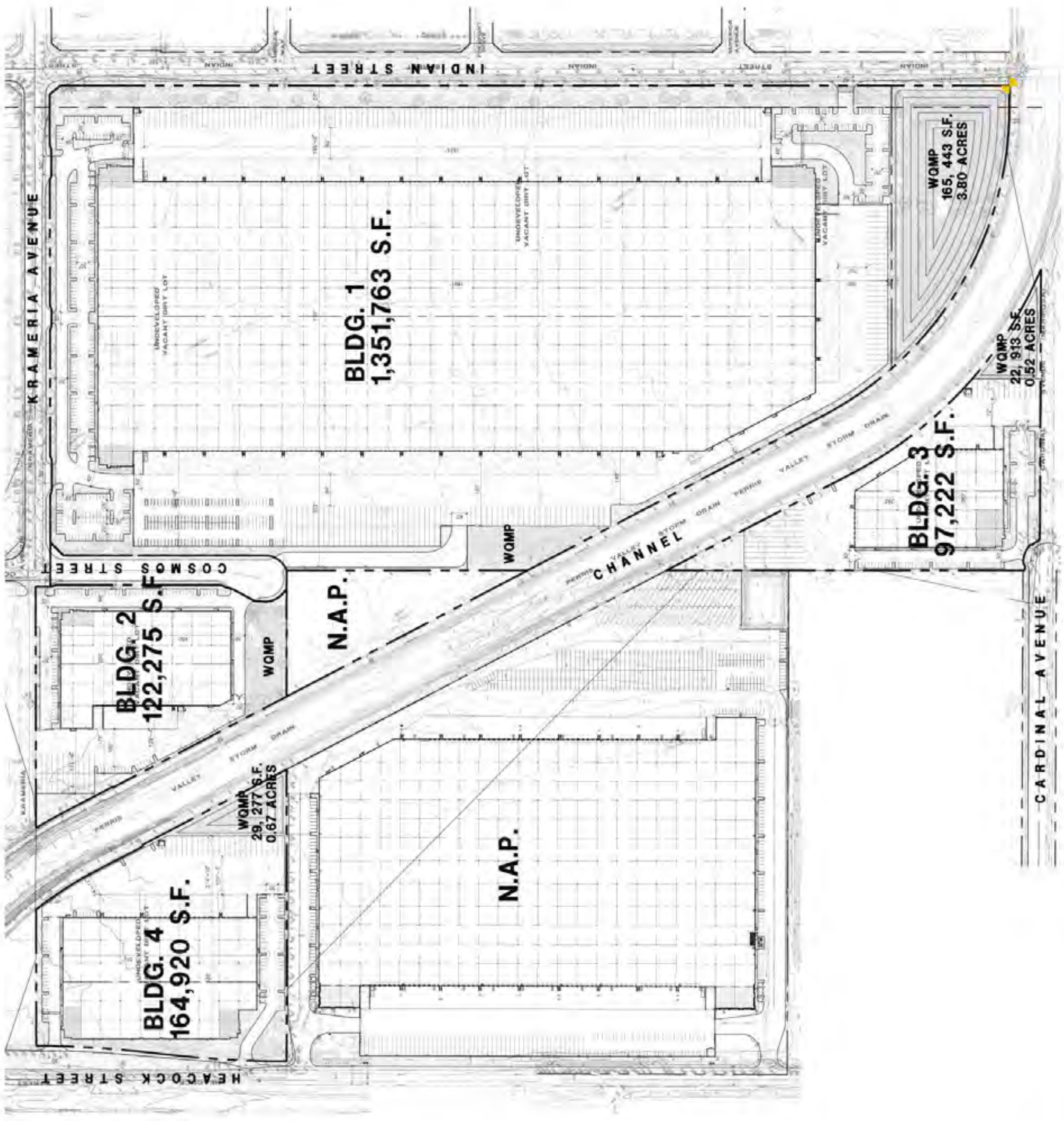


Source: HPA architecture (03-31-16)

Figure 3-13

NOT TO SCALE

BUILDING 4 PLOT PLAN



Source: HPA architecture (03-31-16)

Figure 3-14

NOT TO SCALE

MORENO VALLEY LOGISTICS CENTER SITE PLAN driveways would provide access to automobile parking areas, loading areas, and truck parking areas for the respective building. Access to loading and truck parking areas located interior to the Project site would be gated. Proposed truck check-in points and driveways are positioned interior to the Project site to create interior queuing areas and minimize the potential trucks accessing the property to stack onto abutting public streets.

B. Parking and Loading

Figure 3-10 through Figure 3-13 depict the proposed locations of parking spaces and loading bays (also called "docks") for each building. Table 3-2, *Parking and Loading Summary*, summarizes the number of parking spaces and loading bays proposed for each building. The parking spaces provided by the Project would satisfy the City of Moreno Valley Municipal Code requirements for off-street parking. The proposed Project also would be required to meet the City of Moreno Valley Municipal Code requirement to provide bicycle parking equal to five percent of the required automobile parking spaces.

Table 3-2 Parking and Loading Summary

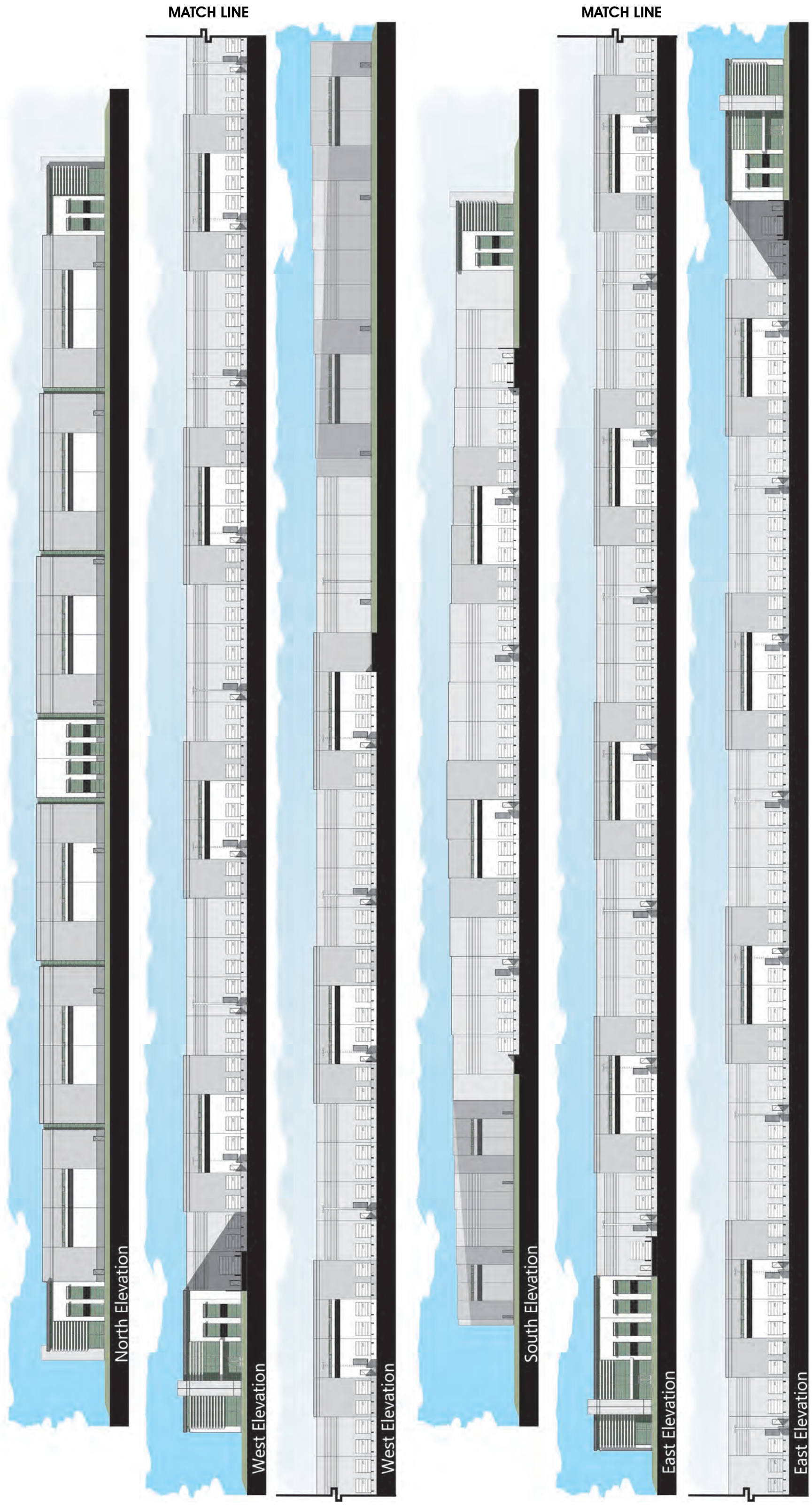
	Building 1	**Building 2**	**Building 3**	**Building 4**
		Parking Spaces		
Automobile	471	92	92	100
Truck Trailer	236	28	39	26
		Loading Bays		
Dock Doors	200	13	17	25

Note: Under the alternative site plan, Building 2 would be replaced by a parking lot with 166 truck trailer spaces.

On all four (4) buildings combined, the Project would provide a total of 255 loading bays (also called "docks") for the shipping and receiving of goods. At a warehouse building, loading bays are used for the receiving of goods and the shipment of goods. Quite often, these docks are on different sides of the building (called a cross-dock, as is proposed by Building 1), with one side of the building primarily for the receiving of goods and the other side primarily for the shipment of goods. Although all of the loading bays are rarely used simultaneously, most warehouse users like to have as many bays as possible to facilitate operations inside the structure, where goods are sorted and stored. When trucks have the option to dock close to the area where their cargo is sorted and stored inside the structure, workers inside the building have a shorter distance to cover when moving goods from the truck to the inside storage area and vice versa.

C. Architecture, Walls, and Fences

Figure 3-15 through Figure 3-18 depict the conceptual architectural elevations of Buildings 1, 2, 3, and 4. The proposed building exteriors would be constructed to a height of 45 feet above finished grade, with architectural projections up to 52 feet above finished grade. The buildings would be constructed of concrete tilt-up panels and low-reflective, green glass. Articulated building elements, including mullions and metal canopies, are proposed as decorative elements. The proposed exterior architectural color palette is comprised of various shades of gray, silver, white, and green.

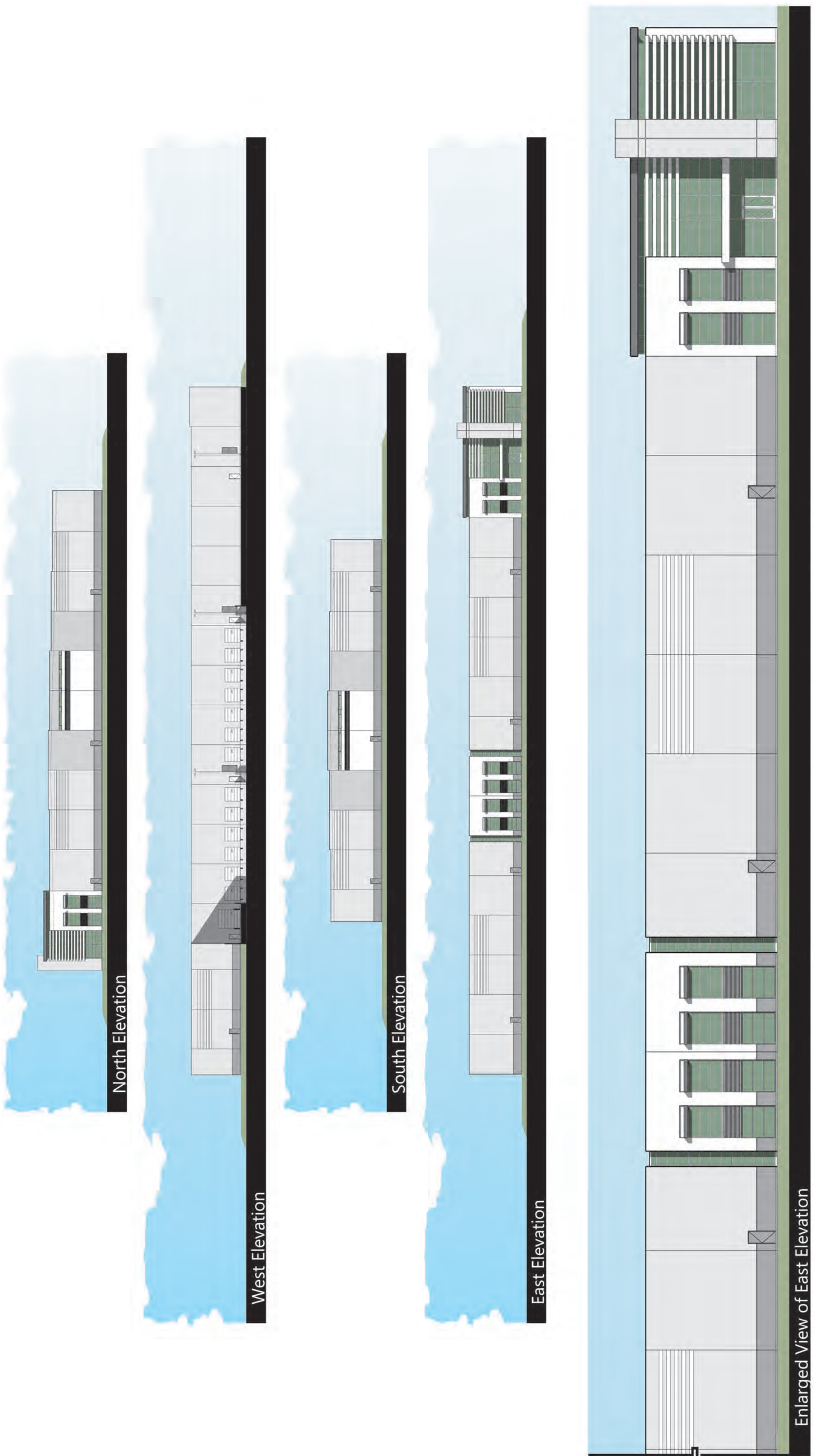


Source: HPA architecture (09-08-15)

Figure 3-15

NOT TO SCALE

BUILDING 1 ARCHITECTURAL ELEVATIONS

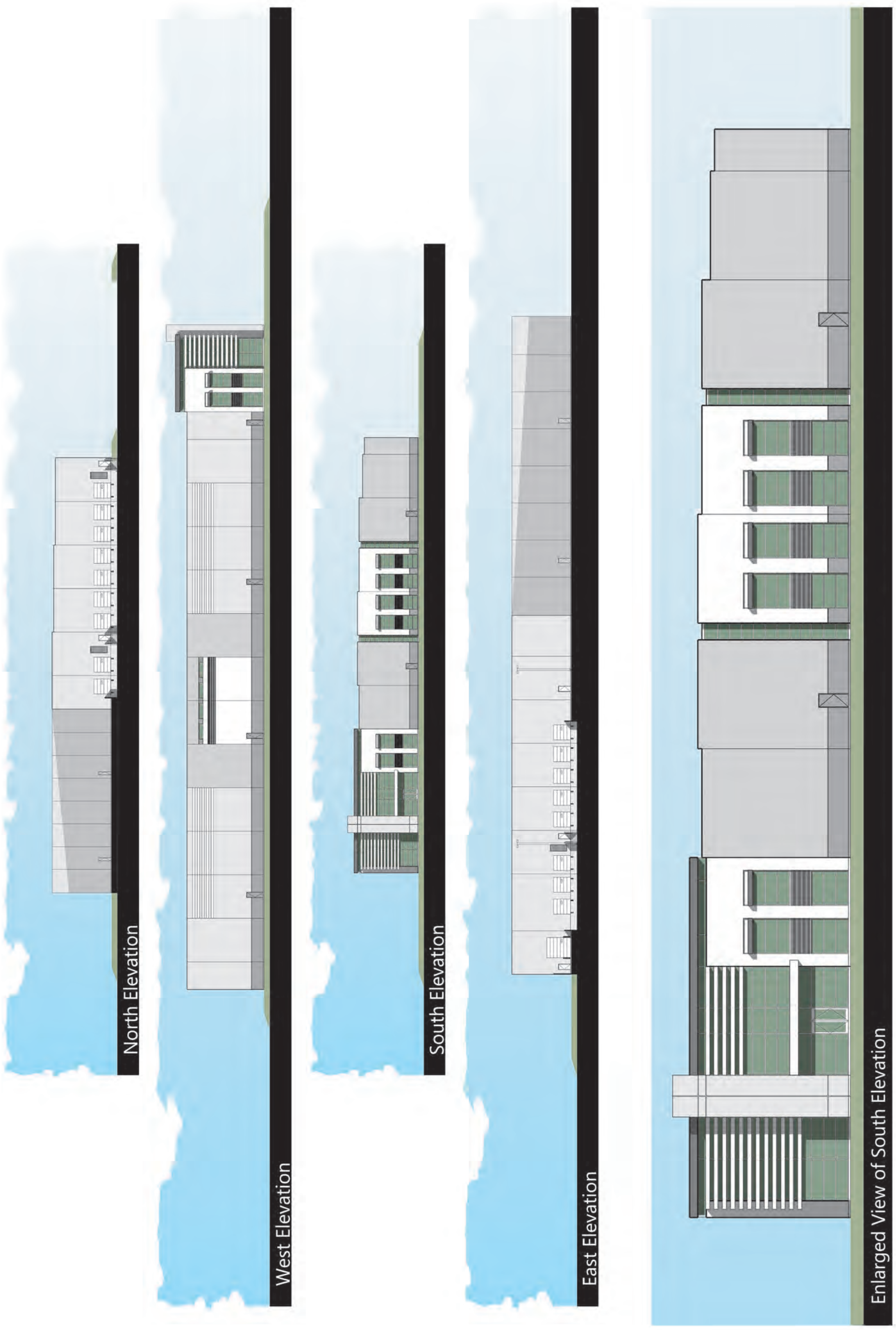


Source: HPA architecture (09-08-15)

Figure 3-16

NOT TO SCALE

BUILDING 2 ARCHITECTURAL ELEVATIONS

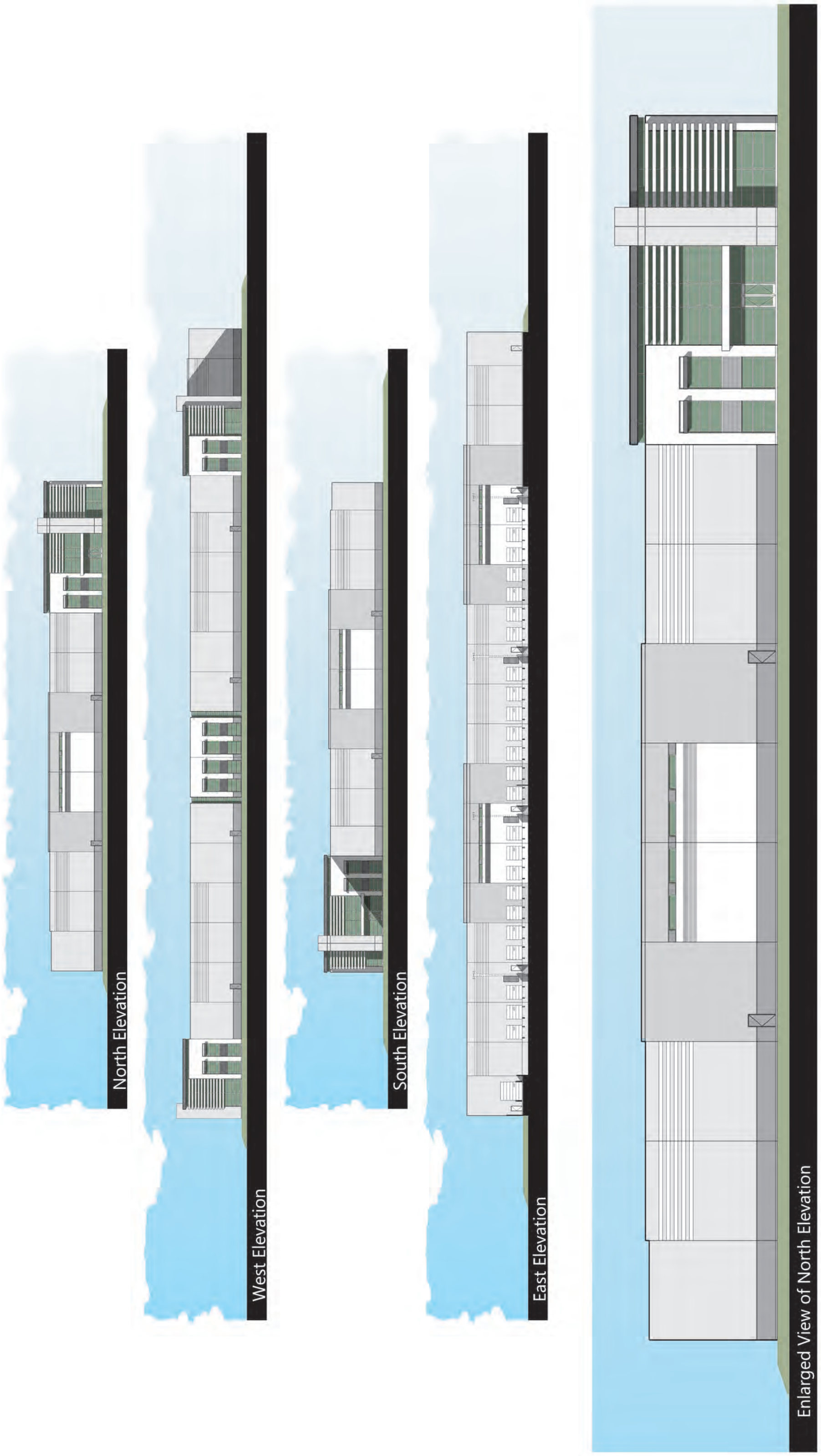


Source: HPA architecture (09-08-15)

Figure 3-17

NOT TO SCALE

BUILDING 3 ARCHITECTURAL ELEVATIONS



Source: HPA architecture (09-08-15)

Figure 3-18

NOT TO SCALE

BUILDING 4 ARCHITECTURAL ELEVATIONS

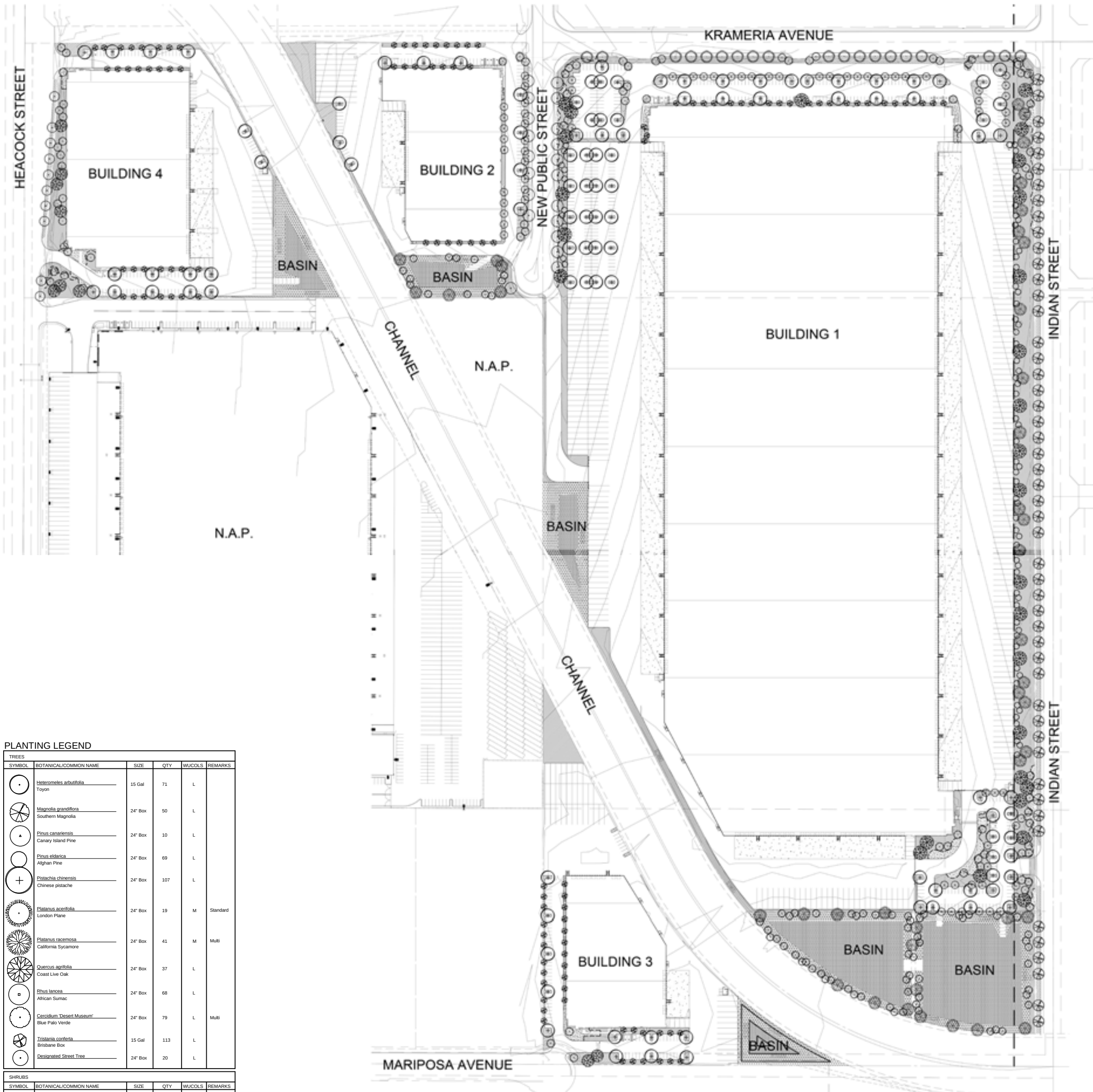
The interiors of the proposed buildings are designed to provide a main floor, office spaces, and mezzanine. The buildings have the potential to be partitioned for multiple occupant use. The Project's buildings would be designed and constructed to qualify for the "Certified" rating (at a minimum) under the United States Green Building Council's Leadership in Energy & Environmental Design (LEED) program.

Solid concrete walls up to 14 feet in height would be installed at various locations throughout the Project site to screen truck parking and loading dock areas from public view. The concrete screen walls would be constructed with a finish and color that complements the color palette for proposed structures on the site. Access points into the loading dock and truck parking areas would include manually operated, eight (8)-foot tall tubular steel gates, equipped with Knox® padlocks to allow emergency vehicle access. Where fencing is provided to delineate property boundaries, it would consist 8-foot high tubular steel fencing in areas visible from public viewing areas and 8-foot tall chain link fencing in areas not visible from public viewing areas.

D. Conceptual Landscape Plan

The Project's proposed conceptual landscape plan is depicted on Figure 3-19, *Conceptual Landscape Plan*. As shown, drought-tolerant trees, shrubs, and groundcovers are proposed to be planted along street frontages of Krameria Avenue, Indian Street, and Heacock Street (including landscaping within public rights-of-way). Flowering accent and shade trees along with shrubs planted in clusters would be installed along the Project site boundaries for screening purposes. A cross-section of the landscaping proposed along the Project site's frontage with Indian Street is shown in Figure 3-20, *Indian Street Frontage Landscape Treatment.* As shown, a landscaped parkway with street trees is proposed adjacent to the street curb and a sidewalk would occur behind the parkway. On the Project site and outside of the right-of-way would be a berm up to six (6) feet in height, densely planted with a variety of trees, shrubs, and ground cover. A 14-foot-high concrete tilt-up wall is proposed between the landscaped area and the Project's parking area. In total, the distance between the Indian Street centerline and the Project's parking area would be 100 linear feet. Landscaping also would occur at building entries, in-and-around automobile parking areas, in-and-around the site's water quality/detention basins, and along proposed screen walls. Landscaping is estimated to cover approximately 11-percent of the property (approximately 10.0 acres). Proposed landscaping would be ornamental in nature, except within water quality/detention basins where plant materials would be selected to serve water quality functions.

Prior to the issuance of a building permit to implement the Project, the Project Applicant would be required to submit specific planting and irrigation plans to the City of Moreno Valley for review and approval. The plans are required to comply with Chapter 9.17 of the City of Moreno Valley Municipal Code, which establishes requirements for landscape design, automatic irrigation system design, and water-use efficiency.



PLANTING LEGEND

TREES					
SYMBOL	BOTANICAL/COMMON NAME	SIZE	QTY	WUCOLS	REMARKS
	Heteromeles arbutifolia Toyon	15 Gal	71	L	
	Magnolia grandiflora Southern Magnolia	24" Box	50	L	
	Pinus canariensis Canary Island Pine	24" Box	10	L	
	Pinus eldarica Afghan Pine	24" Box	69	L	
	Pistachia chinensis Chinese pistache	24" Box	107	L	
	Platanus acerifolia London Plane	24" Box	19	M	Standard
	Platanus racemosa California Sycamore	24" Box	41	M	Multi
	Quercus agrifolia Coast Live Oak	24" Box	37	L	
	Rhus lancea African Sumac	24" Box	68	L	
	Cercidium 'Desert Museum' Blue Palo Verde	24" Box	79	L	Multi
	Tristania conferta Brisbane Box	15 Gal	113	L	
	Designated Street Tree	24" Box	20	L	

SHRUBS					
SYMBOL	BOTANICAL/COMMON NAME	SIZE	QTY	WUCOLS	REMARKS
	Arbutus unedo Strawberry Tree	5 Gal	191	L	
	Calliandra californica Baja Fairy Duster	5 Gal	50	L	
	Lavendula 'Goodwin Creek Grey' Lavender	1 Gal	115	L	
	Leptospermum s. 'Ruby Glow' New Zealand Tea Tree	5 Gal	298	L	
	Leucophyllum f. 'Green Cloud' Texas Ranger	5 Gal	164	L	
	Rhamnus californica Coffeeberry	5 Gal	143	L	
	Rosmarinus o. 'Tuscan Blue' Rosemary	5 Gal	123	L	
	Salvia greggii Autumn Sage	5 Gal	201	L	
	Senna artemisioides Feathery Cassia	5 Gal	337	L	
	Sambucus mexicana Mexican Elderberry	5 Gal	55	L	
	Westingia fruticosa Coast Rosemary	5 Gal	584	L	

ACCENTS					
SYMBOL	BOTANICAL/COMMON NAME	SIZE	QTY	WUCOLS	REMARKS
	Agave villmoriniana Agave	15 Gal	13	L	
	Anigozanthos flavidus Kangaroo Paw	5 Gal	55	L	
	Dasylerion wheeleri Desert Spoon	15 Gal	24	L	
	Hesperaloe parviflora Red Yucca	15 Gal	106	L	
	Muhlenbergia rigens Deergrass	5 Gal	173	M	
	Pennisetum s. 'Cupreum' Purple Fountain Grass	5 Gal	240	L	

GROUNDCOVER					
SYMBOL	BOTANICAL/COMMON NAME	SIZE	SPACING	WUCOLS	REMARKS
	Acacia redolens 'Low Boy' Acacia	1 Gal	6' O.C.	L	
	Baccharis pilularis Coyote Bush	1 Gal	24" O.C.	L	
	Carex praegracilis Cluster Field Sedge	Seed	Hydro-Seed	L	
	Lantana montevidensis Purple and White Lantana	1 Gal	24" O.C.	L	
	Leymus c. 'Canyon Prince' California Rye Grass	1 Gal	24" O.C.	L	
	Rosa californica California Wild Rose	2 Gal	30" O.C.	L	
	Rosmarinus o. 'Prostratus' Prostrate Rosemary	1 Gal	30" O.C.	L	
	Tall Fescue 'Rebel' Hydro-seeded Turf	Seed		H	

VINES					
SYMBOL	BOTANICAL/COMMON NAME	SIZE	QTY	WUCOLS	REMARKS
▲	Distictus buccinatoria Blood-red Trumpet Vine	1 Gal	380	L	

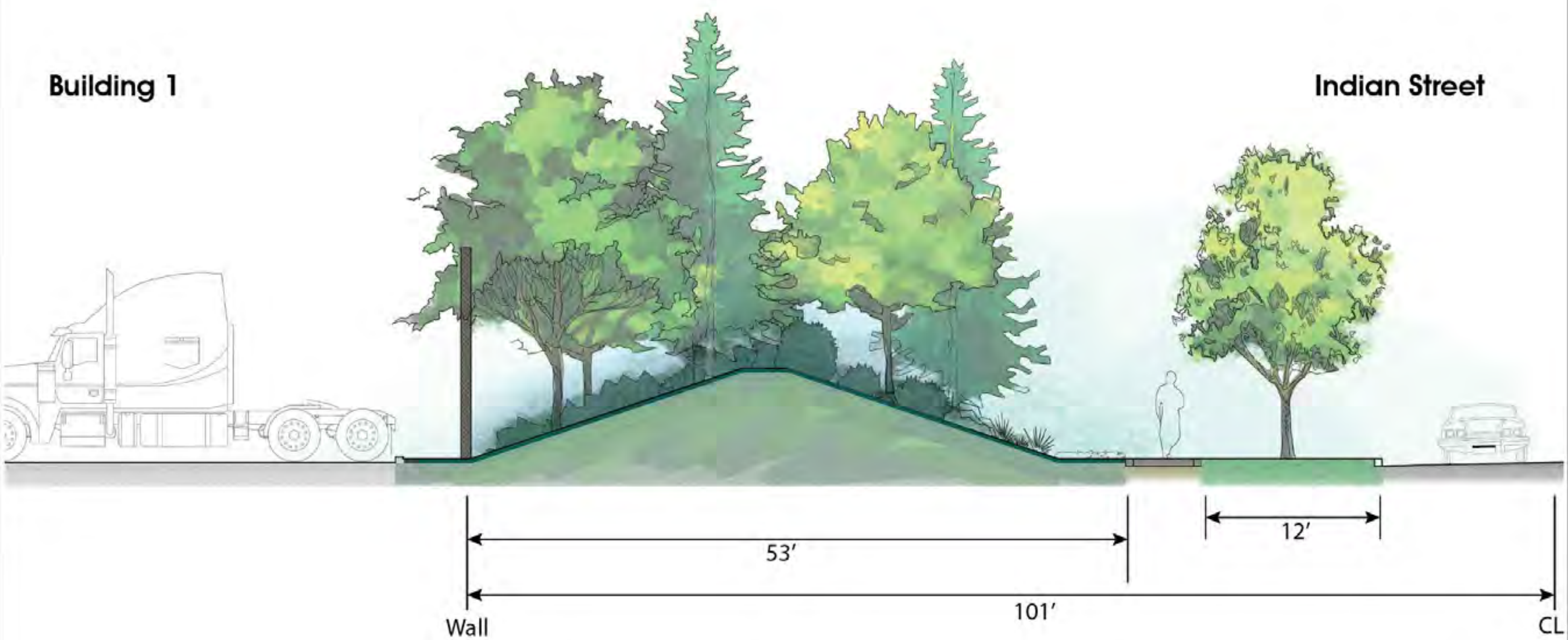
SWALE MIX: AVAILABLE FROM SANDERS HYDROSEEDING, INC.
4 LBS/AC AGROSTIS PALLENS
5 LBS/AC NASSELLA CERNUA
.5 LBS/AC MUHLENBERGIA RIGENS
3 LBS/AC HORDEUM DEPRESSUM
2 LBS/AC MELICA IMPERFECTA
5 LBS/AC VULPIA MICROSTACHYS
2 LBS/AC MUHLENBERGIA MIRCOSPERMA

Source: Hunter Landscaping (03-11-16)

Figure 3-19

NOT TO SCALE

CONCEPTUAL LANDSCAPING PLAN



Source: Hunter Landscape (03-14-16)

Figure 3-20

NOT TO SCALE

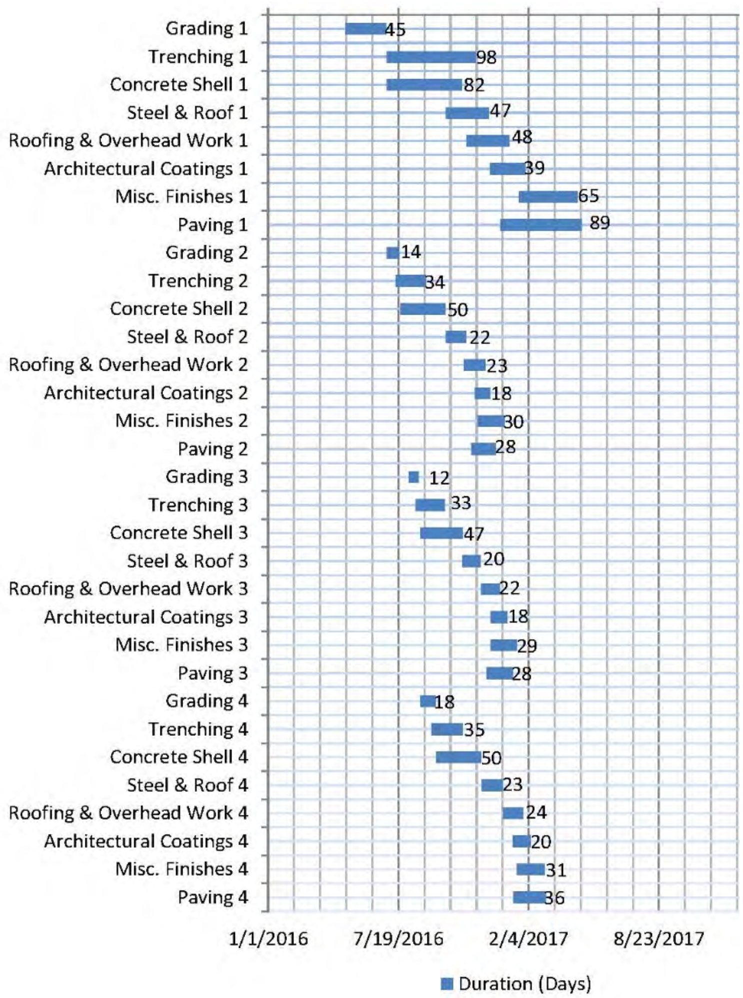
INDIAN STREET FRONTAGE LANDSCAPE TREATMENT

3.4.2 Project Construction and Operational Characteristics

A. Construction Details

The proposed Project would be constructed in multiple phases over the course of approximately 12 months, as summarized in Table 3-3, *Construction Activity Schedule*. Construction is expected to commence in the spring of 2016 and last through the spring of 2017.

Table 3-3 Construction Activity Schedule



Source: Urban Crossroads, 2015a, Table 3-4

For each phase of Project construction, construction activities would commence with site preparation and the installation of underground infrastructure. As part of the construction of Project site infrastructure, seven (7) existing above-ground Southern California Edison (SCE) power lines located along the western edge of Indian Street would be either undergrounded or removed. Next, surface materials would be poured and the building would be erected, connected to the underground utility system, and painted. Lastly, landscaping, fencing/walls and other site improvements would be installed and fine grading would occur.

During typical construction activities, equipment is expected to operate on the Project site eight (8) hours per day, five (5) days per week during daytime hours. Should construction activities need to occur at night (such as concrete pouring activities that require air temperatures to be lower than occur during the day), the Project Applicant would be required to obtain authorization for nighttime work from the City of Moreno Valley under Municipal Code Section 11.80.030 (E) or Section 11.80.040. The types and numbers of heavy equipment that the Project Applicant expects to be used during construction activities are listed in Table 3-4, *Construction Equipment to be Used*. For purposes of evaluation, it is assumed that the Project would be operational in the Year 2017.

Table 3-4 Construction Equipment to be Used

Phase Name	Vehicle Type	Number	Hours Per Day	CalEEMod Name	Horsepower
Building 1					
Grading	657 Scraper	8	8	Scraper	452
	Cat D9L	1	8	Crawler Tractor	410
	934 Dozer/Compactor	1	8	Rubber Tired Dozer	451
	631 Water Pull	2	8	Off-Highway Tractors	485
	4000 gal Water Truck	2	8	Other Construction Equip.	354
	Cat 14 Blade	1	8	Grader	302
	210 Skip Loader	1	8	Rubber Tired Loader	350
	623 Elevating Scraper	3	8	Other General Industrial Equipment	330
Trenching	Skip Loader	2	8	Rubber Tired Loader	350
	Cat 460 Backhoe	2	8	Tractors/Loaders/Backhoes	110
	966 Front End	2	8	Other Material Handling Equipment	249
	330 Excavator	2	8	Excavator	268
	Water Truck	2	8	Other Construction Equip.	354
Concrete Shell	Backhoe	4	8	Tractors/Loaders/Backhoes	110
	Readymix Truck	Accounted for in CalEEMod Inputs-Trips and VMTs section			
	Lazerscreed	1	8	Other Construction Equip.	354
	Finishing Machine	1	8	Other Construction Equip.	354
	Boom Pump	1	8	Other Construction Equip.	354
	Gradall	2	8	Other Construction Equip.	354
Steel & Roof	30 Ton Crane	2	8	Crane	215
	Weld Machine	2	8	Other Construction Equip.	354
	Gradall	1	8	Other Construction Equip.	354
Roofing & Overhead Work	Gradall	1	8	Other Construction Equip.	354
	Forklift	2	8	Forklifts	110
	Tanker (Tar)	2	8	Other Construction Equip.	354
	Scissor Lift	3	8	Aerial Lifts	48
Architectural Coating	Boom Lift	4	8	Other Construction Equip.	354
Misc. Finishes	Scissor Lift	2	8	Aerial Lifts	48
	Boom Lift	2	8	Other Construction Equip.	354
Paving	Lazerscreed	1	8	Other Construction Equip.	354
	Skip Loader	2	8	Rubber Tired Loader	350
	Readymix Truck	Accounted for in CalEEMod Inputs-Trips and VMTs section			
	Trenching Machine	1	8	Trencher	81

Table 3-4 Construction Equipment to be Used

Phase Name	Vehicle Type	Number	Hours Per Day	CalEEMod Name	Horsepower
Buildings 2,3,4 (each)					
Grading	657 Scraper	3	8	Scraper	452
	Cat D9L	1	8	Crawler Tractor	410
	4000 gal Water Truck	1	8	Other Construction Equip.	354
	Cat 14 Blade	1	8	Grader	302
	210 Skip Loader	1	8	Rubber Tired Loader	350
	623 Elevating Scraper	1	8	Other General Industrial Equipment	330
Trenching	Skip Loader	1	8	Rubber Tired Loader	350
	Cat 460 Backhoe	1	8	Tractors/Loaders/Backhoes	110
	966 Front End	1	8	Other Material Handling Equipment	249
	330 Excavator	1	8	Excavator	268
	Water Truck	1	8	Other Construction Equip.	354
Concrete Shell	Backhoe	2	8	Tractors/Loaders/Backhoes	110
	Readymix Truck	Accounted for in CalEEMod Inputs-Trips and VMTs section			
	Lazerscreed	1	8	Other Construction Equip.	354
	Finishing Machine	1	8	Other Construction Equip.	354
	Boom Pump	1	8	Other Construction Equip.	354
	Gradall	1	8	Other Construction Equip.	354
Steel & Roof	30 Ton Crane	1	8	Crane	215
	Weld Machine	1	8	Other Construction Equip.	354
	Gradall	1	8	Other Construction Equip.	354
Roofing & Overhead Work	Gradall	1	8	Other Construction Equip.	354
	Forklift	1	8	Forklifts	110
	Tanker (Tar)	1	8	Other Construction Equip.	354
	Scissor Lift	1	8	Aerial Lifts	48
Architectural Coating	Boom Lift	1	8	Other Construction Equip.	354
Misc. Finishes	Scissor Lift	1	8	Aerial Lifts	48
	Boom Lift	1	8	Other Construction Equip.	354
Paving	Lazerscreed	1	8	Other Construction Equip.	354
	Skip Loader	1	8	Rubber Tired Loader	350
	Readymix Truck	Accounted for in CalEEMod Inputs-Trips and VMTs section			
	Trenching Machine	1	8	Trencher	81

Source: Urban Crossroads, 2015a, Table 3-3

B. Operational Details

At the time this EIR was prepared, the future occupants of the Project site were unknown. The buildings are designed to accommodate a high cube warehouse occupant in proposed Building 1 and industrial, warehousing, manufacturing, assembly, e-commerce, and similar uses in the three smaller buildings. Up to 174,000 s.f. of the Project could be used for refrigerated uses (also referred to as "cold storage") in the event future building occupants require cold storage. During long-term operating conditions, the Project is calculated to generate approximately 3,519 automobile trips (actual trips) and approximately 1,441 truck trips (actual trips) on a daily basis (refer to EIR Section 4.11, *Transportation/Traffic*, for more detail).

For purposes of analysis in this EIR, the buildings are assumed to be operational 24 hours per day, seven days per week, with exterior loading and parking areas illuminated at night. The proposed buildings are designed such that business operations would be conducted primarily within each enclosed building, with the exception of traffic movement, parking, and the loading and unloading of trailers at loading bays. The outdoor cargo handling equipment used during loading and unloading of trailers (e.g., yard trucks, hostlers, yard goats, pallet jacks, forklifts) would be powered by diesel-fueled engines that comply with the California Air Resources Board (CARB)/United States Environmental Protection Agency Tier IV Engine standards for off-road vehicles or better (defined as less than or equal to 0.015 grams of particulate matter – PM_{10} – per brake horsepower-hour), while all indoor cargo handling equipment would be powered by electricity, compressed natural gas, or propane.

Because users of the Project's buildings are not yet known, the number of jobs that the Project would generate cannot be precisely determined; therefore, for purposes of analysis, employment estimates have been calculated using economic and fiscal data compiled by Andrew Chang & Co. (Andrew Chang). Using this data, the Project is estimated to create between 340 and 620 new, recurring direct and indirect jobs (Andrew Chang, 2016, p. 22).

According to a Water Supply Assessment prepared for the Project by EMWD (*Technical Appendix J* to this EIR), land uses proposed by the Project are estimated to result in a demand for approximately 55 acre-feet of water per year, which correlates to approximately 49,170 gallons per day (EMWD, 2015, p. 17). The Project also is estimated to result in an average daily demand of 67,810 gallons of wastewater treatment capacity (based on EMWD's wastewater generation factor of 1,700 gallons per day per acre for light industrial building area). The Project is anticipated to demand 15,535,696 kilowatt hours of electricity per year (kWh/yr) and 22,828,640 kilo-British Thermal Energy Units of natural gas per year (kBTU/yr) (*Technical Appendix K*).

3.5 Standard Requirements and Conditions of Approval

The proposed Project (i.e., P15-036, PA15-0018, PA15-0014, 15-0015, PA15-0016, and PA15-0017) and its technical aspects were reviewed in detail by the appropriate City of Moreno Valley departments and divisions. These departments and divisions are responsible for reviewing land use applications for compliance with City codes and regulations. They also were responsible for reviewing this EIR (P15-037) for technical accuracy and compliance with CEQA. The City of Moreno Valley departments and divisions responsible for technical review include:

- Community Development Department, Building and Safety Division
- Community Development Department, Planning Division
- Public Works Department, Land Development Division
- Public Works Department, Transportation Engineering Division
- Public Works Department, Special Districts Division
- Fire Prevention Bureau
- Moreno Valley Utility

Review of the proposed Project by the City of Moreno Valley departments and divisions listed above will result in the production of a comprehensive set of draft Conditions of Approval that will be available for public review prior to consideration of the proposed Project by the Moreno Valley City Council. These conditions will be considered by the Council in conjunction with their consideration of the proposed Specific Plan Amendment (P15-036), Tentative Parcel Map (PA15-0018), and four individual Building Plot Plans (PA15-0014, 15-0015, PA15-0016, and PA15-0017). If approved, the Project will be required to comply with all imposed Conditions of Approval.

Conditions of Approval and other applicable regulations, codes, and requirements to which the Project is required to comply and that result in the reduction or avoidance of an environmental impact are specified in each subsection of EIR Section 4.0, *Environmental Analysis*.

3.6 Summary of Requested Actions

The City of Moreno Valley has primary approval responsibility for the proposed Project. As such, the City serves as the Lead Agency for this EIR pursuant to CEQA Guidelines § 15050. (The role of the Lead Agency was previously described in detail in Subsection 1.4 of this EIR.) The City Planning Commission will consider the Project's requested discretionary permit applications and approvals and make advisory recommendations to the Moreno Valley City Council. The City Council will have final authority over approval, approval with changes, or denial of the requested actions that within the City's jurisdiction. The City will consider the information contained in this EIR and this EIR's Administrative Record in its decision-making processes. Upon approval of the Project and certification of this EIR, the City would conduct administrative reviews and grant ministerial permits and approvals to implement Project requirements and conditions of approval. A list of the primary actions under City jurisdiction is provided in Table 3-5, *Matrix of Project Approvals/Permits*.

Table 3-5 Matrix of Project Approvals/Permits

Public Agency	Approvals and Decisions
City of Moreno Valley	
Proposed Project – City of Moreno Valley Discretionary Approvals	
City of Moreno Valley Planning Commission	• Provide recommendations to the City of Moreno Valley City Council whether to approve the Specific Plan Amendment P15-036, Tentative Parcel Map No. 36150 (PA15-0018), and Plot Plans PA15-0014, PA15-0014, PA15-0015, and PA15-0016. • Provide recommendations to the City of Moreno Valley City Council regarding certification of this EIR.
City of Moreno Valley City Council	• Approve, conditionally approve, or deny Specific Plan Amendment No. P15-036. • Approve, conditionally approve, or deny Tentative Parcel Map No. 36150 (PA15-0018). • Approve, conditionally approve, or deny Plot Plan PA15-0014. • Approve, conditionally approve, or deny Plot Plan PA15-0015. • Approve, conditionally approve, or deny Plot Plan PA15-0016. • Approve, conditionally approve, or deny Plot Plan PA15-0017. • Reject or certify this EIR along with the appropriate CEQA Findings (P15-037)
Subsequent City of Moreno Valley Discretionary and Ministerial Approvals	
City of Moreno Valley Implementing Approvals	• Approve Final Maps, parcel mergers, lot line adjustments or parcel consolidations, as may be appropriate. • Approve Conditional or Temporary Use Permits, if required. • Issue Grading Permits. • Issue Building Permits. • Approve Road Improvement Plans. • Issue Encroachment Permits. • Approve Street Vacations. • Accept public-right-of way dedications. • Approvals by Moreno Valley Utility associated with removing, relocating, and installing electrical infrastructure.
Other Agencies – Subsequent Approvals and Permits	
Riverside County Water Flood Control and Water Conservation District	• Approvals for on- and off-site drainage infrastructure. • Issuance of a Water Quality Management Permit.
Eastern Municipal Water District	• Approvals for the construction of on and off-site water and sewer infrastructure.
Santa Ana Regional Water Quality Control Board	• Issuance of a Section 401 Permit. • Issuance of a Construction Activity General Construction Permit. • Issuance of a National Pollutant Discharge Elimination System (NPDES) Permit.
California Department of Fish and Wildlife	• Issuance of a Lake and Streambed Alteration agreement.
United States Army Corps of Engineers	• Issuance of a Section 404 Permit.
Riverside County Airport Land Use Commission	• Determination of consistency with the ALUCP.
Federal Emergency Management Agency	• Approval of Conditional Letter of Map Revision (CLOMR) and Letter of Map Revision (LOMR) to revise Flood Insurance Rate Map.

3.7 Related Environmental Review and Consultation Requirements

Subsequent to approval of the Project by the City of Moreno Valley, additional discretionary and/or administrative actions would be necessary to implement the proposed Project. Table 3-5 lists the agencies that are expected to use this EIR and provides a summary of the subsequent actions associated with the Project. This EIR covers all federal, state, local government and quasi-government approvals which may be needed to construct or implement the Project, whether or not they are explicitly listed in Table 3-5, or elsewhere in this EIR (CEQA Guidelines § 15124(d)).

4.0 ENVIRONMENTAL ANALYSIS

4.0.1 Summary of EIR Scope

In accordance with CEQA Guidelines §§ 15126-15126.4, this EIR Section 4.0, *Environmental Analysis*, provides analyses of potential direct, indirect, and cumulatively considerable impacts that could occur from planning, constructing, and operating the proposed Project.

In compliance with the procedural requirements of CEQA, an Initial Study was prepared to determine the scope of environmental analysis for this EIR. Public comment on the scope consisted of written comments received by the City of Moreno Valley in response to the NOP issued for this EIR and oral comments provided by members of the public at the EIR scoping meeting held on July 6, 2015, at Moreno Valley City Hall. Taking all known information and public comments into consideration, 11 primary environmental subject areas are evaluated in this Section 4.0, as listed below. Each subsection evaluates several specific subject matters related to the general topic of the subsection. The title of each subsection is not limiting; therefore, refer to each subsection for a full account of the subject matters addressed therein.

- 4.1 Aesthetics
- 4.2 Agricultural Resources
- 4.3 Air Quality
- 4.4 Biological Resources
- 4.5 Cultural Resources
- 4.6 Greenhouse Gas Emissions
- 4.7 Hazards & Hazardous Materials
- 4.8 Hydrology & Water Quality
- 4.9 Land Use/Planning
- 4.10 Noise
- 4.11 Transportation/Traffic

Public Resources Code (PRC) § 21100(b)(3) and CEQA Guidelines § 15126.4 require EIRs to describe, where relevant, the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Accordingly, this EIR also will address the topic of energy conservation (refer to EIR Section 5.0, *Other CEQA Considerations*).

Six (6) environmental subjects were determined by the City to have no potential to be significantly impacted by the Project, as concluded by the Project's Initial Study (included in *Technical Appendix A* to this EIR) and after consideration of all comments received by the City on the scope of this EIR and documented in the City's administrative record. These six (6) subjects are discussed briefly in EIR Section 5.0 and include: Geology/Soils, Mineral Resources, Population/Housing, Public Services, Recreation, and Utilities/Service Systems.

4.0.2 Scope of Cumulative Effects Analysis

CEQA requires that an EIR contain an assessment of the cumulative impacts that may be associated with a proposed project. As noted in CEQA Guidelines § 15130(a), "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." "A cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects creating related impacts" (CEQA Guidelines § 15130(a)(1)). As defined in CEQA Guidelines § 15355:

> '*Cumulative Impacts' refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.*
>
> *(a) The individual effects may be changes resulting from a single project or a number of separate projects.*
>
> *(b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

CEQA Guidelines § 15130(b) describes two acceptable methods for identifying a study area for purposes of conducting a cumulative impact analysis. These two approaches include: "1) a list of past, present, and probable future projects producing related or cumulative impacts, including if necessary, those projects outside the control of the agency ['the list of projects approach'], or 2) a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact ['the summary of projections approach']."

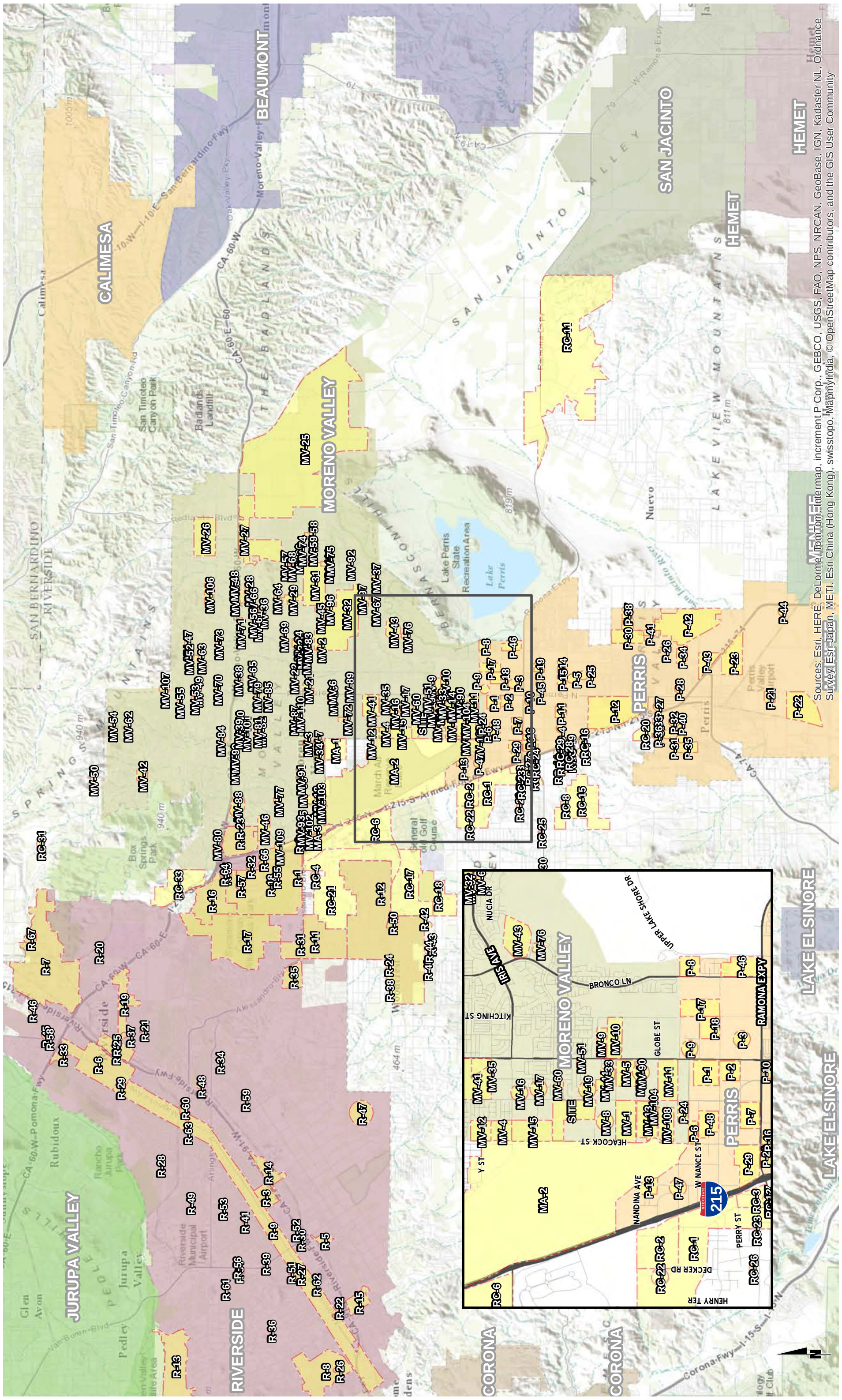
The summary of projections approach is used in this EIR, except for the evaluation of cumulative traffic and vehicular-related air quality, greenhouse gas, and noise impacts. The analysis of cumulative traffic impacts uses the list of projects approach, as is required to be used by the *City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide* (August 2007), and also utilizes a summary of projections approach to provide a conservative analysis. Therefore, the cumulative analyses of vehicular-related air quality, greenhouse gas, and noise impacts, which rely on the traffic study, also employ the list projects approach plus summary of projections approach for the cumulative analysis. As such, the air quality, greenhouse gas, noise, and traffic analyses provide a conservative analysis that would overstate the Project's potential cumulative impacts as compared to an analysis that relied solely on the list of projects approach or the summary of projections approach.

Using the summary of projections approach, the cumulative study area includes the City of Moreno Valley, the City of Perris, the City of Riverside, and the Harvest Valley/Winchester Area Plan (HVWAP), Lakeview/Nuevo Area Plan (LNAP), and the Mead Valley Area Plan (MVAP), all of which are part of the Riverside County General Plan. These three cities and the three Riverside County Area Plans encompass portions of western Riverside County that have similar environmental characteristics as the Project area. The selected study area encompasses the Perris Valley, which is largely bounded by prominent topographic landforms, such as Reche Canyon to the north, the

Badlands to the east, and the Lakeview Mountains to the southeast. This study area exhibits similar characteristics in terms of climate, geology, and hydrology, and therefore is also likely to have similar biological characteristics and cultural resources. This study area also encompasses the service areas of the Project's primary public service and utility providers. Areas outside of this study area either exhibit topographic, climatological, or other environmental circumstances that are different from those of the Project area, or are simply too far from the proposed Project site to produce environmental effects that could be cumulatively considerable.

Environmental impacts associated with buildout of the Riverside County General Plan were evaluated in a Program EIR certified by Riverside County in 2003 (SCH No. 2002051143). The Riverside County General Plan EIR is herein incorporated by reference, and is available for review at the County of Riverside Transportation and Land Management Agency Planning Department, 4080 Lemon Street, 12th Floor, Riverside CA 92502. Likewise, the environmental impacts associated with the buildout of the City of Perris General Plan were evaluated in a Program EIR that was certified by the Perris City Council on April 26, 2005 (SCH No. 2004031135). The City of Perris General Plan EIR is also incorporated by reference, and is available for review at the City of Perris Department of Community Development, 135 North "D" Street, Perris CA 92570. Finally, the environmental impacts associated with the buildout of the City of Riverside General Plan was evaluated in a Program-level EIR that was certified by the Riverside City Council in November 2007 (SCH No. 2004021108). The City of Riverside General Plan EIR is also incorporated by reference, and is available for review at the City of Riverside Community Development Department, Planning Division, 3900 Main Street, Riverside, CA 92522.

A specific cumulative study area was established using the "list of projects approach" to assess the cumulative effect of the Project's impacts to traffic and transportation, as required by the City of *Moreno Valley Transportation Engineering Division Traffic Impact Analysis Preparation Guide*. The cumulative study area for traffic generally includes approved and pending development project in proximity to the Project site that would contribute traffic to the same facilities as the Project, as well as several large, traffic-intensive projects farther from the Project site that have the potential to affect regional transportation facilities. As such, the cumulative impact analysis of traffic impacts in EIR Subsection 4.11, *Transportation/Traffic*, analyzes 301 other past, present, and reasonably foreseeable projects within this study area. This methodology recognizes development projects that have the potential to contribute measurable traffic to the same intersections, roadway segments, and/or state highway system facilities as the proposed Project and have the potential to be made fully operational in the foreseeable future. Specific development projects included in the cumulative analysis are shown in Figure 4.0-1, *Cumulative Development Location Map*, and Table 4.0-1, *Cumulative Project List*. As noted above, the cumulative impact analyses for the issue areas of air quality, greenhouse gas, noise, and traffic employ the list projects approach (which includes the projects listed Table 4.0-1) plus the summary of projections approach. As such, the air quality, greenhouse gas, noise, and traffic analyses provide a conservative analysis that would overstate the Project's potential cumulative impacts as compared to an analysis that relied solely on the list of projects approach or the summary of projections approach.



Source: Urban Crossroads (11-18-15)

Figure 4.0-1

NOT TO SCALE

CUMULATIVE DEVELOPMENT LOCATION MAP

Table 4.0-1 Cumulative Project List

TAZ	Project Name	Land Use[1]	Quantity	Units[2]
CITY OF MORENO VALLEY				
MV-1	PA 06-0152 & PA 06-0153 (First Park Nandina I & II)	High-Cube Warehouse	483.767	TSF
MV-2	Bella Vista Apartments	Apartments	220.00	DU
MV-3	PA 04-0063 (Centerpointe Buildings 8 and 9)	General Light Industrial	361.384	TSF
MV-4	PA 07-0035; PA 07-0039 (Moreno Valley Industrial Park)	General Light Industrial	204.657	TSF
		High-Cube Warehouse	409.920	TSF
MV-5	First Inland Logistics Center	High-Cube Warehouse	400.130	TSF
MV-6	TM 33607	Condo/Townhomes	52	DU
MV-7	PA 08-0093 (Centerpointe Business Park II)	General Light Industrial	99.988	TSF
MV-8	PA 06-0021; PA 06-0022; PA 06-0048; PA 06-0049 (Komar Investments)	Warehousing	287.100	TSF
MV-9	PA 06-0017 (Ivan Devries)	Industrial Park	569.200	TSF
MV-10	Modular Logistics (Dorado Property)	High-Cube Warehouse	1109.378	TSF
MV-11	PA 09-0004 (Vogel)	High-Cube Warehouse	800.000	TSF
	Sares Regis	High-Cube Warehouse	1600.000	TSF
MV-12	TM 34748	SFDR	135	DU
MV-13	First Nandina Logistics Center	High-Cube Warehouse	1450.000	TSF
MV-14	First Park Nandina III	High-Cube Warehouse	691.960	TSF
	Moreno Valley Commerce Park	High-Cube Warehouse	354.321	TSF
MV-15	March Business Center	General Light Industrial	16.732	TSF
		Warehousing	87.429	TSF
		High-Cube Warehouse	1380.246	TSF
MV-16	TM 33810	SFDR	16	DU
MV-17	TM 34151	SFDR	37	DU
MV-18	373K Industrial Facility	High-Cube Warehouse	373.030	TSF
MV-19	TM 32716	SFDR	57	DU
MV-20	TM 33417	Condo/Townhomes	60	DU
MV-21	TM 34988	Condo/Townhomes	271	DU
MV-22	TM 34216	Condo/Townhomes	39	DU
MV-23	TM 34681	Condo/Townhomes	49	DU
MV-24	PA 08-0079-0081 (Winco Foods)	Discount Supermarket	95.440	TSF
		Specialty Retail	14.800	TSF
MV-25	Moreno Beach Marketplace (Lowe's)	Commercial Retail	175.000	TSF
	Auto Mall Specific Plan (Planning Area C)	Commercial Retail	304.500	TSF
	Westridge	High-Cube Warehouse	937.260	TSF
	ProLogis	High-Cube Warehouse	1916.190	TSF
		Warehousing	328.448	TSF
	World Logistics Center	High-Cube Warehouse	41400.000	TSF
		Warehousing	200.000	TSF
		Gas Station w/ Market	12	VFP
		Existing SFDR	7	DU
MV-26	a TR 32460 (Sussex Capital)	SFDR	57	DU
	b TR 32459 (Sussex Capital)	SFDR	11	DU
	c TR 30411 (Pacific Communities)	SFDR	24	DU
	d TR 33962 (Pacific Scene Homes)	SFDR	31	DU
	e TR 30998 (Pacific Communities)	SFDR	47	DU
MV-27	a P06-158 (Gascon)	Commercial Retail	116.360	TSF
	b Auto Mall Specific Plan (PAC)	Commercial Retail	304.500	TSF
	c ProLogis	SFDR	126	DU
		High-Cube Warehouse	1529.498	TSF
	d TR 35823 (Stowe Passco)	SFDR	261	DU
		Apartments	216	DU
MV-28	TR 36340	SFDR	275	DU
MV-29	a TR 31771 (Sanchez)	SFDR	25	DU
	b TR 34397 (Winchester Associates)	SFDR	52	DU
	c TR 32645 (Winchester Associates)	SFDR	53	DU
MV-30	Lowe's (Moreno Beach Marketplace)	Home Improvement Store	175.000	TSF
MV-31	a Senior Assisted Living	Assisted Living Units	139	DU
	b TR 31590 (Winchester Associates)	SFDR	96	DU
	c TR 32548 (Gabel, Cook & Associates)	SFDR	107	DU
	d TR 32218 (Whitney)	SFDR	63	DU
	e Medical Plaza	Medical Offices	311.633	TSF

Table 4.0-1 Cumulative Project List

TAZ	Project Name	Land Use[1]	Quantity	Units[2]
MV-32	a Moreno Medical Campus	Medical Offices	80.000	TSF
	b Aqua Bella Specific Plan	SFDR	2,922	DU
	c TR 34329 (Granite Capitol)	SFDR	90	DU
	d Cresta Bella	General Office	30.000	TSF
MV-33	Moreno Valley Industrial Center (Industrial Area SP)	General Light Industrial	354.810	TSF
MV-34	Centerpointe Business Park	General Light Industrial	356.000	TSF
MV-35	Moreno Valley Shopping Center	Free Standing Discount Store	189.520	TSF
		Gas Station w/ Market / Car Wash	16	VFP
MV-36	TR 31305 / Richmond American	Residential	87	DU
MV-37	TR 34329 / Granite Capitol	Residential	90	DU
MV-38	TR 31814 / Moreno Valley Investors	Residential	60	DU
MV-39	TR 33771 / Creative Design Associates	Residential	12	DU
MV-40	TR 35663 / Kha	Residential	12	DU
MV-41	TR 22180 / Young Homes	Residential	140	DU
MV-42	TR 32515	Residential	161	DU
MV-43	TR 32142	Residential	81	DU
MV-44	San Michele Industrial Center (Industrial Area SP)	General Light Industrial	865.960	TSF
MV-45	Commercial Medical Plaza	Medical Offices	311.633	TSF
MV-46	Edgemont Street, South of Eucalyptus Av. (PA14-0042)	Apartments	112	DU
MV-47	28860 Professor's Fun IV, LLC/Winchester Associates, Inc.	SFDR	9	DU
MV-48	20636 Pacific Communities	SFDR	67	DU
MV-49	31297 Randy McFarland	SFDR	7	DU
MV-50	31394 Pigeon Pass, Ltd.	SFDR	78	DU
MV-51	31442 SKG Pacific Enterprises Inc.	SFDR	63	DU
MV-52	31517 Professors Prop Six/Winchester Assoc.	SFDR	83	DU
MV-53	31621 Peter Sanchez	SFDR	25	DU
MV-54	32005 Red Hill Village, LLC	SFDR	214	DU
MV-55	32126 Salvador Torres	SFDR	35	DU
MV-56	32194 Arman Pezeshkifar	SFDR	32	DU
MV-57	32408 Sanstone Inc.	SFDR	80	DU
MV-58	32844 Winchester Associates	SFDR	17	DU
MV-59	32978 Focus Estates	SFDR	19	DU
MV-60	33024 Adam Wislar	SFDR	8	DU
MV-61	33275 Jose Guzman	SFDR	4	DU
MV-62	33388 SCH Development, LLC	SFDR	16	DU
MV-63	33436 Winchester Associates	SFDR	105	DU
MV-64	33963 Rance Garrett	SFDR	31	DU
MV-65	34043 RM3 Building and Development	SFDR	12	DU
MV-66	31621 Beazer Homes	SFDR	274	DU
MV-67	30268 Pacific Communities	SFDR	83	DU
MV-68	31414 GRF - Majestic Hills	SFDR	31	DU
	Tract 31618	SFDR	55	DU
MV-69	31494 Winchester Associates	SFDR	12	DU
MV-70	32715 GFR - Trinity	SFDR	30	DU
MV-71	33256 Granite Homes	SFDR	79	DU
MV-72	32711 Isaac Genah	SFDR	9	DU
MV-73	35530 Moreno Gilman 650, LLC-Quail Ranch	SFDR	1,105	DU
MV-74	35534 Leedco Engineers	SFDR	12	DU
MV-75	36436 CV Communities	SFDR	159	DU
MV-76	36401 Continental East Fund III, LLC	SFDR	92	DU
MV-77	32215 Winchester Associates "Scottish Village"	MFDR	194	DU
MV-78	32756 Jimmy Lee	MFDR	24	DU
MV-79	35369 Tason Myers Property	MFDR	12	DU
MV-80	35414 Lincoln Property Co. Southwest	MFDR	266	DU
MV-81	35769 Michael Chen	MFDR	16	DU
MV-82	PA09-0006 Jim Nydam	MFDR	15	DU
MV-83	35861 Frederick Homes	MFDR	24	DU
MV-84	36038 Alessandro Village Plaza, LLC	MFDR	96	DU
MV-85	35304 Jimmy Lee	MFDR	12	DU
MV-86	Alessandro & Lasselle	Shopping Center	140.000	TSF
MV-87	Food 4 Less - Fueling Station	Gas Station with Convenience Market	16	VFP
MV-88	El Paso (food court)	Fast Food no Drive Thru	--	TSF
MV-89	O'Reilly Automotive	Automobile Parts Sale	7.500	TSF
	PA15-004	Retail/Restaurant/Fast Food	2.973	TSF
MV-90	Moval Assemblage	High-Cube Warehouse	456.337	TSF

Table 4.0-1 Cumulative Project List

TAZ	Project Name	Land Use[1]	Quantity	Units[2]
MV-91	Restaurant	Restaurant	9.000	TSF
MV-92	Rancho Belago Plaza - Retail	Retail	14.000	TSF
MV-93	Yum Yum Donut Shop	Coffee/Donut Shop w/o Drive-Thru	4.351	TSF
MV-94	Hawthorn Inn & Suites	Hotel	79	RMS
MV-95	Sleep Inn Suites	Hotel	66	RMS
MV-96	Integrated Care Communities	Nursing Home	44.000	TSF
MV-97	Kaiser Permanente - Emergency Room Expansion	Medical Offices	--	TSF
MV-98	Moreno Valley Professional Center	General Office	84.000	TSF
MV-99	Olivewood Plaza - Office Building	General Office	23.000	TSF
MV-100	Renaissance Village of Moreno Valley	Senior Adult Housing-Attached	44	DU
MV-101	Riverside County Office Building	General Office	52.000	TSF
MV-102	Gateway Business Park	Residential Condo/Townhouse	34	DU
MV-103	Shaw Development	High-Cube Warehouse	367.000	TSF
MV-104	IDS/Real Estate Group - Nandina Distribution Center	High-Cube Warehouse	697.000	TSF
MV-105	Stoneridge Town Centre - Vacant Restaurant	Restaurant	5700.000	TSF
MV-106	Ironwood Residential	SFDR	144	DU
MV-107	TTM 31592 (P 13-078) Covey Ranch	SFDR	115	DU
MV-108	PA 06-0014 (Pierce Hardy Limited Partnership)	Lumbar Yard	67.000	TSF
MV-109	P06-1408	Retail	75.300	TSF
MV-110	PA13-009	Gas Station	16	VFP
MARCH JOINT POWERS AUTHORITY				
MA-1	March Lifecare Campus Specific Plan[4]	Medical Offices	190.000	TSF
		Commercial Retail	210.000	TSF
		Research & Education	200.000	TSF
		Hospital	50	Beds
		Institutional Residential	660	Beds
MA-2	Airport Master Plan	Airport Use	559.000	TSF
MA-3	Freeway Business Center (March JPA)	High-Cube Warehouse	710.083	TSF
COUNTY OF RIVERSIDE				
RC-1	SP 341; PP 21552 (Majestic Freeway Business Center)	High-Cube Warehouse	6100.715	TSF
RC-2	PP 20699 (Oleander Business Park)	Warehousing	1206.710	TSF
RC-3	Ramona Metrolink Station	Light Rail Transit Station	300	SP
RC-4	PP 22925 (Amstar/Kaliber Development)	Office (258.102 TSF)	258.102	TSF
		Warehousing	409.312	TSF
		General Light Industrial	42.222	TSF
		Retail	10.000	TSF
RC-5	Alessandro Metrolink Station	Light Rail Transit Station	300	SP
RC-6	Meridian Business Park North	Industrial Park	5985.000	TSF
RC-7	PP 18908	General Light Industrial	133.000	TSF
RC-8	Tract 33869	SFDR	39.000	DU
RC-9	PP 16976	General Light Industrial	85.000	TSF
RC-10	PP 21144	Industrial Park	190.802	TSF
RC-11	a Villages of Lakeview	SFDR	860	DU
		Condo/Townhomes	1,920	DU
		Elementary School	1,200	STU
		Commercial Retail	100.000	TSF
		Soccer Complex	12	Fields
		City Park	8.9	AC
		County Park	8.1	AC
		Regional Park	107.1	AC
	b Motte Lakeview Ranch	SFDR	847	DU
		Condo/Townhomes	686	DU
		Apartments	467	DU
		Elementary School	650	STU
		Middle School	300	STU
		Commercial Retail	120.000	TSF
		Regional Park	177.0	AC
RC-12	CUP03315	Gas Station w/ Market	17	VFP
		Fast Food w/o Drive Thru	5.600	TSF
		High-Turnover Restaurant	6.500	TSF
RC-13	PP23342	Industrial Park	180.600	TSF
RC-14	TR30592	SFDR	131	DU
RC-15	Rider Street Quarry	Quarry	2500.0	AC
RC-16	PP 20711	Manufacturing	20.0	AC
	Yocum Baldwin	Warehousing	46.8	AC

Table 4.0-1 Cumulative Project List

TAZ	Project Name	Land Use[1]	Quantity	Units[2]
RC-17	March Business Center - South Campus	Shopping Center	108.900	TSF
		Industrial Park	1336.700	TSF
		Large Industrial Park	3269.000	TSF
		General Office Building	140.600	TSF
		Manufacturing	215.600	TSF
		Warehousing	1379.200	TSF
		Park	50.0	AC
		R&D	1611.800	TSF
RC-18	Ben Clark Training Facility	Students	5,045	STU
		Employees	354	EMP
RC-19	PP 20103	Gen. Light Industrial	290.985	TSF
RC-20	Nuevo Business Park	Gen. Light Industrial	357.156	TSF
		Warehousing	1767.618	TSF
RC-21	Meridian (March Business Park SP)	Business Park	41917.000	TSF
RC-22	Blanding Assemblage	High-Cube Warehouse	707.880	TSF
RC-23	CUP 03527	Warehousing	8.000	TSF
RC-24	CUP 03599	Hotel	52.798	TSF
RC-25	PP 24608	Retail	9.280	TSF
RC-26	PM 32699	SFDR	2.00	DU
RC-27	PP 25699	Fast-Food w/Drive Thru	2.800	TSF
		Retail	19.000	TSF
RC-28	TR 30592	SFDR	131.00	DU
RC-29	PP 25768	Manufacturing	52.450	TSF
RC-30	CUP 03620R1	Gas Station w/ Market	8.00	VFP
RC-31	TTM 33410 Box Springs	SFDR	142	DU
RC-32	Knox Logistics	High-Cube Warehouse	1,259.050	TSF
RC-33	University Highlands	SFDR	405	DU
		Condo/Townhomes	320	DU
		Apartments	1,475	DU
		Shopping Center	50.0	TSF
		Parks	42.4	AC
CITY OF RIVERSIDE				
R-1	P07-1028 (Alessandro Business Park)	General Light Industrial	662.018	TSF
	Alessandro and Gorgonio	Fast Food w/Drive Thru	4.050	TSF
R-2	Alessandro Bl. (APN 263-091-008; 263-100-019; 263-100-005; P14-0841 to 0848)	Commercial and Industrial Complex	101.580	TSF
R-3	California Baptist University Specific Plan	University	157.0	AC
R-4	Canyon Springs Specific Plan	Hospital	280	BEDS
		Medical-Dental Office	370.000	TSF
		Senior Adult Housing-Attached	234	DU
		Assisted Living	267	BEDS
R-5	Citrus Business Park Specific Plan	Industrial Business Park	49.0	AC
R-6	Downtown Specific Plan	Residential	5,000	DU
R-7	Hunter Business Park	Industrial	1300.0	AC
R-8	La Sierra University Specific Plan	Mixed-Use		
R-9	Magnolia Avenue Specific Plan	Mixed-Use/Very High Residential	1473.0	AC
R-10	Marketplace Specific Plan	Commercial Retail/Office	200.0	AC
R-11	Mission Grove Specific Plan	Business/Office Park	56.8	AC
		Commercial Retail	68.1	AC
		High Density Residential	53.8	AC
		Low Density Residential	78.4	AC
		Medium Density Residential	155.3	AC
R-12	Orangecrest Specific Plan	Rural Residential	2.1	AC
		Business/Office Park	2.7	AC
		Commercial Retail	139.0	AC
		High Density Residential	13.7	AC
		Low Density Residential	540.8	AC
		Medium Density Residential	1217.8	AC
		Public Facilities/Institutions	121.6	AC
		Public Park	59.5	AC
R-13	Rancho La Sierra Specific Plan	SFDR	598	DU
R-14	Riverside Auto Center Specific Plan	Auto Center		
R-15	Riverwalk Vista Specific Plan	Residential	402	DU

Table 4.0-1 Cumulative Project List

TAZ	Project Name	Land Use[1]	Quantity	Units[2]
R-16	Sycamore Canyon Specific Plan	Hillside Residential	41.8	AC
		Low Density Residential	97.3	AC
		Medium Density Residential	14.8	AC
		Very Low Density Residential	884.2	AC
		Public Park	27.9	AC
R-17	Sycamore Canyon Business Park Specific Plan	Business/Office Park	847.2	AC
		Commercial Retail	10.3	AC
R-18	Sycamore-Highlands Specific Plan	Commercial Retail	14.6	AC
		High Density Residential	52.2	AC
		Medium Density Residential	99.1	AC
		Public Facilities	1.6	AC
			144.2	AC
		Very Low Density Residential	49.1	AC
R-19	University Avenue Specific Plan	Mixed-Use	Varies	
R-20	807 Blaine Street (P09-0717; P09-0718)	Apartments	55	DU
R-21	2340 Fourteenth Street (P09-0808; P08-0809)	Senior Housing	134	BEDS
R-22	Park Sierra Avenue (P14-0026; P14-0027)	Fast Food w/Drive Thru	3.500	TSF
R-23	6287 Day Street (P10-0090; P10-0091)	Gas Station	2	VFP
	2570 Canyon Springs Parkway (P08-0274; P08-0275)	Bank w/ Drive Thru	2.746	TSF
	6211 Valley Springs Parkway (Steak 'N Shake Restaurant; P14-0536)	Fast Food w/Drive Thru	3.750	TSF
R-24	N. of Van Buren Boulevard; W. of Wood Street (P10-0808; P10-0708)	Fast Food w/Drive Thru	2.361	TSF
R-25	E. of Commerce St., between Mission Inn Av. and Ninth St. (P14-0045; P14-0046; P14-0047; P14-0048; P14-0049)	Apartments	208	DU
R-26	NWC of Riverwalk Parkway and Flat Rock Drive (P12-0019; P12-0156; P12-0158)	Convenience Store	2.400	TSF
		Coffee Shop	3.946	TSF
R-27	3875 Dawes Street (P10-0438; Magnolia Garden Condominiums)	Condo/Townhomes	62	DU
R-28	5938-5944 Grand Avenue (P12-0266; P12-0267; P12-0268)	Senior Housing	37	DU
R-29	4445 Magnolia Avenue (P13-0207; P13-0208; P13-0209; P13-0210; P13-0211)	Hospital Expansion	Varies	
R-30	SR-91/Van Buren Commercial	Commercial Retail	23.565	TSF
R-31	360 Alessandro Boulevard (P12-0419; P12-0557; P12-0558; P12-0559)	Bank	3.858	TSF
R-32	6465 Sycamore Canyon Boulevard	Health Club	4.000	TSF
R-33	2450 Market Street (P13-0087; P13-0262)	Apartments	77	DU
R-34	6091 Victoria Avenue (P13-0432)	Day Care	1.831	TSF
R-35	14601 Dauchy Av. - TM 36370 (P12-0601; P12-0697; P12-0698)	SFDR	10	DU
	TM 32180 (P07-1073)	SFDR	9	DU
	18875 Moss Road	SFDR	8	DU
	South of Clarke St., west of Crystal View Terrace (PM 34583' {09-0141; P09-173)	SFDR	3	DU
R-36	4824 Jones Avenue (P13-0181; P13-0182)	Church	23.124	TSF
R-37	2586 University avenue (P13-0650; P13-0651)	Bed and Breakfast	3.618	TSF
R-38	18580 Van Buren Boulevard (P08-0402; P13-0822)	Auto Repair Shop	8.142	TSF
R-39	4247 Van Buren Boulevard (P13-0785; P13-0787)	Church Expansion	12.166	TSF
R-40	SWC of Lurin Avenue and Wood Road (P06-0900; P08-0269; P08-0270; TTM 32301)	SFDR	20	DU
R-41	8616 California Avenue (P08-0084; PM 35852)	Condo/Townhomes	21	DU
R-42	19811 Lurin Avenue (P06-1355; TM 33480)	SFDR	32	DU
R-43	APN:266140029, 030 (P06-1396; Mariposa Avenue; TM 33481)	SFDR	25	DU
R-44	APN:266140002, 021, 022 (P06-1404; Lurin Avenue; TM 33482)	SFDR	29	DU
R-45	3719 Strong Street (P05-0269; P08-0416; TM 33550)	SFDR	9	DU
R-46	1006 & 1008 Clark Street (P06-0782; TM 34908)	SFDR	15	DU
R-47	E. of Gratton St., W. of Corsica Av., N. of Van Buren Bl. (P05-1528; P09-0087; TM 34509)	SFDR	50	DU
R-48	NWC of Dominion Avenue and Division Street (P08-0396; P08-0397; P08-0398; P08-0399; TM 35620)	Condo/Townhomes	36	DU
R-49	6639 Hillside Avenue (P08-0727; PM 35901)	Industrial	5	LOTS
R-50	19985 Van Buren Boulevard (P10-0118; Gless Ranch)	Commercial Retail	425.447	TSF
R-51	3990 Reynolds Road (P12-0021; P12-0022; P12-0074; PM 36442)	Condo/Townhomes	102	DU
R-52	NEC of Martha Way & Everest Avenue (P13-0389; TM 36579)	SFDR	5	DU
R-53	4325, 4335, 4345, 4355, 4375 Adams Street (P13-0723; P13-0724; P13-0725; TM 36654)	SFDR	62	DU
R-54	5200 Van Buren Boulevard (P09-0600; P09-0601; Walmart Expansion)	Free Standing Discount Store	22.272	TSF
R-55	P06-0160	Gen. Light Industrial	316.224	TSF
	P06-1281	Warehousing	107.732	TSF

Table 4.0-1 Cumulative Project List

TAZ	Project Name	Land Use[1]	Quantity	Units[2]
R-56	9241 & 9265 Audrey Avenue (P12-0184; P12-0185; P12-0187; Azar Plaza)	Commercial Retail	6.150	TSF
R-57	Office, Magnon & Panattoni	Office	131.000	TSF
		Warehousing	1400.000	TSF
		Warehousing	300.000	TSF
		Warehousing	216.000	TSF
R-58	1710 Main Street (P12-0717)	Family Dollar Store	8.039	TSF
R-59	2861 Mary Street (P12-0442; P12-0443; P12-0444)	Shopping Center	56.101	TSF
R-60	3545 Central Avenue (P12-0741; P12-0743)	Riverside Plaza Renovations	35.0	AC
R-61	5731, 5741, 5761 & 5797 Pickler Street (P13-0198; P13-0199; P13-0200; P13 0201)	Apartments	30	DU
R-62	3705 Tyler Street (P13-0501; P13-0502)	Restaurant	6.000	TSF
R-63	6570 Magnolia Avenue; 3739 & 3747 Central Avenue (P13-0196; P13-0197)	Fast Food w/Drive Thru	3.795	TSF
R-64	5940-5980 Sycamore Canyon Boulevard (P13-0553; P13-0554; P13-0583; P14-0065)	Apartments	275	DU
R-65	SEC Sycamore Canyon Boulevard & Box Springs Road (P13-0607; P13-0608; P0609; P13-0854)	General Light Industrial	171.616	TSF
R-66	P06-0591	Office	37.939	TSF
		Warehousing	782.188	TSF
		Manufacturing	168.294	TSF
R-67	474 Palmyrita Avenue (P13-0956; P13-0959; P13-0960; P13-0963; P13-0964; P13-0965; P13-0966)	High-Cube Warehouse	1461.449	TSF
	CITY OF PERRIS			
P-1	P 05-0113 (IDI)	High-Cube Warehouse	1750.000	TSF
P-2	P 05-0192 (Oakmont I)	High-Cube Warehouse	697.600	TSF
P-3	P 05-0477	High-Cube Warehouse	462.692	TSF
P-4	Rados Distribution Center	High-Cube Warehouse	1200.000	TSF
P-5	Investment Development Services (IDS) II	High-Cube Warehouse	350.000	TSF
P-6	P 07-09-0018	Warehousing	170.000	TSF
P-7	P 07-07-0029 (Oakmont II)	High-Cube Warehouse	1600.000	TSF
P-8	TR 32707	SFDR	137	DU
P-9	TR 34716	SFDR	318	DU
P-10	P 05-0493 (Ridge I)	High-Cube Warehouse	700.000	TSF
P-11	Ridge II	High-Cube Warehouse	2000.000	TSF
P-12	Harvest Landing Specific Plan	SFDR	717	DU
		Condo/Townhomes	1,139	DU
		Sports Park	16.7	AC
		Business Park	1233.401	TSF
		Shopping Center	73.181	TSF
	Perris Marketplace	Shopping Center	450.000	TSF
P-13	P 06-0411 (Concrete Batch Plant)	Manufacturing	2.000	TSF
P-14	Jordan Distribution	High-Cube Warehouse	378.000	TSF
P-15	Aiere	High-Cube Warehouse	642.000	TSF
P-16	P 08-11-0005; P 08-11-0006 (Starcrest)	High-Cube Warehouse	454.088	TSF
P-17	Stratford Ranch Specific Plan	High-Cube Warehouse	1725.411	TSF
P-18	Stratford Ranch Specific Plan	High-Cube Warehouse	480.000	TSF
		General Light Industrial	120.000	TSF
P-19	P05-0493	Logistics	597.370	TSF
P-20	Starcrest, P011-0005; 08-11-0006	General Light Industrial	454.088	TSF
P-21	South Perris Industrial Phase 1	Logistics	787.700	TSF
P-22	South Perris Industrial Phase 2	Logistics	3448.734	TSF
P-23	South Perris Industrial Phase 3	Logistics	3166.857	TSF
P-24	P 04-0343	Warehousing	41.650	TSF
P-25	P 06-0228	General Light Industrial	149.738	TSF
P-26	P 06-0378	Senior Housing	429	DU
P-27	P 11-09-0011	Retail	80.000	TSF
P-28	P 12-05-0013	Apartments	75	DU
P-29	P 12-10-0005	High-Cube Warehouse	1463.887	TSF
P-30	TR 30850	Residential	496	DU
P-31	TR 30973	Residential	35	DU
P-32	TR 31225	Residential	57	DU
P-33	TR 31226	Residential	82	DU
P-34	TR 31240	Residential	114	DU
P-35	TR 31407	Residential	243	DU

Table 4.0-1 Cumulative Project List

TAZ	Project Name	Land Use[1]	Quantity	Units[2]
P-36	TR 31650	SFDR	61	DU
P-37	TR 31659	SFDR	161	DU
P-38	TR 32041	Residential	122	DU
P-39	TR 32406	SFDR	15	DU
P-40	TR 33193	Townhomes	94	DU
P-41	TR 33338	Residential	75	DU
P-42	Park West Specific Plan	SFDR	521	DU
		Elementary School	750	STU
		Neighborhood Park	5.0	AC
P-43	The Venue	Commercial Retail	642.627	TSF
	Retail on San Jacinto	Commercial Retail	217.800	TSF
	Retail on Redlands	Fast Food w/ Drive Thru	4.500	TSF
		Pharmacy w/ Drive Thru	14.000	TSF
		Specialty Retail	31.500	TSF
P-44	South Perris Metrolink Station	Light Rail Transit Station	680	SP
P-45	IDS 04-0464	High-Cube Warehouse	1686.760	TSF
P-46	TTM 32708 (50% Complete)	SFDR	238	DU
P-47	PM 34199	Gen. Light Industrial	46.500	TSF
	DPR 05-0387	Gen. Light Industrial	9.854	TSF
	DPR 05-0452	Warehousing	31.200	TSF
	TPM 34697	Gen. Light Industrial	47.400	TSF
	DPR 06-0396	Warehousing	159.823	TSF
P-48	Integra Pacific Industrial Facility	High-Cube Warehouse	880.000	TSF

[1] SFDR = Single Family Detached Residential ; MFDR = Multi-Family Detached Residential
[2] DU = Dwelling Units; TSF = Thousand Square Feet; SP = Spaces; VFP = Vehicle Fueling Positions; RMS = Rooms; AC = Acres; EMP = Employees
[3] Source: Cactus Avenue and Commerce Center Drive Commercial Center TIA, Urban Crossroads, Inc., December 9, 2008 (Revised).
[4] Source: March Lifecare Campus Specific Plan Traffic Impact Analysis, Mountain Pacific, Inc., May 2009 (Revised).

Source: Urban Crossroads, 2015e, Table 4-4.

4.0.3 Identification of Impacts

Subsections 4.1 through 4.11 of this EIR evaluate the 11 environmental subjects warranting detailed analysis, as determined by this EIR's Initial Study and in consideration of public comment on this EIR's NOP. The format of discussion is standardized as much as possible in each section for ease of review. The environmental setting is discussed first, followed by a discussion of the Project's potential environmental impacts based on specified thresholds of significance used as criteria to determine whether potential environmental effects are significant. The thresholds of significance used in this EIR are based on the thresholds presented in CEQA Guidelines Appendix G and as applied by the City of Moreno Valley to create the Project's Initial Study Checklist (included in *Technical Appendix A* to this EIR). The thresholds are intended to assist the reader of this EIR in understanding how and why this EIR reaches a conclusion that an impact would or would not occur, is significant, or is less than significant.

Serving as the CEQA Lead Agency for this EIR, the City of Moreno Valley is responsible for determining whether an adverse environmental effect identified in this EIR should be classified as significant or less than significant. The standards of significance used in this EIR are based on the judgment of the City of Moreno Valley, taking into consideration CEQA Guidelines Appendix G, the City of Moreno Valley's Municipal Code and adopted City policies, the judgment of the technical experts that prepared this EIR's Technical Appendices, performance standards adopted, implemented, and monitored by regulatory agencies, significance standards recommended by regulatory agencies, and the standards in CEQA that trigger the preparation of an EIR.

As required by CEQA Guidelines § 15126.2(a), impacts are identified in this EIR as direct, indirect, cumulative, short-term, long-term, on-site, and/or off-site impacts of the proposed Project. A summarized "impact statement" is provided in each subsection following the analysis. The following terms are used to describe the level of significance related to the physical conditions within the area affected by the proposed Project:

- No Impact: An adverse change in the physical environment would not occur.
- Less-than-Significant Impact: An adverse change in the physical environment would occur but the change would not be substantial or potentially substantial and would not exceed the threshold(s) of significance presented in this EIR.
- Significant Impact: A substantial or potentially substantial adverse change in the physical environment would occur and would exceed the threshold(s) of significance presented in this EIR, requiring the consideration of mitigation measures.

Each subsection also includes a discussion or listing of the applicable regulatory criteria (laws, policies, regulations) that the Project is required to comply with (if any). If impacts are identified as significant after mandatory compliance with regulatory criteria, feasible mitigation measures are presented that would either avoid the impact or reduce the magnitude of the impact. The following terms are used to describe the level of significance following the application of recommended mitigation measures:

- Less-than-Significant Impact with Mitigation: A substantial or potentially substantial adverse change in the physical environment would occur that would exceed the threshold(s) of significance presented in this EIR; however, the impact can be avoided or reduced to a less than significant level through the application of feasible mitigation measures.
- Significant and Unavoidable Impact: A substantial or potentially substantial adverse change in the physical environment would occur that would exceed the threshold(s) of significance presented in this EIR. Feasible and enforceable mitigation measures that have a proportional nexus to the Project's impact are either not available or would not be fully effective in avoiding or reducing the impact to below a level of significance.

For any impact identified as significant and unavoidable, the City of Moreno Valley would be required to adopt a statement of overriding considerations pursuant to CEQA Guidelines § 15093 in order to approve the Project despite its significant impact(s) to the environment. The statement of overriding considerations would list the specific economic, legal, social, technological, and other benefits of the Project, supported by substantial evidence in the Project's administrative record, that outweigh the unavoidable impacts.

4.1 Aesthetics

This Subsection describes the aesthetic qualities and visual resources on the Project site and in the site's vicinity. This Subsection also analyzes the potential effects that the Project could have on these resources. In particular, descriptions of existing visual characteristics, both on site and in the vicinity of the Project site, are provided. Potential aesthetic impacts that could result from implementing the proposed Project are based in part upon field observations and site photographs collected by T&B Planning, Inc. in November 2014, analysis of aerial photography (Google Earth imagery dated 2013), Project application materials submitted to the City of Moreno Valley and described in Section 3.0, *Project Description*, of this EIR, and information provided in reports appended to this EIR. This Subsection also is based in part on information contained in Chapter 7, *Conservation*, of the City of Moreno Valley General Plan and Section 5.11, *Aesthetic*s, of the certified Final EIR prepared for the City of Moreno Valley General Plan (SCH No. 200091075). All references used in this Subsection are included in EIR Section 7.0, *References*.

4.1.1 Existing Conditions

The Project site is located in the southern portion of the City of Moreno Valley. The Project site is located south of Krameria Avenue, north of Cardinal Avenue, east of Heacock Street and the March Air Reserve Base, and west of Indian Street (see EIR Figure 2-2, *Vicinity Map*). The Project site is located in a portion of Moreno Valley that is developing as a center for distribution warehousing, e-commerce, and light industrial land uses. Under existing conditions, the Project site is bordered on the northwest by property that is under development as a warehouse distribution center (March Business Center). To the immediate north is Krameria Avenue, north of which is a large warehouse building occupied by Proctor & Gamble. To the south is partially developed Cardinal Avenue, a large warehouse building occupied by Amazon, and the Perris Valley Storm Drain Channel. Located farther south are a collection of warehouse distribution buildings including but not limited to buildings currently occupied by Harbor Freight Tools and O'Reilly Auto Parts. To the west is a large warehouse building occupied by Lowe's, an industrial building occupied by Cardinal Glass Industries, and Heacock Street. West of Heacock Street is the March Air Reserve Base. Immediately to the east of the Project site is Indian Street. East of Indian Street is land developed primarily with single-family residential land uses, with pockets of undeveloped land designated for future residential development.

The Project site is relatively flat with elevations ranging from 1,497 feet above mean sea level (AMSL) at its northern boundary to 1,468 AMSL at the southeast corner of the property. As shown in EIR Figure 2-4, *Aerial Photograph*, the Perris Valley Storm Drain Channel transects the Project site in a northwest to southeast direction. Approximately 15.3 acres of the Project site are located west of the Perris Valley Storm Drain Channel and approximately 74.1 acres of the Project site are located east of the Perris Valley Storm Drain Channel.

Pursuant to CEQA Guidelines § 15125, the physical environmental condition for purposes of establishing the setting of an EIR is the environment as it existed at the time the EIR's NOP was released for public review. The NOP for this EIR was released on June 17, 2015. As of that date, the

Project site consists of vacant, undeveloped land that is routinely disturbed (i.e., disced) as part of weed abatement activities. Pole-mounted electrical utility lines run along the eastern boundary of the Project site adjacent to Indian Avenue and along the portion of the southern Project boundary located west of the Perris Valley Storm Drain Channel.

A photographic inventory was prepared to illustrate the existing aesthetic conditions of the Project site in more detail. Figure 4.1-1, *Site Photographs Key Map*, depicts the locations of seven (7) public views of the Project site. The photographs shown in Figure 4.1-2 through Figure 4.1-5 provide a representative inventory of the site's visual characteristics as seen from surrounding publicly-accessible vantage points.

- Site Photograph 1 (Figure 4.1-2). Site Photograph 1 provides a 90-degree view from the northwest corner of the Project site, looking east to south. The left-hand side of the photograph provides a view along the site's northern boundary. The center of the photograph provides a view across the Project site, looking southeast. The right-hand side of the photograph provides a view along the site's western boundary, adjacent to Heacock Street. Visible in the foreground of the photograph is vacant, undeveloped land with scattered, weedy vegetation. Existing off-site warehouse buildings are visible in the background of the left-hand side of the photograph and the mid-ground of the right-hand side of the photograph. Heacock Street is visible in the mid-ground of the right-hand side of the photograph and extends to the horizon. Mount Russell and its associated foothills are visible on the horizon. Mount Russell is located approximately 5.1 miles northeast of the Project site.

- Site Photograph 2 (Figure 4.1-2). Site Photograph 2 provides a 90-degree view from the western edge of the Project site along Heacock Street, looking north to east. The left-hand portion of the photograph provides a view along the Project site's western boundary and Heacock Street. The center of the photograph provides a view across the site looking northeast. The right-hand side of the photograph provides a view of the interface between the Project site and existing off-site warehouse land uses. Undeveloped land with scattered weedy vegetation is visible in the foreground of the photograph. Visible in the center of the photograph is the same off-site warehouse building visible in the left-hand portion of Photograph 1. An existing off-site warehouse building and associated landscaping is visible in the right-hand portion. Mount Russell and its associated foothills are visible on the horizon.

- Site Photograph 3 (Figure 4.1-3). Site Photograph 3 provides a 90-degree view from the northeast corner of the Project site at the corner of Krameria Avenue and Indian Street, looking south to west. The left-hand portion of the photograph provides a view along the eastern boundary of the Project site abutting Indian Street. The center of the photograph provides a view across the site looking southwest. The right-hand portion of the photograph provides a view along the northern Project boundary abutting Krameria Avenue. Visible in the foreground and mid-ground of the photograph is vacant undeveloped land with scattered

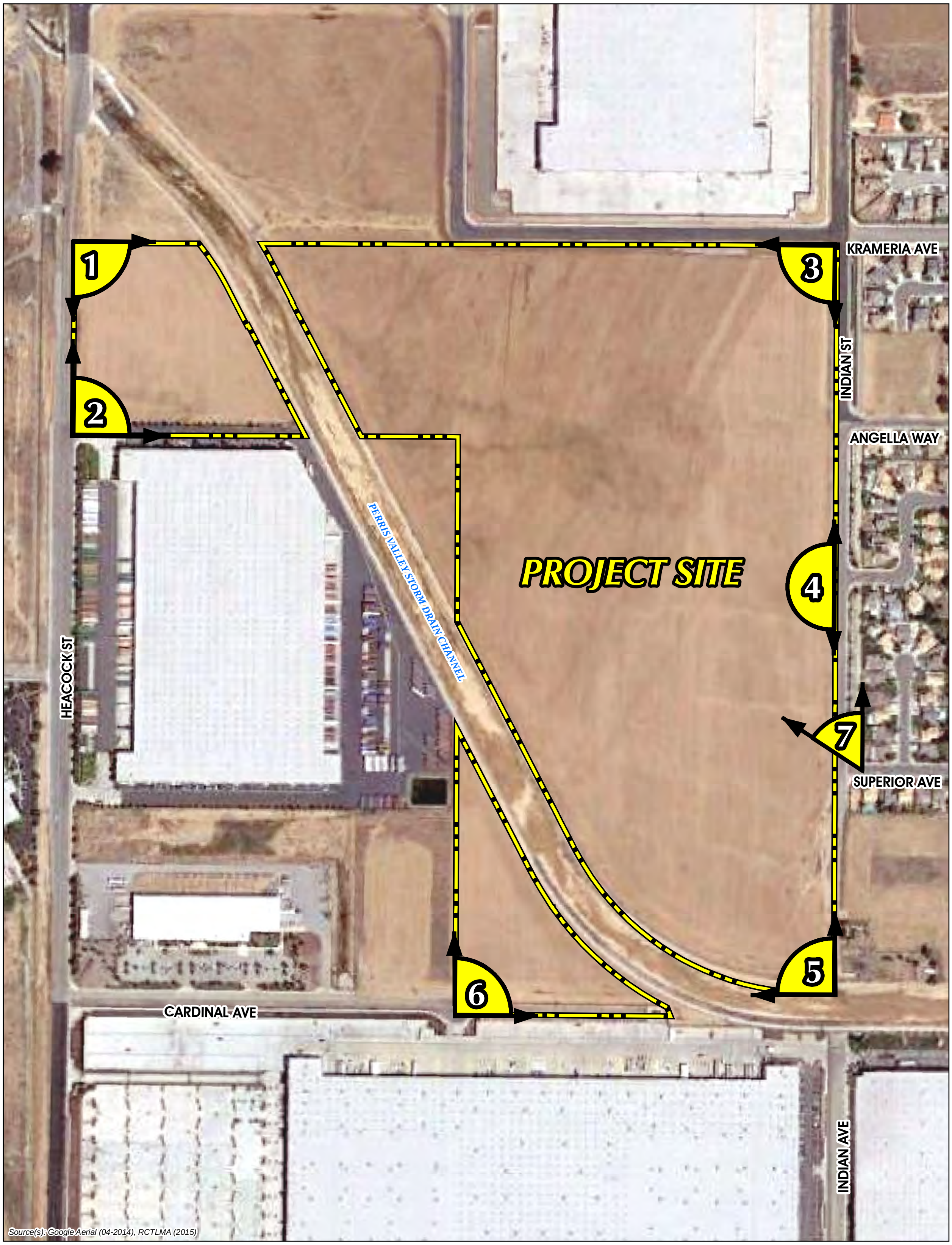
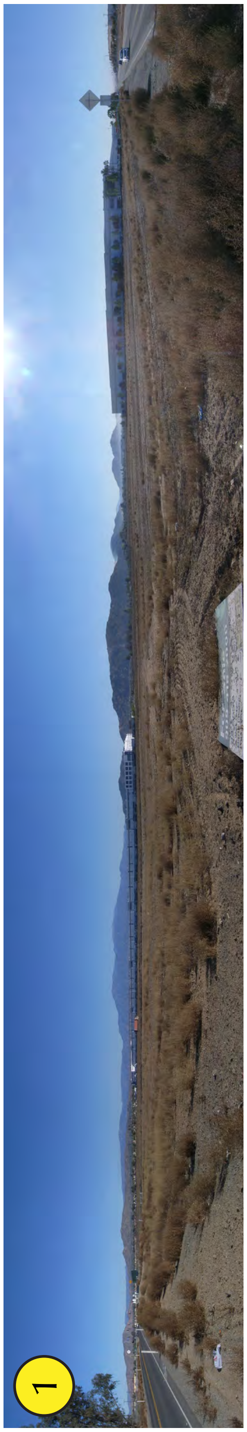


Figure 4.1-1

SITE PHOTOGRAPHS KEY MAP

South



East

Site Photograph 1 - From northwest corner of the Project Site along Heacock Street, looking east to south.

East

North

Site Photograph 2 - From western edge of the Project Site along Heacock Street, looking north to east.

Figure 4.1-2

NOT TO SCALE

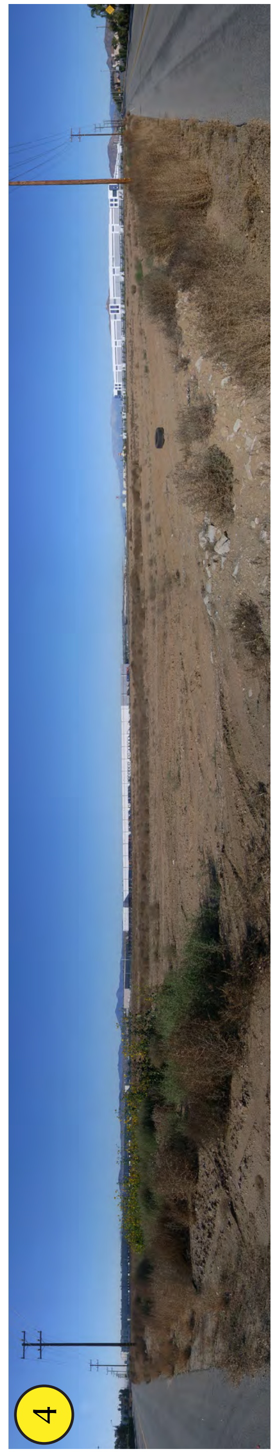
SITE PHOTOGRAPHS 1 AND 2

West

South

Site Photograph 3 - From northeast corner of the Project Site at the corner of Indian Street and Krameria Avenue, looking south to west.

North



South

Site Photograph 4 - From eastern edge of Project Site along Indian Street, looking south, west, and north.

Figure 4.1-3

NOT TO SCALE

SITE PHOTOGRAPHS 3 AND 4

weedy vegetation that extends across the Project site. Visible in the left-hand side of the photograph is a manhole for underground utilities and utility poles. An off-site large warehouse building is visible in the center of the photograph along the horizon. Krameria Avenue is visible in the foreground on the right-hand side of the photograph and extends to the horizon. Located off-site and to the right of Krameria Avenue are a sidewalk, utility poles, trees, and a warehouse building.

- Site Photograph 4 (Figure 4.1-3). Site Photograph 4 provides a 180-degree view from the approximate mid-point of the Project site's eastern boundary abutting Indian Street, looking south, west, and north. The left-hand portion of the photograph provides a view looking toward Indian Street to the south. The center of the photograph provides a view across the site looking west. The right-hand portion of the photograph provides a view looking toward Indian Street to the north. Vacant undeveloped land with scattered weedy vegetation and miscellaneous debris is visible in the foreground and mid-ground of the photograph. Visible in the left-hand portion of the photograph are on-site utility poles, left of which is the southern portion of Indian Street. Visible near the horizon in the center and right-hand portions of the photograph are off-site warehouse buildings. Utility poles and the northern portion of Indian Street are visible in the right-hand portion of the photograph.

- Site Photograph 5 (Figure 4.1-4). Site Photograph 5 provides a 90-degree view from the southeast corner of the Project site along Indian Street, looking west to north. The left-hand portion of the photograph provides a view from the southern corner of the Project site boundary. The center of the photograph provides a view across Project site the looking northwest. The right-hand side of the photograph provides a view of the eastern boundary of the Project site abutting Indian Street, looking north. Vacant undeveloped land with scattered weedy vegetation and miscellaneous debris is visible in the foreground and mid-ground of the photograph. Utility poles are visible in the foreground and mid-ground on the left-hand and right-hand sides of the photographs. A chain link fence is visible in the photograph and forms the boundary between the Project site and the Perris Valley Storm Drain Channel. Off-site warehouse buildings are visible in the foreground (on the left-hand side of the photograph) and along the horizon (on the central and right-hand sides of the photograph).

- Site Photograph 6 (Figure 4.1-4). Site Photograph 6 provides a 90-degree view of the Project site from its southwest corner, west of the Perris Valley Storm Drain Channel and abutting Cardinal Avenue. The left-hand portion of the photograph provides a view along the southwestern boundary of the Project site looking north. The center of the photograph provides a view across the site looking northeast. The right-hand portion of the photograph provides a view along the southern boundary of the Project site looking east. Vacant undeveloped land with weedy vegetation is visible in the foreground of the photograph. Visible in the left-hand portion of the photograph, along the horizon, are off-site warehouse buildings. Visible in the right-hand portion of the photograph are on-site utility poles and an off-site a warehouse building. Mount Russell and its associated foothills are visible on the horizon.

North

West

Site Photograph 5 - From southeast corner of Project Site along Indian Street, looking west to north.

East

North

Site Photograph 6 - From southwest corner of Project Site at the end of the Cardinal Avenue cul-de-sac, looking north to east.

Figure 4.1-4

NOT TO SCALE

SITE PHOTOGRAPHS 5 AND 6

- Site Photograph 7 (Figure 4.1-5). Site Photograph 7 provides a view of the interface between the residential homes located east of the Project site and Indian Street. The location shown is at the intersection of Superior Avenue and Indian Street, which is representative of the interface that occurs between every existing home and Indian Street from Superior Avenue to Krameria Avenue. Between the homes and Indian Street are a solid wall, gated access easement, concrete-lined drainage channel, a chain-link fence, a strip of landscaping containing large shrubs and medium-height trees, street lights, and a sidewalk. The distance between the solid wall and the Indian Street curb is approximately 50 feet.

B. Scenic Vistas and Scenic Resources

The Project site is located within a relatively flat valley floor surrounded by rugged hills and mountains. Major scenic resources in Moreno Valley that contribute to scenic vistas include the Box Springs Mountains and Reche Canyon to the north of the City, the Badlands to the east of the City, and the Mount Russell area to the south of the City. As shown on Figure 4.1-6, *Major Scenic Resources,* the Project site is not located within a City-designated view corridor for the Box Springs Mountains, Reche Canyon, the Badlands, or Mount Russell.

The Project site also is not located within or adjacent to a scenic highway corridor and does not contain scenic resources, such as trees of scenic value, rock outcroppings, or historic buildings (as depicted on Figure 4.1-2 through Figure 4.1-5). There are no State-designated or eligible scenic highways within the City of Moreno Valley. The nearest State-eligible scenic highway segment to the Project site is a short segment of I-215 (between SR-74 near Perris to SR-74 near Romoland), which is located approximately 6.0 miles south of the Project site (DOT, 2015). The City of Moreno Valley General Plan identifies SR-60 as a “Scenic Route;” the Project site is located approximately 4.2 miles south of SR-60 (see Figure 4.1-4) and is not visible from SR-60.

C. Light and Glare

The Project site is vacant undeveloped land and no sources of artificial light or glare are present on the site under existing conditions. Artificial light sources occur in the immediate vicinity of the Project site, with the most notable sources of light emanating from the March Air Reserve Base located to the west of the property and west of Heacock Street, warehouse buildings that surround the Project site to the north and south, and the residential community located east of Indian Street.

Mt. Palomar Observatory is located approximately 41.5 miles southeast of the Project site, on the top of Palomar Mountain in north San Diego County. The Observatory contains three active research telescopes owned and operated by the California Institute of Technology (Caltech). Since at least the 1980s, CalTech has worked with the surrounding communities to mitigate and minimize the effects of ambient light occurring from increased urbanization on the Observatory’s research mission (CalTech, 2014). Properties located within a 45-mile radius of the Mt. Palomar Observatory are considered to have the potential to contribute to lighting impacts on the Observatory. Although the City of Moreno Valley General Plan does not address the Mt. Palomar Observatory, the Project site

North

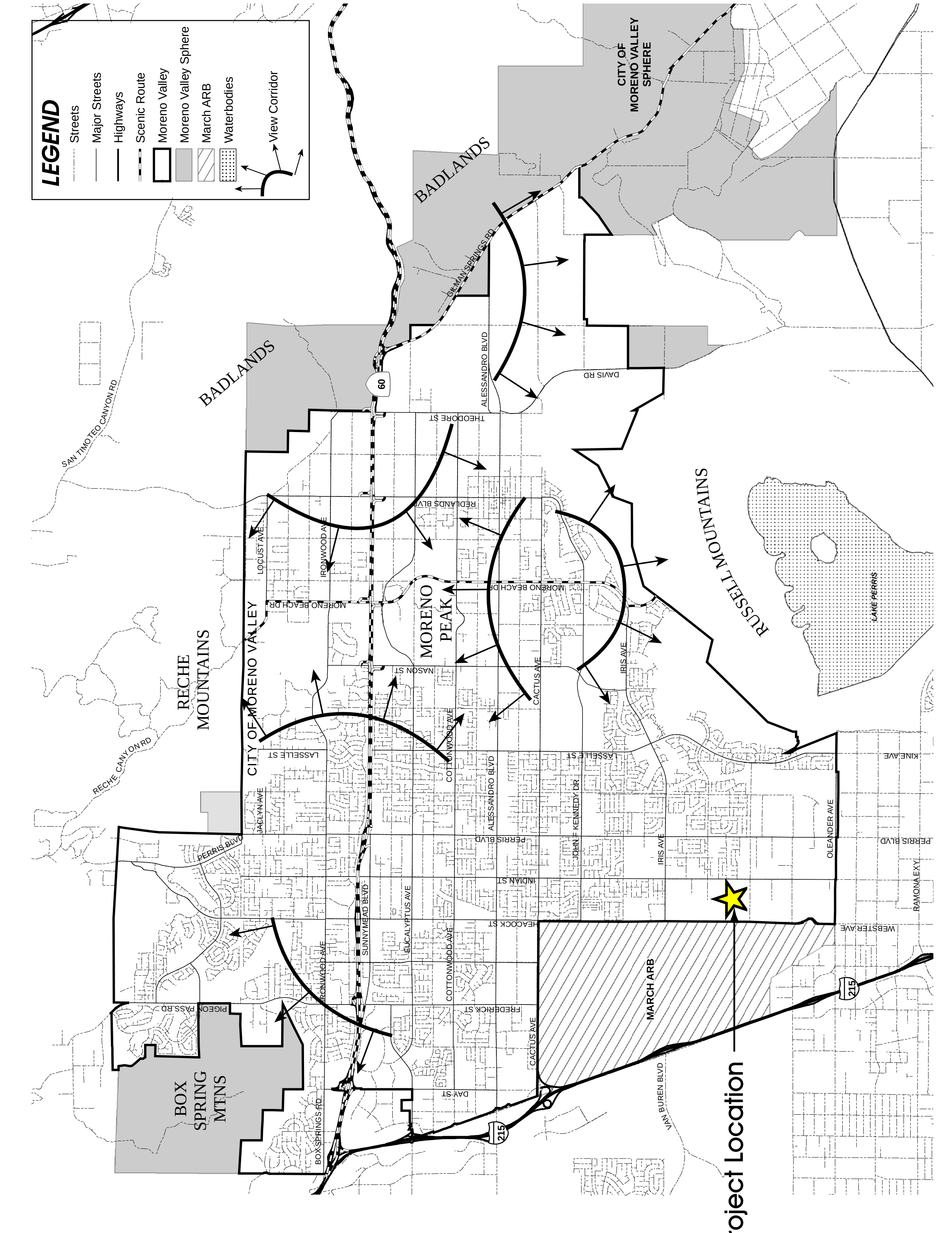
Northwest

Site Photograph 7 - From northeast corner of the intersection of Indian Street and Superior Avenue, looking northwest to north.

Figure 4.1-5

NOT TO SCALE

SITE PHOTOGRAPH 7



Source: City of Moreno Valley General Plan (7-11-2006)

Figure 4.1-6

NOT TO SCALE

MAJOR SCENIC RESOURCES

is identified by the Riverside County General Plan as being located within a 45-mile distance of the facility, which is referred to as "Zone B" of the "Mt. Palomar Nighttime Lighting Policy Area" (County of Riverside, 2003, Figure 6, Reche Canyon/Badlands Area Plan Mt. Palomar Nighttime Lighting Policy). Within Zone B, outdoor lighting fixtures should be designed and shielded to preclude the emission of substantial light into the night sky and lighting not essential for outdoor safety/security should be extinguished during night-time hours.

D. Applicable Regulatory Requirements

❑ City of Moreno Valley General Plan

The City of Moreno Valley General Plan Conservation Element Subsection 7.7, *Scenic Resources,* identifies SR-60 as the major transportation route in the area from which scenic views are possible and designates SR-60 as a local scenic route. The General Plan identifies the Badlands in the eastern portion of the City, Box Springs Mountains to the immediate north of SR-60 and the Mount Russell foothills to the south of SR-60 as the mountain ranges displaying the most scenic views from this route. Although specific polices related to land development are not identified in the Conservation Element, Subsection 7.7 states that the location and design of buildings, landscaping, and other features is important in an effort to protect and enhance views from scenic roadways.

❑ Moreno Valley Industrial Area Plan (MVIAP)

The MVIAP includes development standards and guidelines that guide the development of the properties located within the boundary of the MVIAP. The MVIAP sets forth general design guidelines that address placement of buildings, architecture, landscape architecture, and lighting. The MVIAP includes standards for lighting within the Area Plan as follows:

> *Exterior light fixtures shall be designed and placed so as not to provide light spillage on adjacent properties or public rights-or-way. The use of "full cut off' fixtures should be used adjacent to the MARB/MIP to reduce nighttime glare towards the flight line* (Moreno Valley, 2002, pp. III-19).

❑ City of Moreno Valley Municipal Code

The City of Moreno Valley Municipal Code § 9.08.100 regulates light and glare associated with new development in the City, and requires the following of non-residential development:

> *All outdoor lighting associated with nonresidential uses shall be fully shielded and directed away from surrounding residential uses. Such lighting shall not exceed one-quarter foot-candle minimum maintained lighting measured from within five feet of any property line, and shall not blink, flash, oscillate, or be of unusually high intensity or brightness (City of Moreno Valley n.d.).*

4.1.2 Basis for Determining Significance

The proposed Project would result in a significant impact to aesthetics if the Project or any Project-related component would:

a) *Have a substantial adverse effect on a scenic vista;*

b) *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;*

c) *Substantially degrade the existing visual character or quality of the site and its surroundings; or*

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

4.1.3 Impact Analysis

The analysis of the Project's potential aesthetics impacts presented on the following pages reflects the Project's technical, architectural, and engineering characteristics as described in EIR Section 3.0, *Project Description*, as well as all conditions of approval (including but not limited to those conditions of approval issued by the City of Moreno Valley and the Riverside County Airport Land Use Commission) and other applicable regulations, codes, and requirements to which the Project is required to comply.

Threshold a)	***Would the Project have a substantial adverse effect on a scenic vista?***

The site photographs provided on Figure 4.1-2 through Figure 4.1-5 depict the Project site under existing conditions. As shown, the Project site consists of vacant, undeveloped land that is routinely disturbed (i.e., disced) as part of weed abatement activities. The Project site does not contribute to a scenic vista under existing conditions, and the City of Moreno Valley General Plan Final Program EIR does not identify any scenic vistas or scenic corridors within the vicinity of the Project site (City of Moreno Valley , 2006a, Figure 7-2).

Scenic vistas within Moreno Valley are defined by the Box Springs Mountains and Reche Canyon area to the north, the "Badlands" to the northeast, and the Russell Mountains to the east (City of Moreno Valley , 2006a, pp. 7-2). The Project site is located within a relatively flat valley floor approximately 5.5 miles south of the Box Springs Mountains and Reche Canyon, 7.5 miles west of the Badlands, 1.5 miles west of Russell Mountain foothills and 5.1 miles to the peak of Mount Russell.

Under existing conditions, views of the Russell Mountains are available from the Project site, although partially obstructed by existing, off-site development. The Project would construct four buildings on-site. The largest building would have a height up to 52 feet above finished grade, while the three smaller buildings would have heights up to 42 feet above finished grade. The proposed Project would not block views of the Russell Mountains from public viewing areas that abut the

Project site to the west, north and south, including Heacock Street, Krameria Avenue, and Cardinal Avenue, because views of the Mountains would still be visible beyond the proposed buildings and along the horizon. Views of the Russell Mountains from the Project site's eastern boundary (i.e., Indian Street) would not be affected by the Project due to the easterly location of the Mountains in relation to the Project site. Furthermore, the City General Plan designates the scenic viewshed for the Russell Mountains as occurring from the north (i.e., from land to the north of the Russell Mountains looking south toward the Mountains), whereas the Project site is located to the west of the Mountains. Accordingly, the Project would not impact a City-designated scenic view corridor for the Russell Mountains.

The Project also would have less-than-significant impacts on public views of the Box Spring Mountains, Reche Canyon, and the Badlands. Due to their distance and orientation in relation to the Project site, prominent, distinct views of the Box Spring Mountains and Reche Canyon are not available from the Project site under existing conditions. The views that are available under existing conditions, primarily from the Project's western and eastern boundaries would not be obstructed by development of the Project because a viewer would need to look due north to see the mountain view, and not east or west across the Project site. Furthermore, the Project would not block views of these landforms from public viewing areas (e.g., public roads). The Project site does not afford any views of the Badlands; therefore, implementation of the proposed Project would not adversely impact any public view of the Badlands.

Based on the foregoing analysis, the proposed Project would not have a substantial adverse effect on scenic vistas, and a less-than-significant impact would occur.

Threshold b)	***Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?***

The Project site is not located within or adjacent to a scenic highway corridor and does not contain scenic resources, such as trees of scenic value, rock outcroppings, or historic buildings. Furthermore, there are no State-designated or eligible scenic highways within the City of Moreno Valley (DOT, 2015).

The nearest State-eligible scenic highway to the Project site is I-215 (between SR-74 near Perris to SR-74 near Romoland), which is located approximately 6.0 miles south of the Project site. Additionally, the Project site is located approximately 4.2 miles south of SR-60, which the City of Moreno Valley General Plan identifies as a local scenic route as illustrated on Figure 4.1-6. The proposed Project's buildings and other features would not be visible from the aforementioned segments I-215 or SR-60 due to intervening development and distance.

Because the Project site is not visible from a State scenic highway and contains no scenic resources, the proposed Project would not adversely impact the viewshed within a scenic highway corridor and would not damage important scenic resources within a scenic highway corridor, including trees, rock outcroppings, and historic buildings. No impact would occur.

Threshold c)	***Would the Project substantially degrade the existing visual character or quality of the site and its surroundings?***

❑ **Temporary Construction Related Activities**

The proposed Project would be constructed over the course of approximately 14 months. Temporary construction activities would involve the use of heavy machinery that would be visible from the immediately surrounding areas. Construction activities are a common occurrence in the City of Moreno Valley, especially within the rapidly developing MVIAP area, as well as the larger Inland Empire region and are not considered to substantially degrade the area's visual quality. Furthermore, except for the short-term use of cranes during building construction and lifts during the architectural coating phase, construction equipment is expected to be low in height and not substantially visible to the surrounding area, including the residential lots located east of the Project site which are set back from Indian Street by 50 feet and separated from Indian Street by a solid wall, gated access easement, concrete-lined drainage channel, a chain-link fence, and a strip of landscaping containing large shrubs and medium-height trees. All Project-related construction activities would be temporary in nature and all construction equipment would be removed from the Project site following completion of the Project's construction activities. Thus, Project-related changes to local visual character and quality would be less than significant during temporary, short-term construction activities.

❑ **Project Buildout**

Upon buildout of the Project, the visual character of the site would change from a vacant undeveloped property to a developed property containing one large warehouse building and three smaller light industrial buildings. In order to determine of the proposed Project would substantially degrade the existing visual character or quality of the site and its surroundings, an analysis of the post-development conditions at Site Photographs 1 through 7 (refer to Figure 4.1-2 and Figure 4.1-5) is provided below. Refer also to the Project's proposed site plans (Figures 3-10 through 3-13), architectural plans (Figures 3-15 through 3-18), and landscape plan (Figure 3-19) for illustrations of the proposed site layout and architectural and landscape design.

- Site Photograph 1 (Figure 4.1-2). Site Photograph 1 was taken from the Project site's northwest corner looking east and south. The northwest corner of Building 4 as well as a portion of the Building's northern and western building façades would be visible from this location. Upon buildout of the Project the immediate foreground on the left-hand and right-hand sides of the photograph would contain ornamental landscaping, including deciduous and evergreen trees, shrubs, and groundcover. A driveway and drive aisle would also be visible in the foreground from this vantage point (from the center of the photograph extending to the left-hand side). In the mid-ground (center of the photograph), the northwest corner of Building 4 would be visible. The corner of the Building would house an office area and the exterior of the building would feature enhanced architectural treatments. The western and northern facades of Building 4 would be visible in the mid-ground of the photograph (left-hand side and right-hand side) extending toward the horizon. The visual prominence of the Building would be reduced by densely planted flowering accent trees, large canopied deciduous trees, and evergreen coniferous trees along Heacock Street and evenly spaced evergreen trees (as well as colorful shrubs and groundcovers) along the northern edge of the Building. The proposed Project would not block or substantially obscure the visual prominence of the Russell Mountains from this vantage point; the Mountains would be visible above the proposed Project and along the horizon.

- Site Photograph 2 (Figure 4.1-2). Site Photograph 2 provides a view of the southwest corner of the Building 4 site. From this location, the southwestern corner of Building 4 would be partially visible in the mid-ground, although mostly screened by densely planted ornamental landscaping in the foreground (trees, shrubs, and groundcover). The corner of the Building would house an office area featuring enhanced architectural treatments. On the left-hand side of the photograph, from the mid-ground extending toward the horizon, the western façade of Building 4 would be partially visible behind an ornamental landscape buffer planted adjacent to Heacock Street. On the right-hand side of the photograph (in the mid-ground extending toward the horizon) the southern façade of Building 4 and an automobile parking lot would be visible. Landscaping would be planted adjacent to the southern façade of Building 4 to minimize its scale; landscaping also would be provided along the perimeter of the parking lot and interior to the parking lot (via finger islands) to provide visual interest and shade over pavement areas. The proposed Project would not block or substantially obscure the visual prominence of the Russell Mountains from this vantage point; the Mountains would be visible above the proposed Project and along the horizon.

- Site Photograph 3 (Figure 4.1-3). Site Photograph 3 provides a view of the northeast corner of the Building 1 site. At this location, parkways planted with trees and groundcovers would be visible in the foreground (and extending toward the horizon) on the left-hand side of the photograph abutting Indian Street and on the right-hand side of the photograph abutting Krameria Avenue. In the center of the photograph (foreground), an approximately 50-foot-wide landscape buffer area (planted with flowering accent trees and large-canopied evergreen and deciduous trees) would be visible, beyond which would be an automobile parking lot. On the left-hand side of the photograph, in the mid-ground, a 50-foot-wide landscape buffer area would be visible. The plant material within the landscape buffer would minimize the perceived scale of a 14-foot-tall screen wall that is proposed to be installed parallel to Indian Street. The landscaping and screen wall provided on the eastern edge of the Building 1 site would obscure views of the Building 1 loading bays and truck parking area. In the center of the photograph (in the mid-ground), the corner of Building 1 would be partially visible (behind proposed landscaping planted in the foreground). The corner of Building 1 would house an office area and the exterior of the building would feature enhanced architectural treatments. In the right-hand side of the photograph (in the mid-ground extending toward the horizon), the northern façade of Building 1 and an automobile parking lot would be visible. Landscaping would be planted adjacent to the northern façade of Building 1 to minimize its scale and visual prominence. Landscaping also would be provided along the perimeter of the parking lot and interior to the parking lot (via finger islands) to provide visual interest and shade over pavement areas.

- Site Photograph 4 (Figure 4.1-3. Site Photograph 4 provides a view of the mid-point of the Building 1 site. At buildout, this vantage point would provide a view of the eastern edge of Building 1. Views of the foreground from this vantage point would include a landscaped parkway adjacent to Indian Street and an on-site landscape buffer area. Both the landscape parkway and buffer area would be planted with trees, shrubs, and groundcovers. Beyond the landscape buffer, a 14-foot-tall concrete screen wall painted to match the Building's color would be constructed parallel to Indian Street. The landscaping and screen wall provided on the eastern edge of the Building 1 site would obscure views of the Building's loading bays and truck parking area. Above the landscaping and screen wall, the top of the eastern edge of Building 1 would be partially visible along the horizon.

- Site Photograph 5 (Figure 4.1-4). Site Photograph 5 provides a view of the southeast corner of the Building 1 site. From this location, the southwest corner of Building 1 would be partially visible in the center of the photograph (partially obscured by landscaping), with the Building's southern edge extending along the left-hand side of the photograph and its eastern edge extending along the right-hand side of the photograph. Panning from the left-hand side to the right-hand side of the photograph, the foreground would be dominated by landscaping (trees and groundcover) planted along the perimeter of the proposed water quality/detention basin. Beyond the water quality/detention basin, a loading and truck parking area would be partially visible on the left-hand side of the photograph (partially obscured by proposed landscaping and fencing), the southwest corner of Building 1 would be visible in the center of the photograph, and an automobile parking lot would be visible on the right-hand site of the photograph. The corner of the Building would house an office area and the exterior of the building would feature enhanced architectural treatments. The entrance to the office area would be framed by landscaping, including trees, shrubs, and groundcovers. Landscaping would be planted along the perimeter of the parking lot and interior to the parking lot (via finger islands) to provide visual interest and shade over pavement areas. The top of the southern and eastern facades of Building 1 would be visible along the horizon.

- Site Photograph 6 (Figure 4.1-4). Site Photograph 6 provides a view of the southwest corner of the Building 3 site. From this location, landscape areas planted with ornamental deciduous and evergreen trees, shrubs, and ground covers would flank the site's driveway in the foreground. In the mid-ground of the photograph, drive aisles and automobile parking lots would be visible in the left-hand and right-hand sides of the photograph; Building 3 would be located in the center of the photograph. Landscaping would be planted along the perimeter of the parking lot and interior to the parking lot (via finger islands) to provide visual interest and shade over pavement areas. Landscaping would be planted along the western and southern facades of Building 3 to minimize the scale of the building. The corner of Building 3 would feature enhanced architectural treatments and landscaping for visual interest. The proposed

Project would not detract from the visual prominence of the Russell Mountains from this vantage point; the Mountains would be visible above the proposed Project and along the horizon on the central and right-hand portions of the photograph.

- Site Photograph 7 (Figure 4.1-5). Site Photograph 7 provides a view of the interface between the residential homes located east of the Project site and Indian Street. As shown, a solid wall, gated access easement, concrete-lined drainage channel, a chain-link fence, a strip of land containing plant material of varying heights consisting of large shrubs and medium-height trees, street lights, and a sidewalk already separate these homes from Indian Street. The Project site occurs on the opposite side of Indian Street. The Project proposes to protect in place the existing Indian Street improvements on the east side (residential side) of the road and widen the road on the west side. A 10-foot-wide landscape parkway and 4-foot-wide sidewalk are proposed to be installed in the public right-of-way along the Project's frontage with Indian Street, west of which would be a 50-foot wide landscape buffer area planted with trees, shrubs, and groundcovers. Beyond the landscape buffer, a 14-foot-tall concrete screen wall painted to match the color of Building 1 would be constructed. Upon the maturity of the trees planted in the landscaped buffer, the wall would be barely visible from Indian Street. Together, the landscaping and screen wall would obscure views of Building 1 and its loading bays and vehicular use area. Above the landscaping and screen wall, the very top of Building 1 would be partially visible along the horizon.

Although the aesthetic changes to the Project site would be substantial compared to existing conditions (change from vacant undeveloped land to an industrial center), the proposed Project incorporates a number of features to enhance the aesthetic quality of the Project. The Project's architecture incorporates a classic color palette that would not be visually offensive and also incorporates accent elements, such as colored glass and decorative building elements at entries for visual interest. The landscaping theme incorporates attractive plant species that can maintain vibrancy during drought conditions. Additionally, the Project incorporates walls to screen views to Project-related loading and docking bays from public viewing areas along abutting public streets. The visual prominence of the screen walls would be reduced through the installation of landscaping (trees, shrubs, and groundcover) in front of the walls. The proposed visual features of the Project would ensure a high-quality aesthetic for the site that complements surrounding development and would be consistent with the design standards for industrial development called for by the MVIAP, including but not limited to the MVIAP's general design guidelines for building orientation, access and circulation, parking areas, architectural materials, architectural design, exterior light fixtures, and landscaping (Moreno Valley, 2002).

With respect to the visual character of the surrounding area, the proposed Project would be visually compatible with the existing industrial land uses to the north, south, and west of the Project site, as well as the under-construction industrial land uses to the northwest of the Project site. Further, the 50-foot wide landscape buffer along the Project's eastern boundary paralleling Indian Street would provide a visual transition to the existing residential community to the east and ensure that the visual character of the residential community is not substantially degraded. Refer to Figure 3-20 in EIR

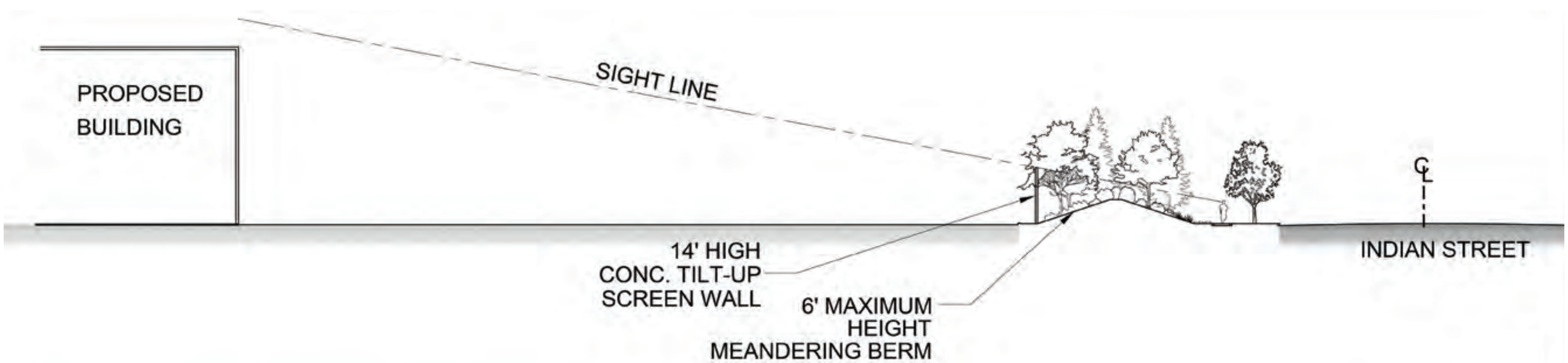
Section 3.0 for an illustrated cross-section. As shown, the residential lots on the east side of Indian Street would be separated and screened from Building 1 and its vehicular use areas by the proposed 10-foot-wide landscape parkway, 50-foot wide landscape buffer area featuring a berm and densely planted with trees, shrubs, and groundcovers, and 14-foot-tall solid screen wall that are proposed by the Project on the west side of Indian Street. A line-of-sight exhibit is provided as Figure 4.1-7, *Indian Street Line-of-Sight Cross-Section*, which shows that no views of Building 1 or its parking areas would be visible to a pedestrian using the Indian Street sidewalk. Looking west toward the Project site, people using Indian Street by foot, bicycle, or motorized vehicle would see the densely landscaped berm and any views that may be possible through the landscaping would be of the 14-foot screen wall and/or skyline above proposed Building 1. On the east side of Indian Street are a solid wall, gated access easement, concrete-lined drainage channel, chain-link fence, and strip of landscaping containing large shrubs and medium-height trees, beyond which are private residential lots. Public views toward the west from the east side of Indian Street would also be screened by the features proposed by the Project and shown on Figure 3-20 and Figure 4.1-7. With these features, the Project's design features along Indian Street would obscure views of Building 1 and its loading bays and vehicular use area. As such, the Project would have less-than-significant potential to substantially degrade the visual character and quality of the adjacent residential community or of any other property in the surrounding area. For these reasons, impacts are considered to be less than significant.

Threshold d) Would the Project create a new source of substantial light or glare, which would adversely affect daytime or nighttime view of the area?

The Project is designed to adhere to the requirements of both the MVIAP lighting standards and City of Moreno Valley Municipal Code § 9.08.100, and future implementing permits and approvals (i.e., building permits) would be required to demonstrate compliance with these standards. Mandatory compliance with the applicable lighting requirements of the MVIAP and the City's Municipal Code would ensure that the proposed Project does not produce substantial amounts of light or glare from artificial lighting sources that would adversely affect the day or nighttime views of adjacent properties.

With respect to daytime glare impacts, the proposed Project would involve the construction of four (4) buildings with exterior building surfaces that consist of concrete tilt-up panels and green glass. While window glazing has the potential to result in minor glare effects, such effects would be minimal because the glass proposed for use by the Project is low-reflective and would not be mirrored. Furthermore, unobstructed views of on-site building surfaces utilizing glass would be rare due to the extensive use of landscaping, screen walls, and fences on the Project site.

As noted previously, the Project site is located approximately 41.5 miles from the Mt. Palomar Observatory. The potential effects of artificial lighting caused by increased urbanization in a 45-mile radius of the Observatory is not specifically addressed by the City of Moreno Valley's General Plan or Municipal Code; however, the 45-mile radius surrounding the Mt. Palomar Observatory is defined



Source: Hunter Landscape (03-14-16)

NOT TO SCALE

Figure 4.1-7

INDIAN STREET LINE-OF-SIGHT CROSS-SECTION by Riverside County Ordinance No. 655 as an area in which light pollution may impact the functionality of the Observatory. Any development project within a 45-mile radius of the Observatory that would add artificial light sources has the potential to contribute to sky glow effects, which could adversely affect the telescopes' range of visibility. Although the Project site is located in the City of Moreno Valley and is not subject to Riverside County Ordinance No. 655, the potential light pollution effects of the Project on the Mt. Palomar Observatory are still recognized in this EIR. To ensure that impacts would be less than significant, the proposed Project would be required to comply with City of Moreno Valley Municipal Code § 9.08.100, which requires shielded fixtures and prohibits unusually high intensity or brightness to minimize light pollution. The shielding of light fixtures is effective at minimizing potential impacts associated with artificial lighting, including but not limited to effects on nighttime observations at the Mt. Palomar Observatory.

Based on the foregoing analysis, the Project would not introduce substantial sources of artificial lighting and glare and would result in a less-than-significant impact to daytime and nighttime views in the area.

The Project does not propose to install rooftop solar panels; however, the roofs of all Project buildings are designed to accommodate the potential future installation of solar panels. Because solar panels absorb light – and do not reflect it – they are not expected to result in substantial adverse glare effects. Potential glare impacts would be less than significant. Regardless, because the Project site is located close to the March Air Reserve Base, and at the request of the Riverside County Airport Land Use Commission (ALUC) during their review of the Project for consistency with the March Air Reserve Base/Inland Port Land Use Compatibility Plan, mitigation is recommended in this EIR at the request of the ALUC to verify that solar panels that may be installed on the Project site in the future do not produce any amount of glare that could affect air traffic operations at March Air Reserve Base.

4.1.4 Cumulative Impact Analysis

The City of Moreno Valley General Plan EIR concluded that buildout of the City in accordance with its General Plan would not have any significant direct or cumulative impacts to local or regional aesthetics with enforcement of the City's General Plan and Specific Plans (City of Moreno Valley, 2006b, pp. 5-6). As previously stated, the proposed Project is consistent with the City's General Plan and MVIAP and would therefore not result in any cumulatively considerable aesthetics impacts. Furthermore, and as noted under the discussion of Threshold a), the Project site contains vacant undeveloped land under existing conditions and is not part of a scenic vista. Views of the Box Springs Mountains, Reche Canyon area, and the Russell Mountains are available from public viewing areas adjacent to the Project site; however, such views are available throughout the City of Moreno Valley and are not unique to the Project site's vicinity. Additionally, and as shown on Figure 4.1-6, the City of Moreno Valley General Plan does not identify any scenic routes or view corridors within close proximity of the Project site. With buildout of the proposed Project and other developments within the Project's viewshed, which would include buildout of the MVIAP and surrounding areas, there would be a less than significant cumulative effect to any existing scenic vistas. Accordingly, no cumulatively considerable impact to scenic vistas would occur with buildout of the proposed Project.

As noted under Threshold b), the Project site is not located within close proximity to any designated scenic routes and does not contain any scenic resources under existing conditions, including, but not limited to, trees, rock outcroppings, and historic buildings. Therefore, the proposed Project has no potential to directly impact a scenic resource or to contribute to a cumulatively significant scenic resource impact.

With respect to visual quality and character of the site and surrounding area, under cumulative conditions the geographic area of the MVIAP would be industrial in character as the MVIAP area would be fully built-out with industrial land uses. As with the proposed Project, development within the MVIAP would be subject to the development regulations and design standards contained in the MVIAP. Mandatory compliance to these development regulations and design standards would ensure that the industrial development within the remaining undeveloped portions of the MVIAP incorporate high quality building materials, site design, and landscaping to minimize the potential for adverse effects associated with visual quality. The buildings that would be constructed on the Project site and other buildings within the MVIAP would be similar in character and would display the aesthetic qualities required by the MVIAP. These qualities have been incorporated into the proposed Project's design as described in EIR Section 3.0, *Project Description*. In addition, the Project proposes a 50-foot-wide landscape buffer that is not required by the MVIAP. The buffer is proposed, in part, to compensate for the Project's proposal to align its proposed Building 1 with the setback distance physically established by the warehouse building located to the immediate north that is currently occupied by Proctor & Gamble. To align the buildings, the Project proposes a Specific Plan Amendment (SPA) to the MVIAP to amend its setback requirement along Indian Street from 300 feet to 100 feet and to add the requirement to install a minimum 50-foot-wide contiguous enhanced landscaping zone within the proposed 100-foot setback area. With the installation of the 50-foot-wide landscape buffer, the developed Project site would be more aesthetically pleasing than complying with the 300-foot setback requirement without the landscaped buffer. For this reason, the Project's impact to community character as viewed from Indian Street would be less than significant and less than cumulatively considerable. The proposed Project would not considerably contribute to an adverse cumulative impact to the existing visual character or quality of the Project site or its surroundings.

With respect to potential cumulative light and glare impacts, City of Moreno Valley Municipal Code §9.08.100 sets a maximum limit of 0.25 foot candles of "spill over" lighting that can directly or indirectly affect adjacent properties and requires light fixtures to incorporate shielding to prevent potential glare impacts. Similarly, the County of Riverside and cities in the surrounding area enforce similar light pollution regulations (Riverside County Ord. 655, City of Perris Zoning Ord. Sec. 19.01 et. seq., City of Riverside Municipal Code Sec. 19.590.070). As noted previously, the Project site is located within a 45-mile radius of the Mt. Palomar Observatory. Areas within 45 miles of the Mt. Palomar Observatory have been identified by the County of Riverside as having the potential to adversely affect nighttime operations at the Observatory. However, as noted above, all development with artificial light sources located within the City of Moreno Valley and surrounding areas are required to comply with the applicable lighting restrictions of the City Municipal Code §9.08.100 (or the applicable lighting restrictions applied by their respective City/County). The restriction on "spill over" lighting enforced by these lighting regulations has the effect of minimizing light and glare that would create sky glow. Additionally, development projects with artificial light sources in surrounding jurisdictions would be required to comply with the light reduction requirements applicable in their respective jurisdiction. Therefore, because City of Moreno Valley Municipal Code §9.08.100 and the light control regulations of other jurisdictions within the 45-mile radius of the Observatory would minimize the amount of sky glow that could affect nighttime operations at the observatory the cumulative effect would be less than significant. Because the proposed Project is mandated to comply with the City's Municipal Code, the Project's contribution to sky glow impacts to the Mt. Palomar Observatory is determined to be less than cumulatively considerable.

4.1.5 Significance of Impacts before Mitigation

Threshold a): Less-than-Significant Impact. The Project site does not comprise all or part of a scenic vista and does not contain any visually prominent scenic features. No unique views to scenic vistas are visible from the property. The Project would not substantially change a scenic view or substantially block or obscure a scenic vista; therefore, impacts to scenic vistas would be less than significant.

Threshold b): No Impact. The Project has no potential to damage scenic resources within a scenic highway corridor because Project site is not located within the viewshed of a scenic highway and the Project site does not contain any scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings.

Threshold c): Less-than-Significant Impact. The Project would not substantially degrade the existing visual character or quality of the site or its surrounding areas during Project construction or operation. Although the Project would change the visual character of the site from a vacant property to a developed logistics center, the Project proposes a number of site design, architectural, and landscaping elements to ensure that the surrounding visual character and quality is not substantially affected. A landscaped parkway, 50-foot-wide landscape buffer and 14-foot-high screen wall are proposed along Indian Street to screen the Project from residential uses to the east. The Project would be consistent with the industrial character of the site and surrounding area to the north, south, and west, which is made up of warehouse and industrial facilities and the March Air Reserve Base.

Threshold d): Less-than-Significant Impact. The Project would not create substantial light or glare. Compliance with the MVIAP requirements for lighting and mandatory compliance with City of Moreno Valley Municipal Code § 9.08.100 would ensure less-than-significant impacts associated with light and glare affecting day or nighttime views in the area.

4.1.6 Mitigation

The Project Applicant does not propose to install solar panels on the Project's buildings but the buildings' rooftops are designed to support the potential future installation of solar panels. Because solar panels are light-absorbing and not light-reflective, no glare impact would occur. Regardless, at the request of the Riverside County ALUC during their review of the Project for consistency with the March Air Reserve Base/Inland Port Land Use Compatibility Plan, the following mitigation measures are included at the request of the ALUC to verify that solar panels, which have the potential for installation in the future, do not produce any amount of glare that could affect air traffic operations at March Air Reserve Base.

MM 4.1-1 In the event that solar panels are proposed for installation, then prior to the issuance of building permits the City of Moreno Valley shall review the construction drawings and ensure that:

a) All solar panels shall be installed at a fixed angle (i.e., non-tracking);
b) All solar panels shall contain a non-reflective coating or shall be otherwise designed, engineered, and/or installed to minimize glare; and
c) All solar panels shall be directed toward the sky and not facing adjacent properties.

MM 4.1-2 In the event that solar panels are proposed for installation, then prior to the issuance of building permits the Project Applicant shall provide the City of Moreno Valley with evidence that the proposed solar array(s) would not result in substantial glare effects to operations at the March Air Reserve Base as determined by Sandia National Laboratories' Solar Glare Hazard Analysis Tool (or equivalent analytical model) and to the satisfaction of the Riverside County Airport Land Use Commission.

4.2 Agricultural Resources

The information and analysis in this Subsection is based in part on information obtained from the California Department of Conservation (CDC) Farmland Mapping & Monitoring Program and (CDC, 2004), and the City of Moreno Valley General Plan Final EIR (City of Moreno Valley, 2006b). Refer to Section 7.0, *References*, for a complete list of these and other reference sources.

4.2.1 Existing Conditions

A. Existing Project Area and Site Conditions

Historical aerial photographs show that agricultural activities were prevalent in the Project site's vicinity from the early 1900s until the late 1970s. Between the mid-1980s and mid-1990s, agricultural activities in areas to the east and north of the Project site ceased and were replaced by residential land uses, with pockets of undeveloped, vacant land interspersed. Beginning in the early-2000s through present day, areas to the north and south of the Project site have transitioned from agriculture to industrial development. (Farallon, 2015, Appendix D) No active agricultural uses occur within a one-half-mile radius of the Project site under existing conditions (Google, 2015).

The Project site consisted of either vacant land or land utilized for agricultural activities (dryland crops), since at least 1938 (Farallon, 2015, Appendix D). Under existing conditions, the Project site consists of vacant, undeveloped land that is routinely disturbed (i.e., disced) as part of weed abatement activities. No agricultural activities occur on the Project site under existing conditions.

B. Zoning

As described in EIR Section 2.0, *Environmental Setting*, the Project site is located within the geographical boundaries of the City of Moreno Valley's MVIAP. The MVIAP establishes specific zoning designations and standards for the Project site and all other areas within the MVIAP geographical boundaries. The MVIAP applies the "Industrial" zoning designation to the Project site. The Industrial zoning designation is intended to provide for development of the types of uses that are proposed by the Project evaluated in this EIR (i.e., high-cube warehouse and light industrial).

Areas immediately abutting the Project site to the north, south, and west are also located in the MVIAP and are zoned Industrial. Areas to the east of the Project site are located outside of the MVIAP and are zoned by the City of Moreno Valley for suburban residential development ("R5" zoning designation). The R5 zoning designation is intended to provide for residential development on common sized suburban lots. March ARB is located west of the Project site. March ARB is an active air reserve base (i.e., airport) and is zoned for "Aviation." There are no properties zoned for agricultural uses within a one-half-mile radius of the Project site under existing conditions. (Moreno Valley, n.d., March Joint Powers Authority, 2012, p. 2-3)

C. *Agricultural Land Designations*

❑ Farmland Mapping & Monitoring Program Categories

The California Department of Conservation (CDC) identifies farmlands throughout California as part of its Farmland Mapping & Monitoring Program (FMMP), pursuant to the provisions of California Government Code § 65570. The FMMP utilizes data from the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey and current land use information to categorize lands into eight separate mapping categories: Prime Farmlands, Farmland of Statewide Importance, Unique Farmlands, Farmland of Local Importance, Grazing Land, Urban and Built-up Land, Other Land, and Water. These eight classifications are described briefly and are dependent on soil characteristics, climatic conditions, and water supply. (CDC, 2004, pp. 6-7)

- Prime Farmland: Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Lands must have been used for irrigated agricultural productions at some time during the four years prior to the mapping date.

- Farmland of Statewide Importance: Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for agricultural production at some time during the four years prior to the mapping date.

- Unique Farmland: Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been used for agricultural production at some time during the four years prior to the mapping date.

- Farmland of Local Importance: Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

- Grazing Land: Land on which the existing vegetation is suited to grazing of livestock. The minimum mapping unit for Grazing Land is 40 acres.

- Urban and Built-Up Land: Land occupied by structures and used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

- Other Land: Land not included in any other mapping category. Common examples include low density rural developments, brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock; poultry or aquaculture facilities; strip mines; borrow pits; and water bodies smaller than 40 acres.

- Water: Perennial water bodies with an extent of at least 40 acres.

"Farmland" is defined in Section II (a) of Appendix G of the CEQA Guidelines to mean "Prime Farmland," "Farmland of Statewide Importance," or "Unique Farmland."

As shown in Figure 4.2-1, *FMMP Farmlands Map,* the FMMP classifies the Project site as Farmland of Local Importance. Land abutting the Project site to the north and south also is classified by the FMMP as Farmland of Local Importance. Land to the west and east is classified by the FMMP as Urban and Built-Up Land. No Prime Farmland, Farmland of Statewide Importance, or Unique Farmland occurs within a one-half-mile radius of the Project site under existing conditions.

❑ Storie Index

The Storie Index is a rating system first developed by R. Earl Storie in 1933 that determines the value of farmland by evaluating the soil type on a given property. The Storie Index rating system ranks each soil according to four general factors: 1) the characteristics of the soil profile and its depth; 2) the texture of the surface soil; 3) the slope of the land on which the soil is located; and 4) other factors, including drainage, salt content, erosion, and alkali. A score ranging from 0 to 100 percent is determined for each factor, and the scores are then multiplied together to derive an index rating. Soils are graded according to their index on a scale of 1 through 6. (University of California, 1978)

Grade 1 soils (excellent) score between 80 and 100 percent and have few or no limitations that restrict their use for crops. Grade 2 soils (good) score between 60 and 79 percent and have few special management needs and are suitable for most crops, but they have minor limitations that narrow the choice of crops. Grade 3 soils (fair) score between 40 and 59 percent and are suited to a few crops or to special crops and require special management. Grade 4 soils (poor) score between 20 and 39 percent and are severely limited for crops, and if used, it requires careful management. Grade 5 soils (very poor) score between 10 and 19 percent and generally are not suited to cultivated crops but can be used for pasture and range. Grade 6 soils (nonagricultural) consist of soils and land types that score less than 10 percent and generally are not suited to farming. (University of California, 1978)

A map showing the distribution of soils across the Project site is illustrated on Figure 4.2-2, *Soils Map*. Table 4.2-1, *Soil Types*, summarizes the soil types found on the Project site and their associated Storie Index rating.

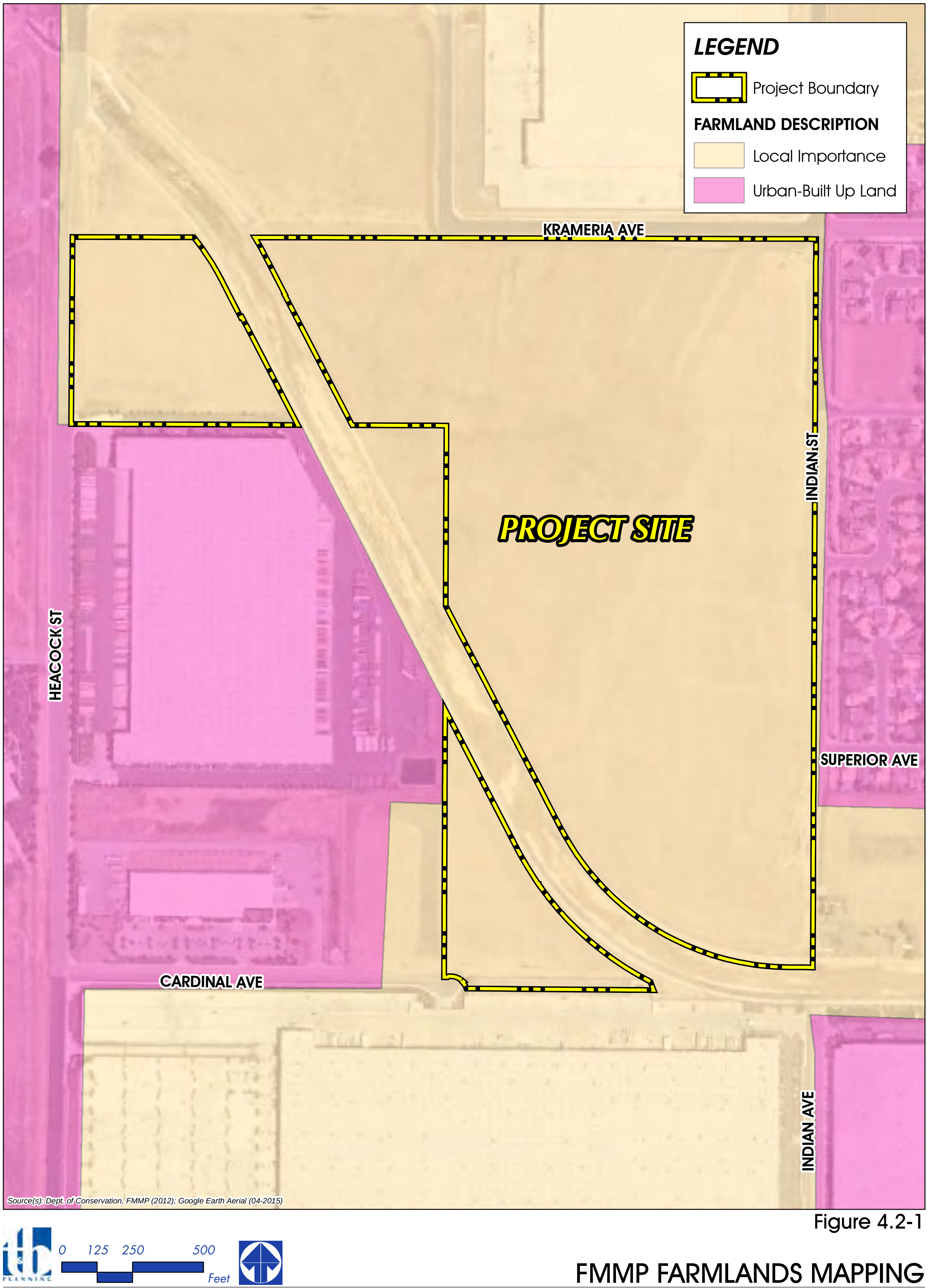


Figure 4.2-1

FMMP FARMLANDS MAPPING

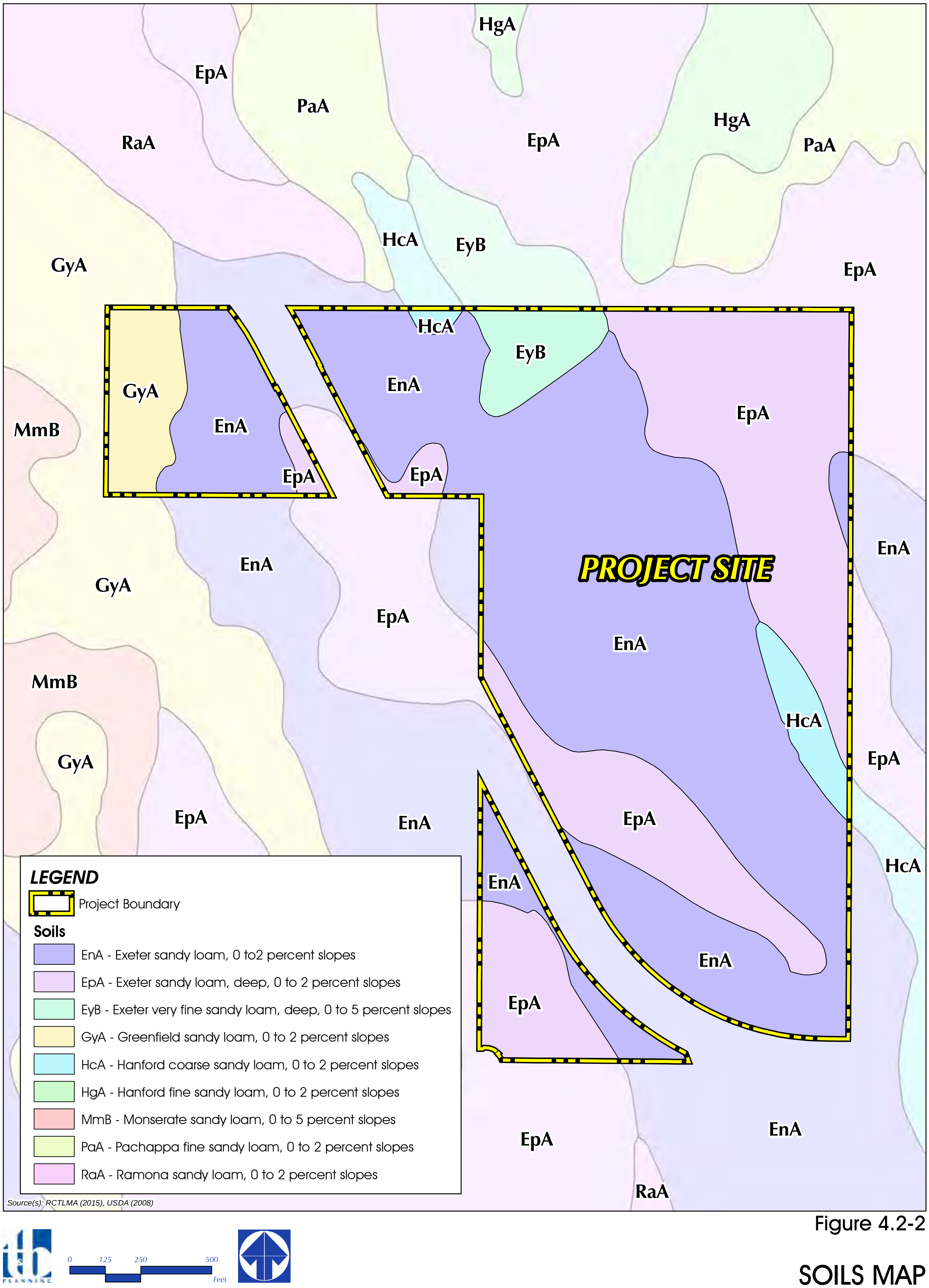


Figure 4.2-2

SOILS MAP

Table 4.2-1 Soil Types

Soil Symbol	Soil Unit Name	Acreage	% of Project Site	Storie Index Rating
EnA	Exeter sandy loam, 0 to 2 percent slopes	52.2	58.4	4 – Poor
EpA	Exeter sandy loam, deep, 0 to 2 percent slopes	28.6	31.9	4 – Poor
EyB	Exeter very fine sandy loam, deep, 0 to 5 percent slopes	2.7	3.1	4 – Poor
GyA	Greenfield sandy loam, 0 to 2 percent slopes	3.7	4.1	2 – Good
HcA	Hanford coarse sandy loam, 0 to 2 percent slopes	2.2	2.5	2 - Good

Source: (USDA, n.d.)

D. Applicable Environmental Regulations

The following is a brief description of the state and local environmental laws and related regulations governing the protection of agricultural and forest resources.

❑ California Land Conservation Act

The California Land Conservation Act (CLCA) of 1965, also known as the Williamson Act (CA Gov. Code § 51200, *et seq*.), allows owners of agricultural land to have their properties assessed for tax purposes on the basis of agricultural production rather than current market value. The main purpose of the Williamson Act is to encourage property owners to continue to farm their land, and to prevent the premature conversion of farmland to urban uses. The Williamson Act allows local governments to enter into contracts with landowners to restrict property to agricultural or related open space uses for a minimum of 10 years in exchange for a lower property tax assessment to the landowner. The contract remains in effect until the land owner or local government cancels the contract by filing a notice of non-renewal. Once canceled, the land is protected under the "non-renewal" status for a period of 10 years, during which time tax rates gradually increase during the non-renewal period, until they reach normal (i.e., non-restricted) levels upon termination of the contract.

No land under active Williamson Act contract is present within the City of Moreno Valley under existing conditions (CDC, 2012; City of Moreno Valley, 2006b, p. 5.8-6).

4.2.2 Basis for Significance

The proposed Project would result in a significant impact to agricultural resources if the Project or any Project-related component would:

a) *Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency to non-agricultural use;*

b) *Conflict with existing zoning for agricultural use, or a Williamson Act contract; or*

c) *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.*

4.2.3 Impact Analysis

Threshold a)	***Would the project convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency to non-agricultural use?***

The FMMP classifies the Project site as Farmland of Local Importance (refer to Figure 4.2-1), presumably because the property was farmed in the past. The land is not currently farmed; based on a review of historic aerial photographs, agricultural activities on the Project site ceased prior to 1989 (Farallon, 2015, Appendix D). According to Table 4.2-1, 93.4 percent of the Project site is covered with soils that have a Storie Index Rating of Grade 4, which is a poor rating and indicates that these soils present severe limitations to crop production. The Project site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance and, therefore, would not convert such lands to a non-agricultural use. Due to the lack of suitable soils on the Project site, the Project's impact would be less than significant.

Threshold b)	***Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?***

The Project site is zoned for industrial land uses and land to the north, south, and west also is zoned for industrial use. In addition, the March Air Reserve Base is zoned for aviation uses. Property to the east of the Project site and east of Indian Street is zoned as suburban residential. (Moreno Valley, n.d., March Joint Powers Authority, 2012, p. 2-3) Because neither the Project site nor Project's immediate surroundings are zoned for agricultural uses, there is no potential for the Project to conflict with existing zoning for agricultural use.

There are no properties in the City of Moreno Valley encumbered by an active Williamson Act contract, including the Project site. As such, there is no potential for the Project to conflict with a Williamson Act contract. No impact would occur.

Threshold c)	***Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural uses?***

The Project site is not used for agricultural activities under existing conditions, but was intermittently for agriculture since at least 1938. According to the FMMP, the property is classified as Farmland of Local Importance (refer to Figure 4.2-1), presumably because the property was farmed in the past. Although the FMMP applies this classification, approximately 93.4 percent (83.5 acres) of the Project site is rated by the Storie Index as having “poor” agricultural soils and only 6.6 percent (5.9 acres) of the site is rated by the Storie Index as “good” agricultural soils (refer to Table 4.2-1). Furthermore, the small portions of the Project site that are classified as “good” agricultural soils are non-contiguous, with 3.7 acres occurring west of the Perris Valley Stormwater Channel (abutting Heacock Street) and 2.2 acres occurring east of the Channel (abutting Indian Street). As such, due to the lack of prevalent, contiguous, high-quality agricultural soils on the Project site, the site is not classified as an important agricultural resource. Further, as indicated in Threshold a) above, the Project would not directly convert Farmland, as defined by Appendix G of the CEQA Guidelines (i.e. Prime Farmland, Unique Farmland, or Unique Farmland as mapped by the FMMP), from agricultural to non-agricultural use. As such, development of the Project site as proposed would not result in the conversion of on-site Farmland to a non-agricultural use.

Off-site, there is no Farmland within a one-half-mile radius of the Project site; therefore, the Project’s likelihood of resulting in indirect changes in the environment that could result in the conversion of Farmland to non-agricultural uses is extremely low.

Because the Project site is not used for agriculture under existing conditions, does not contain high-quality agricultural soils, does not contain Farmland, and is not located in the vicinity of Farmland, there is no potential for the Project to result in the direct or indirect conversion of Farmland or important agricultural resources to non-agricultural uses. No impact would occur.

4.2.4 Cumulative Impact Analysis

The Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. Although the Project would convert Farmland of Local Importance to a non-agricultural use, approximately 93.4 percent (83.5 acres) of the Project site is rated by the Storie Index as having “poor” agricultural soils, indicating that the property is not suitable for ongoing farming. As such, development of the Project site as proposed would not result in the conversion of on-site Farmland to a non-agricultural use. Therefore, the Project would not contribute to the cumulative conversion of Farmland to non-agricultural use.

The Project site is not zoned for agricultural use and is not encumbered by an active Williamson Act contract. Similarly, there are no properties zoned for agricultural use or subject to a Williamson Act contract in the vicinity of the Project site. As such, the Project has no potential to result in a cumulatively considerable conflict with a Williamson Act Contract or zoning for an agricultural use.

The Project site is not used for agricultural purposes under existing conditions and 93.4 percent of the on-site soils are primarily comprised of low-quality agricultural soils. Accordingly, the Project site is not considered to be an important agricultural resource. Further, the Project site is not classified as Farmland as defined by Appendix G of the CEQA Guidelines (i.e. Prime Farmland, Unique Farmland, or Unique Farmland as mapped by the FMMP) and no Farmlands or active agricultural operations are located in the immediate vicinity of the Project site. Development of the Project has no potential to contribute to substantial changes to the environment that would convert Farmland or other important agricultural resources to non-agricultural use and no cumulatively considerable impacts to agricultural resources would occur.

4.2.5 Significance of Impacts before Mitigation

Threshold a): Less-than-Significant Impact. The Project site contains soils that are classified as Farmland of Local Importance but have severe limitations for agricultural use. The Project would not convert Farmland (i.e., Prime Farmland, Unique Farmland or Farmland of Statewide Importance designated by the FMMP) to non-agricultural use.

Threshold b): No Impact. No agricultural zoning or active Williamson Act contract occurs on the Project site or in the Project site's surrounding area. As such, there is no potential for the Project to result in changes to the environment that would conflict with agricultural zoning or a Williamson Act contract.

Threshold c): No Impact. The Project site is not used for agriculture under existing conditions, contains poor-quality agricultural soils, does not contain Farmland, and is not located in the vicinity of Farmland; therefore, there is no potential for the Project to result in the direct or indirect conversion of Farmland or important agricultural resources to non-agricultural uses.

4.2.6 Mitigation

Impacts would be less than significant; therefore, mitigation is not required.

4.3 Air Quality

This Subsection is based in part on two technical studies that were prepared by Urban Crossroads, Inc. to evaluate the Project's potential to adversely affect local and regional air quality. The air quality impact analysis prepared for the Project is titled "Moreno Valley Logistics Center Air Quality Impact Analysis, City of Moreno Valley," dated March 17, 2016, and appended to this EIR as *Technical Appendix B1* (Urban Crossroads, Inc., 2016a). The mobile source health risk assessment prepared for the Project is titled "Mobile Source Diesel Health Risk Assessment, City of Moreno Valley," dated June 3, 2016 and appended to this EIR as *Technical Appendix B2* (Urban Crossroads, Inc., 2016b).

4.3.1 Existing Conditions

A. Air Basin

The Project site is located in the South Coast Air Basin (SCAB, or "Basin"), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAB encompasses approximately 6,745 square miles and includes portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County. The SCAB is bound by the Pacific Ocean to the west; the San Gabriel, San Bernardino, and the Jacinto Mountains to the north and east, respectively; and the San Diego County line to the south. (Urban Crossroads, Inc., 2016a, p. 7)

B. Regional Climate and Meteorology

The regional climate – temperature, wind, humidity, precipitation, and the amount of sunshine – has a substantial influence on air quality. The distinctive climate of the SCAB is determined by its terrain and geographical location, which comprises a coastal plain connected to broad valleys and low hills bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter. The annual average temperatures throughout the SCAB vary from the low to middle 60s, measured in degrees Fahrenheit (F). Inland areas of the SCAB, including where the Project site is located, show more variability in annual minimum and maximum temperatures than coastal areas within the SCAB due to a decreased marine influence. (Urban Crossroads, Inc., 2016a, pp. 7-9)

The climate of the SCAB is characterized as semi-arid; however, 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 SCAB climate. Humidity restricts visibility in the SCAB and the relative high humidity heightens the conversion of sulfur dioxide to sulfates. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity within the SCAB is 71 percent along the coast and 59 percent inland. (Urban Crossroads, Inc., 2016a, pp. 7-9)

More than 90 percent of the SCAB's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to 14 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 SCAB with frequency being higher near the coast. Due to its generally clear weather, about three-quarters of available sunshine is received in the SCAB. The remaining one-quarter is absorbed by clouds. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. (Urban Crossroads, Inc., 2016a, pp. 7-9)

Dominant airflow direction and speed are the driving mechanisms for transport and dispersion of air pollution. During the late autumn to early spring rainy season, the SCAB is subjected to wind flows associated with storms moving through the region from the northwest. This period also brings five to 10 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. During the nighttime, heavy, cool air descends mountain slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. (Urban Crossroads, Inc., 2016a, pp. 7-9)

In the SCAB, 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 SCAB. 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 of 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 nitrogen oxides and carbon monoxide, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline. (Urban Crossroads, Inc., 2016a, pp. 7-9)

C. Air Quality Pollutants and Associated Human Health Effects

The federal government and State of California have established maximum permissible concentrations for common air pollutants that may pose a risk to human health or would otherwise degrade air quality and adversely affect the environment. These regulated air pollutants are referred to as "criteria pollutants." An overview of the common criteria air pollutants in the SCAB, their sources, and associated effects to human health are summarized on the following pages (refer also to Section 2.6 of *Technical Appendix B1*).

- **Carbon Monoxide (CO)** is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO concentrations tend to be the highest in the winter during the morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. CO is emitted directly from internal combustion engines; therefore, motor vehicles operating at slow speeds are the primary source of CO in the SCAB. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections. Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport and competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Therefore, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. The most common symptoms associated with CO poisoning include headache, nausea, vomiting, dizziness, fatigue, and weakness. Individuals most at risk to the effects of CO include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic oxygen deficiency.

- **Sulfur Dioxide (SO_2)** is a colorless gas or liquid. SO_2 enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms sulfates (SO_4). Collectively, these pollutants are referred to as sulfur oxides (SO_X). SO_2 is a respiratory irritant to people afflicted with asthma. After a few minutes' exposure to low levels of SO_2, asthma sufferers can experience breathing difficulties, including airway constriction and reduction in breathing capacity. Although healthy individuals do not exhibit similar acute breathing difficulties in response to SO_2 exposure at low levels, animal studies suggest that very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.

- **Nitrogen Oxides (NO_X)** consist of nitric oxide (NO), nitrogen dioxide (NO_2) and nitrous oxide (N_2O) and are formed when nitrogen (N_2) combines with oxygen (O_2). Their lifespan in the atmosphere ranges from one to seven days for nitric oxide and nitrogen dioxide, to 170 years for nitrous oxide. Nitrogen oxides are typically created during combustion processes, and are major contributors to smog formation and acid deposition. NO_2 is a criteria air pollutant, and may result in numerous adverse health effects; it absorbs blue light, resulting in a brownish-red cast to the atmosphere, and reduced visibility. Of the nitrogen oxide compounds, NO_2 is the most abundant in the atmosphere. As ambient concentrations of NO_2 are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of NO_2 than those indicated by regional monitoring stations. Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposure to NO_2. Short-term exposure to NO_2 can result in resistance to air flow and airway contraction in healthy subjects. Exposure to NO_2 can result decreases in lung functions in individuals with asthma or chronic obstructive pulmonary diseases (e.g., chronic bronchitis, emphysema), as these individual are more susceptible to the effects of NO_X than healthy individuals.

- **Ozone (O_3)** is a highly reactive and unstable gas that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NO_X), 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, warm temperatures, and light wind conditions are favorable to the formation of this pollutant. Short-term exposure (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible sub-groups for ozone effects. An increased risk for asthma has been found in children who participate in multiple sports and live in communities with high ozone levels.

- **Particulate Matter less than 10 microns (PM_{10})** is an air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. The size of the particles (10 microns or smaller, about 0.0004 inches or less) allows them to enter the lungs where they may be deposited, resulting in the adverse health effects discussed below for $PM_{2.5}$. PM_{10} also causes visibility reduction.

- **Particulate Matter less than 2.5 microns ($PM_{2.5}$)** is a similar air pollutant to PM_{10} consisting of tiny solid or liquid particles which are 2.5 microns or smaller (which is often referred to as fine particles). These particles are formed in the atmosphere from primary gaseous emissions that include sulfates formed from SO_2 release from power plants and industrial facilities and nitrates that are formed from NO_X release from power plants, automobiles and other types of combustion sources. The chemical composition of fine particles is highly dependent on location, time of year, and weather conditions. Elevated ambient concentrations of fine particulate matter (PM_{10} and $PM_{2.5}$) have been linked to an increase in respiratory infections, number, and severity of asthma attacks, and increased hospital admissions. Some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in life-span, and an increased mortality from lung cancer. Daily fluctuations in $PM_{2.5}$ concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to a decrease in respiratory lung volumes in normal children, and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long-term exposure to particulate matter. The elderly, people with pre-existing respiratory or cardiovascular disease, and children, appear to be more susceptible to the effects of high levels of PM_{10} and $PM_{2.5}$.

- **Volatile Organic Compounds (VOCs) and Reactive Organic Gasses (ROGs)** are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. Both VOCs and ROGs are precursors to ozone and contribute to the formation of smog through atmospheric photochemical reactions. VOCs and ROGs have different levels of reactivity; that is, they do not react at the same speed or do not form ozone to the same extent when exposed to photochemical processes.

VOCs often have an odor, including such common VOCs as gasoline, alcohol, and the solvents used in paints. Odors generated by VOCs can irritate the eye, nose, and throat, which can reduce respiratory volume. In addition, studies have shown that the VOCs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system.

- **Lead (Pb)** is a heavy metal that is highly persistent in the environment. Historically, the primary source of lead in the air was emissions from vehicles burning leaded gasoline. As a result of the removal of lead from gasoline, there have been no violations at any of the SCAQMD's regular air quality monitoring stations since 1982. Currently, emissions of lead are largely limited to stationary sources such as lead smelters. Exposure to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased lead levels are associated with increased blood pressure. Lead poisoning can cause anemia, lethargy, seizures, and death. Fetuses, infants, and children are more sensitive than others to the adverse effects of lead exposure.

D. Existing Air Quality

Air quality is evaluated in the context of ambient air quality standards published by the federal and State governments. 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. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) currently in effect, as well as health effects of each pollutant regulated under these standards are detailed in Table 4.3-1, *Ambient Air Quality Standards*.

A region's air quality is determined to be healthful or unhealthful by comparing contaminant levels in ambient air samples to the State and federal standards presented in Table 4.3-1. The air quality in a region is considered to be in attainment by the State of California if the measured ambient air pollutant levels for ozone (O_3), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), inhalable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) are not equaled or exceeded at any time in any consecutive three-year period; and the federal standards (other than O_3, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not exceeded more than once per year. The O_3 standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. (Urban Crossroads, Inc., 2016a, p. 9)

Table 4.3-1 Ambient Air Quality Standards

Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[10]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[10]	—	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page ...

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See footnotes in *Technical Appendix B1*.
Source: (Urban Crossroads, Inc., 2016a, Table 2-1)

Attainment Status of Criteria Area Pollutants

The federal government designated seven pollutants that are pervasive enough across the nation to warrant national health standards. Called "criteria pollutants," these are O_3, NO_2, PM_{10}, $PM_{2.5}$, CO, Pb, and SO_2. (SCAQMD, 2015a, p. 2) The SCAQMD monitors levels of various criteria air pollutants at 30 monitoring stations throughout its jurisdiction. In 2014, the most recent year for which detailed data was available at the time the NOP for this EIR was issued (June 17, 2015), the federal and State ambient air quality standard (NAAQS and CAQQS) were exceeded on at least one or more days for O_3, PM_{10}, and $PM_{2.5}$. No areas of the SCAB exceeded federal or state standards for NO_2, SO_2, CO, SO_2, or Pb. The attainment status for criteria pollutants within the SCAB is summarized in Table 4.3-2, *Attainment Status of Criteria Pollutants in the SCAB.* (Urban Crossroads, Inc., 2016a, Page 12 and Table 2-2)

Table 4.3-2 Attainment Status of Criteria Pollutants in the SCAB

Criteria Pollutant	State Designation	Federal Designation
Ozone - 1hour standard	Nonattainment	No Standard
Ozone - 8 hour standard	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide	Attainment	Unclassified/Attainment
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Attainment
Lead[1]	Attainment	Unclassified/Attainment

[1] The Federal nonattainment designation for lead is only applicable towards the Los Angeles County portion of the SCAB. See Appendix 3.1 of *Technical Appendix B1* for a detailed map of State/National Area Designations within the SCAB.
Source: (Urban Crossroads, Inc., 2016a Table 2-2)

Air Quality History and Trends

Criteria Pollutants

The SCAB has experienced unhealthful air since World War II and historically has been one of the most unhealthful air basins in the United States; however, as a result of the region's air pollution control efforts over the last ±66 years, air pollution concentrations in the SCAB have dramatically reduced. This overall air quality within the SCAB is dramatically improving as the result of regulatory programs and is expected to continue to improve in the future as government regulations become more stringent. For example, peak ozone levels were cut by almost three-fourths since air monitoring began in the 1950s and population exposure to ozone was cut in half during the 1980s alone. (SCAQMD, 2015a, p. 2)

The SCAQMD's *Final 2012 Air Quality Management Plan* states, "the remarkable historical improvement in air quality since the 1970's is the direct result of Southern California's comprehensive, multiyear strategy of reducing air pollution from all sources as outlined in its AQMPs." Ozone, NOx, VOC, and CO have been decreasing in the Basin since 1975 and are projected to continue to decrease through 2020. These decreases result primarily from motor vehicle controls and reductions in evaporative emissions. Although vehicle miles traveled in the Basin continue to increase, NOx and VOC levels are decreasing because of the mandated controls on motor vehicles and the replacement of older polluting vehicles with lower-emitting vehicles. NOx emissions from electric utilities have also decreased due to use of cleaner fuels and renewable energy. Ozone contour maps show that the number of days exceeding the national 8-hour standard decreased between 1997 and 2007. The overall trends of PM_{10} and $PM_{2.5}$ in the air (not emissions) show an overall improvement since 1975. Direct emissions of PM_{10} have remained somewhat constant in the Basin and direct emissions of $PM_{2.5}$ have decreased slightly since 1975. (Urban Crossroads, Inc., 2016a, pp. 20-23) Further, according to SCQMD:

> *"Ozone levels have fallen by about three-quarters since peaks in the mid-1950s. Nitrogen dioxide, sulfur dioxide, and carbon monoxide levels have gone down from nonattainment to full attainment of federal health standards. In November 2008, U.S. EPA revised the lead standard from a 1.5 µg/m3* [micrograms of gaseous pollutant per cubic meter of ambient air] *quarterly average to a 0.15 µg/m3 rolling 3-month average and added new near-source monitoring requirements. The Los Angeles County portion of the Basin has since been designated non-attainment for lead due to monitored concentrations near one facility. However, the most recent 2013 data shows that the Basin meets the current lead standard. U.S. EPA revised the 8-hour ozone standard, effective May 2008, from concentrations exceeding 0.08 ppm to concentrations exceeding 0.075 ppm [parts per million]. In 2013, the current federal 8-hour ozone standard was exceeded on 94 days, the second lowest number of exceedance days ever recorded, based on preliminary 2014 data. The federal ozone standard was exceeded on 88 days in 2013 and 111 days in 2012. The maximum observed ozone levels show some year-to-year variability, but have generally been decreasing over years. The highest 8-hour ozone level in the 2014 preliminary data was 0.114ppm, compared to 0.122 ppm and 0.112 ppm in 2013 and 2012 respectively.*
>
> *In 2007, the U.S. EPA formally redesignated the Basin from nonattainment to full attainment of the federal health standard for carbon monoxide. Basin-wide maximum levels of carbon monoxide have been consistently measured at more than 30% below the federal standard since 2004. In 2010, US EPA established a new NO_2 1-hour standard at a level of 100 ppb [parts per billion] (0.100 ppm) and SO_2 1-hour standard at a level of 75 ppb (0.075 ppm). In 2014, one site exceeded the 1-hour NO_2 standard in one day in the preliminary data; however, this does not jeopardize the attainment status.*
>
> *In 2006, the U.S. EPA rescinded the annual federal standard for PM_{10} but retained the 24-hour standard. Ambient levels of PM_{10} in the Basin meet the federal 24-hour*

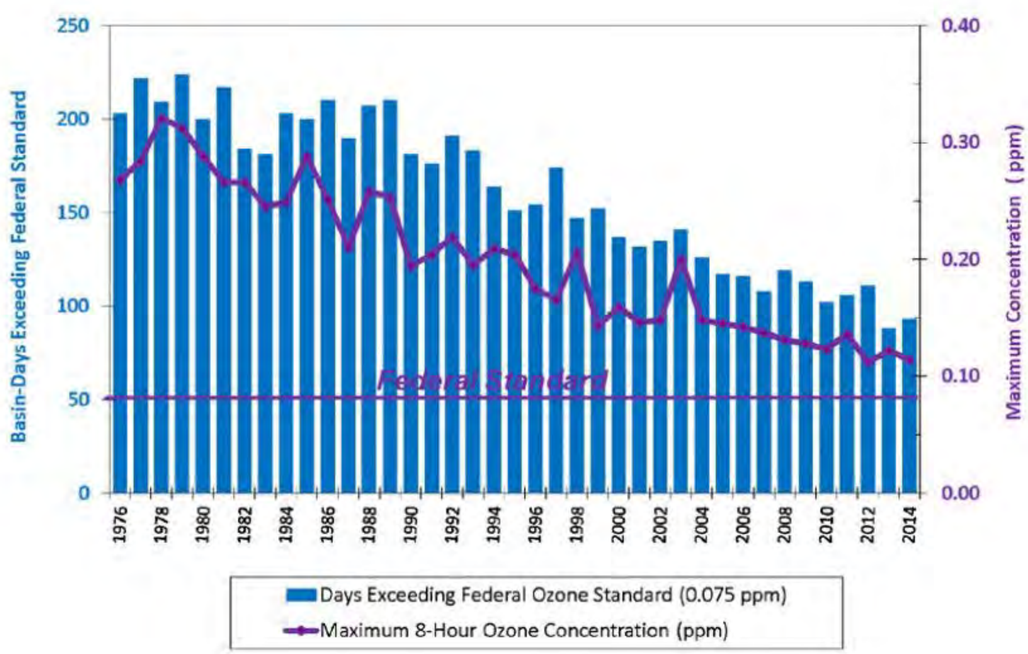
PM_{10} standard. U.S. EPA has redesignated the Basin as in attainment of the health based standard for PM_{10}. $PM_{2.5}$ levels have decreased dramatically in the Basin since the beginning of the decade; however design value concentrations are still slightly above the federal annual and 24-hour standards at one monitoring station. While air quality in the Basin continues to improve, the South Coast Air Basin remains one of the most unhealthful areas in the nation in terms of air quality." (SCAQMD, 2015a, pp. 3-4)

The graphs on the following pages show trend information as reported by the SCAQMD.

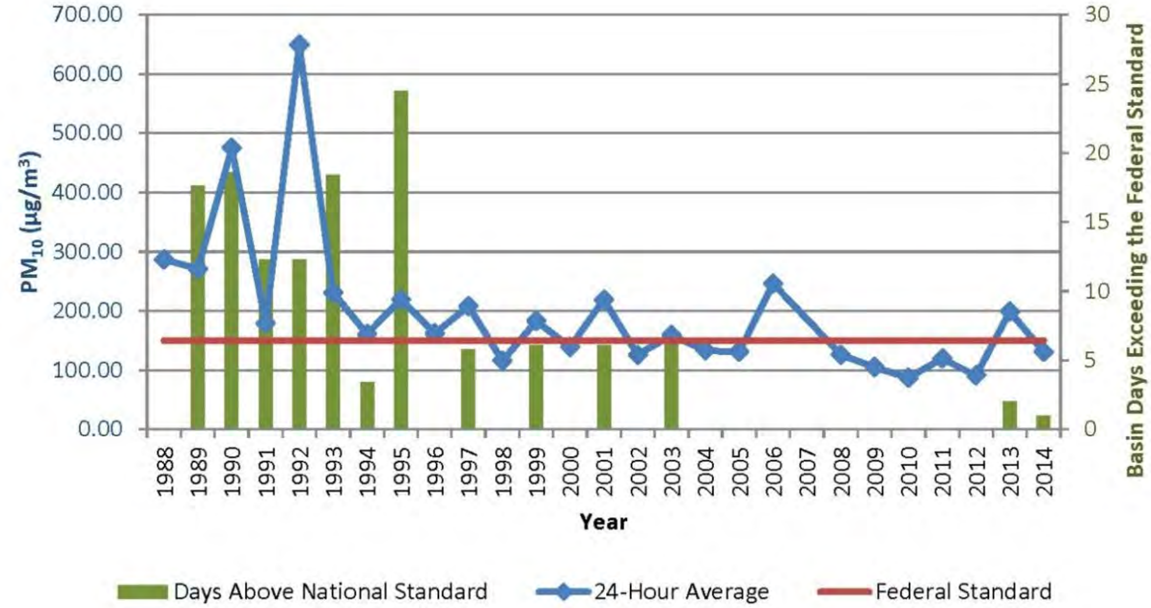
Continued improvement in air quality is expected to occur in the SCAB through the continued implementation of federal, State, and SCAQMD regulations, such as California's low-sulfur diesel fuel programs, CARB's truck and bus regulations, and statewide renewable electricity standards. The California Air Resources Board (CARB) and the Ports of Los Angeles and Long Beach have adopted several iterations of regulations for diesel trucks that are aimed at reducing diesel particulate matter (DPM). Specifically, the CARB Drayage Truck Regulation, the CARB statewide On-Road Truck and Bus Regulation, and the Ports of Los Angeles and Long Beach "Clean Truck Program (CTP)." Through these programs, older more polluting trucks will be replaced with newer, cleaner trucks as a function of these regulatory requirements. (Urban Crossroads, Inc., 2016a, p. 26)

Refer to Section 2.8 of the Project's Air Quality Impact Analysis (*Technical Appendix B1*) for a detailed summary of regional air quality improvements in the SCAB.

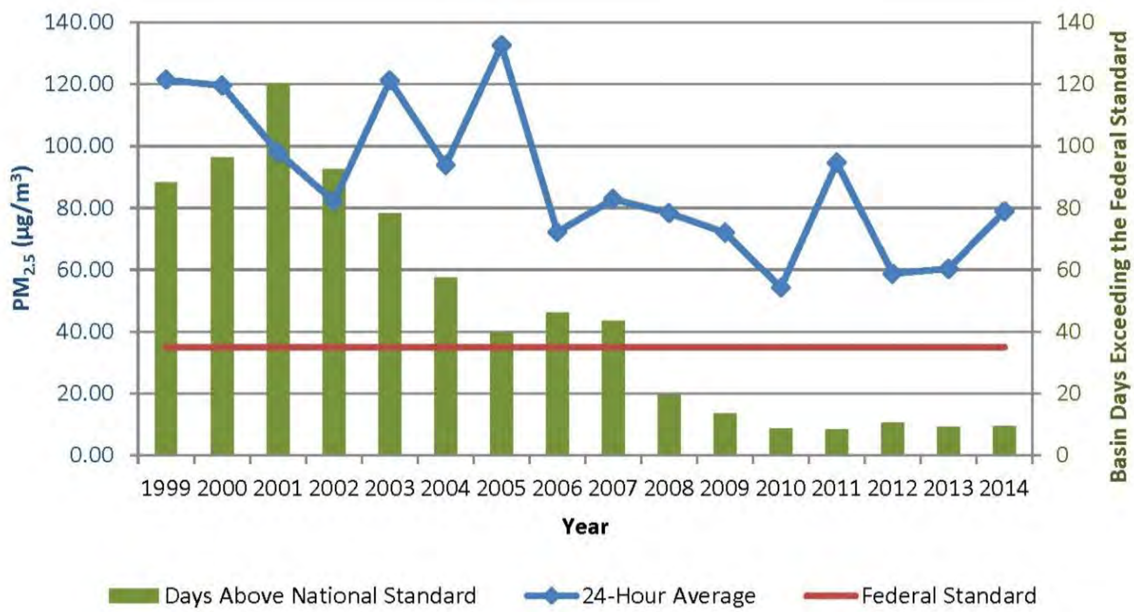
South Coast Air Basin Ozone Trend



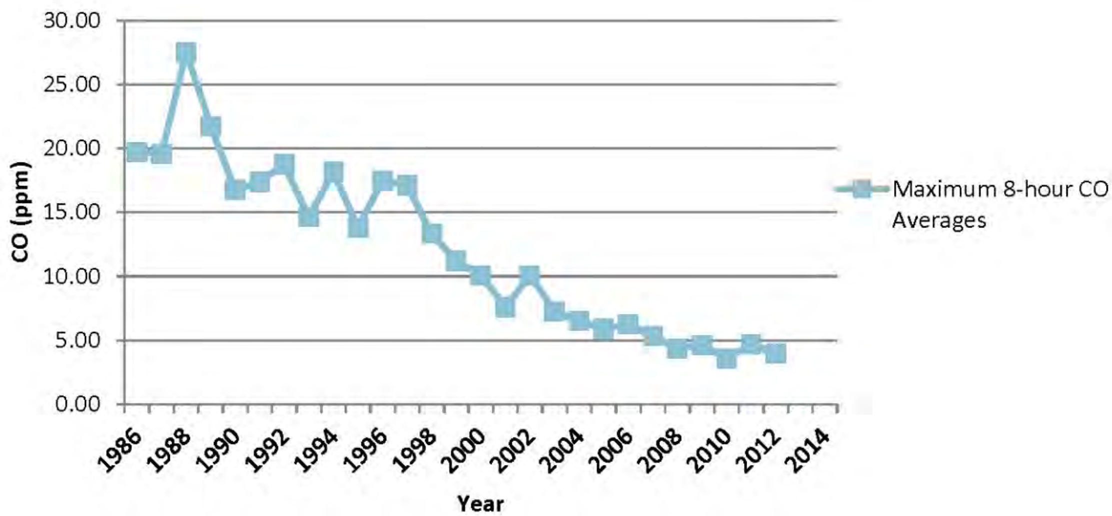
South Coast Air Basin PM10 Trend



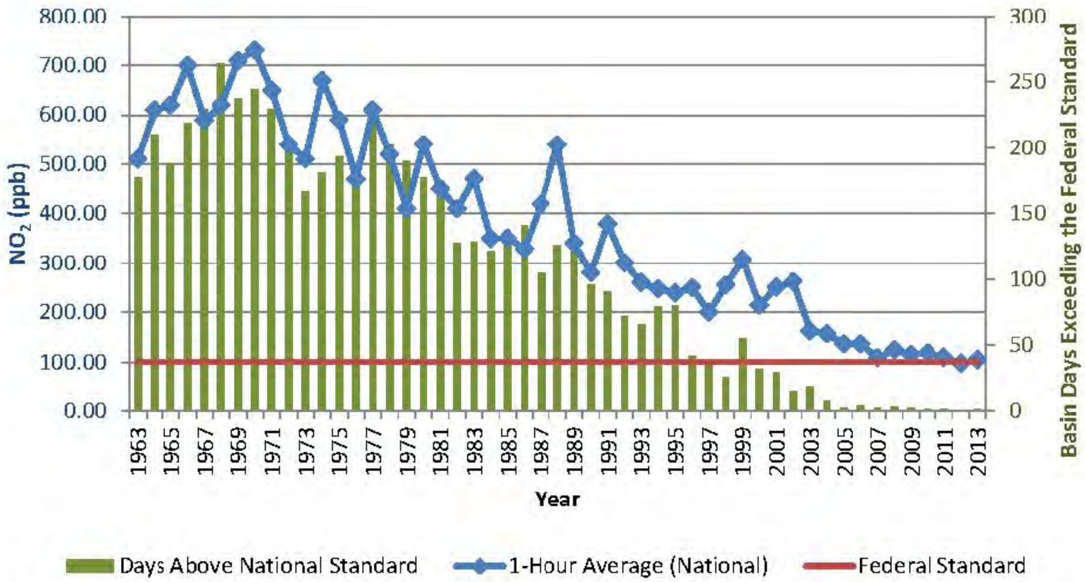
South Coast Air Basin PM2.5 Trend



South Coast Air Basin Carbon Monoxide Trend



South Coast Air Basin Nitrogen Dioxide Trend



Toxic Air Contaminants (TAC)

Toxic air contaminants (TACs) are a classification of air pollutants that have been attributed to carcinogenic and non-carcinogenic health risks. Beginning in the mid-1980s, the CARB has adopted a series of regulations to reduce the amount of air toxic contaminant emissions resulting from mobile and stationary sources, such as cars, trucks, stationary products, and consumer products. As a result of CARB's regulatory efforts, ambient concentrations of TACs have declined substantially across the state. (Urban Crossroads, Inc., 2016a, p. 24)

To reduce TAC emissions from mobile sources, CARB has required that all light- and medium-duty vehicles sold in California since 1996 be outfitted with an on-board diagnostic system to alert drivers of potential engine problems (as approximately half of all tailpipe emissions result from malfunctioning emissions control devices). Also, since 1996, CARB has required the use of cleaner burning, reformulated gasoline in all light- and medium-duty vehicles. These two regulations resulted in an over 80 percent reduction in TAC emissions from light- and medium-duty vehicles in the State between 1990 and 2012 despite an approximately 30 percent increase in the State's population over that time period. The CARB also implemented programs to retrofit diesel-fueled engines and facilitate the use of diesel fuels with ultra-low sulfur content to minimize the amount diesel emissions and their associated TACs. As a result of CARB's programs, diesel emissions and their associated TACs have fallen by approximately 68 percent between 1990 and 2012 despite an approximately 81 percent increase in diesel vehicle miles driven over that time period. (Urban Crossroads, Inc., 2016a, p. 25)

CARB's efforts at reducing area source TACs have been focused mainly on the dry cleaning and paint/architectural coating industries, which have resulted in a greater than 85 percent reduction of stationary source TACs across the State between 1990 and 2012. (Urban Crossroads, Inc., 2016a, p. 26)

In 2000, the SCAQMD prepared a comprehensive urban toxic air pollution study to evaluate the TAC concentration levels in the SCAB and their associated health risks, called *MATES-II* (*Multiple Air Toxics Exposure Study in the South Coast Air Basin*). *MATES-II* showed the average excess cancer risk within the SCAB ranging from 1,100 in one million persons to 1,750 in one million persons, with an average excess regional risk of about 1,400 in one million. As part of the *MATES-II* study, the SCAQMD concluded that DPM accounted for more than 70 percent of the identified cancer risk. (Urban Crossroads, Inc., 2016a, p. 27)

The SCAQMD updated their urban toxic air pollution survey twice since 2000, with the 2008 (*MATES-III*) and 2014 updates (*MATES-IV*) showing a lowering of the average cancer risk within the SCAB as compared to *MATES-II*. The current version of the urban toxic air pollution survey, *MATES-IV*, is the most comprehensive dataset of ambient air toxic levels and health risks within the SCAB. The SCAQMD based the average Basin-wide excess cancer risk estimates on monitoring data collected at ten fixed sites within the SCAB. None of the fixed monitoring sites are within the local area of the Project site. However, *MATES-IV* extrapolates the excess cancer risk levels throughout the SCAB by modeling specific geographic grids. The *MATES-IV* report estimates the average Basin-wide excess cancer risk level within the SCAB to be 418 million, an approximately 70 percent improvement from the findings of *MATES-II* report just 14 years earlier. According to SCAQMD, DPM accounts for approximately 68 percent of the total risk shown in *MATES-IV*. (SCAQMD, 2015b, ES-1 through ES-2) The *MATES-IV* Interactive Map of the SCAB predicts an estimated excess carcinogenic risk of 518.16 in one million for the Project area (Urban Crossroads, Inc., 2016a, p. 27).

Refer to Section 2.8 of the Project's Air Quality Impact Analysis (*Technical Appendix B1*) for a more detailed account of Statewide and regional trends in TAC emissions.

❑ Local Air Quality

Relative to the Project site, the nearest long-term monitoring site for O_3 and PM_{10} is the SCAQMD Perris monitoring station (SRA 24), located approximately 8.0 miles south of the Project site. Data for CO, NO_2, and $PM_{2.5}$ was obtained from the Metropolitan Riverside County 2 Monitoring Station (SRA 23), located approximately 15.5 miles northwest of the Project site. It is noted that the SRA 23 was utilized in lieu of SRA 24 only in instances where data was not available from SRA 24. (Urban Crossroads, Inc., 2016a, p. 12)

Table 4.3-3, *Project Area Air Quality Monitoring Summary 2012-2014*, provides a summary of ambient air quality conditions in the general vicinity of the Project site over the most recent three-year period for which air quality is available, that being the years of 2012-2014. It is noted that data for SO_2 was omitted because the SCAB regularly attains the applicable NAAQS and CAAQS and few monitoring stations measure SO_2 concentrations.

E. Applicable Environmental Regulations

❑ Federal Regulations

The U.S. Environmental Protection Agency (EPA) is responsible for setting and enforcing the federal air quality standards (the NAAQS) for O_3, CO, NO_X, SO_2, PM_{10}, and Pb. The 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 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 CARB. (Urban Crossroads, Inc., 2016a, pp. 17-18)

The Federal Clean Air Act (CAA) was first enacted in 1955 and was amended numerous times in subsequent years. The federal CAA establishes the NAAQS and specifies dates for achieving compliance. The federal 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 that demonstrate how the standards will be met. (Urban Crossroads, Inc., 2016a, p. 18)

Table 4.3-3 Project Area Air Quality Monitoring Summary 2012-2014

POLLUTANT[2]	STANDARD	YEAR		
		2012	2013	2014
Ozone (O_3)				
Maximum 1-Hour Concentration (ppm)		0.111	0.108	0.104
Maximum 8-Hour Concentration (ppm)		0.093	0.090	0.086
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	28	17	4
Number of Days Exceeding State 8-Hour Standard	> 0.07 ppm	64	60	13
Number of Days Exceeding Federal 1-Hour Standard	> 0.12 ppm	0	0	0
Number of Days Exceeding Federal 8-Hour Standard	> 0.075 ppm	48	34	6
Number of Days Exceeding Health Advisory	≥ 0.15 ppm	0	0	0
Carbon Monoxide (CO)				
Maximum 1-Hour Concentration (ppm)		--	--	2.0
Maximum 8-Hour Concentration (ppm)		1.5	1.6	1.4
Number of Days Exceeding State 1-Hour Standard	> 20 ppm	--	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)		0.060	0.058	0.056
Annual Arithmetic Mean Concentration (ppm)		0.017	0.016	0.016
Number of Days Exceeding State 1-Hour Standard	> 0.18 ppm	0	0	0
Particulate Matter ≤ 10 Microns (PM_{10})				
Maximum 24-Hour Concentration ($\mu g/m^3$)		62	70	87
Annual Arithmetic Mean ($\mu g/m^3$)		--	--	--
Number of Samples		60	57	60
Number of Samples Exceeding State Standard	> 50 $\mu g/m^3$	1	10	8
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 ($\mu g/m^3$)		30.2	53.7	30.9
Annual Arithmetic Mean ($\mu g/m^3$)		11.4	11.2	10.9
Number of Samples Exceeding Federal 24-Hour Standard	> 35 $\mu g/m^3$	0	0	0

- = Data not available from SCQMD or EPA
[2]Data for O_3 and PM_{10} taken from SRA 24 (Perris Valley); Data for CO and NO_2 taken from SRA 25 (Lake Elsinore); Data for $PM_{2.5}$ taken from SRA 23 (Riverside County 2).
Source: (Urban Crossroads, Inc., 2016a, Table 2-3)

The 1990 amendments to the federal 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 federal CAA most directly applicable to the development of the Project site include Title I (Non-Attainment 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 Pb. The NAAQS were amended in July 1997 to include an additional standard for O_3 and to adopt a NAAQS for $PM_{2.5}$. (Urban Crossroads, Inc., 2016a, p. 18) Table 4.3-3 provides the NAAQS within the SCAB.

Mobile source emissions are regulated in accordance with federal CAA 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 NO_X, which 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. (Urban Crossroads, Inc., 2016a, pp. 18-19)

❑ State Regulations

The California Air Resources Board (CARB), which became part of the California EPA in 1991, is responsible for ensuring implementation of the California CAA (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 in order to attain the state ambient air quality standards by the earliest practical date. The CARB established the California Ambient Air Quality Standards (CAAQS) for all pollutants for which the federal government has NAAQS and, in addition, established standards for sulfates, visibility, hydrogen sulfide, and vinyl chloride. At this time, however, hydrogen sulfide and vinyl chloride are not measured at any monitoring stations in the SCAB because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS. (Urban Crossroads, Inc., 2016a, p. 18)

All air pollution control districts in California are formally designated as being in attainment or non-attainment for each CAAQS. Serious non-attainment areas are required to prepare air quality management plans that include specified emission reduction strategies in an effort to meet clean air goals. However, air basins may use alternative emission reduction strategies that achieves a reduction of less than 5 percent per year under certain circumstances. (Urban Crossroads, Inc., 2016a, pp. 18-19)

❑ Air Quality Management Planning

Currently, the NAAQS and CAAQS are exceeded in most parts of the SCAB. In response, and in conformance with California Health & Safety Code § 40702 et seq. and the California CAA, the SCAQMD adopted an Air Quality Management Plan (AQMP) to plan for the regional improvement of air quality. AQMPs are updated regularly in order to more effectively reduce emissions and accommodate growth. Each version of the plan is an update of the previous plan and has a 20-year horizon with a revised baseline. The most recent AQMP was adopted by the AQMD Governing Board on December 7, 2012. The *Final 2012 Air Quality Management Plan* incorporates the latest scientific and technological information and planning assumptions, including the *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)* published by the Southern California Association of Governments (SCAG) and updated emission inventory methodologies for various source categories. The *2012 AQMP* is based on assumptions provided by the 2011 Emission FACtor model (EMFAC2011) developed by CARB for motor vehicle information and assumptions provided by SCAG for demographics. The air quality levels projected in the *Final 2012 Air Quality Management Plan* are based on the assumption that development associated with general plans, specific plans, residential projects, and wastewater facilities will be constructed in accordance with population growth projections identified by SCAG in its *2012 RTP/SCS.* The *Final 2012 Air Quality Management Plan* also assumes that such development projects will implement strategies to reduce emissions generated during the construction and operational phases of development. (Urban Crossroads, Inc., 2016a, p. 55)

4.3.2 Methodology for Calculating Project-Related Air Quality Impacts

The Air Quality Impact Analysis (*Technical Appendix B1*) and Mobile Source Diesel Health Risk Assessment (*Technical Appendix B2*) analyze potential air quality effects associated with the construction and operation of a logistics center with 1,351,770 s.f. of high-cube warehouse land uses (1 building) and 385,748 s.f. of light industrial land uses (3 buildings) with a site layout identical to the proposed Project. In comparison to the proposal evaluated in *Technical Appendices B1* and *B2*, the Project proposes to develop the subject property with seven (7) fewer square feet of high-cube warehouse land uses and 1,331 fewer square feet of light industrial land uses. Because the proposal analyzed by *Technical Appendix B1* and *Technical Appendix B2* was more intense than the proposed Project, the analyses presented therein and summarized in this EIR provides a conservative, worst-case analysis of the Project's potential air quality effects.

A. Methodology for Calculating Project Construction Emissions

Construction-related emissions would be expected from the following construction activities:

- Grading
- Trenching
- Concrete Shell
- Steel and Roof
- Roofing and Overhead Work
- Architectural Coating
- Miscellaneous Finishes
- Construction Workers Commuting

On October 2, 2013, the SCAQMD released the latest version of the California Emissions Estimator Model™ (CalEEMod™) v2013.2.2. Urban Crossroads, Inc. used this model to calculate Project-construction-source criteria pollutants NO_X, VOC, PM_{10}, $PM_{2.5}$, SO_X, and CO. (Urban Crossroads, Inc., 2016a, p. 30)

The assumptions for each phase of Project construction were input by Urban Crossroads, Inc. into the CalEEMod model using anticipated construction characteristics (e.g., construction activities, construction equipment list, and anticipated construction schedule provided by the Project Applicant, and an estimated opening year of 2017). A list of the construction equipment and anticipated construction schedule (including overlapping construction activities) assumed in the analysis of Project-related construction emissions is provided in EIR Section 3.0, *Project Description*. Construction is expected to commence in April 2016 and last through May 2017. The Project is expected to be developed in two phases, with Phase 1 involving the construction of Buildings 1 and 2 and Phase 2 involving the construction of Buildings 3 and 4. Refer to Section 3.4 *Construction Emissions* of the Air Quality Impact Analysis *(Technical Appendix B1*) for more detail on the methodology utilized to estimate Project-related construction emissions. Refer to Appendix 3.2 of *Technical Appendix B1* for specific detailed modeling inputs/outputs used in the analysis. (Urban Crossroads, Inc., 2016a, pp. 30-31 and p. 35)

❑ Construction Localized Pollutant Emissions

Localized emissions associated with Project-related construction activities were estimated and evaluated in accordance with SCAQMD's *Final Localized Significance Threshold Methodology*. The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the federal and/or state ambient air quality standards (NAAQS/CAAQS). Collectively these are referred to as Localized Significance Thresholds (LSTs). (Urban Crossroads, Inc., 2016a, p. 46)

SRA 24 was used as the baseline LST for ambient air quality because it is the closest monitoring station to the Project site for which air quality data is available. LSTs apply to CO, NO_2, PM_{10}, and $PM_{2.5}$. In order to determine the appropriate methodology for determining localized impacts that could occur as a result of Project-construction, the following process was undertaken by Urban Crossroads, Inc. (Urban Crossroads, Inc., 2016a, pp. 46-47):

- The CalEEMod model was utilized to determine the maximum daily on-site emissions that would occur during construction activity.

- The SCAQMD's Fact Sheet for Applying CalEEMod to LSTs was used to determine the maximum site acreage that would be actively disturbed based on the construction equipment fleet and equipment hours as estimated in CalEEMod.

- If the total acreage disturbed was calculated to be less than or equal to five acres per day, then the SCAQMD's screening look-up tables were utilized to determine if the Project has the potential to result in a significant impact (the SCAQMD recommends that Projects exceeding the screening look-up tables undergo dispersion modeling to determine actual impacts). The look-up tables establish a maximum daily emissions threshold in pounds per day that can be compared to CalEEMod outputs.

- If the total acreage disturbed was calculated to be greater than five acres per day, then the SCAQMD recommends dispersion modeling be conducted to determine the actual pollutant concentrations for applicable LSTs in the air. In other words, the maximum daily on-site emissions as calculated in CalEEMod are modeled via air dispersion modeling to calculate the actual concentration in the air (e.g. parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$)) in order to determine if any applicable thresholds are exceeded.

SCAQMDs *Final Localized Significance Threshold 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 by Urban Crossroads, Inc. in the Air Quality Impact Analysis (*Technical Appendix B1*). (Urban Crossroads, Inc., 2016a, p. 47)

Based on the SCAQMD's LST look-up tables, the proposed Project could actively disturb approximately 12.5 acres per day during the peak grading phase of construction. As such, dispersion modeling is utilized to calculate emissions for LSTs for peak grading activity which represents a conservative i.e. "worst-case" analytical scenario for purposes of construction LSTs. In order to estimate localized pollutant concentrations resulting from Project construction, the SCAQMD-approved AERMOD dispersion model was utilized. Refer to Section 3.6 of *Technical Appendix B1* for more detail on dispersion modeling and sources used by Urban Crossroads, Inc. in their analysis. (Urban Crossroads, Inc., 2016a, pp. 47-48)

❑ Methodology for Calculating Project Operational Emissions

Operational Regional Pollutant Emissions

Operational activities associated with the proposed Project would result in emissions of VOC, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$. Operational emissions would be expected from the following primary sources (Urban Crossroads, Inc., 2016a, p. 37):

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- On-Site Equipment 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. The emissions associated with architectural coatings were calculated using the CalEEMod model. (Urban Crossroads, Inc., 2016a, p. 37)

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. The emissions associated with use of consumer products were calculated based on defaults provided within the CalEEMod model. (Urban Crossroads, Inc., 2016a, p. 37)

Landscape Maintenance Equipment

Landscape 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. (Urban Crossroads, Inc., 2016a, p. 37)

Combustion Emissions Associated with Natural Gas and Electricity

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 SCAB, criteria pollutant emissions from offsite generation of electricity is generally excluded from the evaluation of significance and only natural gas use is considered. The emissions associated with natural gas use were calculated using the CalEEMod model. (Urban Crossroads, Inc., 2016a, p. 37)

On-Site Equipment Emissions

It is common for buildings with loading docks to use cargo handling equipment to move empty containers and empty chassis around on the property. The most common type of cargo handling equipment is the yard truck which is designed for moving cargo containers. Yard trucks are also known as yard goats, utility tractors (UTRs), hustlers, yard hostlers, and yard tractors. Yard trucks have a horsepower (hp) range of approximately 175 hp to 200 hp. Based on the latest available information from SCAQMD; high-cube warehouse projects typically have 3.6 yard trucks per million square feet of building space. Urban Crossroads, Inc. analyzed the use of seven (7), 200 horsepower (hp) yard tractors operating 4 hours a day for 365 days of the year. In addition, seven (7), 89 hp yard forklifts were assumed to be operational 4 hours a day for 365 days of the year interior to the buildings. For purposes of the Air Quality Impact Analysis (*Technical Appendix B1*) the on-site indoor forklifts are assumed to be non-diesel consistent with industry standards, therefore, health risk calculations for on-site indoor non-diesel forklifts was not included in Urban Crossroads, Inc. analysis. Urban Crossroads, Inc. assumed all on-site outdoor cargo handling equipment (CHE) (including yard trucks, hostlers, yard goats, pallet jacks, forklifts, and other on-site equipment) would be powered by diesel fueled engines that comply with the CARB/U.S. EPA Tier IV Engine standards for off-road vehicles or better (defined as less than or equal to 0.015 g/bhp-hr. for PM_{10}) and all on-site indoor forklifts would be powered by electricity, compressed natural gas, or propane. (Urban Crossroads, Inc., 2016a, p. 41)

Vehicles

Air pollutant emissions would result from the operation of motor vehicles by building occupants, visitors, employees, and customers. Project-related vehicular air pollutant emissions are dependent on the Project's daily vehicle trip generation and the characteristics of those trips. Information related to the Project's daily vehicle trip generation and vehicle trip characteristics was obtained from the Project's Traffic Impact Analysis contained as *Technical Appendix I1* to this EIR.

For purposes of the Air Quality Impact Analysis, (*Technical Appendix B1*) the following Institute of Transportation Engineers (ITE) land use codes and vehicle mixes were utilized for Project-related vehicle trips:

- Based on the land uses intended for these buildings, ITE land use code 110 (General Light Industrial) was used by Urban Crossroads, Inc. to derive site specific trip generation estimates for Buildings 2 through 4. The ITE Trip Generation manual includes limited data regarding the types of vehicles that are generated for general light industrial uses (passenger cars and various sizes of trucks). As such, data regarding the vehicle mix was obtained from a separate report; the *City of Fontana Truck Trip Generation Study* (August 2003) for the general light industrial uses proposed as part of the Project. Buildings 2 through 4 are proposed to be occupied by light industrial building users. The "Light Industrial" vehicle mix data was utilized for all 3 buildings. As identified in the Project's Traffic Impact Analysis (*Technical Appendix I1*), the following truck fleet mix was utilized for the purposes of estimating the truck trip generation for the light industrial land uses: 37.40% of the total trucks as 2-axle trucks, 18.23% of the total trucks as 3-axle trucks, and 44.37% of the total trucks as 4+-axle trucks. (Urban Crossroads, Inc., 2016a, p. 38)

- Similarly, because of the land use, ITE land use code 152 (High-Cube Warehousing) was used by Urban Crossroads, Inc. to derive site specific trip generation estimates for Building 1. Total vehicle mix percentages were also obtained from the ITE Trip Generation manual in conjunction with the SCAQMD recommended truck mix, by axle type. The SCAQMD is currently recommending the use of the ITE Trip Generation manual in conjunction with their truck mix by axle-type to better quantify trip rates associated with local warehouse and distribution projects, as truck emissions represent more than 90 percent of air quality impacts from such projects. The percentage of trucks was determined from the ITE Trip Generation manual. As noted in the ITE Trip Generation Manual, the truck trip generation rate for weekday daily traffic is 0.64 or 38.1% of the total traffic. Trip generation for heavy trucks was further broken down by truck type (or axle type). The total truck percentage is comprised of three different truck types: 2-axle, 3-axle, and 4+-axle trucks. For the purposes of the air quality impact analysis (*Technical Appendix B1)*, the percentage of trucks, by axle type, was obtained from the SCAQMD interim recommended truck mix. The SCAQMD performed surveys of existing facilities and compiled the data to provide interim guidance on the mix of heavy trucks for these types of high-cube warehousing/distribution facilities. Based on this interim guidance from the SCAQMD, the following truck fleet mix was utilized for the purposes of estimating the truck trip generation for the high-cube warehouse land uses: 22.0% of the total trucks as 2-axle trucks, 17.7% of the total trucks as 3-axle trucks, and 60.3% of the total trucks as 4+-axle trucks. (Urban Crossroads, Inc., 2016a, pp. 38-39)

The Project's Traffic Impact Analysis (*Technical Appendix I1*) presents the total Project vehicle trips in terms of Passenger Car Equivalents (PCEs) in an effort to recognize and acknowledge the effects of heavy vehicles at the study area intersections. For purposes of the air quality impact analysis (*Technical Appendix B1*), however, the actual number of vehicles, by vehicle classification (e.g., passenger cars (including light trucks), heavy trucks) were used in the analysis to more accurately estimate and model vehicular-source emissions. (Urban Crossroads, Inc., 2016a, p. 38)

A limitation inherent in calculating the projected vehicle emissions associated with any project is related to the estimation of trip length and vehicle miles traveled (VMT). VMT for a given project is calculated by the total number of vehicle trips to/from the Project multiplied by average trip length. This method of estimating VMT for use in calculating vehicle emissions likely results in the over-estimation and double-counting of emissions because, for an industrial business park such as the Project, the land use is likely to attract (divert) existing vehicle trips that are already on the circulation system as opposed to generating new trips. In this regard, the Project would, to a large extent, redistribute existing mobile-source emissions rather than generate additional emissions within the Basin. As such, calculations of the Project's vehicular-source emissions reported in this EIR are likely overstated in that no credit for, or reduction in, emissions is assumed based on diversion of existing trips. (Urban Crossroads, Inc., 2016a, p. 39)

The CalEEMod™ and the URBan EMISsions models use a default trip length of approximately 12.6 miles. However, 12.6 miles may not be representative of the actual average trip length for warehouse, distribution center, and industrial land use projects. SCAQMD asserts that most of the heavy-duty trucks would be hauling consumer goods, often from the Ports of Long Beach and Los Angeles and/or to other long-haul destinations. For this reason, SCAQMD generally recommends the use of a 40-mile one-way trip length. In comparison, SCAG's most recent (2008) transportation validation for the 2003 Regional Model indicates the average internal truck trip length for the SCAG region is 5.92 miles for Light Duty Trucks, 13.06 miles for Medium Duty Trucks, and 24.11 miles for Heavy Duty Trucks. (Urban Crossroads, Inc., 2016a, p. 40)

To maintain analytic consistency and establish the maximum impact scenario noted above, the following approach was utilized by Urban Crossroads, Inc. in calculating emissions associated with vehicles accessing the Project:

For passenger car trips, the CalEEMod default for a one-way trip length of 16.6 miles was assumed. For heavy duty trucks, an average trip length was derived from distances from the Project site to the far edges of the SCAB. It is appropriate to stop the VMT calculation at the boundary of the SCAB because this approach is also consistent with professional industry practice and accurately captures all potential foreseeable impacts. (Urban Crossroads, Inc., 2016a, p. 40)

- Project site to the Port of Los Angeles/Long Beach: 80 miles;
- Project site to East on State Route 60: 30 miles;
- Project site to San Diego County line: 60 miles;
- Project site to Inland Empire: 50 miles;
- Project site to Perris destinations: 10 miles;
- Project site to Moreno Valley destinations: 10 miles;

Assuming that 50 percent of all delivery trips would travel to and from the Project site and the Port of Los Angeles/Long Beach, 10 percent go east on State Route 60 (SR-60), 20 percent go to San Diego, 10 percent go to the Inland Empire, 5 percent go to Perris destinations, and 5 percent go to Moreno Valley destinations, the average Project-related truck trip length is calculated as 61 miles. (Urban Crossroads, Inc., 2016a, p. 40)

Two separate model runs were utilized by Urban Crossroads, Inc. The first model run analyzed passenger car emissions, which incorporated a default trip length of 16.6 miles for passenger cars and a fleet mix of 100 percent Light-Duty-Auto vehicles (LDA). The second model run analyzed truck emissions, which incorporated an average truck trip length of 61 miles and a fleet mix of 22.03 percent Light-Heavy-Duty Trucks (LHD), 17.66 percent Medium-Heavy-Duty Trucks (MHD), and 60.31 percent Heavy-Duty Trucks (HHD) was used for High-Cube Warehouse and a fleet mix of 37.40 percent LHD, 18.23 percent MHD, and 44.37 percent HHD was used for General Light Industrial Warehouse. (Urban Crossroads, Inc., 2016a, pp. 40-41)

Fugitive Dust from Vehicular Travel

Vehicles traveling on paved roads would be a source of fugitive emissions due to the generation of road dust inclusive of tire wear particulates. The emissions estimate for travel on paved roads were calculated using the CalEEMod model. (Urban Crossroads, Inc., 2016a, p. 41)

Operational Localized Pollutant Emissions

For operational LSTs, on-site passenger car and truck travel emissions were modeled in AERMOD using emission factors for CO, NO_2, PM_{10}, and $PM_{2.5}$ 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 estimate changes in future emissions from on-road mobile sources. Outputs from the model runs for operational LSTs are provided in Appendix 3.3 of *Technical Appendix B1*. For this Project, criteria pollutant emission factors were generated by running EMFAC 2014 in EMFAC Mode for vehicles in the SCAQMD within Riverside County. The EMFAC Mode generates emission factors in terms of grams of pollutant emitted per vehicle activity and can calculate a matrix of emission factors at specific values of temperature, relative humidity, and vehicle speed. The model was run for speeds traveled in the vicinity of the Project. The vehicle travel speeds for each segment modeled are summarized below. (Urban Crossroads, Inc., 2016a, p. 52)

- Idling – assumed 15 minutes of idling for passenger cars and trucks
- 5 miles per hour – on-site vehicle movement including driving and maneuvering

Although the Project would be required to comply with CARB's idling limit of 5 minutes, pursuant to SCAQMD staff recommendations, Urban Crossroads, Inc. calculated on-site emissions for 15 minutes of truck idling which occurs while trucks are waiting to pull up to truck bays, idling at truck bays, and idling at check-in and check-out, etc. (Urban Crossroads, Inc., 2016a, p. 52)

On-site equipment was modeled using area sources encompassing the Project's loading docks adjacent to the building boundaries. Associated transport refrigeration units (TRUs) were modeled using point sources representative across loading dock areas. (Urban Crossroads, Inc., 2016a, p. 52)

Diesel Particulate Emissions

Vehicle DPM emissions were calculated using emission factors for PM_{10} generated with the 2014 version of the EMFAC developed by the CARB. Refer to Section 2.2 *Emissions Estimation*, of the Project's Mobile Source Diesel Health Risk Assessment (*Technical Appendix B2*) for a detailed description of the model inputs and equations used in the estimation of the Project-related DPM emissions. (Urban Crossroads, Inc., 2016b, pp. 18-27)

The potential health risks of Project-related DPM emissions were quantified in accordance with the guidelines in the SCAQMD's *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis*. Pursuant to SCAQMD's recommendations, emissions were modeled using the U.S. EPA's AERMOD software program. For informational purposes, potential health risks were modeled using both the 2003 and 2015 California Office of Environmental Health Hazard Assessment (OEHHA) receptor exposure parameters. Refer to Section 2.3, *Exposure Quantification*, of the Mobile Source Diesel Health Risk Assessment (*Technical Appendix B2*) for a detailed description of the model inputs and equations used in the calculation of average particulate concentrations associated with operations at the Project site. (Urban Crossroads, Inc., 2016b, pp. 27-30)

Excessive health risks associated with exposure to DPM emissions are defined in terms of the probability of developing cancer or adverse, chronic non-cancer health effects as a result of exposure to DPM emissions at a given concentration. The cancer and non-cancer risk probabilities are determined through a series of equations to calculate unit risk factor, cancer potency factor, and chronic daily intake. The equations and input factors utilized in the Project analysis were obtained from OEHHA. Refer to Section 2.4, *Carcinogenic Chemical Risk,* of the Project's Mobile Source

Diesel Health Risk Assessment *(Technical Appendix B2*) for a detailed description of the variable inputs and equations used in the estimation of receptor population health risks associated with Project operations. (Urban Crossroads, Inc., 2016b, pp. 30-31)

In their analysis of DPMs, Urban Crossroads, Inc. considered Project-related DPM-source cancer and non-cancer risks for residential, worker, and school child exposures within a 1,320-foot radius of the Project site and the Project's primary truck route for two traffic scenarios: 1) Without Indian Street Bridge and 2) With Indian Street Bridge. (Urban Crossroads, Inc., 2016b, pp. 27-28) A 1,320 feet distance was selected considered because CARB and SCAQMD emissions and modeling analyses indicates that an 80-percent drop-off in DPM concentrations is occurs at approximately 1,000 feet from the emissions source. (Urban Crossroads, Inc., 2016b, pp. 31-32)

Potential receptor population health risks were calculated for the maximally exposed residential receptor (MEIR), the maximally exposed individual worker receptor (MEIW), and the maximally exposed school child receptor (MEISC). The residential land use with the greatest potential exposure to Project DPM source emissions is located approximately 161 feet east of the Project site across Indian Street. The worker receptor land use with the greatest potential exposure to Project DMP source emissions is located immediately adjacent to the north of proposed Building 2. The school site land use with the greatest potential exposure to Project DPM is located at the Serrano Elementary School at 24100 Delphinium Avenue in Moreno Valley, located more than 1.0-mile (5,280 feet) north of the Project site. (Urban Crossroads, Inc., 2016b, pp. 32-33)

4.3.3 Basis for Determining Significance

The proposed Project would result in a significant impact to air quality if the Project or any Project-related component would:

a) Conflict with or obstruct implementation of the applicable air quality plan;

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);

d) Expose sensitive receptors to substantial pollutant concentrations; or

e) Create objectionable odors affecting a substantial number of people.

Within the context of the above threshold considerations, emissions generated by a development project would be significant under Thresholds (a) and (b) if emissions are projected to exceed the regional emissions thresholds established by the SCAQMD for criteria pollutants as shown on Table 4.3-4, *Maximum Daily Regional Emissions Thresholds*.

Table 4.3-4 Maximum Daily Regional Emissions Thresholds

Pollutant	Construction	Operations
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
Sox	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day

Source: (Urban Crossroads, Inc., 2016a. Table 3-1)

The significance of localized emissions impacts depends on whether ambient levels in the vicinity of any given project are above or below State standards. In the case of CO and NO_2, if ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a state or federal standard, then emissions are considered significant if they increase ambient concentrations by a measurable amount. This would apply to PM_{10} and $PM_{2.5}$ both of which are non-attainment pollutants. (Urban Crossroads, Inc., 2016a, p. 46) Applicable localized thresholds as follows:

- California State 1-hour CO standard of 20.0 ppm;
- California State 8-hour CO standard of 9.0 ppm;
- California State 1-hour NO_2 standard of 0.18 ppm;
- California State Annual NO_2 standard of 0.03 ppm;
- SCAQMD 24-hour operational PM_{10} LST of 2.5 µg/m3;
- SCAQMD Annual-operational PM_{10} LST of 1.0 µg/m3;
- SCAQMD 24-hour operational $PM_{2.5}$ LST of 2.5 µg/m3

Pursuant to SCAQMD guidance, any development project in the SCAB with daily emissions that would exceed any of the indicated thresholds would be considered to have a significant impact on both a direct (individual) and cumulatively considerable basis.

The SCAQMD published a report titled W*hite Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution.* The report provides direction on how to address cumulative impacts from air pollution. The AQMD states in Appendix D of the paper, Cumulative Impact Analysis Requirements Pursuant to CEQA:

> *"…the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for toxic air contaminant (TAC) emissions. The project specific (project increment) significance threshold is HI ≥ 1.0 while the cumulative (facility-wide) is HI ≥ 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.*
>
> *Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."* (SCAQMD, 2003)

Given this direction from the SCAQMD, the proposed Project evaluated in this EIR would result in a significant direct and cumulatively considerable impact under Threshold (d) if it would emit toxic air contaminants, like DPM, to such a degree that it would expose sensitive receptor populations to an incremental cancer risk of greater than 10 in one million. A risk level of 10 in one million corresponds to the potential that up to 10 persons, out of one million equally exposed people, would develop cancer if exposed continuously (24 hours per day) to a project's levels of toxic air contaminants over a specified duration of time. This risk would be an excess cancer that is in addition to any cancer risk borne by a person not exposed to these air toxics. To put this risk in perspective, the risk of dying from accidental drowning is 1,000 in a million which is 100 times more likely than the SCAQMD's carcinogenic risk threshold of 10 in one million. For additional perspective, the SCAQMD carcinogenic risk threshold of 10 in one million is only slightly greater than the likelihood that a person will be struck by lightning in their lifetime (seven in one million chance). (Urban Crossroads, Inc., 2016b, p. 9)

The SCAQMD has also established non-carcinogenic risk parameters. Non-carcinogenic risks are quantified by calculating a "hazard index (HI)" 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 HI less than one (1.0) means that adverse health effects are not expected. Thus, non-carcinogenic exposure of less than 1.0 are considered less-than-significant on a direct and cumulatively considerable basis under Threshold (d). (Urban Crossroads, Inc., 2016b, p. 10)

4.3.4 Impact Analysis

Threshold a)	***Would the Project conflict with or obstruct implementation of the applicable air quality plan?***

The SCAQMD *Final 2012 Air Quality Management Plan* is the applicable air quality plan for the Project area which estimates long-term air quality conditions for the SCAB. The air quality conditions presented in the *Final 2012 AQMP* are based in part on the growth forecasts identified by SCAG in its *2012-2035 RTP/SCS.* The *RTP/SCS* assumes that development in the various incorporated and unincorporated areas within the SCAB will occur in accordance with the adopted general plans for these areas. In addition, the air quality conditions presented in the *Final 2012 Air Quality Management Plan* are based on the assumption that future development projects will implement strategies to reduce emissions generated during the construction and operational phases of development. Accordingly, if a proposed project is consistent with these growth forecasts, and if available emissions reduction strategies are implemented as effectively as possible on a project-specific basis, then the project is considered to be consistent with the *Final 2012 Air Quality Management Plan*. (Urban Crossroads, Inc., 2016a, p. 55)

The SCAQMD has established criteria for determining consistency with the *Final 2012 AQMP*. These criteria are defined in Chapter 12, Sections 12.2 and 12.3 of the SCAQMD's CEQA Air Quality Handbook and are discussed below.

- *Consistency Criterion No. 1: The proposed project 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.*

Consistency Criterion No. 1 refers to violations of the CAAQS and NAAQS. Violations of the CAAQS and NAAQS would occur if LSTs were exceeded. The Project would not exceed LSTs for any criteria pollutant during its construction or during long-term operation. Accordingly, localized emissions resulting from the Project's construction and long-term operation would neither contribute substantially to an existing or potential future violation nor delay the attainment of applicable air quality standards. (Urban Crossroads, Inc., 2016a, p. 56)

As discussed in the impact analysis of Thresholds (b) and (c), during short-term construction activities, the Project is expected to exceed criteria standards pollutant thresholds established by the SCAQMD for VOCs and NO_X and the Project would exceed the SCAQMD's regional criteria for VOCs and NO_X during long-term operation of the Project. In addition, based on the assumed buildout and phasing of the proposed Project which assumes the operation of Building 1 and 2 while Buildings 3 and 4 are being constructed, there is a potential for overlap between construction and operational activity. If these activities overlap, the Project would temporarily exceed the SCAQMD's regional criteria for VOCs, NO_X, CO, PM_{10}, and $PM_{2.5}$. Although short-term construction and long-term operational emissions generated by the Project would exceed the SCAQMD's regional threshold criteria for daily emissions, the Project's emissions are already accounted for in the *2012 AQMP* and the AQMP's air quality attainment goals. That is, the land use and development intensity proposed by the Project are consistent with the City of Moreno Valley General Plan and the MVIAP and are therefore within the scope of air quality considerations reflected in the 2012 AQMP. As such, implementation of the Project would likely neither increase the frequency or severity of existing air quality violations disclosed in the AQMP. Moreover, the Project's urban location and proximity to local and regional transportation facilities act to reduce vehicle miles traveled and associated mobile (vehicle) air pollutant emissions. Additionally, the Project's incorporation of mandatory energy-efficient technologies a required by CALGreen and mandatory compliance with the SCAQMD rules and control requirements act to reduce stationary-source air emissions. These Project attributes and features are consistent with and support the AQMP's air pollution reduction strategies and promote timely attainment of the AQMD's air quality standards. Regardless, because the Project would emit air pollutants that exceed daily emissions thresholds established by the SCAQMD, the Project is determined to make a cumulatively considerable contribution to the potential obstruction of obtaining the 2012 AQMP goals. For this reason, the Project is determined to be inconsistent with Consistency Criterion No. 1.

- *Consistency Criterion No. 2: The proposed project will not exceed the assumptions in the AQMP based on the years of project buildout phase.*

The growth forecasts used in the AQMP to project future emissions levels are based in part on land use data provided by lead agency general plan documentation. Projects that propose to increase the intensity of use on a subject property may result in increased stationary area source emissions and/or vehicle source emissions when compared to the AQMP assumptions. If a project does not exceed the growth projections in the applicable local general plan, then the project is considered to be consistent with the growth assumptions in the AQMP.

As shown in EIR Section 2.0, *Environmental Setting*, Figure 2-2, *Existing General Plan Land Use Designations,* the City of Moreno Valley General Plan designates the Project site for "Business Park/Light Industrial (BP)" land uses. As discussed in EIR Section 3.0, *Project Description,* the Project consists of a proposal to develop an approximately 89.4-acre property to accommodate a logistics center with four buildings. The principal discretionary actions required of the City of Moreno Valley to implement the Project include the approval of a Specific Plan Amendment (P15-036), Tentative Parcel Map No. 36150 (PA15-0018), and four individual Building Plot Plans (PA15-0014, PA15-0015, PA15-0016, and PA15-0017). The Project does not propose to increase the intensity of use on the subject property and therefore would not exceed the growth projections in the applicable local general plan (City of Moreno Valley General Plan) or the MVIAP. Accordingly, the Project is considered to be consistent with the growth assumptions in the *2012 AQMP*. Additionally, the Project is required to incorporate mandatory energy-efficient technologies a required by the California Building Standards Code (CALGreen) and is required to comply with the SCAQMD rules and control requirements act to reduce stationary-source air emissions.

In summary, because the proposed Project satisfies both of the aforementioned criteria for determining consistency with the AQMP, the Project is deemed consistent with the *2012 AQMP*. As such, the Project would not conflict with or result in the obstruction of the applicable AQMP and a less-than-significant impact would occur.

Threshold b)	***Would the Project violate any air quality standard or contribute substantially to an existing or projected air quality violation?***
Threshold c)	***Would the Project 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)?***

A. Construction Emissions Impact Analysis

For purposes of analysis, the air quality impact analysis (*Technical Appendix B1*) and the analysis herein assumes that the Project's construction would commence in April 2016 and last through May 2017. A detailed description of the Project's expected construction schedule and construction activities is provided in EIR Section 3.0, *Project Description*. If construction activities occur at a later date than assumed by the analysis presented in *Technical Appendix B1* and herein, emission quantities associated with construction equipment exhaust would be less than disclosed in *Technical Appendix B*1 and herein, due to the application of more restrictive regulatory requirements for construction equipment and on-going replacement of older construction fleet equipment with newer, lower emission equipment by construction contractors. (Urban Crossroads, Inc., 2016a, pp. 30-35) The estimated maximum daily construction emissions associated with the Project's construction phase are shown in Table 4.3-5, *Project Construction Emissions Summary*. Detailed construction-related emissions model inputs are provided in Appendix 3.2 of *Technical Appendix B1* to this EIR.

Table 4.3-5 Project Construction Emissions Summary

Year	Emissions (pounds per day)					
	VOC	NOx	CO	SOx	PM10	PM2.5
2016	248.05	578.66	439.05	0.97	38.32	23.18
2017	241.74	287.45	253.34	0.59	25.57	12.98
Maximum Daily Emissions	**248.05**	**578.66**	**439.05**	**0.97**	**38.32**	**23.18**
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**NO**	**NO**	**NO**	**NO**

Source: (Urban Crossroads, Inc., 2016a, Table 3-6)

As identified in Table 4.3-5, Project-related construction emissions would not exceed criteria standards pollutant thresholds for CO, SO_X, PM_{10}, and $PM_{2.5}$. However, the Project-related construction emissions would exceed criteria standards pollutant thresholds established by the SCAQMD for VOCs and NO_X. VOCs and NO_X are precursors for O_3, a pollutant for which the SCAB does not attain State standards (Refer to Table 4.3-2) Accordingly, the Project would emit substantial concentrations of VOCs and NO_X during construction, primarily associated with combustion exhaust from construction equipment engines that would cause or contribute to an existing or projected air quality violation, on both a direct and cumulatively considerable basis. Thus, a significant impact would occur. Refer to Subsection 4.3.7 for standard regulatory requirements and the recommended mitigation measures provided to reduce the Project's construction-related emissions of VOCs and NO_X. (Urban Crossroads, Inc., 2016a, p. 36)

B. Operational Emissions Impact Analysis

For purposes of analysis, the air quality impact analysis (*Technical Appendix B1*) and the analysis herein assumed the Project would be operational in the year 2017. Emissions associated with the Project operations are presented in Table 4.3-6, *Project Peak Operational Emissions.* Detailed emission model outputs are presented in Appendices 3.2 and 3.3 of *Technical Appendix B1*.

As shown on Table 4.3-6, the Project would exceed the SCAQMD's regional criteria for VOCs and NO_X during long-term operation of the Project. These emissions are primarily associated with combustion exhaust from on- and off-road vehicles. Therefore, during long-term operation, the Project's emissions of VOCs and NO_X would be a significant impact to the environment on both a direct and cumulatively considerable basis. Refer to Subsection 4.3.7 for recommended mitigation measures that would reduce the Project's operational-related emissions of VOCs and NO_X. (Urban Crossroads, Inc., 2016a, pp. 42-43)

Based on the assumed buildout and phasing of the proposed Project which assumes the operation of Building 1 and 2 while Buildings 3 and 4 are being constructed, there is a potential for overlap between construction and operational activity. As shown on Table 4.3-7, *Potential Overlap of Project Construction and Operational Activities*, the Project would exceed the SCAQMD's regional criteria for VOCs, NO_X, CO, PM_{10}, and $PM_{2.5.}$ Therefore, the Project's emissions of VOCs, NO_X, CO, PM_{10}, and $PM_{2.5}$ would result in a significant impact to the environment on both a direct and cumulatively considerable basis when construction and operational activities would overlap. Refer to Subsection 4.3.7 for recommended mitigation measures that would reduce the Project's construction-related and operational-related activities when the assumed buildout and phasing of the Project would overlap.

Table 4.3-6 Project Peak Operational Emissions Summary

Operational Activities – Summer Scenario	Emissions (pounds per day)					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
High-Cube						
Area Source	46.46	2.70E-03	0.28	2.00E-05	1.03E-03	1.03E-03
Energy Source	0.33	2.96	2.49	0.02	0.23	0.23
Mobile (Trucks)	19.77	429.98	184.46	1.35	51.09	19.58
Mobile (Passenger Cars)	2.98	3.73	51.42	0.17	16.61	4.46
On-site Equipment	0.95	13.18	4.25	0.02	0.43	0.40
Light Industrial						
Area Source	14.99	9.80E-04	0.10	1.00E-05	3.70E-04	3.70E-04
Energy Source	0.35	3.17	2.66	0.02	0.24	0.24
Mobile (Trucks)	11.28	244.17	107.13	0.78	32.55	11.96
Mobile (Passenger Cars)	4.48	5.60	77.31	0.26	24.98	6.70
On-site Equipment	0.3801	5.27	1.70	6.34E-03	0.17	0.16
Total Maximum Daily Emissions	**100.64**	**689.62**	**425.85**	**2.60**	**125.70**	**43.17**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**NO**	**NO**	**NO**	**NO**

Operational Activities – Winter Scenario	Emissions (pounds per day)					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
High-Cube						
Area Source	46.46	2.70E-03	0.28	2.00E-05	1.03E-03	1.03E-03
Energy Source	0.33	2.96	2.49	2.00E-02	0.23	0.23
Mobile (Trucks)	20.11	447.95	194.22	1.35	51.10	19.58
Mobile (Passenger Cars)	2.78	3.94	43.52	0.16	16.61	4.46
On-site Equipment	0.95	13.18	4.25	0.02	0.43	0.40
Light Industrial						
Area Source	14.99	9.80E-04	0.10	1.00E-05	3.70E-04	3.70E-04
Energy Source	0.35	3.17	2.66	0.02	0.24	0.24
Mobile (Trucks)	11.46	254.51	111.97	0.78	32.56	11.96
Mobile (Passenger Cars)	4.18	5.93	65.44	0.24	24.98	6.70
On-site Equipment	0.38	5.27	1.70	6.34E-03	0.17	0.16
Total Maximum Daily Emissions	**100.66**	**718.46**	**420.68**	**2.57**	**125.72**	**43.17**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**NO**	**NO**	**NO**	**NO**

Source: (Urban Crossroads, Inc., 2016a, Table 3-7)

Table 4.3-7 Potential Overlap of Project Construction and Operational Activities

Summer Scenario- Maximum Daily Emissions	Emissions (pounds per day)					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Construction Peak Emissions	248.05	578.66	439.05	0.97	38.32	23.18
Operational Total Emissions	100.64	689.62	425.85	2.60	125.70	43.17
Total Maximum Daily Emissions	**348.69**	**1,268.28**	**864.90**	**3.57**	**164.02**	**66.35**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**YES**	**NO**	**YES**	**YES**

Winter Scenario- Maximum Daily Emissions	Emissions (pounds per day)					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Construction Peak Emissions	241.74	287.45	253.34	0.59	25.57	12.98
Operational Total Emissions	100.66	718.46	420.68	2.57	125.72	43.17
Total Maximum Daily Emissions	**342.40**	**1,005.91**	**674.02**	**3.16**	**151.29**	**56.15**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**YES**	**NO**	**YES**	**YES**

Source: (Urban Crossroads, Inc., 2016a Table 3-10)

Threshold d) Would the Project expose sensitive receptors to substantial pollutant concentrations?

A. Construction-Related Localized Emissions Impact Analysis

The nearest sensitive receptor to the Project site during the Project's construction phase is the single-family residential home located approximately 101 feet (31 meters) east of the Project site boundary. Table 4.3-8, *Project Construction Localized Emissions Summary*, summarizes the Project's localized emissions during peak construction activity. As shown in Table 4.3-8, the Project's peak construction-related emissions would exceed the SCAQMD's localized significance thresholds for NO_2, PM_{10}, and $PM_{2.5}$. Accordingly, impacts would be significant and mitigation is required. Refer to Subsection 4.3.7 for applicable mitigation. (Urban Crossroads, Inc., 2016a, p. 51)

Table 4.3-8 Project Construction Localized Emissions Summary

Peak Construction	CO		NO_2	PM_{10}		$PM_{2.5}$
	Averaging Time					
	1-Hour	8-Hour	1-Hour	24-Hours	Annual	24-Hours
Peak Day Localized Emissions	0.42	0.35	0.34	15.52	2.56	8.55
Background Concentration [A]	2.00	1.90	0.06			
Total Concentration	**2.42**	**2.25**	**0.40**	**15.52**	**2.56**	**8.55**
SCAQMD Localized Significance Threshold	20	9	0.18	10.4	1	10.4
Threshold Exceeded?	**NO**	**NO**	**YES**	**YES**	**YES**	**YES**

[A] Highest concentration from the last three years of available data.
Note: PM_{10} and $PM_{2.5}$ concentrations are expressed in µg/m^3. All others are expressed in Parts per Million (PPM).
Source: (Urban Crossroads, Inc., 2016a, Table 3-12)

B. Operational-Related Localized Emissions Impact Analysis

❑ Criteria Pollutant Emissions

Table 4.3-9, *Project Operations Localized Emissions Summary*, presents the Project's estimated daily localized emissions during long-term operation. As shown on Table 4.3-9, the Project's estimated operational localized emissions associated with CO, NO_2, PM_{10} and $PM_{2.5}$ would not exceed localized thresholds established by the SCAQMD. Accordingly, long-term operation of the proposed Project would not expose any sensitive receptors which are located within 1.0 mile of the Project site to substantial point source emissions on a direct or cumulatively considerable basis. Impacts are less than significant. Although the Project would not generate substantial point source emissions on a direct or cumulatively considerable basis, mitigation measures are provided in Subsection 4.3.7 that would further reduce the levels disclosed in Table 4.3-9. (Urban Crossroads, Inc., 2016a, pp. 52-53)

Table 4.3-9 Project Operations Localized Emissions Summary

Operation	CO		NO_2	PM_{10}		$PM_{2.5}$
	Averaging Time					
	1-Hour	8-Hour	1-Hour	24-Hours	Annual	24-Hours
Peak Day Localized Emissions	0.013	0.01	0.014	0.26	0.12	0.25
Background Concentration [A]	2.0	1.9	0.06			
Total Concentration	**2.01**	**1.91**	**0.074**	**0.26**	**0.12**	**0.25**
SCAQMD Localized Significance Threshold	20	9	0.18	2.5	1	2.5
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

[A] Highest concentration from the last three years of available data
Note: PM_{10} and $PM_{2.5}$ concentrations are expressed in μg/m^3. All others are expressed in ppm.
Source: (Urban Crossroads, Inc., 2016a, Table 3-14)

❑ CO Hot Spot Impact Analysis

A CO "hot spot" would occur if an exceedance of the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur. A CO "hot spot" analysis was not performed by Urban Crossroads, Inc. to evaluate the effect of Project-related vehicular emissions of CO because CO attainment was thoroughly analyzed as part of SCAQMD's *2003 AQMP* and the *1992 Federal Attainment for Carbon Monoxide (1992 CO Plan)*. As identified in the SCAQMD's *2003 AQMP* and the *1992 CO Plan*, peak carbon monoxide concentrations in the SCAB were a result of unusual meteorological and topographical conditions and not a result of congestion at a particular intersection. To establish a more accurate record of baseline CO concentrations affecting the SCAB, a CO "hot spot" was conducted in 2003 at four busy intersections in Los Angeles at the peak morning and afternoon periods. The busiest intersection had a daily traffic volume of 100,000 vehicles per day. The *2003 AQMP* estimated that the CO 1-hour concentration for this intersection was 4.6 ppm, which indicates that the most stringent CO standard (20.0 ppm) would likely not be exceeded until the daily traffic at the intersection exceeded more than 400,000 vehicles per day. In comparison, at buildout of the proposed Project, the highest average daily trips on a segment of road would be 12,297 daily trips at the intersection of Graham Street/Riverside Drive and Cactus Avenue, which is lower than the daily trip volumes studied by SCAQMD that had no impact. Refer to Table

3-17 of *Technical Appendix B1* for the Project peak hour traffic volumes. (Urban Crossroads, Inc., 2016a, pp. 53-55)

Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. The Bay Area Air Quality Management District (BAAQMD) concluded that in order to generate a significant CO impact under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour or 24,000 vehicles per hour where vertical and or horizontal air does not mix. The proposed Project would not produce the volume of traffic required to generate a CO "hot spot" either in the context of the Los Angeles "hot spot" study or based on representative BAAQMD CO threshold considerations. Accordingly, Project-related vehicular emissions would not result in a substantial contribution of CO concentrations at intersections in the vicinity of the Project site and sensitive receptors would not be exposed to substantial CO concentrations generated by the Project's vehicular traffic. (Urban Crossroads, Inc., 2016a, p. 54)

❑ Diesel Particulate Emissions Impact Analysis

The Project's operational activities would generate/attract diesel-fueled trucks that produce DPM as a by-product of fuel combustion. To evaluate the Project's potential to expose nearby sensitive receptors so substantial amounts of DPM during long-term operation, a Mobile Source Diesel Health Risk Assessment (*Technical Appendix B2*) was prepared for the proposed Project by Urban Crossroads, Inc. In their analysis of DPMs, Urban Crossroads, Inc. considered Project-related DPM-source cancer and non-cancer risks for residential, worker, and school child exposures for two traffic scenarios: 1) Without Indian Street Bridge and 2) With Indian Street Bridge as discussed below.

Without Indian Street Bridge

The residential land use with the greatest potential for exposure to Project DPM source emissions is located approximately 161 feet east of the Project site and east of Indian Street. Although another sensitive receptor location is located closer to the Project site at 101 feet to the east, this location is not analyzed in the Without Indian Street Bridge scenario because no Project-related truck traffic would pass that receptor location. For that reason, the receptor location at 161 feet, which is closer to the Project's operational truck traffic, has the greatest potential to be impacted by DPM emissions. At the MEIR, the maximum incremental cancer risk attributable to Project DPM source emissions is calculated to be 6.06 in one million under the 2003 OEHHA exposure parameters and 9.50 in one million under the 2015 OEHHA exposure parameters, respectively, which are less than the SCAQMD cancer risk of 10 in one million. At the same location, non-cancer risks are calculated to be 0.0004 under the 2003 OEHHA exposure parameters and 0.005 under the 2015 OEHHA exposure parameters, respectively, neither of which would exceed the applicable threshold of 1.0. (Urban Crossroads, Inc., 2016b, pp. 32, 40)

The closest worker receptor land use with the greatest potential for exposure to Project DPM source emissions is located immediately adjacent to the north of proposed Building 2. At the MEIW, the maximum incremental cancer risk attributable to Project DPM source emissions is calculated to be

0.24 in one million under the 2003 OEHHA exposure parameters and 0.31 in one million under the 2015 OEHHA exposure parameters, respectively, which are less than the threshold of 10 in one million. At this same location, non-cancer risks are calculated to be 0.0008 under the 2003 OEHHA exposure parameters and 0.0009 under the 2015 OEHHA exposure parameters, respectively, neither of which would exceed the applicable threshold of 1.0. (Urban Crossroads, Inc., 2016b, pp. 32-33, 40)

The school site land use with the greatest potential exposure to Project DPM source emissions is Serrano Elementary School, located more than 1.0-mile north of the Project site at 24100 Delphinium Avenue in Moreno Valley. At the MEISC, the maximum incremental cancer risk attributable to Project DPM source emissions is calculated to be 0.26 in one million under the 2003 OEHHA exposure parameters and 060 in one million under the 2015 OEHHA exposure parameters, respectively, which are less than the threshold of 10 in one million. Maximum non-cancer risks at this location are calculated to be 0.001 under both the 2003 and 2015 OEHHA exposure parameters, which would not exceed the applicable threshold of 1.0. It is noted that there are other school locations that are located closer to the Project site that were also included in the assessment conducted by Urban Crossroads, Inc., however, the Serrano Elementary School represents the school site that is located within close proximity to the Project's primary truck route adjacent to Heacock Street. (Urban Crossroads, Inc., 2016a, pp. 33, 40)

With Indian Street Bridge

The residential land use with the greatest potential exposure to Project DPM source emissions is located approximately 161 feet east of the Project site across Indian Street. At the MEIR, the maximum incremental cancer risk attributable to Project DPM source emissions is calculated at 5.97 in million under the 2003 OEHHA exposure parameters and 9.45 in one million under the 2015 OEHHA exposure parameters, respectively, which are less than the threshold of 10 in one million. At this same location, non-cancer risks are calculated to be 0.0004 under the 2003 OEHHA exposure parameters and 0.005 under the 2015 OEHHA exposure parameters, respectively, neither of which would exceed the applicable threshold of 1.0. (Urban Crossroads, Inc., 2016b, pp. 33, 41)

The worker receptor land use with the greatest potential exposure to Project DPM source emissions is located south of the Project site at the O'Reilly Auto Parts warehouse located at 24520 San Michele Road in Moreno Valley. At the MEIW, the maximum incremental cancer risk attributable to Project DPM source emissions is calculated to be 0.26 in one million under the 2003 OEHHA exposure parameters and 0.35 in one million under the 2015 OEHHA exposure parameters, respectively, which are less than the threshold of 10 in one million. At this same location, non-cancer risks are calculated to be 0.0007 under the 2003 OEHHA exposure parameters and 0.009 under the 2015 OEHHA exposure parameters, respectively, neither of which would exceed the applicable threshold of 1.0. (Urban Crossroads, Inc., 2016b, pp. 33, 41)

The school site land use with the greatest potential exposure to Project DPM source emissions is located at the Serrano Elementary School located more than 1.0 (5,280 feet) mile north of the Project site. At the MEISC, the maximum incremental cancer risk attributable to the Project DPM source emissions is calculated to be 0.19 in one million under the 2003 OEHHA exposure parameters and 0.43 in one million under the 2015 OEHHA exposure parameters, respectively, which are less than the threshold of 10 in one million. At this same location, non-cancer risks are calculated to be 0.001 under both the 2003 and 2015 OEHHA exposure parameters, which would not exceed the significance threshold of 1.0. (Urban Crossroads, Inc., 2016b, pp. 33-34, 41)

Accordingly, long-term operations at the Project site would not directly cause or contribute in a cumulatively considerable manner to the exposure of the MEIR, MEIW, or MEISC to substantial DPM emissions. Therefore, implementation of the proposed Project would result in a less-than-significant impact to expose MEIR, MEIW, and MEISC which are located within 1.0 mile of the Project site to project substantial point source DPM emissions. Although implementation of the Project would result in a less-than-significant impact associated with DPM emissions, the mitigation measures recommended in Subsection 4.3.7 would further reduce DPM emissions associated with long-term operation of the Project.

Threshold e) Would the Project create objectionable odors affecting a substantial number of people?

Under existing conditions, the Project site is vacant and does not contain any buildings or permanent structures/facilities, with the exception of overhead utility lines located along the eastern property boundary adjacent to Indian Street. Accordingly, the Project does not contain land uses typically associated with emitting objectionable odors. The Project could produce odors during proposed construction activities resulting from construction equipment exhaust, application of asphalt, and/or the application of architectural coatings; however, standard construction practices would minimize odor emissions and their associated impacts. Furthermore, any odors emitted during construction activities would be temporary, short-term, and intermittent in nature, and would cease upon completion of construction activities. In addition, construction activities on the Project site would be required to comply with SCAQMD Rule 402, which prohibits the discharge of odorous emissions that would create a public nuisance. Accordingly, the proposed Project would not create objectionable odors affecting a substantial number of people during construction activities. Therefore, implementation of the Project would result in less-than-significant odor impacts during short-term construction activities. Thus, no mitigation is required. (Urban Crossroads, Inc., 2016a, p. 58)

Under long-term operational conditions, the Project would include “Business Park/Light Industrial (BP)” land uses which are not typically associated with objectionable odors. The Project proposes a sewer lift station on-site, at the southwest corner of proposed Building 3. Based on an aerial photograph, the sewer lift station would be located approximately 2,600 feet from the nearest sensitive receptor and is, therefore, not within close proximity of sensitive receptors, which are generally located east of proposed Building 1, east of Indian Street. Due to distance from sensitive receptors and the requirements for containment in the event of a lift station failure, potential odor impacts associated with the lift station would be less than significant. (Urban Crossroads, Inc., 2016a, p. 58)

The temporary storage of refuse associated with the Project's long-term operational use could be a potential source of odor; however, Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the County's solid waste regulations, thereby precluding any significant odor impact. Furthermore, the Project would be required to comply with SCAQMD Rule 402, which prohibits the discharge of odorous emissions that would create a public nuisance during long-term operation of the Project. As such, long-term operation of the proposed Project would not create objectionable odors affecting a substantial number of people. Thus, a less-than-significant impact would occur.

4.3.5 Cumulative Impact Analysis

A. AQMP Consistency

As discussed in the analysis of Threshold (a), short-term construction and long-term operational emissions generated by the Project would exceed the SCAQMD's regional threshold criteria for several air quality pollutants; thus, the Project is determined to have a significant and cumulatively considerable potential to obstruct implementation of the 2012 AQMP. Regardless of that conclusion, it is important to note that the Project's emissions were accounted for in the 2012 AQMP and the AQMP's air quality attainment goals. That is, the land use and development intensity proposed by the Project are consistent with the City of Moreno Valley General Plan and the MVIAP and are therefore within the scope of air quality considerations reflected in the 2012 AQMP. As such, implementation of the Project would neither increase the frequency or severity of existing air quality violations disclosed in the AQMP. Moreover, the Project's urban location and proximity to local and regional transportation facilities act to reduce vehicle miles traveled and associated mobile (vehicle) air pollutant emissions. Additionally, the Project's incorporation of mandatory energy-efficient technologies a required by CALGreen and mandatory compliance with the SCAQMD rules and control requirements act to reduce stationary-source air emissions. These Project attributes and features are consistent with and support the AQMP's air pollution reduction strategies and promote timely attainment of the AQMD's air quality standards.

B. Criteria Pollutant Emissions

As indicated in the analysis of Thresholds (b) and (c), the Project would exceed SCAQMD numerical thresholds for VOCs and NO_X during short-term construction activities and long-term operation. VOCs and NO_X are precursors for ozone (O_3), a pollutant for which the SCAB is in non-attainment under both federal and State criteria; therefore, the Project's short-term construction emissions and long-term operational emissions would cumulatively contribute a criteria pollutant for which the Project region is in non-attainment (O_3). Accordingly, the Project's short-and-long term impacts are considered to be cumulatively considerable. As also indicated in the analysis of Thresholds (b) and (c), the Project's emissions of VOCs, NO_X, CO, PM_{10}, and $PM_{2.5}$ would result in a significant impact to the environment on both a direct and cumulatively considerable basis in the event that on-site construction and operational activities overlap.

C. Substantial Pollutant Concentrations

As discussed in the analysis of Threshold (d), Project-related vehicular emissions would not result in a substantial contribution of CO concentrations at intersections in the vicinity of the Project site and sensitive receptors would not be exposed to substantial CO concentrations generated by the Project's vehicular traffic.

As also discussed in the analysis of Threshold (d), long-term operations at the Project site would not exceed SCAQMD's cancer or non-cancer health risk thresholds at the MEIR, MEIW, or MEISC. Because the Project's direct contribution to health risk hazards in the local area would not exceed the SCAQMD's significance thresholds at any receptor location, SCAQMD considers to the Project's DPM emissions to be less than cumulatively considerable.

As previously disclosed, the Project is located in an urbanized area within an air basin (i.e., the SCAB) with poor air quality. For informational purposes, the cumulative carcinogenic health risk from DPM emissions in the Project vicinity is presented in Table 4.3-10 and Table 4.3-11. Table 4.3-10 quantifies estimated DPM carcinogenic health risks for existing, ambient air conditions in the surrounding area, as well as expected DPM carcinogenic risks from the Project (without the Indian Street Bridge) and cumulative development projects in the Project vicinity (i.e., within 1,320 feet of the Project site and its primary trucking route), while Table 4.3-11 performs the same analysis but under a theoretical scenario where the Indian Street Bridge over the Perris Valley Storm Drain Channel is operational at the time of the Project's opening year (2017). As shown in Table 4.3-10 and Table 4.3-11, the existing ambient carcinogenic health risk in the Project study area associated with ambient air quality conditions is 518.6 in one million. When the cumulative air pollutant emissions from nearby development projects and the Project are added to existing ambient air conditions, sensitive receptors in the Project study area would be exposed to combined excess carcinogenic health risks between approximately 915 and 925 in one million. Notwithstanding the information presented above, the carcinogenic health risk within the SCAB has been reduced drastically over the last 30+ years with the adoption of new regulations and emerging technologies and the trend of improving air quality is expected to continue in the future (refer to EIR Pages 4.3-12 and 4.3-13).

D. Odors

As discussed in the analysis of Threshold (e), there are no components of the proposed Project's construction or long-term operation that would generate substantial, objectionable odors. Because the Project would not create objectionable odors, there is no potential for odors from the Project site to commingle with odors from nearby development projects and expose nearby sensitive receptors to substantial, offensive odors. Accordingly, the Project would have a less-than-significant cumulatively considerable impact.

Table 4.3-10 Cumulative Carcinogenic Health Risk (without Indian Street Bridge)

2003 OEHHA Exposure Parameters

	Cancer Risk as Maximum Sensitive Receptor (risk in one million)			
	Background*	Related Projects TACs	Project TACs	Maximum Cumulative Risk
Maximum Impact to All Receptors Without Project	518.16	397.5		915.66
Maximum Impact to Nearest Residential With Project	518.16	397.5	6.06	921.72
Maximum Impact to Nearest Worker With Project	518.16	397.5	0.24	915.90
Maximum Impact to Nearest School With Project	518.16	397.5	0.26	915.92
	*Source: **MATES IV Carcinogenic Risk Interactive Map** (SCAQMD 2015).			

2015 OEHHA Exposure Parameters

	Cancer Risk as Maximum Sensitive Receptor (risk in one million)			
	Background*	Related Projects TACs	Project TACs	Maximum Cumulative Risk
Maximum Impact to All Receptors Without Project	518.16	397.5		915.66
Maximum Impact to Nearest Residential With Project	518.16	397.5	9.50	925.16
Maximum Impact to Nearest Worker With Project	518.16	397.5	0.31	915.97
Maximum Impact to Nearest School With Project	518.16	397.5	0.60	916.26
	*Source: **MATES IV Carcinogenic Risk Interactive Map** (SCAQMD 2015).			

Source: (Urban Crossroads, Inc., 2016b, Table 2-6 and Table 2-8)

Table 4.3-11 Cumulative Carcinogenic Health Risk (with Indian Street Bridge)

2003 OEHHA Exposure Parameters

	Cancer Risk as Maximum Sensitive Receptor (risk in one million)			
	Background*	Related Projects TACs	Project TACs	Maximum Cumulative Risk
Maximum Impact to All Receptors Without Project	518.16	397.5		915.66
Maximum Impact to Nearest Residential With Project	518.16	397.5	6.05	921.71
Maximum Impact to Nearest Worker With Project	518.16	397.5	0.26	915.92
Maximum Impact to Nearest School With Project	518.16	397.5	0.19	915.85
	*Source: **MATES IV Carcinogenic Risk Interactive Map** (SCAQMD 2015).			

2015 OEHHA Exposure Parameters

	Cancer Risk as Maximum Sensitive Receptor (risk in one million)			
	Background*	Related Projects TACs	Project TACs	Maximum Cumulative Risk
Maximum Impact to All Receptors Without Project	518.16	397.5		915.66
Maximum Impact to Nearest Residential With Project	518.16	397.5	9.45	925.11
Maximum Impact to Nearest Worker With Project	518.16	397.5	0.35	916.01
Maximum Impact to Nearest School With Project	518.16	397.5	0.43	916.09
	*Source: **MATES IV Carcinogenic Risk Interactive Map** (SCAQMD 2015).			

Source: (Urban Crossroads, Inc., 2016b, Table 2-7 and Table 2-9)

4.3.6 Significance of Impacts before Mitigation

Threshold a): Significant Cumulatively Considerable Impact. Although the Project's location and design features are consistent with and support the AQMP's air pollution reduction strategies, because short-term construction and long-term operational air emissions generated by the Project would exceed the SCAQMD's regional threshold criteria for daily emissions, the Project has the potential to cumulatively contribute towards obstruction of the SCAQMD's ability to meet its AQMP attainment goals.

Threshold b) and c): Significant Direct and Cumulatively Considerable Impact. The Project would exceed the SCAQMD regional threshold for daily VOC and NO_X emissions during short-term construction activities. Additionally, the Project's long-term operational activities (i.e., full buildout) would exceed the regional thresholds for daily VOC and NO_X emissions. Because the Project proposes four buildings, there is a potential that operational and construction activities could overlap. If there is overlap, the Project would result in short-term VOC, NO_X, CO, PM_{10} and $PM_{2.5}$ emissions during the overlapping activities. As such, Project-related air emissions would violate the SCAQMD air quality standards and contribute to the non-attainment of criteria pollutants, which is a significant direct and cumulatively considerable impact.

Threshold d): Significant Direct and Cumulatively Considerable Impact. Emissions during short-term construction activities would exceed the SCAQMD's localized significance thresholds for NO_2, PM_{10}, and PM $_{2.5}$.

Threshold e): Less-than-Significant Impact. The Project would not produce unusual or substantial construction-related odors. Odors associated with long-term operation of the Project would be minimal and less than significant. The Project would comply with SCAQMD Rule 402, which prohibits the discharge of odorous emissions that would create a public nuisance.

4.3.7 Mitigation

The following measure is required to reduce construction-related VOC emissions.

MM 4.3-1 Prior to building permit issuance, the City of Moreno Valley shall verify that a note is provided on all building plans specifying that compliance with SCAQMD Rule 1113 is mandatory during application of all architectural coatings. Project contractors shall be required to comply with the note and maintain written records of such compliance that can be inspected by the City of Moreno Valley upon request. This note also shall indicate that only "low-volatile organic compound" paint products (no more than 50 gram/liter of VOC) shall be used. All other architectural coatings shall comply with the VOC limits prescribed by SCAQMD Rule 1113.

The following measures are required to reduce construction-related NOx emissions.

MM 4.3-2 During construction activities, the construction contractor shall maintain a list of diesel-powered construction equipment used on the site, including type/engine year of equipment, number of equipment, and equipment horsepower. The construction contractor shall also maintain a log of the daily operating hours of each piece of diesel-powered equipment by horsepower hours. The construction contractor shall ensure that the usage of diesel-powered construction equipment does not exceed the horsepower-hours per day specified below. Lower tier types may be substituted for higher tier types.

Tier 0 – 3,608 horsepower-hours/day
Tier 1 – 7,760 horsepower-hours/day

Tier 2 – 1,760 horsepower-hours/day
Tier 3 – 11,128 horsepower-hours/day
Tier 4 – 37,008 horsepower-hours/day

MM 4.3-3 The Project shall comply with California Code of Regulations Title 13, Division 3, Chapter 1, Article 4.5, Section 2025, "Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles" and California Code of Regulations Title 13, Division 3, Chapter 10, Article 1, Section 2485, "Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling" by complying with the following requirements. To ensure and enforce compliance with these requirements and thereby limit the release of diesel particulate matter, oxides of nitrogen, and other criteria pollutants into the atmosphere from the burning of fuel, prior to grading permit and building permit issuance, the City of Moreno Valley shall verify that the following notes are included on the grading and building plans. Project construction contractors shall be required to ensure compliance with the notes and permit periodic inspection of the construction site by City of Moreno Valley staff or its designee to confirm compliance. These notes also shall be specified in bid documents issued to prospective construction contractors.

a) Temporary signs shall be placed on the construction site at all construction vehicle entry points and at all loading, unloading, and equipment staging areas indicating that heavy duty trucks and diesel powered construction equipment are prohibited from idling for more than five (5) minutes. The signs shall be installed before construction activities commence and remain in place during the duration of construction activities at all loading, unloading, and equipment staging areas.

b) Construction vehicles shall use the City's designated truck route.

c) Construction parking shall be located and configured to minimize traffic interference on public streets.

d) Temporary traffic controls such as a flag person shall be used at Project site construction entrances.

e) A construction management plan shall be designed to minimize the number of large construction equipment operating during any given time period.

f) To the extent feasible, construction truck trips shall be scheduled during non-peak hours to reduce peak hour emissions.

g) CARB certified equipment shall be used for construction activities to the extent feasible.

h) Contractors shall be required to turn off all construction equipment and delivery vehicles when not in use and/or idling in excess of 3 minutes.

i) Construction equipment engine sizes shall be limited to the minimum practical size.

j) Electrical powered equipment shall be utilized in-lieu of gasoline-powered engines where technically feasible.

k) Temporary traffic controls, such as a flag person shall be provided during all phases of construction to maintain smooth traffic flow.

l) Construction tucks shall be routed away from congested streets and sensitive receptor areas.

m) Construction parking areas shall be configured to minimize traffic interference.

n) Construction worker trips shall be reduced by encouraging carpooling and providing on-site food service options for the construction crew.

o) Construction workers shall be encouraged to utilize shuttle service to transit stations/multimodal center.

Although emissions of particulate matter during Project construction would be less than significant, the following measures are required to reduce the less-than-significant construction-related particulate matter (PM_{10} and $PM_{2.5}$) emissions.

MM 4.3-4 The Project shall comply with the provisions of South Coast Air Quality Management District Rule 403, "Fugitive Dust." Rule 403 requires implementation of best available dust control measures during construction activities that generate fugitive dust, such as earth moving, grading, and equipment travel on unpaved roads. Prior to grading permit issuance, the City of Moreno Valley shall verify that the following notes are specified on the grading plan. Project construction contractors shall be required to ensure compliance with the notes and permit periodic inspection of the construction site by City of Moreno Valley staff or its designee to confirm compliance. These notes shall also be specified in bid documents issued to prospective construction contractors.

a) During grading and ground-disturbing construction activities, the construction contractor shall ensure that all unpaved roads, active soil stockpiles, and areas undergoing active ground disturbance within the Project site are watered at least three (3) times daily during dry weather. Watering, with complete coverage of disturbed areas by water truck, sprinkler system, or other comparable means, shall occur in the mid-morning, afternoon, and after work is done for the day. The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite.

b) Temporary signs shall be installed on the construction site along all unpaved roads indicating a maximum speed limit of 15 miles per hour (MPH). The signs shall be installed before construction activities commence and remain in place for the duration of construction activities that include vehicle activities on unpaved roads.

c) Gravel pads must be installed at all access points to prevent tracking of mud onto public roads.

d) Install and maintain trackout control devices in effective condition at all access points where paved and unpaved access or travel routes intersect (eg. Install wheel shakers, wheel washers, and limit site access.)

e) Limit fugitive dust sources to 20 percent opacity.

f) When materials are transported off-site, all material shall be covered or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.

g) All street frontages shall be swept at least once a day using SCAQMD Rule 1186 certified street sweepers utilizing reclaimed water trucks if visible soil materials are carried to adjacent streets.

h) Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and initiate corrective action within 24 hours.

i) Any vegetative cover to be utilized onsite shall be planted as soon as possible to reduce the disturbed area subject to wind erosion. Irrigation systems required for these plants shall be installed as soon as possible to maintain good ground cover and to minimize wind erosion of the soil.

j) Any on-site stock piles of debris, dirt, or other dusty material shall be covered or watered as necessary to minimize fugitive dust pursuant to SCAQMD Rule 403.

k) A high wind response plan shall be formulated for enhanced dust control if winds are forecast to exceed 25 mph in any upcoming 24-hour period.

MM 4.3-5 The Project shall comply with the provisions of South Coast Air Quality Management District Rule 1186 “PM10 Emissions from Paved and Unpaved Roads and Livestock Operations” and Rule 1186.1, “Less-Polluting Street Sweepers” by complying with the following requirements. To ensure and enforce compliance with these requirements, prior to grading and building permit issuance, the City of Moreno Valley shall verify that the following notes are included on the grading and building plans. Project construction contractors shall be required to ensure compliance with the notes and permit periodic inspection of the construction site by City of Moreno Valley staff or its designee to confirm compliance. The notes also shall be specified in bid documents issued to prospective construction contractors.

a) If visible dirt or accumulated dust is carried onto paved roads during construction, the contractor shall remove such dirt and dust at the end of each work day by street cleaning.

b) Street sweepers shall be certified by the South Coast Air Quality Management District as meeting the Rule 1186 sweeper certification procedures and requirements for PM_{10}-efficient sweepers. All street sweepers having a gross vehicle weight of 14,000 pounds or more shall be powered with alternative (non-diesel) fuel or otherwise comply with South Coast Air Quality Management District Rule 1186.1.

Although the Project’s construction emissions of SO_X would be less than significant, the following mitigation measure is required to further reduce the Project’s less-than-significant impact.

MM 4.3-6 The Project shall comply with the provisions of SCAQMD Rule 431.2, “Sulfur Content of Liquid Fuels” by complying with the following requirement. To ensure and enforce compliance with this requirement and thereby limit the release of sulfur dioxide (SO_X) into the atmosphere from the burning of fuel, prior to grading and building permit issuance, the City of Moreno Valley shall verify that the following note is included on the grading and building plans. Project contractors shall be required to ensure compliance with this note and permit periodic inspection of the construction site by City of Moreno Valley staff or its designee to confirm compliance. This note also shall be specified in bid documents issued to prospective construction contractors.

a) All liquid fuels shall have a sulfur content of not more than 0.05 percent by weight, except as provided for by South Coast Air Quality Management District Rule 431.2.

The following measures are required to reduce the Project's significant long-term operational-related impact associated with the emissions of NO_X and the contributions of this pollutant to the SCAB's non-attainment status for ozone. These measures also would further reduce the Project's less-than-significant impact associated with long-term emissions of localized criteria pollutants and diesel particulate matter.

MM 4.3-7 All indoor forklifts used in the Project's buildings shall be electric, natural gas, or propane powered. This requirement shall be noted in the buildings' sale and lease agreements and also shall be included on all tenant improvement plans submitted to the City of Moreno Valley.

MM 4.3-8 All outdoor cargo handling equipment (including yard trucks, hostlers, yard goats, pallet jacks, forklifts, and other on-site equipment) that are powered by diesel fuel shall comply with the CARB/U.S. EPA Tier IV Engine standards for off-road vehicles or better (defined as less than or equal to 0.015 g/bhp-hr. for PM_{10}). This requirement shall be noted in the buildings' sale and lease agreements and also shall be noted on all tenant improvement plans.

MM 4.3-9 Prior to the issuance of a building permit, documentation shall be provided to the City of Moreno Valley demonstrating that: 1) the building is designed to achieve efficiency equal to or exceeding the 2013 California Title 24 Energy Efficiency Standards and complies with the mandatory reductions in indoor water usage required by the California Building Standards Code, including the use of U.S. EPA Certified WaterSense labeled or equivalent faucets, high-efficiency toilets, and water-conserving shower heads; and 2) the landscaping design uses a plant palette emphasizing drought-tolerant plants and use of water-efficient irrigation techniques.

MM 4.3-10 Prior to building final, documentation shall be provided to the City of Moreno Valley demonstrating the appliances and fixtures installed in restrooms and employee break areas are Energy Star rated and/or are U.S. EPA WaterSense labeled or equivalent.

MM 4.3-11 Legible, durable, weather-proof signs shall be placed at truck access gates, loading docks, and truck parking areas that identify applicable California Air Resources Board (CARB) anti-idling regulations. At a minimum each sign shall include: 1) instructions for truck drivers to shut off engines when not in use; 2) a prohibition on the idling of trucks for more than three (3) minutes; 3) instructions for truck drivers to shut down engines after 300 seconds of continuous idling operation once the vehicle is stopped, the transmission is set to "neutral" or "park" and the parking break is engaged; and 4) telephone numbers of the building facilities manager and the CARB to report violations. Prior to building final, the City of Moreno Valley shall conduct a site inspection to ensure that the signs are in place.

MM 4.3-12 Prior to building final, the City of Moreno Valley shall verify that: 1) the parking lot striping and security gating plan allows for adequate truck stacking at gates to prevent queuing of trucks outside the property; and 2) preferential parking locations are identified on the site for carpool, vanpool, EVs and CNG vehicles; and 3) secure, weather protected bicycle parking is provided for building employees.

MM 4.3-13 Prior to the issuance of building final, the Project's property owner shall provide a model lease agreement to the Planning Division verifying that provisions are included in the building's lease agreement that inform tenants about the availability of the following and their benefits to air quality: 1) alternatively fueled cargo handling equipment; 2) grant programs for diesel fueled vehicle engine retrofit and/or replacement; 3) designated truck parking locations in the City of Moreno Valley; 4) access to alternative fueling stations in the City of Moreno Valley that supply compressed natural gas (closest station is located on Indian Street, south of Nandina Avenue); 5) the United States Environmental Protection Agency's SmartWay program; and 6) voluntary trip reduction programs, for which all employees shall be eligible to participate.

MM 4.3-14 Prior to the issuance of building final, the Project's property owner shall provide a model lease agreement to the Planning Division verifying that provisions are included in the building's lease agreement that encourages: 1) all fleet vehicles to conform to 2010 air quality standards or better; users shall maintain compliance through normal course of business; and 2) use of electrical equipment for landscape maintenance to the extent feasible; 3) use of electrical powered equipment in lieu of gasoline-powered engines where technically feasible; and 4) reduced-fee or no-fee parking for EVs and CNG vehicles.

MM 4.3-15 Prior to the issuance of occupancy permits, the Project's property owner shall provide a model lease agreement to the Planning Division verifying that provisions will be included in the building's lease agreement that 1) encourages tenants to display information about alternative transportation options in a common area of the building and 2) informs tenants about locations of the nearest existing and planned Metrolink stations and the benefits of implementing a voluntary carpool or rideshare program for employees.

MM 4.3-16 The building plans shall include conduit and plug-in locations for electric yard tractors, fork lifts, reach stackers, and sweepers.

MM 4.3-17 Prior to the issuance of occupancy permits, the City of Moreno Valley shall verify that a sign has been installed at each exit driveway, providing directional information to the City's truck route. Text on the sign shall read "To Truck Route" with a directional arrow.

MM 4.3-18 Prior to the issuance of a building permit for any building that utilizes refrigerated storage, any spaces utilizing refrigerated storage shall provide an electrical hookup for refrigeration units on delivery trucks. As a condition of occupancy permits, trucks incapable of utilizing the electrical hookup for powering refrigeration shall be prohibited from accessing the site.

MM 4.3-19 Prior to the issuance of building permits, to ensure the shading of parking lots to reduce solar gain, the City of Moreno Valley shall review landscaping plans to verify that the plans call for the planting of shade trees so that at least 50% of the automotive parking lots (excluding the truck courts where trees cannot be planted due to interference with truck maneuvering) will be shaded within 15 years after Project construction is complete.

Although the Project's short-term construction and long-term operational odor impacts would be less than significant, the following mitigation measure is required to ensure compliance with SCAQMD Rule 402 and minimize the potential for odors on the Project site.

MM 4.3-20 The Project is required to comply with the provisions of SCAQMD Rule 402 "Nuisance." To ensure and enforce compliance with this requirement, which applies to the release of odorous emissions into the atmosphere, prior to the issuance of grading and building permits, the City of Moreno Valley shall verify that the following note is included on grading and building plans. During Project construction, contractors shall be required to ensure compliance with Rule 402 and permit periodic inspection of the construction site by the City of Moreno Valley staff or its designee to confirm compliance. The note shall be specified in bid documents issued to prospective construction contractors and shall also be specified in the building's lease agreement.

a) Compliance with South Coast Air Quality Management District (AQMD) Rule 402 "Nuisance" is required. Rule 402 states that air contaminants and other materials shall not be discharged from any source whatsoever in quantities that would cause injury, detriment, nuisance, or annoyance to a considerable number of persons or the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. Public nuisance violations can occur when a considerable number of individuals complain to AQMD of odors, paint overspray, or other bothersome conditions that appear to be related to the operation of a business in the neighboring vicinity.

4.3.8 Significance of Impacts after Mitigation

Threshold a): Significant Cumulatively Considerable Impact. Because the SCAQMD's daily significance thresholds for air pollutants would be exceeded during the Project's construction and operation even after the implementation of feasible mitigation measures, the Project would not fully mitigate its cumulatively considerable potential to obstruct the SCAQMD's ability to attain the air quality goals presented in the 2012 AQMP.

Thresholds b) and c): Significant and Unavoidable Direct and Cumulatively Considerable Impact. As indicated in Table 4.3-12, *Project Construction Emissions Summary (With Mitigation)*, mitigation measures would reduce the Project's short-term construction-related VOCs to below a level of significance; however, short-term construction-related NO_X emissions would not be reduced below the SCAQMD numerical threshold for daily emissions.

Table 4.3-12 Project Construction Emissions Summary (With Mitigation)

Year	Emissions (pounds per day)					
	VOC	NOx	CO	SOx	PM10	PM2.5
2016	69.36	321.35	463.95	1.02	33.33	13.90
2017	60.59	158.41	265.90	0.61	21.56	8.58
Maximum Daily Emissions	**69.36**	**321.35**	**463.95**	**1.02**	**33.33**	**13.90**
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**NO**	**YES**	**NO**	**NO**	**NO**	**NO**

Source: (Urban Crossroads, Inc., 2016a, Table 3-6)

As indicated in Table 4.3-13, *Summary of Peak Operational Emissions (With Mitigation)*, even with mitigation, for regional emissions, the Project's operational source emissions would exceed the SCAQMD numerical threshold for emissions of VOCs and NO_X. This EIR recommends all feasible mitigation to reduce regional operational source VOC and NO_X emissions and no additional feasible mitigation is available to reduce regional source VOC and NO_X emissions to below a level of significance. No other mitigation measures are available that are feasible for the Project Applicant to implement and for the City of Moreno Valley to enforce that have a proportional nexus to the Project's level of impact. As such, it is concluded that the Project's regional operational source VOC and NO_X emissions would not comply with SCAQMD air quality daily standards. In addition, the Project's regional operational source VOC and NO_X emissions would cumulatively contribute to an existing air quality violation in the SCAB (i.e., NO_X and O_3 concentrations). Accordingly, the Project's regional operational source VOC and NO_X emissions are concluded to result in a significant and unavoidable impact on both a direct and cumulatively considerable basis.

Table 4.3-13 Project Peak Operational Emissions Summary (With Mitigation)

Operational Activities – Summer Scenario	Emissions (pounds per day)					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
High-Cube						
Area Source	46.46	2.70E-03	0.28	2.00E-05	1.03E-03	1.03E-03
Energy Source	0.33	2.96	2.49	0.02	0.23	0.23
Mobile (Trucks)	19.77	429.98	184.46	1.35	51.09	19.58
Mobile (Passenger Cars)	2.98	3.73	51.42	0.17	16.61	4.46
On-site Equipment	0.95	13.18	4.25	0.02	0.43	0.40
Light Industrial						
Area Source	14.99	9.80E-04	0.10	1.00E-05	3.70E-04	3.70E-04
Energy Source	0.35	3.17	2.66	0.02	0.24	0.24
Mobile (Trucks)	11.28	244.17	107.13	0.78	32.55	11.96
Mobile (Passenger Cars)	4.48	5.60	77.31	0.26	24.98	6.70
On-site Equipment	0.3801	5.27	1.70	6.34E-03	0.17	0.16
Total Maximum Daily Emissions	**100.64**	**689.62**	**425.85**	**2.60**	**125.70**	**43.17**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**NO**	**NO**	**NO**	**NO**

Operational Activities – Winter Scenario	Emissions (pounds per day)					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
High-Cube						
Area Source	46.46	2.70E-03	0.28	2.00E-05	1.03E-03	1.03E-03
Energy Source	0.33	2.96	2.49	2.00E-02	0.23	0.23
Mobile (Trucks)	20.11	447.95	194.22	1.35	51.10	19.58
Mobile (Passenger Cars)	2.78	3.94	43.52	0.16	16.61	4.46
On-site Equipment	0.95	13.18	4.25	0.02	0.43	0.40
Light Industrial						
Area Source	14.99	9.80E-04	0.10	1.00E-05	3.70E-04	3.70E-04
Energy Source	0.35	3.17	2.66	0.02	0.24	0.24
Mobile (Trucks)	11.46	254.51	111.97	0.78	32.56	11.96
Mobile (Passenger Cars)	4.18	5.93	65.44	0.24	24.98	6.70
On-site Equipment	0.38	5.27	1.70	6.34E-03	0.17	0.16
Total Maximum Daily Emissions	**100.66**	**718.46**	**420.68**	**2.57**	**125.72**	**43.17**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**NO**	**NO**	**NO**	**NO**

Source: (Urban Crossroads, Inc., 2016a, Table 3-8)

As indicated on Table 4.3-14, *Potential Overlap of Project Construction and Operational Activities (With Mitigation)*, mitigation measures would reduce the Project's overlapping short-term construction and long-term operational emissions of VOC, NO_X, CO, NO_X, and PM_{10} and $PM_{2.5}$; but not to below a level of significance. Therefore, in the event that short-term construction activity and long-term operational activities overlap, impacts would be significant, unavoidable direct and cumulatively considerable for emissions of VOC, NO_X, CO, NO_X, and PM_{10} and $PM_{2.5}$. This EIR recommends all feasible mitigation to reduce VOC, NO_X, CO, PM_{10} and $PM_{2.5}$ emissions and no additional feasible mitigation is available to reduce emissions to below a level of significance. No other mitigation measures are available that are feasible for the Project Applicant to implement and for the City of Moreno Valley to enforce that have a proportional nexus to the Project's level of impact. As such, it is concluded that when the Project's short-term construction and long-term operational activities overlap, VOC, NO_X, CO, PM_{10} and $PM_{2.5}$ emissions would violate the SCAQMD air quality standards.

Table 4.3-14 Potential Overlap of Project Construction and Operational Activities (With Mitigation)

Summer Scenario- Maximum Daily Emissions	Emissions (pounds per day)					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Construction Peak Emissions	69.36	321.35	463.95	1.02	33.33	13.90
Operational Total Emissions	100.64	689.62	425.85	2.60	125.70	43.17
Total Maximum Daily Emissions	**170.00**	**1,010.97**	**889.80**	**3.62**	**159.03**	**57.07**

Winter Scenario- Maximum Daily Emissions	Emissions (pounds per day)					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Construction Peak Emissions	69.36	321.35	463.95	1.02	33.33	13.90
Operational Total Emissions	100.66	718.46	420.68	2.57	125.72	43.17
Total Maximum Daily Emissions	**170.02**	**1,039.81**	**884.63**	**3.59**	**159.05**	**57.07**

Source: (Urban Crossroads, Inc., 2016a, Table 3-10)

Threshold d): Less-than-Significant Impact. As indicated in Table 4.3-15, *Project Construction Localized Emissions Summary (With Mitigation)*, with the implementation of mitigation measures, emissions during the Project's peak construction activity, emissions would not exceed the SCAQMD's localized significance threshold for any of the applicable emissions. Thus, with the implementation of mitigation measures, impacts would be less than significant.

Table 4.3-15 Project Construction Localized Emissions Summary (With Mitigation)

Peak Construction	CO		NO_2	PM_{10}		$PM_{2.5}$
	Averaging Time					
	1-Hour	8-Hour	1-Hour	24-Hours	Annual	24-Hours
Peak Day Localized Emissions	0.32	0.27	0.09	4.92	0.81	2.35
Background Concentration [A]	2.0	1.9	0.06			
Total Concentration	**2.32**	**2.17**	**0.15**	**4.92**	**0.81**	**2.35**
SCAQMD Localized Significance Threshold	20	9	0.18	10.4	1	10.4
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

[A] Highest concentration from the last three years of available data.
Note: PM_{10} and $PM_{2.5}$ concentrations are expressed in µg/m^3. All others are expressed in Parts per Million (PPM).
Source: (Urban Crossroads, Inc., 2016a, Table 3-13)

4.4 Biological Resources

This Subsection assesses the proposed Project's potential to impact sensitive biological resources that may be present on the subject property or within the Project's off-site improvement area. As described in EIR Section 3.0, *Project Description*, the Project's off-site improvement area with the potential to impact biological resources includes portions of the Perris Valley Storm Drain Channel that abut the Project site and are associated with the construction of storm drain outlet structures.

The information and analysis presented in this Subsection is based on a site-specific biological technical report prepared by Glenn Lukos Associates, Inc. (hereafter, GLA) titled, "Biological Technical Report for the Moreno Valley Logistics Center," dated March 17, 2016 (GLA, 2016). The Biological Technical Report is appended to this EIR as *Technical Appendix C1*. This Subsection also is based on a site-specific jurisdictional report prepared by GLA, titled, "Jurisdictional Delineation of the Moreno Valley Logistics Center Project Area," dated May 12, 2015, and appended to this EIR as *Technical Appendix C2* (GLA, 2015).

GLA conducted a site-specific evaluation of biological resources present or potentially present on the Project site or within its off-site improvement area. The biological resources evaluation included the review of relevant literature, field surveys, and a geographic information system (GIS)-based analysis of vegetation communities. Field surveys performed by GLA included: 1) general biological surveys and vegetation mapping; 2) site-specific habitat assessments and biological surveys; 3) focused burrowing owl mapping and focused burrowing owl surveys; and 4) delineation of aquatic resources (including wetland and riparian habitat) subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW), as well as Western Riverside Multiple Species Habitat Conservation Program (MSHCP) riparian/riverine resources. Refer to *Technical Appendices C1* and *C2* for detailed descriptions of the survey dates, scope of study, and research and survey methodologies used for the Biological Technical Report and the Jurisdictional Delineation.

4.4.1 Existing Conditions

Historically, the Project site has been either vacant or used for agricultural activities since at least 1938. An ephemeral stream bed transected the Project site in a northwest to southwest direction until the time period between the mid-1950s and mid-1960s, when the stream bed was channelized as part of the man-made Perris Valley Storm Drain Channel. Under existing conditions, the Project site consists of vacant, undeveloped land that is routinely disturbed (i.e., disced) as part of weed abatement activities and supports ruderal non-native vegetation. No trees are present on the Project site, or within the off-site improvement area under existing conditions. (GLA, 2016, p. 21, Appendix A)

A. Vegetation Communities

GLA determined that the Project site is highly disturbed as a result of historic agricultural and weed abatement (discing) activities. As such, the entire 89.4-acre Project site is characterized as ruderal/disturbed habitat, which is not considered a special-status or sensitive natural vegetation community. The Project's off-site improvement area within the Perris Valley Storm Drain is characterized by unvegetated riverine habitat (approximately 0.20-acre) and ruderal/disturbed habitat (approximately 0.14-acre). The unvegetated riverine habitat within the Project's off-site improvement area qualifies as Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) riverine habitat, but does not support riparian vegetation or vernal pools. (GLA, 2016, pp. 21-22, 31, Exhibit 5) The vegetation communities observed on the Project site and within the Project's off-site improvement area are illustrated on Figure 4.4-1, *Existing Vegetation Communities*.

B. Special-Status Plants

No special-status plant species were observed – or are expected to occur – on the Project site or within the Project's off-site improvement area (GLA, 2016, pp. 21-22). All plant species observed by GLA during surveys of the Project site and off-site improvement area are listed in Appendix A of *Technical Appendix C1*.

C. Special-Status Wildlife

GLA detected one special-status wildlife species, the San Diego black-tailed jackrabbit, on the Project site (GLA, 2016, p. 25). All wildlife species observed by GLA during surveys of the Project site and off-site improvement area are listed in Appendix B of *Technical Appendix C1*.

Although only one special-status wildlife species was observed by GLA during field surveys of the Project site and off-site improvement area, nine additional special-status wildlife species have the potential to occur within the area based on the physical characteristics of property and the current and historical distribution of the wildlife species. The special-status wildlife species with the potential to occur within the Project improvement area are summarized below.

- **Burrowing Owl.** The western burrowing owl is a California Species of Special Concern. The species is a Covered Species under the Western Riverside County MSHCP. No burrowing owls or signs of their use of the property (i.e., scat, tracks, pellets, or feathers) were observed during focused surveys for the species conducted by GLA biologists; however, the Project site contains foraging and nesting habitat (i.e., burrows) that could be used by the species. (GLA, 2016, pp. 27, 39)

- **Ferruginous Hawk.** The ferruginous hawk is a Federal Bird of Conservation Concern, a California Watch List species, and is a Covered Species under the Western Riverside County MSHCP. The Project area contains low-quality foraging habitat for the species; however, the large, contiguous open areas within the Project site has the low potential to attract the ferruginous hawk as a winter visitor. The species does not have the potential to nest within the Project site. (GLA, 2016, p. 27)

Source: Glenn Lukos Associates (05-2015)

Figure 4.4-1

NOT TO SCALE

EXISTING VEGETATION COMMUNITIES

- **Golden Eagle.** The golden eagle is a Federal Bird of Conservation Concern, a California Watch List and Fully Protected species, and is a Covered Species under the Western Riverside County MSHCP. The Project area contains low-quality foraging habitat for the species; however, the large, contiguous open areas within the Project site has the low potential to attract the golden eagle as a winter visitor. The species does not have the potential to nest within the Project site. (GLA, 2016, p. 27)

- **Loggerhead shrike.** The loggerhead shrike is a California Species of Special Concern and is a Covered Species under the Western Riverside County MSHCP. The Project site contains marginal habitat for the species and the species has low-to-moderate potential to use the Project site for foraging. (GLA, 2016, pp. 28, 34)

- **Northern harrier.** The northern harrier is classified as a California Species of Special Concern and is a Covered Species under the Western Riverside County MSHCP. No nesting habitat for the northern harrier is present within the Project area; however, the species has low potential to forage on the Project site. (GLA, 2016, p. 28)

- **White-tailed kite.** The white-tailed kite is listed as a California Fully-Protected Species and is a Covered Species under the Western Riverside County MSHCP. The Project area lacks the trees and shrubs this species requires for nesting; however, the white-tailed kite has a low potential to forage over the site. (GLA, 2016, p. 28)

- **Los Angeles pocket mouse.** The Los Angeles pocket mouse is a California Species of Special Concern and is a Covered Species under the Western Riverside County MSHCP. The species has a low potential to occur in the Project area due to the lack of suitable habitat. (GLA, 2016, p. 29)

- **Northwestern San Diego pocket mouse.** The Northwestern San Diego pocket mouse is a California Species of Special Concern and is a Covered Species under the Western Riverside County MSHCP. The species has a low potential to occur in the Project area due to the lack of suitable habitat. (GLA, 2016, p. 29)

- **Stephens' kangaroo rat.** The Stephens' kangaroo rat is a Federally Endangered species, a California Threatened species, and is covered under the Western Riverside County MSHCP. The species has a low to moderate potential to occur in the Project area due to low quality habitat and routine disturbance (i.e., discing). (GLA, 2016, p. 29)

D. Nesting Birds

The Project site does not contain suitable nesting habitat for raptors, due to the lack of large trees on the property. However, the Project site contains ground cover that provides suitable nesting habitat for smaller, migratory birds. Although GLA did not observe nesting migratory birds on the Project site, there is the potential that migratory birds could nest on the property. (GLA, 2016, pp. 27-28,

30) The Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code prohibit impacts to nesting native birds and nesting migratory birds.

E. Jurisdictional Waters and Wetlands

The Project site does not support any drainages, water courses, vernal pools, or wetland habitats that would be under the jurisdiction of the United States Army Corps of Engineers (ACOE), California Department of Fish and Wildlife (CDFW), and/or the Regional Water Quality Control Board (RWQCB) (GLA, 2015, Exhibit 3).

The Project site abuts the Perris Valley Storm Drain Channel, which is a water course that is within the jurisdiction of the ACOE, CDFW, and RWQCB. The Project would impact an approximately 0.34-acre portion of the Perris Valley Storm Drain Channel to accommodate the construction of storm drain outlet structures. Approximately 0.092-acre of ACOE and RWQCB jurisdictional area (none of which are jurisdictional wetlands) and approximately 0.20-acre of CDFW jurisdictional area (none of which supports riparian vegetation) occurs within the Project's off-site improvement area in the Perris Valley Storm Drain Channel. (GLA, 2016, p. 31)

F. Regulatory Setting

The Project site and associated off-site improvement area are subject to state and federal regulations that were developed to protect natural resources, including: endangered plants and animals; aquatic resources, including rivers and creeks, ephemeral streambeds, wetlands, and areas of riparian habitat; other special-status species which are not listed as threatened or endangered by the state or federal governments; and other special-status vegetation communities. Provided below is a brief overview of applicable federal, state, and regional laws, regulations, and requirements that are applicable to the Project site. Refer to *Technical Appendices C1* and *C2* for a detailed summary of applicable regulations related to biological resources.

❑ Western Riverside County MSHCP

The Western Riverside County MSHCP is a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP) focusing on conservation of species and their habitats in Western Riverside County. The Western Riverside County MSHCP was adopted on June 17, 2003, and an Implementing Agreement (IA) was executed between the USFWS, CDFW, and participating entities (including the City of Moreno Valley). Rather than focusing on one species at a time, implementation of the Western Riverside County MSHCP Section 10 Permit preserves native vegetation and meet the habitat needs of multiple species.

The Project site is located within the Reche Canyon/Badlands Area Plan of the Western Riverside County MSHCP but is not located within a Cell Group, Criteria Cell, or Sub-Unit and is not targeted for conservation. The Project site is located within the MSHCP Burrowing Owl Survey Area but is not located within the Narrow Endemic Plan Species Survey Area (NEPSSA), the Criteria Area Plant

Species Survey Area (CAPSSA), or the MSHCP Mammal and Amphibian Survey Areas. (Riverside County, 2015)

❑ Stephens' Kangaroo Rat Habitat Conservation Plan

The Stephens' Kangaroo Rat HCP is a comprehensive, multi-jurisdictional HCP focusing on the conservation of the endangered Stephens' Kangaroo Rat and its habitat. The Stephens' Kangaroo Rat HCP was adopted in August 1990 and an Implementing Agreement (IA) was executed between the USFWS, CDFW, and participating entities (including the City of Moreno Valley). The Stephens' Kangaroo Rat HCP provides for the permanent establishment, mitigation, and monitoring of a reserve network for the Stephens' Kangaroo Rat. The Project site is not located within the Stephens' Kangaroo Rat survey area but is located within the Stephens' Kangaroo Rat mitigation fee area. (GLA, 2016, p. 13)

❑ State and/or Federally Listed Plants and Wildlife

State of California Endangered Species Act

California's Endangered Species Act (CESA) provides definitions for endangered species, threatened species, and candidate species of California. Listed endangered and threatened species are protected by the CESA and candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Article 3, Sections 2080 through 2085, of the CESA addresses the taking of threatened, endangered, or candidate species by stating "No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided." Under the CESA, "take" is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Exceptions authorized by the state to allow "take" require permits or memoranda of understanding and can be authorized for endangered species, threatened species, or candidate species for scientific, educational, or management purposes and for take incidental to otherwise lawful activities. Sections 1901 and 1913 of the California Fish and Game Code provide that notification is required prior to disturbance.

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 provides definitions for endangered species and threatened species of the U.S. Under provisions of Section 9(a)(1)(B) of the FESA it is unlawful to "take" any listed species. "Take" is defined in Section 3(18) of FESA: "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Further, the United States Fish and Wildlife Service (USFWS), through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification that result in injury to, or death of species as forms of "take." These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a federal agency for an action that could affect a federally listed plant and wildlife species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants.

State and Federal Take Authorizations for Listed Species

Federal or state authorizations of impacts to or incidental take of a listed species by a private individual or other private entity would be granted in one of the following ways:

- Section 7(a)(2) of the FESA of 1973 stipulates that any federal action that may affect a species listed as threatened or endangered requires a formal consultation with USFWS to ensure that the action is not likely to jeopardize the continued existence of the listed species or result in destruction or adverse modification of designated critical habitat.

- In 1982, the FESA was amended to give private landowners the ability to develop Habitat Conservation Plans (HCPs) pursuant to Section 10(a) of the FESA. Upon development of an HCP, the USFWS can issue incidental take permits for listed species where the HCP specifies at minimum, the following: (1) the level of impact that will result from the taking, (2) steps that will minimize and mitigate the impacts, (3) funding necessary to implement the plan, (4) alternative actions to the taking considered by the applicant and the reasons why such alternatives were not chosen, and (5) such other measures that the Secretary of the Interior may require as being necessary or appropriate for the plan.

- Sections 2090-2097 of the California Endangered Species Act (CESA) require that the state lead agency consult with CDFW on projects with potential impacts on state-listed species. These provisions also require CDFW to coordinate consultations with USFWS for actions involving federally listed as well as state-listed species. In certain circumstances, Section 2080.1 of the California Fish and Game Code allows CDFW to adopt the federal incidental take statement or the Section 10(a) permit as its own based on its findings that the federal permit adequately protects the species under state law.

Take Authorization Pursuant to the Western Riverside County MSHCP

The Western Riverside County MSHCP provides coverage (including take authorization for listed species) for special-status plant and wildlife species, as well as mitigation for impacts to sensitive species. Through agreements with the USFWS and the CDFW, the Western Riverside County MSHCP designates 146 special-status wildlife and plant species that receive some level of coverage under the plan. Of the 146 "Covered Species" designated under the Western Riverside County MSHCP, the majority of these species have no additional survey/conservation requirements. In addition, through compliance with the Western Riverside County MSHCP, the MSHCP provides mitigation for project-specific impacts to Covered Species so that the impacts would be reduced to below a level of significance pursuant to CEQA. The Project site is located within the Western Riverside County MSHCP burrowing owl survey area, which requires project-specific survey requirements for the species because it is designated as a "Covered Species not yet adequately conserved."

Take Authorization Pursuant to the Stephens' Kangaroo Rat Conservation Plan

The Stephens' Kangaroo Rat HCP provides coverage (including incidental take authorization) for the Stephens' Kangaroo Rat, pursuant to agreements with the USFWS and the CDFW, as well as a mitigation program to further long-term conservation efforts for the species.

❑ Regulations Relating to Nesting Birds

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (MBTA) makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations. Applied to development projects, the MBTA prohibits the impact to the active nests of birds protected by the MBTA.

California Fish and Game Code

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except under certain circumstances defined by the Code. Section 3503.5 of the California Fish and Game Code more specifically applies to birds-of-prey and states that it is unlawful to take, possess, or destroy any birds in the orders *Falconiformes* or *Strigiformes* (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto. Similar to the MBTA provisions, the California Fish and Game Code sections prohibits development projects from impacting active nests.

❑ Regulations Related to Jurisdictional Waters and Wetlands

United States Army Corps of Engineers (ACOE)

Pursuant to Section 404 of the Federal Clean Water Act (CWA), the ACOE regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined in ACOE regulations at 33 CFR Part 328.3(a) and generally includes waters used in interstate or foreign commerce; all interstate waters and interstate wetlands; waters that would adversely affect foreign commerce in the instance of their destruction; impoundments of waters of the United States; or tributaries of the aforementioned waters. The term "wetlands" (a subset of "waters of the United States") is defined at 33 CFR 328.3(b) as that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions. In the absence of wetlands, the limits of ACOE jurisdiction in non-tidal waters, such as intermittent streams, extend to the ordinary high water mark (OHWM) which is defined at 33 CFR 328.3(e).

Regional Water Quality Control Board (RWQCB)

CWA Section 401 requires federal agencies to obtain a Water Quality Certification from the RWQCB before issuing permits that would result in increased pollutant loads to a water body. A

Section 401 certification can be issued only if increased pollutant loads would not cause or contribute to exceedances of water quality standards. In addition, any person discharging waste, or proposing to discharge waste, within any region that could affect the waters of the State is required to file a report of discharge with the RWQCB. The term "waters of the State" is defined as any surface water or groundwater, including saline waters, within the boundaries of California. While all waters of the United States that occur within the borders of California are also waters of the State, the converse is always not true – waters of the United States are a subset of waters of the State.

California Department of Fish and Wildlife

Pursuant to Division 2, Chapter 6, Section 1602 of the California Fish and Wildlife Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife. CDFW requires an entity to notify CDFW of any proposed activity that may modify a river, stream, or lake if the activity will:

- Substantially divert or obstruct the natural flow of any river, stream, or lake;
- Substantially change or use any material from the bed, channel, or bank if, any river, stream or lake; or
- Deposit or dispose of debris, waste, or other material containing crumbled, flakes, or ground pavement where it may pass into any river, stream or lake.

This notification requirement applies to any work undertaken in or near a river, stream, or lake that flows at least intermittently through a bed or channel. It may also apply to work undertaken within the flood plain of a body of water.

4.4.2 Basis for Determining Significance

Environmental impacts to biological resources are assessed using impact significance threshold criteria, which reflect the policy statement contained in CEQA, § 21001(c) of the California Public Resources Code. Accordingly, the State Legislature has established it to be the policy of the State of California to:

> *"Prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities..."*

In the development of thresholds of significance for impacts to biological resources, CEQA provides guidance primarily in § 15065, Mandatory Findings of Significance, and the CEQA Guidelines, Appendix G, Environmental Checklist Form. CEQA Guidelines § 15065(a) states that a project may have a significant effect where:

> *"The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish*

or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or wildlife community, reduce the number or restrict the range of an endangered, rare, or threatened species"

Therefore, for the purpose of analysis in this EIR, the proposed Project would result in a significant impact to biological resources if the Project or any Project-related component would:

a) 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 U. S. Fish and Wildlife Service;

b) Have a substantially 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 U. S. Fish Wildlife Service;

c) 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;

d) Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established native resident migratory wildlife corridors, or impede the use of native wildlife nursery sites;

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, other approved local, regional, or state habitat conservation plan.

4.4.3 Impact Analysis

The Project would result in permanent impacts to approximately 89.4 acres of ruderal/disturbed habitat on the Project site and approximately 0.14-acre of ruderal/disturbed habitat within the Perris Valley Storm Drain Channel. The Project also would result in permanent impacts to approximately 0.02-acre and temporary impacts to approximately 0.18-acre of unvegetated riverine habitat within the Perris Valley Storm Drain Channel. Following the completion of construction activities, the Project would restore areas within the Perris Valley Storm Drain Channel that are subject to temporary impacts to pre-construction conditions.

Threshold a)	Would the Project 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 U. S. Fish and Wildlife Service?

A. Impacts to Special-Status Plants

As documented by GLA, no special-status plants were detected or have the potential to occur within the Project site or the Project's off-site improvement area (GLA, 2016, pp. 22-24. 34). Therefore, there is no potential for the Project to directly impact special-status plant species. No impact would occur and mitigation is not required.

B. Impacts to Special-Status Wildlife

One special-status wildlife species was observed on the Project site during biological field surveys: the San Diego black-tailed jackrabbit. An additional nine special-status wildlife species have the potential to occur on the Project site or its off-site improvement area: burrowing owl, ferruginous hawk, golden eagle, loggerhead shrike, northern harrier, white-tailed kite, Los Angeles pocket mouse, northwestern San Diego pocket mouse, and the Stephens' kangaroo rat. With the exception of the burrowing owl, all special-status wildlife species observed or with the potential to occur on the Project site or within its off-site improvement area are covered by the Western Riverside County MSHCP or the Stephens' Kangaroo Rat HCP. For properties such as the Project site that are located outside of a Western Riverside County MSHCP Criteria Area or a Stephens' Kangaroo Rat Reserve Area, impacts to plant and wildlife species listed in the Western Riverside County MSHCP Criteria Area or the Stephens' Kangaroo Rat HCP are authorized by the incidental take permits associated with the respective plans. The Project Applicant will be required to pay the City of Moreno Valley's Western Riverside County MSHCP Mitigation Fee as well as the Stephens' Kangaroo Rat HCP Mitigation Fee, which pays for new development's share of the financing, acquisition, and long-term management of lands supporting species covered by the Western Riverside County MSHCP Criteria Area and the Stephens' Kangaroo Rat HCP. As such, the Project's impact to the San Diego black-tailed jackrabbit and potential impacts to the ferruginous hawk, golden eagle, loggerhead shrike, northern harrier, white-tailed kite, Los Angeles pocket mouse, northwestern San Diego pocket mouse, and the Stephens' kangaroo rat would be less than significant.

The burrowing owl is classified by the MSHCP as a Covered Species not adequately conserved by the MSHCP. Although no burrowing owl individuals or signs of burrowing owl use were observed on the Project improvement area during surveys conducted by GLA, the property contains habitat suitable to burrowing owl (GLA, 2016, p. 27). Accordingly, it is possible that the species could migrate onto the property prior to Project construction. If burrowing owls are present on the Project improvement area during grading activities, the Project's impact to the species would be significant; thus, mitigation is required.

Threshold b)	***Would the Project have a substantially adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Wildlife Service?***
Threshold c)	***Would the Project 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?***

The Project's permanent impact to approximately 89.4 acres of ruderal/disturbed habitat on the Project site and approximately 0.14-acre of ruderal/disturbed habitat within the Perris Valley Storm Drain Channel would be less than significant because ruderal habitat is not classified as riparian habitat or as a sensitive natural community and also is not a federally protected wetland.

The Project would result in permanent and temporary impacts to areas within the Perris Valley Storm Drain Channel that are under the jurisdiction of the ACOE and RWQCB. The Project would obtain a Section 401 Permit for impacts to areas under the jurisdiction of the RWQCB and a Section 404 Permit for impacts to areas under the jurisdiction of the ACOE. Permanent impacts to ACOE and RWQCB jurisdictional areas would total approximately 0.002-acre and temporary impacts to ACOE and RWQCB jurisdictional areas would total approximately 0.09-acre. None of the areas proposed for impact (either permanently or temporarily) are classified as wetlands. The Project's permanent impacts to ACOE and RWQCB jurisdictional areas would be less than significant due to the absence of riparian/wetland habitat, the negligible adverse effect to biological function, and the small area of total impact. The Project's temporary impacts to ACOE and RWQCB jurisdiction would be less than significant because of the absence of riparian/wetland habitat and the negligible adverse effect to biological function, and because the Project would restore all temporarily impacted areas to pre-construction conditions. (GLA, 2016, p. 35) No mitigation is required for the Project's permanent and temporary impacts to areas under ACOE and RWQCB jurisdiction.

The Project would result in permanent and temporary impacts to areas within the Perris Valley Storm Drain Channel that are under the jurisdiction of the CDFW. The Project would obtain a Lake and Streambed Alteration agreement for impacts to areas under the jurisdiction of CDFW. Permanent impacts to CDFW jurisdictional areas would total approximately 0.02-acre and temporary impacts to CDFW jurisdictional areas would total approximately 0.18-acre. None of the areas proposed for impact (either permanently or temporarily) are classified as riparian habitat. The Project's permanent impacts to CDFW jurisdictional areas would be less than significant due to the absence of riparian/wetland habitat, the negligible adverse effect to biological function, and the small area of total impact. The Project's temporary impacts to CDFW jurisdiction would be less than significant because of the absence of riparian/wetland habitat and the negligible adverse effect to biological function, and because the Project would restore all temporarily impacted areas to pre-construction conditions. (GLA, 2016, p. 35) No mitigation is required for the Project's permanent and temporary impacts to areas under CDFW jurisdiction.

As described in more detail in EIR Subsection 4.8, *Hydrology and Water Quality*, the Project would result in a slight reduction in runoff flows discharged to the Perris Valley Storm Drain Channel during peak storm events, as compared with existing conditions, and has the potential to discharge less-than-significant concentrations of sediment and urban pollutants in storm water runoff that enter the Perris Valley Storm Drain Channel. The Project's minor alterations to the volume and quality of runoff stormwater runoff leaving the subject property and entering the Perris Valley Storm Drain Channel would have negligible potential to adversely impact biological functions and values as it related to downstream biological resources (GLA, 2016, pp. 36-37).

In summary, the Project would not have a substantially adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or United States Fish and Wildlife Service (USFWS). Additionally, the Project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA. Impacts would be less than significant.

Threshold d)	***Would the Project interfere substantially with the movement of any resident or migratory fish or wildlife species or with established native resident migratory wildlife corridors, or impede the use of native wildlife nursery sites?***

There are no natural water bodies on the Project site or within the Project's off-site improvement area that could support fish; therefore, there is no potential for the Project to interfere with the movement of fish. There are also no native wildlife nurseries on-site or within the Project's off-site improvement area; therefore, there is no potential for the Project to impede the use of a native wildlife nursery site. As such, no impact would occur.

Although wildlife could move through or within the Project site, the existing urban land uses that surround the site impede substantial wildlife movement throughout the Project site's vicinity. In addition, implementation of the Project would not have the ability to interfere with an established migratory wildlife corridor, because the site does not serve as a corridor nor is it connected to an established corridor. Additionally, the Project site is not located adjacent to the Western Riverside County MSHCP Criteria Area or any MSHCP Preserve; thus, the Project has no potential to result in wildlife movement impacts within a MSHCP Preserve (GLA, 2016, p. 37). As such, the Project would result in a less-than-significant impact on wildlife movement.

The proposed Project would, result in removal of low-lying vegetation across the Project site that has the potential to support nesting migratory birds (GLA, 2016, p. 39). Impacts to nesting migratory birds are prohibited under the MBTA and California Fish and Game Code and the Project's potential impacts to such species represents a significant impact for which mitigation is required. As previously described, neither the Project site nor the Project's off-site improvement area support vegetation that would support nesting raptor species (GLA, 2016, p. 34).

Threshold e)	***Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?***

The City of Moreno Valley Municipal Code contains provisions for the protection of the Stephens' Kangaroo Rat pursuant to the Stephens' Kangaroo Rat HCP (refer to Title 8, Chapter 8.60 of the Municipal Code). The Project site is not located within an identified reserve area for the Stephens' Kangaroo Rat and the species has a low to moderate potential to occur on the Project site. In addition, the species was not observed during biological surveys of the Project site or the off-site improvement area. (GLA, 2016, p. 37) Accordingly, the Project is exempt from the focused survey requirements for the Stephens' Kangaroo Rat established by the City's Municipal Code. The Project Applicant is required to contribute a local development impact and mitigation fee, which requires a fee payment to assist the City in implementing the habitat conservation plan for the Stephens' Kangaroo Rat. With mandatory compliance with standard regulatory requirements (i.e., development impact and mitigation fee payment), the proposed Project would not conflict with any City policies or ordinances related to the protection of the Stephens' Kangaroo Rat.

The City of Moreno Valley Municipal Code also contains provisions for the collection of mitigation fees to further the implementation of the Western Riverside County MSHCP (refer to Title 3, Chapter 3.48 of the Municipal Code). The Project Applicant is required to contribute a local mitigation fee, which requires a fee payment to assist the City in implementing the Western Riverside County MSHCP reserve system (including the acquisition, management, and long-term maintenance of sensitive habitat areas). With mandatory compliance with standard regulatory requirements (i.e., mitigation fee payment), the proposed Project would not conflict with any City policies or ordinances related to the mitigation fee program associated with Western Riverside County MSHCP.

The City of Moreno Valley does not have any additional policies or ordinances in place to protect biological resources that are applicable to the Project.

Threshold f)	***Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, other approved local, regional, or state habitat conservation plan?***

The following analysis evaluates the Project's compliance with the Western Riverside County MSHCP's Reserve Assembly Requirements as well as other applicable MSHCP requirements pursuant to the following sections of the MSHCP: Section 6.1.2, P*rotection of Species Associated with Riparian/Riverine Areas and Vernal Pools*; Section 6.1.3, P*rotection of Narrow Endemic Plant Species*; Section 6.1.4, *Guidelines Pertaining to the Urban/Wildland Interfac*e; and Section 6.3.2, *Additional Survey Needs and Procedures*.

❑ Project Relation to Reserve Assembly

The Project site occurs within the overall Plan Area of the Western Riverside County MSHCP. As indicated in the discussion below, all surveys required by the Western Riverside County MSHCP have been conducted on the Project site and off-site improvement areas. The Project site does not occur within a Western Riverside County MSHCP Criteria Area. As such, the proposed Project is not required to set aside conservation lands pursuant to the Western Riverside County MSHCP, and the proposed Project is not subject to the MSHCP's Habitat Evaluation and Acquisition Negotiation Strategy (HANS) process, or Joint Project Review (JPR). Although the Perris Valley Storm Drain Channel is designated by the MSHCP as "Public/Quasi Public Lands," the Project would not adversely affect the biological functions of the Channel, as it relates to MSHCP Covered Species within the Channel adjacent to the Project site or downstream; therefore, the Project would not affect potential wildlife movement within the Channel. Accordingly, the proposed Project would not conflict with the Western Riverside County MSHCP Reserve Assembly requirements and no impact would occur.

❑ Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools

The Project would permanently impact approximately 0.02-acre of unvegetated riverine habitat and temporarily impact approximately 0.18-acre of unvegetated riverine habitat within the Perris Valley Storm Drain Channel that qualifies as a MSHCP riverine area. The unvegetated riverine habitat that would be impacted by the Project does not include any riparian habitat or vernal pools.

The Project's permanent impacts to MSHCP riverine areas would be less than significant due to the absence of riparian habitat, the negligible adverse effect to biological functions and values as it pertains to MSHCP Covered Species, and the small area of total impact. The Project's temporary impacts to MSHCP riverine areas would be less than significant because of the absence of riparian/wetland habitat and the negligible adverse effect to biological functions and values as it pertains to MSHCP Covered Species, and because the Project would restore all temporarily impacted areas to pre-construction conditions. (GLA, 2016, pp. 36-37) No mitigation is required for the Project's permanent and temporary impacts to MSHCP riverine areas.

As described in more detail in EIR Subsection 4.8, *Hydrology and Water Quality*, the Project would result in a slight reduction in runoff flows discharged to the Perris Valley Storm Drain Channel during peak storm events, as compared with existing conditions, and has the potential to discharge less-than-significant concentrations of sediment and urban pollutants in storm water runoff that enter the Perris Valley Storm Drain Channel. The Project's minor alterations to the volume and quality of runoff stormwater runoff leaving the subject property and entering the Perris Valley Storm Drain Channel would have negligible potential to adversely impact biological functions and values as it related to downstream resources (GLA, 2016, pp. 36-37).

Because the Project would not result in a loss of functions and values as it pertains to the MSHCP Covered Species within the Project footprint or within downstream areas, a Determination of

Biological Equivalent or Superior Preservation (DBESP) is not required for the Project. The Project would be consistent with *Section 6.1.2* of the Western Riverside County MSHCP (GLA, 2016, p. 37).

❑ Protection of Narrow Endemic Plants

The Project is not located within the Narrow Endemic Plant Species Survey Area (NEPSSA) and is not subject to focused surveys for special-status plants. The Project would be consistent with *Section 6.1.3* of the Western Riverside County MSHCP (GLA, 2016, pp. 41-42).

❑ Guidelines Pertaining to Urban/Wildland Interface

The Western Riverside County MSHCP Urban/Wildland Interface Guidelines are intended to address indirect effects associated with locating development in proximity to the MSHCP Conservation Area, including Public/Quasi-Public lands. As the Western Riverside County MSHCP Conservation Area is assembled, development is expected to occur adjacent to the Conservation Area and edge effects with the potential to adversely affect biological resources within the Conservation Area are required to be evaluated. The Project site abuts the Perris Valley Storm Drain Channel, which is designated as the Western Riverside County MSHCP as Public/Quasi-Public lands; however, the Perris Valley Storm Drain Channel is a man-made, engineered stormwater drainage channel that is routinely maintained and does not support natural habitat or special-status biological resources under existing conditions. As such, the Project has no potential to result in substantial adverse indirect effects in proximity to a MSHCP Conservation Area that supports natural and/or sensitive biological resources. The proposed Project, would be consistent with *Section 6.1.4* of the Western Riverside County MSHCP. (GLA, 2016, p. 42)

❑ Additional Needs Survey and Procedures

Western Riverside County MSHCP Section 6.3.2 identifies that in addition to the Narrow Endemic Plant Species addressed in Section 6.1.3, additional surveys may be needed for other certain plant and wildlife species in conjunction with MSHCP implementation in order to achieve full coverage for these species. Within areas of suitable habitat, focused surveys are required for additional plant species if a project site occurs within a designated CAPSSA, or special wildlife species survey area (i.e., burrowing owl, amphibians, and mammals).

The Project site is located within the burrowing owl survey area, but is not located within the survey area for any other plant or wildlife species. GLA conducted a focused survey for the burrowing owl in 2015 in accordance with the Western Riverside County MSHCP Burrowing Owl Survey Requirements. As discussed above under Threshold a), GLA did not observe any burrowing owls or signs of the species use of the property (i.e., scat, tracks, pellets, or feathers). However, the species is migratory and could migrate onto the property prior to ground-disturbing construction activities. (GLA, 2016, p. 42) Therefore, this EIR recommends a pre-construction survey for the species as mitigation (refer to Subsection 4.4.6) to ensure Project consistency with *Section 6.3.2* of the Western Riverside County MSHCP.

4.4.4 Cumulative Impact Analysis

This cumulative impact analysis considers development of the proposed Project in conjunction with other development projects in the vicinity of the Project site and resulting from full General Plan buildout in the City of Moreno Valley and other jurisdictions in the region within the boundaries of the Western Riverside County MSHCP.

The primary effects of the proposed Project, when considered with the build out of long-range plans in the region, would be the cumulative loss of vacant land that can support habitat for sensitive plant and/or wildlife species. With respect to special-status species, no special-status plant species were observed on the Project site or within the Project's off-site improvement area and no special-status plant species are expected to occur in these areas due to a lack of suitable habitat (GLA, 2016, pp. 38-39). Therefore, there is no potential for the Project to contribute to adverse cumulative impacts to special status plant species. With respect to special-status wildlife species, although the habitat offered on the Project site is of substantially lesser quality than habitat that is found in undisturbed natural areas within the geographic area covered by the Western Riverside County MSHCP, it still provides open spaces for wildlife foraging, refuge, nesting, and areas that can be used for species reproduction.

Anticipated cumulative impacts within the region are addressed by the Western Riverside County MSHCP. The Western Riverside County MSHCP addresses 146 Covered Species that represent a broad range of habitats and geographical areas within Western Riverside County, including threatened and endangered species and regionally- or locally-sensitive species that have specific habitat requirements and conservation and management needs. The Western Riverside County MSHCP addresses biological impacts for take of Covered Species within the Western Riverside County MSHCP area. Impacts to Covered Species and establishment and implementation of a regional conservation strategy and other measures included in the Western Riverside County MSHCP address the federal, state, and local mitigation requirements for these species and their habitats. Specifically, Section 4.4 of the Western Riverside County MSHCP states that:

> *The MSHCP was specifically designed to cover a large geographical area so that it would protect numerous endangered species and habitats throughout the region. It is the projected cumulative effect of future development that has required the preparation and implementation of the MSHCP to protect multiple habitats and multiple endangered species.*

It goes on to state that:

> *The LDMF [Local Development Mitigation Fee] is to be charged throughout the Plan Area to all future development within the western part of the County and the Cities in order to provide a coordinated conservation area and implementation program that will facilitate the preservation of biological diversity, as well as maintain the region's quality of life.*

The reason for the imposition of the Mitigation Fee over the entire region is that the loss of habitat for endangered species is a regional problem resulting from the cumulative effect of continuing development throughout all of the jurisdictions in Western Riverside County. Finally, Section 5.1 of the Western Riverside County MSHCP states that:

> *It is anticipated that new development in the Plan Area will fund not only the mitigation of the impacts associated with its proportionate share of regional development, but also the impacts associated with the future development of more than 332,000 residential units and commercial and industrial development projected to be built in the Plan Area over the next 25 years.*

Accordingly, for development outside of designated Western Riverside County MSHCP preservation areas cumulative impacts to biological resources would be less than significant, with the exception of MSHCP non-covered species (or Covered Species not yet adequately conserved). As discussed above under Threshold f, the proposed Project would comply with the requirements of the Western Riverside County MSHCP and, thus, would not conflict with its adopted policies. Furthermore, the Project Applicant is required to pay the required Western Riverside County MSHCP mitigation fees per the City of Moreno Valley Municipal Code Title 3, Chapter 3.48. Accordingly, because the proposed Project would comply with the Western Riverside County MSHCP and is required to pay the required MSHCP mitigation fee, the proposed Project would result less-than-significant cumulative impacts to wildlife species covered by the Western Riverside County MSHCP.

The Project has the potential to impact the burrowing owl, which is classified by the MSHCP as a Covered Species not yet adequately conserved. The burrowing owl is fairly ubiquitous within the Project vicinity; as such, it is reasonable to conclude that impacts to habitat for this species are occurring throughout the cumulative study area. As such, cumulative impacts are significant and the proposed Project's potential impacts to burrowing owls that may be located on the site prior to Project construction would be cumulatively considerable. Mitigation would be required.

The Project would result in minimal temporary and permanent impacts to unvegetated riverine habitat within the Perris Valley Storm Drain Channel that falls under the jurisdiction of the ACOE, RWQCB, and CDFW. None of the areas that would be impacted by the Project qualify as wetland or riparian habitat. The Project's temporary impacts to areas under the ACOE, RWQCB, and CDFW jurisdiction would be restored to pre-construction conditions following the completion of construction activities and would not be cumulatively considerable. The Project's permanent impact to ACOE and RWQCB jurisdictional area (approximately 0.002-acre) and CDFW jurisdictional area (approximately 0.02-acre) would not be cumulatively considerable due to the absence of riparian/wetland habitat, the negligible adverse effect to biological function adjacent to the Project site and downstream, and the small area of total impact. Impacts would be less than significant.

As indicated under the discussion and analysis of Threshold d) the proposed Project would not significantly impact wildlife movement corridors because such corridors already are accommodated by the Western Riverside County MSHCP and the Project site is not targeted for conservation as part of any proposed or existing linkages by the MSHCP. While Western Riverside County is becoming increasingly urbanized, which could restrict wildlife movement, the MSHCP, and the Conservation Areas established therein, was developed with several goals that specifically support wildlife movement. As concluded by the MSHCP's Final EIR/EIS, "The MSHCP provides for the movement of native resident and migratory species and for genetic flow identified for Covered Species. Therefore, impacts related to cores and linkages resulting from the Plan are considered less than significant" (MSHCP Volume 4: Final EIR/EIS, Section 4.1.5). Accordingly, the Project's cumulative impacts to wildlife movement are less than significant. In addition, there are no native wildlife nursery sites within the Project vicinity; therefore, the proposed Project would not result in cumulatively considerable impacts to native wildlife nursery sites.

The proposed Project would remove vegetation from the site that has the potential to provide groundcover for and support nesting migratory birds protected by the MBTA and California Fish and Game Code. Other projects within the Western Riverside County area would similarly have the potential to impact protected nesting migratory birds and also be subject to compliance with the MBTA. The Project's potential impact to nesting birds would be cumulatively considerable absent compliance to the MBTA.

The proposed Project would not conflict with any local policies or ordinances protecting biological resources. Other development projects in the City of Moreno Valley also would be required to comply with the City's Municipal Code. Accordingly, cumulative effects associated with compliance to local policies or ordinances protecting biological resources would be less than significant and the proposed Project's contribution would be less than cumulatively considerable.

4.4.5 Significance of Impacts before Mitigation

Threshold a): Significant Direct and Cumulatively Considerable Impact. No candidate, sensitive, or special-status plant species are located on the Project site. The loss of habitat for the San Diego black-tailed jackrabbit, as well as Western Riverside County MSHCP Covered Species with the potential to occupy or utilize the Project site would be less than significant with mandatory Western Riverside County MSHCP compliance. Although the burrowing owl is not present on the Project site, the species could be impacted if it migrates onto the property prior to the commencement of ground-disturbing construction activities, which is a potentially significant direct and cumulatively considerable impact.

Threshold b): Less-than-Significant Impact. The Project would impact disturbed/ruderal habitat (on- and off-site) and unvegetated riverine habitat (off-site). Portions of the unvegetated riverine habitat that would be impacted by the Project are under the jurisdiction of the ACOE, RWQCB, and/or CDFW. The Project's impacts to jurisdictional areas would not result in substantial adverse effects to biological form and function and would be less than significant. The Project would not impact any riparian habitat.

Threshold c): Less-than-Significant Impact. There are no federally protected wetlands on the Project site or within the off-site improvement area. Although the Project would discharge storm water runoff directly into the Perris Valley Storm Drain Channel, the discharge of storm water flows into the Perris Valley Storm Drain Channel would not result in substantial adverse effects to the form or function of any downstream natural habitats.

Threshold d): Significant Direct and Cumulatively Considerable Impact. There is no potential for the Project to interfere with the movement of any resident migratory fish or with established native resident migratory corridors or impede the use of a native wildlife nursery site. However, the Project has the potential to impact nesting migratory birds protected by the MBTA and California Fish and Game Code.

Threshold e): Less-than-Significant Impact. The Project would not conflict with any local policies or ordinances governing biological resources.

Threshold f): Significant Direct and Cumulative Impact. The Project site is subject to the Western Riverside County MSHCP and its survey requirements for the burrowing owl. Although the Project is compliant with all MSHCP provisions and although burrowing owl is absent from the subject property under existing conditions, the subject property contains habitat suitable for the species. If the species is present on the property at the time a grading permit is issued, impacts would be significant.

4.4.6 Mitigation

The following mitigation measures are required to reduce the Project's potential impact to the burrowing owl.

MM 4.4-1 Within 30 days prior to grading, a qualified biologist shall conduct a survey of the property and make a determination regarding the presence or absence of the burrowing owl in accordance with the B*urrowing Owl Survey Instructions for the Western Riverside MSHCP Area*. The determination shall be documented in a report and shall be submitted, reviewed, and accepted by the City of Moreno Valley Planning Division prior to the issuance of a grading permit and subject to the following provisions:

a) In the event that the pre-construction survey identifies that no burrowing owls are present on the property, a grading permit may be issued without restriction.

b) In the event that the pre-construction survey identifies the presence of at least one individual but less than three (3) mating pairs of burrowing owl, then prior to the issuance of a grading permit and prior to the commencement of ground-disturbing activities on the property, the qualified biologist shall passively or actively relocate any burrowing owls. Passive relocation, including the required use of one-way doors to exclude owls from the site and the collapsing of burrows, will occur if the biologist determines that the proximity and availability of alternate habitat is suitable for successful passive relocation. Passive relocation shall follow CDFW relocation protocol and shall only occur between September 15 and February 1. If proximate alternate habitat is not present as determined by the biologist, active relocation shall follow CDFW relocation protocol. The biologist shall confirm in writing that the species has fledged the site or been relocated prior to the issuance of a grading permit.

c) In the event that the pre-construction survey identifies the presence of three (3) or more mating pairs of burrowing owl, the requirements of MSHCP Species-Specific Conservation Objectives 5 for the burrowing owl shall be followed. Objective 5 states that if the site (including adjacent areas) supports three (3) or more pairs of burrowing owls and supports greater than 35 acres of suitable Habitat, at least 90 percent of the area with long-term conservation value and burrowing owl pairs will be conserved onsite until it is demonstrated that Objectives 1-4 have been met. A grading permit shall only be issued, either:

- Upon approval and implementation of a property-specific Determination of Biological Equivalent or Superior Preservation (DBESP) report for the western burrowing owl by the CDFW; or

- A determination by the biologist that the site is part of an area supporting less than 35 acres of suitable Habitat, and upon passive or active relocation of the species following accepted CDFW protocols. Passive relocation, including the required use of one-way doors to exclude owls from the site and the collapsing or burrows, will occur if the biologist determines that the proximity and availability of alternate habitat is suitable for successful passive relocation. Passive relocation shall follow CDFW relocation protocol and shall only occur between September 15 and February 1. If proximate alternate Habitat is not present as determined by the biologist, active relocation shall follow CDFW protocol. The biologist shall confirm in writing that the species has fledged the site or been relocated prior to issuance of a grading permit.

The following mitigation measure is required to reduce the Project's potential impact on nesting migratory birds.

MM 4.4-2 As a condition of approval for all grading permits, vegetation clearing shall be prohibited during the migratory bird nesting season (February 1 through September 15), unless a migratory bird nesting survey is completed in accordance with the following requirements:

a) A migratory nesting bird survey of all vegetation that may support nesting birds shall be conducted by a qualified biologist within three (3) days prior to initiating vegetation clearing.

b) A copy of the migratory nesting bird survey results report shall be provided to the City of Moreno Valley Planning Division. If the survey identifies the presence of active nests, then the qualified biologist shall provide the City of Moreno Valley Planning Division with a copy of maps showing the location of all nests and an appropriate buffer zone around each nest sufficient to protect the nest from direct and indirect impacts. The size and location of all buffer zones, if required, shall be subject to review and approval by the City of Moreno Valley Planning Division and shall be no less than a 300-foot radius around the nest for non-raptors and a 500-foot radius around the nest for raptors. The nests and buffer zones shall be field checked weekly by a qualified biological monitor. The approved buffer zone shall be marked in the field with construction fencing, within which no vegetation clearing or ground disturbance shall commence until the qualified biologist and City Planning Division verify that the nests are no longer occupied and the juvenile birds can survive independently from the nests.

4.4.7 Significance of Impacts after Mitigation

Threshold a): Less-than-Significant Impact with Mitigation. Implementation of Mitigation Measure MM 4.4-1 would ensure that pre-construction surveys are conducted for the burrowing owl to determine the presence or absence of the species on the Project site or within the Project's off-site improvement area prior to Project-related grading activities. If the species is present, the mitigation requires avoidance and/or relocation of burrowing owls in conformance with accepted protocols for the species. As such, impacts would be less-than-significant with mitigation.

Threshold d). Less-than-Significant with Mitigation. Implementation of MM 4.4-2 would ensure that pre-construction surveys are conducted for nesting migratory birds to determine presence or absence prior to Project-related vegetation clearing activities. If nesting birds are determined to be present, the mitigation requires avoidance of bird nests during the breeding season in conformance with accepted protocols and regulatory requirements. With implementation of the required mitigation, potential direct and cumulatively considerable impacts to nesting migratory birds would be reduced to below a level of significance.

4.5 Cultural Resources

The analysis in this Subsection is based in part on the site-specific cultural resources assessment prepared by Brian F. Smith and Associates, Inc. (hereafter, BFSA) titled, "Phase I Cultural Resources Survey for the Moreno Valley Logistics Center Project," and dated March 4, 2016. The Phase I Cultural Resources Survey is appended to this EIR as *Technical Appendix D1*. The analysis in this Subsection also is based on the site-specific paleontological assessment prepared by BFSA titled, "Paleontological Resource and Monitoring Assessment," dated March 3, 2016. The Paleontological Resource and Monitoring Assessment is appended to this EIR as *Technical Appendix D2*. Information used to support the analysis in this Subsection also was obtained from the Cultural Resources section (Section 5.10, pp. 5.10-1 – 16) of the certified Final Program EIR prepared for the City of Moreno Valley General Plan (SCH No. 2000091075), dated July 2006 (Moreno Valley 2006b). Refer to Section 7.0, *References*, for a complete list of these and other reference sources.

4.5.1 Existing Conditions

❑ Paleontological Setting

According to the City of Moreno Valley General Plan Final EIR, the City of Moreno Valley contains sedimentary rock units with potential to contain significant nonrenewable paleontological (fossil) resources. These sedimentary units are referred to as the Mt. Eden Formation and the San Timoteo Formation. The Mt. Eden Formation is described as being primarily reddish sandstone and dark green and brown clay with local reddish fanglomerate and conglomerate. Fossilized fauna within the Mt. Eden Formation include cricetine rodent, horse and proboscidean (extinct animals related to elephants). The San Timoteo Formation is a widespread deposit of sands, gravels, and clays that extends northward from the foothills of the San Jacinto Mountains for a distance of nearly 20 miles. The San Timoteo Formation contains fossils of land animals and plant species, and represents sediments deposited from about 3.5 to 0.7 million years ago during late- Pleistocene to middle-Pleistocene time. The presence of non-marine fossils within a sequence of rocks spanning such a long time has led to several studies of the depositional environments and paleontology of the formation. (City of Moreno Valley, 2006b, p. 5.10-10) On the Project site, native sediments were observed at the ground surface and extending below the ground surface at depth (i.e., at least 30 feet below ground surface) (SoCalGeo, 2015, p. 6).

According to the Moreno Valley General Plan Final EIR, the Project area is characterized as having a "Low" potential for containing paleontological resource deposits because the area is covered with recent alluvium. The recent sediments overlie fossiliferous sedimentary units of the Mt. Eden Formation and the San Timoteo Formation; however, excavation to depths normal for development generally would not penetrate recent alluvial sediments to encounter fossiliferous deposits. Areas within the City that are thought to have the greatest potential for encountering paleontological resources occur in the hills in the east end of the City, in an area known as the "Badlands." The Project site is not located in this portion of the City. (City of Moreno Valley, 2006b, pp. 5.10-11, 5.10-15)

Contrary to the information contained in the Moreno Valley General Plan Final EIR, the County of Riverside classifies the entire Project site as having a "High Potential/Sensitivity (High B)" for paleontological resources. The category "High B" indicates that fossils are likely to be encountered at or below four (4) feet of depth, and may be impacted during excavation by construction activities. (BFSA, 2016b, p. 1-2)

B. Paleontological Resources

No paleontological or unique geological resources were observed by BFSA on the Project site. The Project's off-site improvement area within the Perris Valley Storm Drain Channel has no potential to contain paleontological or unique geological resources because the Channel is a modern, man-made storm drain facility and any such resources – if they once existed within the Channel's alignment – would have been removed/destroyed during construction of the Channel. Based on a paleontological literature review and records search conducted by the Geological Sciences Division of the San Bernardino County Museum in Redlands, California, no fossil localities are known to occur within the Project site or within a one-half-mile radius of the site. (BFSA, 2016b, pp. 1-2)

C. Prehistoric Setting

The Project site is located in the southwestern portion of the City of Moreno Valley, in western Riverside County, California. The Paleo-Indian, Archaic Period, Late Prehistoric Shoshonean, and Protohistoric groups are the four general prehistoric cultural periods represented in western Riverside County, as briefly summarized briefly below. Refer to *Technical Appendix D1* for a more detailed summary of the prehistoric cultural periods in western Riverside County.

- Paleo-Indian Period (Late Pleistocene, 11,500 to circa 9,000 years before present). The Paleo-Indian Period is associated with the terminus of the late-Pleistocene era. The environment during the late Pleistocene was cool and moist, which allowed for glaciation in the mountains and the formation of deep, pluvial lakes in the deserts and basin lands. However, by the terminus of the late-Pleistocene, the climate became warmer, which caused the glaciers to melt, sea levels to rise, greater coastal erosion, large lakes to recede and evaporate, extinction of Pleistocene megafauna, and major vegetation changes. Paleo-Indians were likely attracted to multiple habitat types, including mountains, marshlands, estuaries, and lakeshores, and likely subsisted using a more generalized hunting, gathering, and collecting adaptation, utilizing a variety of resources including birds, mollusks, and both large and small mammals. (BFSA, 2016a, pp. 3.0-4)

- Archaic Period (Early and Middle Holocene, circa 9,000 to 1,300 years before present). Between 9,000 and 8,000 years before present, a widespread complex was established in the southern California region, primarily along the coast. This complex is known as the La Jolla Complex which is regionally associated with the Encinitas Tradition and shared cultural components with the widespread Milling Stone Horizon. At the beginning of this time period, sea levels stabilized, rocky shores declined, lagoons filled with sediment, and sandy beaches became established. The sedimentation of the lagoons resulted in the decline in larger shellfish and the loss of drinking water. This resulted in a major depopulation of the coastal regions as peoples shifted inland to reliable freshwater sources and intensified their exploration of terrestrial small game and plants. By 5,000 years before present, an inland expression of the La Jolla Complex is evident in the archaeological record. These inland sites have been termed the "Pauma Complex." By definition, Pauma Complex sites share a predominance of grinding implements (manos and metates), lack mollusk remains, have a greater tool variety (including atlatl dart points, quarry-based tools, and crescentics), and seem to express a more sedentary lifestyle with a subsistence economy based upon the use of a broad variety of terrestrial resources. Although originally viewed as a separate culture from the coastal La Jolla Complex, it appears that these inland sites may be part of a subsistence and settlement system utilized by the coastal peoples. (BFSA, 2016a, 3.0-1 through 3.0-3)

- Late-Prehistoric Period (Late-Holocene, 1,300 YBP to 1790). Approximately 1,350 years before present, a Shoshonean-speaking group from the Great Basin region moved into Riverside County marking the transition to the Late-Prehistoric Period. This period is characterized by higher population densities and elaborations in social, political, and technological systems. Economic systems diversified and intensified during this period, with the continued elaboration of trade networks, the use of shell-bead currency, and the appearance of more labor-intensive, yet effective, technological innovations. Technological developments during this period included the introduction of the bow and arrow, as well as the introduction of ceramics. Atlatl darts were replaced by smaller arrow darts, including the Cottonwood series points. (BFSA, 2016a, 3.0-3 through 3.0-4)

- Protohistoric Period (Late Holocene 1790 to Present). Ethnohistorical and ethnographic evidence indicates that three Shoshonean-speaking groups occupied portions of western Riverside County during the Protohistoric Period, including the Cahuilla, the Gabrielino, and the Luiseño. At the time of Spanish contact in the sixteenth century, the Cahuilla occupied territory that included the San Bernardino Mountains, Orocopia Mountain, and the Chocolate Mountains to the east, the Salton Sea and Borrego Springs to the south, Palomar Mountain and Lake Mathews to the west, and the Santa Ana River to the north. At the time of Spanish contact, the territory of the Gabrielino was located in much of present-day Los Angeles and Orange counties. The Luiseño were a seasonal hunting and gathering people with cultural elements that were very distinct from the Archaic Period peoples, including cremation, the use of the bow and arrow, and the use of the acorn as a main food staple. The elaborate kinship and clan systems between the Luiseño and other groups facilitated a wide-reaching trade network. (BFSA, 2016a, pp. 3.0-4)

D. Prehistoric Resources

BFSA conducted a pedestrian survey of the Project site on November 18, 2014. The pedestrian survey covered the entire Project site, with BFSA archaeologists walking parallel, linear transects spaces approximately five meters apart. Approximately 85 percent of the ground surface was visible during the pedestrian survey. No prehistoric archaeological resources were identified during the pedestrian survey conducted by BFSA. (BFSA, 2016a, pp. 4.0-1, 5.0-2) The Project's off-site improvement area within the Perris Valley Storm Drain Channel was not surveyed because this area is a fully disturbed, modern man-made storm drain facility that intermittently contains flowing water; if any prehistoric archaeological resources once existed in this area they would have been removed or destroyed during construction of the Channel or would have been washed away by storm water runoff and would no longer be present under existing conditions.

BFSA also conducted a literature records search with the Eastern Information Center (EIC), at the University of California, Riverside. The record search included a review of all available cultural resource survey and excavation reports and site records for the area within a one-mile radius of the Project site. The literature and records search identified 17 cultural resource surveys that were previously conducted within a one-mile radius of the Project site, including two previous surveys of portions of the Project site and the Project's entire off-site impact area. The record search indicated that no prehistoric archaeological resources were discovered within the Project vicinity by any past survey (i.e., no prehistoric archaeological resources were discovered within a one-mile radius of the Project site). (BFSA, 2016a, pp. 4.0-1, 5.0-1) Additionally, BFSA conducted a Sacred Lands File search with the California Native American Heritage Commission (NAHC). The search results did not identify any known Native American cultural resources on the Project site or within a one-mile radius of the site (BFSA, 2016a, p. 5.0-2).

E. Historical Setting

The historic background of the Project area began with the Spanish colonization of Alta California. The first Spanish colonizing expedition reached southern California in 1769 with the intention of converting and civilizing the indigenous populations as well as expanding the knowledge of and access to new resources in the region. In the late eighteenth century, the San Gabriel (Los Angeles County), San Juan Capistrano (Orange County), and San Luis Rey (San Diego County) missions began colonizing Southern California and gradually expanded their use of the interior valley (Western Riverside County) for raising grain and cattle to support the missions. While no missions were ever built in what would become Riverside County, many mission outposts were established in the early years of the nineteenth century which extended the missions' influence to the backcountry. The San Gabriel Mission claimed lands in what are now Jurupa, Riverside, San Jacinto, and the San Gorgonio Pass, while the San Luis Rey Mission claimed land in what is now Lake Elsinore, Temecula, and Murrieta. (BFSA, 2016a, pp. 3.0-5)

Mexico gained independence in 1822 and desecularized the missions in 1832 signifying the end of the Mission Period. By this time, the missions owned some of the best and most fertile land in southern California and the new government began distributing the vast mission holdings to wealthy and politically connected Mexican citizens. These land grants (ranchos) included Jurupa, El Rincon, La Sierra, El Sobrante de San Jacinto, La Laguna (Lake Elsinore), Santa Rosa, Temecula, Pauba, San Jacinto Nuevo y Potero, and San Jacinto Viejo, which were all located in present-day Riverside County. Rancho Jurupa, which was given to Juan Bandini in 1838, was the first land grant located in present-day Riverside County. The Project area is located within this grant. The ranchos included in the grant were all located in the valley environments typical of Western Riverside County. (BFSA, 2016a, 3.0-5 through 3.0-6)

In 1846, war erupted between Mexico and the United States. In 1848, with the signing of the Treaty of Guadalupe Hidalgo, the region was annexed as a territory of the United States, leading to California becoming a state in 1850. These events generated a steady flow of settlers into the area. With completion of the transcontinental railroad in 1869, land speculators, developers, and colonists began to invest in southern California. The first colony to exist in Riverside County was known as the Riverside colony. Judge John Wesley North, an abolitionist from Tennessee, brought a group of associates and co-investors to southern California and founded Riverside on part of the Jurupa Rancho. A few years later, the navel orange was planted and found to be such a success that it quickly became the agricultural staple of the region. In May of 1893, voters living within portions of San Bernardino County and San Diego County approved the formation of Riverside County (BFSA, 2016a, 3.0-6 through 3.0-7)

The Moreno Valley of today was unclaimed public land until 1870, when approximately 13,500 acres of land was purchased from the U.S. government. This land transaction consisted of the 11,500 acre Alessandro Tract and the town of Alessandro (present-day March ARB) which were offered to settlers in 1887. The initial land development failed and the Alessandro Tract was obtained by the Bear Valley Land and Water Interest, which created the Bear Valley reservoir and the Redlands colony. In the early 1890's, water from the Bear Valley reservoir enabled the development of New Haven (Moreno) and Midland communities. These communities were abandoned in the late 1890's when the area experienced periods of drought which left the Bear Valley reservoir unable to deliver water. In the early 20th century, the Moreno Valley area started to recover. In 1912, 1,100 acres of the Alessandro Tract was subdivided into the Sunnymead Orchard Tract, which changed the previous community of Midland to Sunnymead. In 1923, several land developments located west of Sunnymead resulted in the development of Edgemont. In 1918, March Field was constructed by the U.S. Army Air Corps; between 1918 and 1922, the base was used primarily to train fighter pilots. The base was closed in 1922 and reopened in 1927 to become a fully-operational Army Air Force Base, and later a major B-52 bomber base after formation of the U.S Air Force in 1947. The base brought jobs and people into the Moreno Valley area and was the primary impetus for growth in the communities of Moreno, Sunnymead, and Edgemont. In 1984, the three communities were incorporated as the City of Moreno Valley.

F. Historic Resources

The Project site does not contain any structures under existing conditions. During pedestrian surveys of the Project site, BFSA did not observe any feature that could meet the classification of a historic resource (e.g., historic building remnants, historic refuse scatters/piles) (BFSA, 2016a, p. 5.0-2). The Project's off-site improvement area within the Perris Valley Storm Drain Channel is a modern, man-made storm drain facility that does not contain any structures, is routinely maintained (i.e., trash/debris removal), and intermittently contains flowing water; if any historic archaeological resources once existed in this area they would have been removed or destroyed during construction of the Channel, washed away during storm events, or removed during routine maintenance activities and would no longer be present under existing conditions.

BFSA conducted a literature records search with the EIC, at the University of California, Riverside. The record search included a review of all available cultural resource survey and excavation reports and site records for the area within a one-mile radius of the Project site. The literature and records search identified 17 cultural resource surveys that were previously conducted within a one-mile radius of the Project site, including two previous surveys of portions of the Project site and the Project's entire off-site impact area. As part of these past surveys, six historic sites were found within a one-mile radius of the Project site, as summarized in Table 4.5-1, *Historic Resources in Project Vicinity*. None of the historic resources listed in Table 4.5-1 are located – or previously located – on the Project site or within the Project's off-site improvement area. (BFSA, 2016a, pp. 5.0-1 through 5.0-2, Appendix B)

Table 4.5-1 Historic Resources in Project Vicinity

Site	Description
P-33-005562	Historic glass shards
P-33-007649	Historic World War II military barracks
P-33-011604	Historic well
P-33-011757	Historic residence
P-330015864	Historic standpipe, well, and brick remnants
RIV-11,291	Historic foundation of a grain mill facility

Source: (BFSA, 2016a, Table 5.1-1)

G. Applicable Regulatory Setting

❑ Senate Bill (SB) 18

California Senate Bill (SB) 18 requires that lead agencies consult with California Native American tribes during the local planning process for the purposes of protecting Traditional Tribal Cultural Places whenever a project proposes to amend or adopt any general plan or specific plan, or designate land as open space. The consultation process must be completed prior to project approval. Because the proposed Project includes a Specific Plan Amendment, the City of Moreno Valley is subject to all requirements associated with the SB 18 process for Native American consultation. The City of Moreno Valley initiated the SB 18 process on April 16, 2015, by advertising the Project to Native American tribes with traditional tribal cultural places in the vicinity of Moreno Valley. The City received responses from three tribes claiming that the Project site is located within their traditional tribal areas: San Manuel Band of Mission Indians, Soboba Band of Luiseño Indians, and the Pechanga Band of Luiseño Indians. The Pechanga Band of Luiseño Indians requested formal consultation with the City of Moreno Valley pursuant to SB 18. The City met with the Pechanga Band of Luiseño Indians on April 25, 2016.

❑ Assembly Bill (AB) 52

California Assembly Bill (AB) 52 requires a CEQA lead agency to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project regarding the project's potential impacts to tribal cultural resources, prior to determining whether a Negative Declaration (ND), Mitigated Negative Declaration (MND), or EIR is required for a project. The lead agency shall only conduct the consultation if requested by the California Native American tribe, in writing, within a specified timeframe. AB 52 went into effect on July 1, 2015, and only applies to projects that either: 1) did not file a Notice of Intent to adopt a ND or MND prior to July 1, 2015, or 2) did not file a NOP prior to July 1, 2015. The Project's NOP was filed on June 17, 2015 (i.e., before AB 52 took effect); therefore, the Project is exempt from AB 52.

❑ California Code of Regulations Title 14, Chapter 3, § 15064.5

The California Code of Regulations, Title 14, Chapter 3, § 15064.5 establishes the procedure for determining the significance of impacts to archeological and historical resources, as well as classifying the type of resource. Cultural resources are aspects of the environment that require identification and assessment for potential significance. The evaluation of cultural resources under CEQA is based upon the definitions of resources provided in § 15064.5.

❑ California Health and Safety Code, Division 7, Chapter 2, § 7050.5

California Health and Safety Code § 7050.5 prohibits disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery without authority of law and establishes procedures for the identification and proper handling human remains that were discovered inadvertently.

❑ California Public Resources Code, Division 5, Chapter 1.75, § 5097.98

In the event of discovery of Native American human remains, California Public Resources Code § 5097.98 requires the California NAHC to contact the most likely descendant of the deceased Native American within 48 hours of discovery. California Public Resources Code § 5097.98 also establishes procedures to allow the most likely descendant to inspect the remains and recommend a means of disposition.

4.5.2 Basis for Determining Significance

The proposed Project would result in a significant impact to cultural resources if the Project or any Project-related component would:

a) *Cause a substantial adverse change in the significance of a historical resource as defined in California Code of Regulations, Section 15064.5;*

b) *Cause a substantial adverse change in the significance of an archaeological resource as defined in California Code of Regulations, Section15064.5;*

c) *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or*

d) *Disturb any human remains, including those interred outside of formal cemeteries.*

4.5.3 Impact Analysis

Threshold a)	***Would the Project cause a substantial adverse change in the significance of a historical resource as defined in California Code of Regulations, Section 15064.5?***

No historic sites or historic archaeological resources are present on the Project site or within the Project's off-site impact area (BFSA, 2016a, pp. 5.0-1 through 5.0-2, Appendix B). Therefore, Project has no potential to result in a substantial adverse change to any historic resource as defined by California Code of Regulations § 15064.5. No impact would occur.

Threshold b)	***Would the Project cause a substantial adverse change in the significance of an archaeological resource as defined in California Code of Regulations, Section 15064.5?***

BFSA archaeologists did not observe any prehistoric archaeological resources on the Project site during field surveys and no prehistoric archaeological resources are known to occur within a one-mile radius of the Project site, based on the results of a records search with the EIC, at the University of California, Riverside (BFSA, 2016a, pp. 5.0-1 through 5.0-2, Appendix B). The Project's off-site improvement area within the Perris Valley Storm Drain Channel has no potential to contain prehistoric archaeological resources because this area is a fully disturbed, modern man-made storm drain facility that intermittently contains flowing water and undergoes routine maintenance; if any prehistoric archaeological resources historically existed in this area they would have been removed or destroyed during construction of the Channel or would have been washed away by storm water runoff. As such, the Project has no potential to impact known archaeological resources.

Regardless, there is a remote potential to uncover archaeological resources during excavation and/or grading activities associated with the Project, as the Project area is located within the traditional use areas of the Soboba Band of Luiseño Indians, the Pechanga Band of Luiseño Indians, and the San Manuel Band of Mission Indians (refer to *Technical Appendix A* of this EIR). If significant resources as defined in California Code of Regulations § 15064.5 are unearthed during construction, these resources could be significantly impacted if not appropriately treated. The Project's potential to impact previously undiscovered prehistoric archaeological resources, which could result in an adverse change in the significance of the resources pursuant to California Code of Regulations § 15064.5, is a significant impact for which mitigation is required.

Threshold c)	***Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?***

Although the Project site does not contain any known paleontological resources or unique geologic features and no such resources were observed during field surveys of the site, the Project site is underlain by older-Pleistocene alluvial fan deposits that have a high potential to contain significant paleontological resources (BFSA, 2016b, p. 2). The Project's off-site improvement area within the Perris Valley Storm Drain Channel has no potential to contain paleontological or unique geological resources because the Channel is a modern, man-made storm drain facility and any such resources – if they once existed within the Channel's alignment – would have been removed/destroyed during construction of the Channel.

Because of the high paleontological sensitivity of the older alluvial deposits that exist below the ground surface on the Project site at depths greater than four (4) feet, the Project could result in impacts to paleontological resources that may exist below the ground surface if they are unearthed and not properly treated. Therefore, the Project's potential to directly or indirectly destroy unique paleontological resources buried beneath the ground surface is a significant impact and mitigation is required.

Threshold d)	***Would the Project disturb any human remains, including those interred outside of formal cemeteries?***

The Project site does not contain a cemetery and no known formal cemeteries are located within the immediate site vicinity. Field surveys conducted on the Project site did not identify the presence of any human remains and no human remains are known to exist beneath the surface of the site (BFSA, 2016a, pp. 5.0-1 through 5.0-2, Appendix B). Nevertheless, the remote potential exists that human remains may be unearthed during grading and excavation activities associated with Project construction.

If human remains are unearthed during Project construction, the construction contractor would be required by law to comply with California Health and Safety Code, § 7050.5. Pursuant to § 7050.5(b) and (c), if human remains are discovered, the County Coroner must be contacted and if the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, the Coroner is required to contact the NAHC by telephone within 24 hours. Pursuant to California Public Resources Code § 5097.98, whenever the NAHC receives notification of a discovery of Native American human remains from a county coroner, the NAHC is required to immediately notify those persons it believes to be most likely descended from the deceased Native American. The descendants may, with the permission of the owner of the land, or his or her authorized representative, inspect the site of the discovery of the Native American human remains and may recommend to the owner or the person responsible for the excavation work means for treatment or disposition, with appropriate dignity, of the human remains and any associated grave goods. The descendants shall complete their inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site. According to Public Resources Code § 5097.94(k), the NAHC is authorized to mediate disputes arising between landowners and known descendants relating to the treatment and disposition of Native American human burials, skeletal remains, and items associated with Native American burials. With mandatory compliance to California Health and Safety Code § 7050.5 and Public Resources Code § 5097.98, any potential impacts to human remains, including human remains of Native American descent, would be less than significant.

With mandatory compliance to California Health and Safety Code § 7050.5 and Public Resources Code § 5097.98, any potential impacts to human remains, including human remains of Native American descent, would be less than significant and mitigation is not required.

4.5.4 Cumulative Impact Analysis

This cumulative impact analysis considers development of the Project site in conjunction with other development projects in the vicinity of the Project site resulting from full General Plan buildout in the City of Moreno Valley and other jurisdictions in the region identified in EIR Subsection 4.0, *Environmental Analysis*.

Record searches and field surveys of the Project area indicate the absence of significant historical sites and resources on the Project site and within the Project's off-site improvement area (BFSA, 2016a, pp. 5.0-1 through 5.0-2). Therefore, the Project has no potential to contribute towards a significant cumulative impact to historical sites and resources, as defined in California Code of Regulations, § 15064.5.

No prehistoric archaeological resources were identified on or near the Project site during record searches and field surveys conducted by BFSA (BFSA, 2016a, pp. 5.0-1 through 5.0-2, Appendix B). Accordingly, the Project would not directly result in a substantial adverse change in the significance of any known archaeological resources, as defined in California Code of Regulations § 15064.5. In the unlikely event that such resources are buried beneath the surface of the Project site and/or off-site improvement area, and unearthed during Project construction activities and not properly treated, the Project would significantly impact archeological resources. Other projects within region would similarly have the potential to impact unknown, subsurface prehistoric archaeological resources during ground-disturbing activities. Therefore, the Project's potential to directly impact subsurface archaeological deposits is a potential cumulatively considerable impact for which mitigation is required.

As described in detail in EIR Subsection 4.3, *Air Quality*, the Project would generate air pollutant emissions during its construction and operational phases. Air pollution has been identified as a contributing factor in the deterioration of open-air prehistoric rock art. Accordingly, the air pollutant emissions generated by the Project (and other development projects in the SCAB) could theoretically contribute to rock art deterioration in the SCAB. Other environmental conditions that contribute to prehistoric rock art deterioration include diurnal heating and cooling events, wind, soil chemistry, and rock composition. No scientific studies have been conducted to measure the rate of deterioration of open-air prehistoric rock art or to determine the magnitude of air pollution's role in the deterioration of prehistoric rock art. Further, most prehistoric rock art sites in the SCAB are associated with granite rock, which is less susceptible to air pollution-related deterioration than rock types with high concentrations of calcite (e.g., marbles, limestones, sandstones). (BFSA, 2016a, p. 6.0-1) Because there is no scientific data to quantify air pollution's role in the deterioration of prehistoric rock art – or to quantify the pollution level at which deterioration would be exacerbated – and because prehistoric rock art sites in the SCAB have a relatively low sensitivity to air pollution, it would be speculative to claim that the Project's air pollutant emissions would considerably contribute to a substantial cumulative adverse effect to prehistoric rock art sites. Accordingly, the Project's potential to considerably contribute to an indirect cumulative impact to prehistoric rock art sites associated with air pollutant emissions would be less than significant.

No paleontological resources have been identified on-or-near the Project site; however, the Project would disturb alluvium soils with a high potential to contain fossils. Other development projects in the cumulative study area with similar geologic characteristics as the Project site would have a similar potential to uncover unique paleontological resources. Therefore, the Project's potential to result in a cumulatively considerable impact to unique paleontological resources is a significant impact for which mitigation is required.

Finally, due to mandatory compliance required of all ground-disturbing construction activities with the provisions of California Health and Safety Code § 7050.5 as well as Public Resources Code § 5097 *et. seq.*, human remains would be assured proper treatment if encountered. Because all other development projects within the City of Moreno Valley and elsewhere in the region similarly would be required to comply with state law, any cumulative impact associated with human remains discovery would be reduced to below a level of significance.

4.5.5 Significance of Impacts before Mitigation

<u>Threshold a): No Impact.</u> The Project would not impact a historic resource. No historic resources are present on the Project site or the Project's off-site improvement area; therefore, no historic resources could be altered or destroyed by construction or operation of the proposed Project.

<u>Threshold b): Significant Direct and Cumulatively Considerable Impact.</u> Although no archaeological resources were identified on the Project site, implementation of the Project has the potential, however unlikely, to unearth and adversely impact significant archaeological resources that may be buried beneath the ground surface and discovered during Project construction activities.

<u>Threshold c): Significant Direct and Cumulatively Considerable Impact.</u> The Project would not impact any known paleontological resource or unique geological feature. However, the Project site and off-site improvement area contain alluvium soils with a high sensitivity for paleontological resources. Implementation of the Project has the potential to unearth and adversely impact

paleontological resources that may be buried beneath the ground surface and discovered during Project-related grading and excavation activities.

Threshold d): Less-than-Significant Impact. In the unlikely event that human remains are discovered during Project grading or other ground disturbing activities, the Project would be required to comply with the applicable provisions of California Health and Safety Code §7050.5 and California Public Resources Code §5097 *et. seq*. Mandatory compliance with State law would ensure that human remains, if encountered, are appropriately treated and would preclude the potential for significant impacts to human remains.

4.5.6 Mitigation

The following mitigation measures are required to reduce the Project's potential to result in significant impacts to prehistoric archeological resources, as defined in California Code of Regulations § 15064.5.

MM 4.5.1 Prior to issuance of a grading permit, the Project Applicant shall provide evidence to the City of Moreno Valley that a qualified professional archaeological monitor has been retained by the Project Applicant to conduct monitoring of all mass grading and trenching activities in previously undisturbed soils and has the authority to halt and redirect earthmoving activities in the event that suspected archaeological resources are unearthed during Project construction.

MM 4.5.2 Prior to the issuance of a grading permit, the Project Applicant shall provide evidence to the City of Moreno Valley that appropriate Native American representative(s) shall be allowed to monitor and have received or will receive a minimum of 15 days advance notice of mass grading activities in previously undisturbed soils.

MM 4.5.3 During grading operations in previously undisturbed soils, a professional archaeological monitor shall observe the grading operation until such time as the monitor determines that there is no longer any potential to uncover buried cultural deposits. If the monitor suspects that an archaeological resource may have been unearthed, the monitor shall immediately halt and redirect grading operations in a 100-foot radius around the find to allow identification and evaluation of the suspected resource. If the monitor determines that the suspected resource is potentially significant, the archaeologist shall notify the appropriate Native American Tribe(s) and invite a tribal representative to consult on the resource evaluation. In consultation with the appropriate Native American Tribe(s), the archaeological monitor shall evaluate the suspected resource and make a determination of significance pursuant to California Public Resources Code Section 21083.2. If the resource is significant, Mitigation Measure MM 4.5.4 shall apply.

MM 4.5.4 If a significant archaeological resource(s) is discovered on the property, ground disturbing activities shall be suspended 100 feet around the resource(s). The archaeological monitor and a representative of the appropriate Native American Tribe(s), the Project Applicant, and the City Planning Division shall confer regarding mitigation of the discovered resource(s). A treatment plan shall be prepared and implemented by the archaeologist to protect the identified archaeological resource(s) from damage and destruction. The landowner shall relinquish ownership of all archaeological artifacts that are of Native American origin found on the Project site to the culturally affiliated Native American tribe for proper treatment and disposition. A final report containing the significance and treatment findings shall be prepared by the archaeologist and submitted to the City Planning Division, the appropriate Native American tribe(s), and the Eastern Information Center.

The following mitigation measures are required to reduce the Project's potential impact to paleontological resources that have the potential to be present beneath the Project site and discovered during ground-disturbing construction activities.

MM 4.5.5 Prior to the issuance of a grading permit, the Project Applicant shall provide evidence to the City of Moreno Valley that a qualified paleontologist has been retained by the Project Applicant to conduct monitoring of excavation activities and has the authority to halt and redirect earthmoving activities in the event that suspected paleontological resources are unearthed.

MM 4.5.6 The paleontological monitor shall conduct full-time monitoring during grading and excavation operations in undisturbed, very old alluvial fan sediments and shall be equipped to salvage fossils if they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. The paleontological monitor shall be empowered to temporarily halt or divert equipment to allow of removal of abundant and large specimens in a timely manner. Monitoring may be reduced if the potentially fossiliferous units are not present in the subsurface, or if present, are determined upon exposure and examination by qualified paleontological personnel to have a low potential to contain or yield fossil resources.

MM 4.5.7 Recovered specimens shall be properly prepared to a point of identification and permanent preservation, including screen washing sediments to recover small invertebrates and vertebrates, if necessary. Identification and curation of specimens into a professional, accredited public museum repository with a commitment to archival conservation and permanent retrievable storage, such as the Western Science Museum in Hemet, California, is required for significant discoveries.

MM 4.5.8 A final monitoring and mitigation report of findings and significance shall be prepared, including lists of all fossils recovered, if any, and necessary maps and graphics to accurately record the original location of the specimens. The report shall be submitted to the City of Moreno Valley prior to building final.

4.5.7 Significance of Impacts after Mitigation

Threshold b): Less-than-Significant Impact with Mitigation. Implementation of Mitigation Measures MM 4.5.1 through MM 4.5.4 would ensure that an archaeological monitoring program is implemented during ground disturbing activities, and would ensure that any archaeological resources that may be uncovered are appropriately treated as recommended by a qualified archaeologist. With implementation of the required mitigation, the Project's potential impact to prehistoric archaeological resources would be less than significant.

Threshold c): Less-than-Significant Impact with Mitigation. Implementation of Mitigation Measures MM 4.5.5 through MM 4.5.8 would ensure the proper identification and subsequent treatment of any paleontological resources that may be encountered during ground-disturbing activities associated with implementation of the proposed Project. With implementation of the required mitigation, the Project's potential impact to paleontological resources would be less than significant.

4.6 Greenhouse Gas Emissions

The analysis in this Subsection is based in part on a report prepared by Urban Crossroads, Inc. titled "Moreno Valley Logistics Center Greenhouse Gas Analysis," dated March 17, 2016, and included as *Technical Appendix E* to this EIR (Urban Crossroads, 2016c). The technical report and analysis in this Subsection assess the proposed Project's potential to generate greenhouse gas emissions that could contribute to global climate change and its associated environmental effects.

4.6.1 Existing Conditions

A. Introduction to Global Climate Change

Global Climate Change (GCC) refers to change in average meteorological conditions on the Earth with respect to temperature, wind patterns, precipitation, and storms. Debate exists within the scientific community regarding the extent to which GCC is occurring naturally or as a result of human activity. Some data suggests that GCC has occurred naturally over the course of thousands or millions of years and that these historical changes to the Earth's climate have occurred naturally without human influence, as in the case of an ice age. However, many scientists believe that the climate shift taking place since approximately year 1900 is occurring at a quicker rate and magnitude than in the past as a result of human activity and industrialization. (Urban Crossroads, 2016c, p. 8)

Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the Earth's atmosphere, but prevent radioactive heat from escaping, thus warming the Earth's atmosphere. These gases that trap heat in the atmosphere are referred to collectively in this EIR as greenhouse gases (GHGs), which are released into the atmosphere by both natural and anthropogenic (human) activity. Without the natural GHG effect, the Earth's average temperature would be approximately 61° Fahrenheit (F) cooler than current conditions. (Urban Crossroads, 2016c, pp. 9-10)

It is not possible for an individual development project, like the proposed Project, to generate enough GHG emissions to make a discernible change in global climate. However, the proposed Project may participate in the potential for GCC through its incremental contribution of GHG emissions when considered in combination with other worldwide sources of GHGs. (Urban Crossroads, 2016c, p. 8)

B. Greenhouse Gases

Carbon dioxide (CO_2), methane (CH_4), and Nitrous Oxide (N_2O) emissions are the focus of evaluation in this Subsection because these gases are the primary contributors to GCC from development projects. Although other substances such as fluorinated gases also contribute to GCC, sources of fluorinated gases are not well defined and no accepted emissions factors or methodology exist to accurately calculate these gases. (Urban Crossroads, 2016c, pp. 9-10)

Greenhouse gases have varying global warming potential (GWP) values; GWP values represent the potential of a gas to trap heat in the atmosphere. CO_2 is used as the reference gas for GWP, and thus has a GWP of 1. The atmospheric lifetime and GWP of common GHGs are summarized in Table 4.6-1, *GWP and Atmospheric Lifetime of Select GHGs*. As shown in Table 4.6-1, the GWPs for common GHGs range from 1 for CO_2 to 22,800 for sulfur hexafluoride (SF_6) (Urban Crossroads, 2016c, p. 11)

Table 4.6-1 GWP and Atmospheric Lifetime of Select GHGs

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100 year time horizon)	
		Second Assessment Report (SAR)	4th Assessment Report (AR4)
Carbon Dioxide	50-200	1	1
Methane	12 ± 3	21	25
Nitrous Oxide	120	310	298
HFC-23	264	11,700	14,800
HFC-134a	14.6	1,300	1,430
HFC-152a	1.5	140	124
Sulfur Hexafluoride (SF6)	3,200	23,900	22,800

Source: Table 2.14 of the IPCC Fourth Assessment Report, 2007

Source: (Urban Crossroads, 2016c, Table 2-2)

Provided below is a description of the common gases that contribute to GCC. For more information about these gases and their associated human health effects, refer to Section 2.4 of *Technical Appendix E* to this EIR and the reference sources cited therein.

- 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. 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. As an example, when water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are more able to reflect incoming solar radiation, thereby allowing less energy to reach the

Earth's surface and heat it up. 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. (Urban Crossroads, 2016c, pp. 10, 15)

- Carbon Dioxide (CO_2) is an odorless and colorless GHG that 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. Manmade sources include: the burning of coal, oil, natural gas, and wood. Since the industrial revolution began in the mid-1700s, the sort of human activity that increases CO_2 emissions has increased dramatically. 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. Exposure to CO_2 in high concentrations can cause human health effects, but outdoor levels are not high enough to adversely affect human health. (Urban Crossroads, 2016c, pp. 11, 15)

- Methane (CH_4) is an extremely effective absorber of radiation, though its atmospheric concentration is less than CO_2 and its lifetime in the atmosphere is brief (10-12 years) compared to other GHGs. Methane has both natural and manmade 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 manmade sources include fossil-fuel combustion and biomass burning. No human health effects are known to occur from atmospheric exposure to methane; however, methane is an asphyxiant that may displace oxygen in enclosed spaces. (Urban Crossroads, 2016c, pp. 11, 15)

- Nitrous Oxide (N_2O) concentrations began to rise in the atmosphere 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. N_2O is used as an aerosol spray propellant, (e.g., in whipped cream bottles), in potato chip bags to keep chips fresh, and in rocket engines and in race cars. N_2O can be transported into the stratosphere, be deposited on the Earth's surface, and be converted to other compounds by chemical reaction. N_2O 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 brain damage. (Urban Crossroads, 2016c, pp. 11, 15)

- Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in CH_4 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 were first synthesized in 1928 and have no natural source. CFCs 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, due to their long atmospheric lifetime, some of the CFCs will remain in the atmosphere for over 100 years. (Urban Crossroads, 2016c, pp. 11-12)

- Hydrofluorocarbons (HFCs) are synthetic, man-made chemicals that are used as a substitute for CFCs. Out of all GHGs, they are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order largest to smallest), HFC-23 (CHF_3), HFC-134a (CF_3CH_2F), and HFC-152a (CH_3CHF_2). Prior to 1990, the only significant emissions were HFC-23 emissions. 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 human health effects are known to result from exposure to HFCs, which are manmade and used for applications such as automobile air conditioners and refrigerants. (Urban Crossroads, 2016c, p. 12)

- Perfluorocarbons (PFCs) are primarily produced for aluminum production and semiconductor manufacture. PFCs have stable molecular structures and do not break down through chemical processes in the lower atmosphere. 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 human health effects are known to result from exposure to PFCs. (Urban Crossroads, 2016c, p. 12)

- Sulfur Hexafluoride (SF6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated (22,800). The U.S. Environmental Protection Agency (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. (Urban Crossroads, 2016c, p. 12)

C. Greenhouse Gas Emissions Inventories

❑ Global

Worldwide anthropogenic (man-made) 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). For the Year 2011, the most recent year for which GHG emissions data is available for Annex I nations, the sum of these emissions totaled approximately 25,285,543 gigagrams (Gg) of carbon dioxide equivalent (CO_2e), as shown in Table 4.6-2, *Top GHG-Producing Countries*. (Urban Crossroads, 2016c, p. 8)

Table 4.6-2 Top GHG-Producing Countries

Emitting Countries	GHG Emissions (Gg CO2e)
China	10,975,500
United States	6,665,700
European Union (28 member countries)	4,544,224
Russian Federation	2,322,220
India	3,013,770
Japan	1,344,580
Total	**28,865,994**

Source: (Urban Crossroads, 2016c, Table 2-1)

❑ United States

As noted in Table 4.6-2, the United States produced the second-highest amount of GHG emission in the world in 2011. The primary GHG emitted by anthropogenic sources in the United States was CO_2, which accounted for approximately 83 percent of the United States' total GHG emissions. Approximately 78 percent of the Unites States' CO_2 emissions resulted from fossil fuel combustion. (Urban Crossroads, 2016c, p. 8)

❑ State of California

The California Air Resources Board (CARB) compiles the GHG inventory for sources across California. Based upon 2008 GHG inventory data (which is the most recent year for which data is available), California emitted 474 million metric tons (MMT) of CO_2e including emissions resulting from imported electrical power. Based on the CARB inventory data and GHG inventories compiled by the World Resources Institute, California's total statewide GHG emissions rank second in the United States (Texas is ranked first). (Urban Crossroads, 2016c, p. 8)

❑ Project Site

Under existing conditions, the Project site is undeveloped and contained no buildings or structures. The only potential sources of GHG emissions on-site were from the use of landscaping equipment associated with on-going weed abatement activities (i.e., discing). For purposes of analysis, this EIR assumes that the Project site emits no GHG gases under existing conditions.

D. Potential Effects of Climate Change in California

The California Climate Change Center (CCCC) published a report titled "Scenarios of Climate Change in California: An Overview" (herein called the "Climate Scenarios report") in February 2006 that is generally instructive about effects of climate change in California. The Climate Scenarios report used a range of emissions scenarios developed by the Intergovernmental Panel on Climate Change (IPCC) to project a series of potential warming ranges (i.e., temperature increases) that may occur in California during the 21st century: lower warming range (3.0-5.4°F); medium warming range (5.5-7.8°F); and higher warming range (8.0-10.4°F) (CCCC, 2006, p. 7).

In addition, the California Natural Resources Agency adopted a "California Climate Adaptation Strategy" in 2009. This report details many vulnerabilities arising from climate change with respect to matters such as temperature extremes, sea level rise, wildfires, floods and droughts and precipitation changes, and responds to the Governor's Executive Order (EO) S-13-2008 that called on state agencies to develop California's strategy to identify and prepare for expected climate impacts (California Natural Resources Agency, 2009).

According to these reports, substantial temperature increases arising from increased GHG emissions worldwide could result in a variety of effects to the people, economy, and environment of California, with the severity of the effects depending upon actual future emissions of GHGs and associated degree of warming. Table 4.6-3, *Summary of Potential GCC Impact, 2070-2099*, summarizes potential impacts of GCC within California.

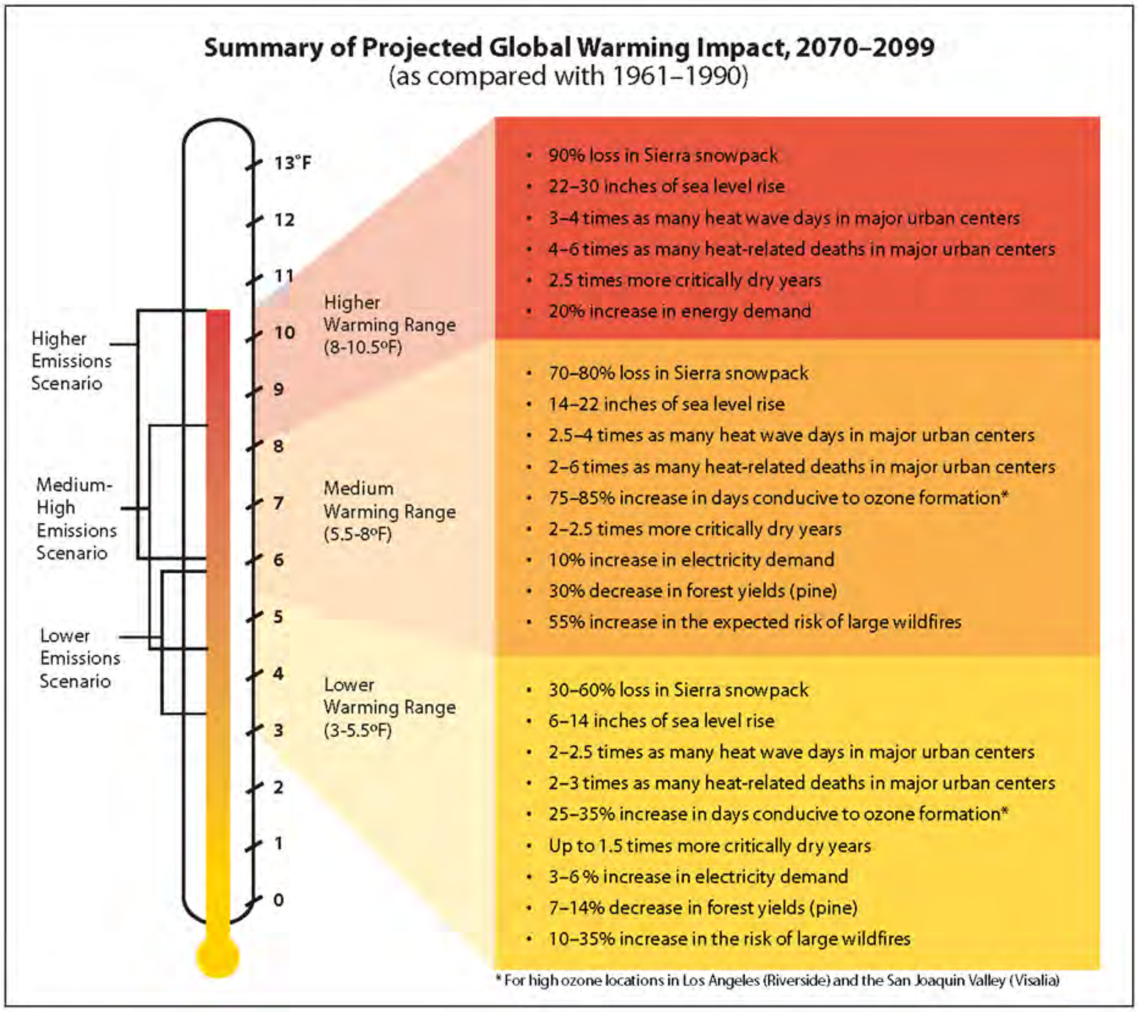
Based on the estimated scenarios presented in the Climate Scenario and California Climate Adaption Strategy reports, the climate change impacts in California have the potential to include, but are not limited to, the following areas:

- Human Health Effects. Climate change can affect the health of Californians by increasing the frequency, duration, and intensity of conditions conducive to air pollution formation, oppressive heat, and wildfires. The primary concern is not the change in average climate, but rather the projected increase in extreme conditions that are responsible for the most serious health consequences. In addition, climate change has the potential to influence asthma symptoms and the incidence of infectious disease. (CCCC, 2006, p. 26)

- Water Resource/Supple Effects. Although most climate model simulations predict relatively moderate changes in precipitation over the 21^{st} century, rising temperatures are expected to lead to diminishing snow accumulation in mountainous watersheds, including the Sierra Nevada. Warmer conditions during the last few decades across the western United States have already produced a shift toward more precipitation falling as rain instead of snow, and snowpacks over the region have been melting earlier in the spring. Delays in snow accumulation and earlier snowmelt can have cascading effects on water supplies, natural ecosystems, and winter recreation. (CCCC, 2006, p. 14)

- Agricultural Effects. Agriculture, along with forestry, is the sector of the California economy that is most likely to be affected by a change in climate. California agriculture is a $68 billion industry. California is the largest agricultural producer in the nation and accounts for 13% of all U.S. agricultural sales, including half of the nation's total fruits and vegetables. Regional analyses of climate trends over agricultural regions of California suggest that climate change is already affecting the agriculture industry. Over the period 1951 to 2000, the growing season has lengthened by about a day per decade, and warming temperatures

Table 4.6-3 Summary of Potential GCC Impact, 2070-2099



Source: (Urban Crossroads, 2016c, Exhibit 2-A)

resulted in an increase of 30 to 70 growing degree days per decade, with much of the increase occurring in the spring. Climate change affects agriculture directly through increasing temperatures and rising CO_2 concentrations, and indirectly through changes in water availability and pests. (CCCC, 2006, p. 19)

- Forests and Natural Landscape Effects. Climate changes and increased CO_2 concentrations are expected to alter the extent and character of forests and other ecosystems. The distribution of species is expected to shift; the risk of climate-related disturbance such as wildfires, disease, and drought is expected to rise; and forest productivity is projected to increase or decrease – depending on species and region. In California, these ecological changes could have measurable implications for both market (e.g., timber industry, fire suppression and damages costs, public health) and nonmarket (e.g., ecosystem services) values. (CCCC, 2006, p. 22)

- Sea Level Effects. Coastal observations and global model projections indicate that California's open coast and estuaries will experience rising sea levels during the next century. Sea level rise already has affected much of the coast in southern California, Central California, and the San Francisco Bay and estuary. These historical trends, quantified from a small set of California tide gages, have approached 0.08 inches per year (in/yr), which are rates very similar to those estimated for global mean sea level. So far, there is little evidence that the rate of rise has accelerated, and indeed the rate of rise at California tide gages has actually flattened since about 1980. However, projections indicate that substantial sea level rise, even faster than the historical rates, could occur during the next century. Sea level rise projections range from 5.1–24.4 inches (in.) higher than the 2000 sea level for simulations under the lower emissions scenario, from 7.1–29.9 in. for the medium-high emission scenario, and from 8.5–35.2 in. for the higher emissions scenario. (CCCC, 2006, p. 10)

E. Regulatory Setting

Below is an account of the regulatory programs, policies, laws, and regulations that are applicable to GHG emissions and GCC in California. For more information, refer to Section 2.7 of *Technical Appendix E* and the reference sources cited therein.

❑ International Regulation and the Kyoto Protocol

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail GCC. In 1992, the United States joined other countries around the world in signing the United Nations' Framework Convention on Climate Change (UNFCCC) agreement with the goal of controlling GHG emissions. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The Plan currently consists of more than 50 voluntary programs for member nations to adopt.

The Kyoto Protocol is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. Notably, while the United States is a signatory to the Kyoto Protocol, Congress has not ratified the Protocol and the United States is not bound by the Protocol's commitments. In December 2009, international leaders from 192 nations met in Copenhagen to address the future of international climate change commitments post-Kyoto. (Urban Crossroads, 2016c, pp. 16-17)

❑ United Nations Paris Climate Change Conference

On December 12, 2015, 195 nations – including the United States and China – agreed upon a strategy for combatting GCC. The meeting, known as the 21st Annual Conference of Parties (COP21), established a framework for reducing GHG emissions, to go in effect in 2020. In mitigating global climate change, COP 21 participating nations agreed upon a universal, long-term goal of keeping the global temperature to less than 3.6°F above pre-industrial levels. In addition to that, nations agreed to minimize their GHG emissions as soon as possible, with the recognition that developing countries may take longer to reach this goal than developed countries. Thereafter, nations are to undergo rapid reductions in accordance to best available technological advances. Nations are to submit national climate action plans that detail future objectives to address climate change. (Urban Crossroads, 2016c, p. 17)

❑ Federal Regulation and the Clean Air Act

Coinciding with the 2009 meeting of international leaders in Copenhagen, on December 7, 2009, the U.S. Environmental Protection Agency (EPA) issued an Endangerment Finding under §202(a) of the Clean Air Act (CAA), opening the door to federal regulation of GHGs. The Endangerment Finding notes that GHGs threaten public health and welfare and are subject to regulation under the CAA. To date, the EPA has not promulgated regulations on GHG emissions, but it has begun to develop them.

Previously the EPA had not regulated GHGs under the CAA because it asserted that the Act did not authorize it to issue mandatory regulations to address GCC and that such regulation would be unwise without an unequivocally established causal link between GHGs and the increase in global surface air temperatures. In *Massachusetts v. Environmental Protection Agency et al.* (127 S. Ct. 1438 [2007]); however, the U.S. Supreme Court held that GHGs are pollutants under the CAA and directed the EPA to decide whether the gases endangered public health or welfare. The EPA had also not moved aggressively to regulate GHGs because it expected Congress to make progress on GHG legislation, primarily from the standpoint of a cap-and-trade system. However, proposals circulated in both the House of Representative and Senate have been controversial and it may be some time before the U.S. Congress adopts major climate change legislation. The EPA's Endangerment Finding paves the way for federal regulation of GHGs with or without Congress.

Although global climate change did not become an international concern until the 1980s, efforts to reduce energy consumption began in California in response to the oil crisis in the 1970s, resulting in the incidental reduction of greenhouse gas emissions. In order to manage the state's energy needs and promote energy efficiency, AB 1575 created the California Energy Commission (CEC) in 1975. (Urban Crossroads, 2016c, p. 18)

❑ California Assembly Bill No. 1493 (AB 1493)

AB 1493 directed CARB to develop and adopt the nation's first greenhouse gas emission standards for automobiles. To meet the requirements of AB 1493, CARB amended to the California Code of Regulations (CCR) adding GHG emission standards to California's existing motor vehicle emission standards in 2004. Amendments to CCR Title 13 §§ 1900 and 1961 and adoption of § 1961.1 require automobile manufacturers to meet fleet average GHG emission limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes beginning with the 2009 model year. Emission limits are further reduced each model year through 2016. (Urban Crossroads, 2016c, pp. 19-21)

❑ Executive Order S-3-05

Executive Order S-3-05 was signed by Governor Arnold Schwarzenegger in June 2005, and establishes the following GHG reduction targets for statewide 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. (Urban Crossroads, 2016c, p. 21)

❑ California Assembly Bill 32 (AB 32)

In September 2006, Governor Schwarzenegger signed the California Global Warming Solutions Act of 2006 (AB 32). AB 32 requires that statewide GHG emissions be reduced to 1990 levels by the year 2020. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources.

AB 32 required that CARB adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrived at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state achieves reductions in GHG emissions necessary to meet the cap. AB 32 also included guidance to institute emissions reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the reductions.

In November 2007, CARB completed its estimates of 1990 GHG levels. Net emission 1990 levels were estimated at 427 million metric tons (MMTs). Accordingly, 427 MMTs of CO_2 equivalent was established as the emissions limit for 2020. For comparison, CARB's estimate for baseline GHG emissions was 473 MMT for 2000 and 532 MMT for 2010. "Business as usual" conditions (without the reductions to be implemented by CARB regulations) for 2020 were projected to be 596 MMTs.

In December 2007, CARB approved a regulation for mandatory reporting and verification of GHG emissions for major sources. This regulation covered major stationary sources such as cement plans, oil refineries, electric generating facilities/providers, and co-generation facilities, which comprise 94 percent of the point source CO_2 emissions in the State.

On December 11, 2008, CARB adopted a scoping plan to reduce GHG emissions to 1990 levels. Table 4.6-4, *CARB Scoping Plan GHG Reduction Measures*, shows the proposed reductions from regulations and programs outlined in the Scoping Plan. While local government operations were not accounted for in achieving the Year 2020 emissions reduction, local land use changes are estimated to result in a reduction of 5.0 $MMTCO_2e$, which is approximately three percent of the 2020 GHG emissions reduction goal. In addition, local government actions and targets are anticipated to reduce vehicle miles by approximately two percent through land use planning, resulting in a potential GHG reduction of 2.0 $MMTCO_2e$ (or approximately 1.2 percent of the GHG reduction target). In recognition of the critical role local governments will play in successful implementation of AB 32, CARB recommended a GHG reduction goal of 15 percent of 2006 levels by 2020 to ensure that municipal and community-wide emissions match the state's reduction target.

Table 4.6-4 CARB Scoping Plan GHG Reduction Measures

Recommended Reduction Measures	*Reductions Counted toward 2020 Target of 169 MMT CO2e*	*Percentage of Statewide 2020 Target*
Cap and Trade Program and Associated Measures		
California Light-Duty Vehicle GHG Standards	31.7	19%
Energy Efficiency	26.3	16%
Renewable Portfolio Standard (33 percent by 2020)	21.3	13%
Low Carbon Fuel Standard	15	9%
Regional Transportation-Related GHG Targets[1]	5	3%
Vehicle Efficiency Measures	4.5	3%
Goods Movement	3.7	2%
Million Solar Roofs	2.1	1%
Medium/Heavy Duty Vehicles	1.4	1%
High Speed Rail	1.0	1%
Industrial Measures	0.3	0%
Additional Reduction Necessary to Achieve Cap	34.4	20%
Total Cap and Trade Program Reductions	146.7	87%
Uncapped Sources/Sectors Measures		
High Global Warming Potential Gas Measures	20.2	12%
Sustainable Forests	5	3%
Industrial Measures (for sources not covered under cap and trade program)	1.1	1%
Recycling and Waste (landfill methane capture)	1	1%
Total Uncapped Sources/Sectors Reductions	27.3	16%
Total Reductions Counted toward 2020 Target	174	100%
Other Recommended Measures – Not Counted toward 2020 Target		
State Government Operations	1.0 to 2.0	1%
Local Government Operations	To Be Determined[2]	NA
Green Buildings	26	15%
Recycling and Waste	9	5%
Water Sector Measures	4.8	3%
Methane Capture at Large Dairies	1	1%
Total Other Recommended Measures – Not Counted toward 2020 Target	42.8	NA

Source: CARB. 2008, MMTons CO2e: million metric tons of CO2e
[1]Reductions represent an estimate of what may be achieved from local land use changes. It is not the SB 375 regional target.
[2]According to the Measure Documentation Supplement to the Scoping Plan, local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 million metric tons of CO2e (or approximately 1.2 percent of the GHG reduction target). However, these reductions were not included in the Scoping Plan reductions to achieve the 2020 Target

Source: (Urban Crossroads, 2016c, Table 2-3)

In May 2014, CARB adopted the first update to the original Scoping Plan which was necessary to establish long-term GHG policies to make deep GHG emission reductions to achieve an 80 percent reduction below 1990 levels by 2050. The update includes key recommendations for six key economic sectors (energy, transportation, agriculture, water, waste management, and natural and working lands) as well as short-lived climate pollutants, green buildings, and the Cap-and-Trade Program. The findings largely affect regulatory measures that will indirectly reduce GHG emissions and generate a need to update local policies. (Urban Crossroads, 2016c, pp. 21-24)

- **California Senate Bill 1368 (SB 1368)**

In 2006, the State Legislature adopted Senate Bill 1368 (SB 1368), which directs the California Public Utilities Commission (CPUC) to adopt a greenhouse gas emission performance standard (EPS) for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than five years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Due to the carbon content of its fuel source, a coal-fired plant cannot meet this standard because such plants emit roughly twice as much carbon as natural gas, combined cycle plants. Accordingly, SB 1368 effectively prevents California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. Thus, SB 1368 will lead to dramatically lower greenhouse gas emissions associated with California energy demand, as SB 1368 will effectively prohibit California utilities from purchasing power from out of state producers that cannot satisfy the EPS standard required by SB 1368. (Urban Crossroads, 2016c, pp. 24-25)

- **Senate Bill 97 (SB 97)**

SB 97 requires the Office of Planning and Research to prepare and transmit to the Resources Agency guidelines and directed amendments to the CEQA statute specifically for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions. As directed by SB 97, the Natural Resources Agency adopted Amendments to the CEQA Guidelines for greenhouse gas emissions on December 30, 2009. On February 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The Amendments became effective on March 18, 2010, and are primarily included as § 15064.4 of the CEQA Guidelines. Additionally, Appendix G to the CEQA Guidelines also was changed to identify two distinct thresholds for the evaluation of GHGs, which are presented in Subsection 4.6.4, below. (Urban Crossroads, 2016c, p. 25)

- **Executive Order S-01-07**

Executive Order S-01-07 was signed by Governor Schwarzenegger in January 2007 and is effectively known as the Low Carbon Fuel Standard (LCFS). The Executive Order seeks to reduce the carbon intensity of California's passenger vehicle fuels by at least 10 percent by 2020. The LCFS requires fuel providers in California to ensure that the mix of fuel they sell into the California market meet, on average, a declining standard for GHG emissions measured in CO2e grams per unit of fuel energy sold. (Urban Crossroads, 2016c, p. 26)

- **Executive Order S-14-08**

Executive Order S-14-08 was signed by Governor Schwarzenegger on November 2008 and is effectively known as the Renewable Portfolio Standard (RPS). According to S-14-08, the RPS will require that all retail sellers of electricity shall serve 33 percent of their load with renewable energy by 2020. State government agencies are directed to take all appropriate actions to implement this target in all regulatory proceedings, including siting, permitting, and procurement for renewable energy power plants and transmission lines. (Urban Crossroads, 2016c, p. 26)

❑ Senate Bill 375 (SB 375)

SB 375, signed in September 2008, aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires metropolitan planning organizations (MPOs) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS) that will prescribe land use allocation in that MPO's regional transportation plan. CARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight (8) years but can be updated every four (4) years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs did not meet the GHG reduction targets, transportation projects are not eligible for funding programmed after January 1, 2012. (Urban Crossroads, 2016c, p. 27)

The Southern California Association of Governments (SCAG) *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)* is applicable to the Project area.

❑ Executive Order B-30-15

On April 29, 2015, Governor Edmund G. Brown Jr. issued Executive Order B-30-15, which sets a goal to reduce GHG emissions in California to 40 percent below 1990 levels by 2030. The 2030 target serves as a benchmark goal on the way to achieving the GHG reductions goal set by Governor Schwarzenegger via Executive Order S-3-05 (i.e., 80 percent below 1990 greenhouse gas emissions levels by 2050). Executive Order B-30-15 establishes a policy goal and is disclosed herein for informational purposes; it does not require local agencies to take any action to meet the new interim GHG reduction threshold. It is important to note that Executive Order B-30-15 was not adopted by a public agency through a public review process that requires analysis pursuant to CEQA Guidelines section 15064.4 and that it has not been subsequently validated by a statute as an official GHG reduction target of the State of California. It is anticipated that a regulatory requirement for statewide GHG reductions for 2030 is expected to be adopted by the California Legislature at a future date. (Urban Crossroads, 2016c, pp. 26-27)

❑ California Title 24 Standards

The California Energy Commission (CEC) first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods. The latest revisions (2013 Building Energy Efficiency Standards) were adopted in 2012 and became effective on July 1,

2014. The 2013 Building Energy Efficiency Standards are 25 percent more efficient than the previous Building Energy Efficiency Standards for residential construction and 30 percent more efficient than the previous Standards for nonresidential construction.

Part 11 of the Title 24 is referred to as the California Green Building Standards Code (CALGreen Code). The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality." The CALGreen Code is not intended to substitute or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC). Unless otherwise noted in the regulation, all newly constructed buildings in California are subject of the requirements of the CALGreen Code. (Urban Crossroads, 2016c, pp. 19-20)

❑ CARB Draft Sustainable Freight Strategy

Specific to the warehouse, logistics, and goods movement industries, CARB released a concepts list in 2014 regarding their efforts to develop a Sustainable Freight Strategy (SFS). In 2015 (after the publication of the NOP for this EIR), CARB released a draft report named "Sustainable Freight: Pathways to Zero and Near-Zero Emissions" that focuses on ways for California to move toward a zero emissions transportation system (CARB, 2015). The report describes possible ways for this transition to occur, but does not impose any requirements or restrictions. A final SFS is anticipated to be published by CARB in 2016.

❑ City of Moreno Valley Climate Action Strategy

On October 9, 2012, the Moreno Valley City Council approved an *Energy Efficiency and Climate Action Strategy* and related GHG analysis. The *Energy Efficiency and Climate Action Strategy* document identifies potential programs and policies to reduce overall City energy consumption and increase the use of renewable energy. The majority of the policies are directed at municipal operations of the City, but the document also contains recommended policies for the community at large (including private development projects). These recommended policies include but are not limited to: energy efficiency, water use reduction, trip reduction, solid waste diversion, and educational policies. The overall goal of the *Energy Efficiency and Climate Action Strategy* is to ensure that the City is consistent with and would not otherwise conflict with the provisions of AB 32. (Urban Crossroads, 2016c, pp. 30-31)

4.6.2 Methodology for Estimating GHG Emissions

CEQA Guidelines § 15064.4(b)(1) states that a CEQA lead agency may use a model or methodology to quantify GHG emissions associated with a project. On October 2, 2013, the SCAQMD, in conjunction with the California Air Pollution Control Officers Association (CAPCOA) released the latest version (v2013.2.2.) of the California Emissions Estimator Model (CalEEMod). The purpose of this model is to estimate air quality and GHG emissions from direct and indirect sources and quantify applicable air quality and GHG reductions achieved from mitigation measures. As such, the October 2013 (v2013.2.2.) CalEEMod was used to estimate Project-related emissions to determine construction and operational air quality impacts (Urban Crossroads, 2016c, p. 38). Output from the model runs for both Project-related construction and operational activity are provided in Appendix 3.1 of EIR *Technical Appendix E*.

Technical Appendix E analyzes potential GHG emissions associated with the construction and operation of a logistics center with 1,351,770 s.f. of high-cube warehouse land uses (1 building) and 385,748 s.f. of light industrial land uses (3 buildings) with a site layout identical to the proposed Project. In comparison to the proposal evaluated in *Technical Appendix E*, the Project proposes to develop the subject property with seven (7) fewer square feet of high-cube warehouse land uses and 1,331 fewer square feet of light industrial land uses. Because the proposal analyzed by *Technical Appendix E* was more intense than the proposed Project, the analyses presented therein and summarized in this EIR provides a conservative, worst-case analysis of the Project's potential GHG emissions.

A life-cycle analysis (LCA), which assesses economy-wide GHG emissions from construction (i.e., the processes in manufacturing and transporting all raw materials used in the project development and infrastructure) and operation, was not conducted for the Project due to the lack of scientific consensus on LCA methodology. A LCA depends on emission factors or econometric factors that are not well established for all processes as of the date this EIR was written (2015). Additionally, SCAQMD recommends analyzing a project's direct and indirect GHG emissions generated within California in-lieu of a LCA because the life-cycle effects from a project could occur outside of California, might not be very well understood or documented, and would be challenging to mitigate. (Urban Crossroads, 2016c, p. 38)

A. Methodology for Estimating Construction-Related GHG Emissions

The Project's construction-related GHG emissions were calculated using the same methodology, construction schedule information, and equipment fleet information that were used to calculate the Project's criteria air pollutant emissions, and as previously described in detail in EIR Subsection 4.3, *Air Quality*. Refer to EIR Subsection 4.3 and *Technical Appendix E* for a detailed description of the methodology used for calculated the Project's construction-related GHG emissions.

In accordance with SCAQMD recommendations and for purposes of analysis, the Project's construction-related GHG emissions were quantified, amortized over a 30-year period, and then added to the Project's annual, operational GHG emissions. As such, the Project's construction-related GHG emissions are accounted for in the quantification of the Project's annual, operational GHG emissions. (Urban Crossroads, 2016c, pp. 38-39)

B. Methodology for Estimating Operational GHG Emissions

The Project's operational GHG emissions were calculated using the same methodology, on-site equipment information, and truck fleet information that were used to calculate the Project's criteria air pollutant emissions, and as previously described in detail in EIR Subsection 4.3, *Air Quality*. Refer to EIR Subsection 4.3 and *Technical Appendix E* for a detailed description of the methodology used for calculated the Project's operational GHG emissions.

4.6.3 Basis for Determining Significance

In order to assess the significance of the Project's environmental impacts, it is necessary to identify quantitative or qualitative thresholds which, if exceeded, would constitute a finding of significance. As discussed in Subsection 4.6.1 above, while Project-related GHG emissions can be estimated, the direct impacts of such emissions on GCC is *de minimis* considering the worldwide scope of climate change. There is no evidence at this time that would indicate that the small quantity of emissions from a project the size of the proposed Project would directly or indirectly affect the global climate.

AB 32 states, in part, that "[g]lobal warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." Because global warming is the result of GHG emissions, and GHGs are emitted by innumerable sources worldwide, the proposed Project has no potential to result in a direct impact to GCC; rather, Project-related contributions to GCC, if any, only have potential significance on a cumulative basis. Therefore, the analysis below focuses on the Project's potential to contribute to GCC in a cumulatively considerable way.

The CEQA Guidelines indicate that a project would result in a significant impact on climate change if a project were to:

a) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or*

b) *Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

The City of Moreno Valley has not adopted a numerical threshold for determining the significance of GHG emissions; however, the City has discretion to select an appropriate significance criterion used by other agencies, based on substantial evidence. The SCAQMD adopted a numerical GHG emissions threshold for industrial projects for which SCAQMD is the lead agency. The threshold adopted by SCAQMD, 10,000 metric tons of carbon dioxide equivalent ($MTCO_2e$) per year, is a widely accepted threshold used by numerous lead agencies in the South Coast Air Basin (SCAB) and was established based on the recommendations of the California Air Pollution Controls Officers Association (CAPCOA) in a report titled "CEQA and Climate Change" (dated January 2008), which serves as a resource for public agencies as they establish agency procedures for reviewing GHG emissions from projects under CEQA. The CAPCOA report provides three recommendations for evaluating a development project's GHG emissions. When establishing their significance threshold, SCAQMD selected the CAPCOA non-zero approach which establishes a numerical threshold based on capture of approximately 90 percent of emissions from future development (Approach 2, Threshold 2.5). A 90 percent emission capture rate means that 90 percent of total emissions from all new or modified projects would be subject to evaluation under CEQA. Based on SCAQMD's research of 1,297 major, industrial source point (i.e., stationary) emission sources in the SCAB, SCAQMD found that source point industrial facilities that generate at least 10,000 $MTCO_2e$ per year produce approximately 90 percent of the carbon dioxide equivalent emissions in the SCAB per year. As such, SCAQMD established their significance criterion at 10,000 $MTCO_2e$ as that threshold would capture 90 percent of total emissions from future industrial development in accordance with CAPCOA recommendations. (CAPCOA, 2008, pp. 46-47; SCAQMD, 2008, pp. 3-5)

Based on the foregoing, the City of Moreno Valley selects SCAQMD's industrial threshold of 10,000 $MTCO_2e$ as the threshold of significance for the Project's GHG emissions. If the Project would emit less than 10,000 $MTCO_2e$ of GHGs per year, the project would not be considered a substantial GHG emitter. On the other hand, if an industrial project's GHG emissions would exceed 10,000 $MTCO_2e$ per year, the project would be considered a substantial source of GHG emissions. The SCAQMD's industrial threshold was selected by the City because the proposed Project's operating characteristics, which include large buildings with loading bays and fenced truck courts that are expected to house businesses that serve mid-stream functions in the goods movement chain between manufacturers and consumers, are characteristic of an industrial land use more so than any other land use type, including commercial and/or residential. Furthermore, evaluating the Project's GHG emissions against SCAQMD's industrial threshold will provide a conservative analysis, as SCAQMD only intended their threshold be used to evaluate stationary source GHG emissions, while the analysis presented in this Subsection and *Technical Appendix E* applies the threshold to all of the GHG emissions related to the Project (stationary source, mobile source, area source, or other). (Urban Crossroads, 2016c, pp. 37-38)

4.6.4 Impact Analysis

Threshold a)	***Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?***

The Project's annual GHG emissions are summarized in Table 4.6-5, *Project Annual GHG Emissions*. As shown in Table 4.6-5, the Project would generate approximately 42,404.68 $MTCO_2e$ per year. Of the Project's annual GHG emissions, approximately 358.25 $MTCO_2e$ (0.8%) would be from on-site, stationary emissions; approximately 5,342.10 $MTCO_2e$ (12.6%) would be from off-site, indirect emissions (energy production, water/waste treatment, etc.); and approximately 36,704.32 $MTCO_2e$ (86.6%) would be from mobile sources (passenger cars and trucks) and amortized construction emissions. The Project would generate GHG emissions that exceed the significance criterion of 10,000 $MTCO_2e$ per year; therefore, the Project's GHG emissions could have a significant impact on the environment and would be considered cumulatively considerable.

Table 4.6-5 Project Annual 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	206.07	3.00E-02	--	206.75
High-Cube				
Area	0.07	1.80E-04	--	0.07
Energy	2,927.08	0.16	0.04	2,943.02
Mobile Sources (Trucks)	20,351.64	0.13	--	20,354.46
Mobile Sources (Passenger Cars)	1,773.78	0.06	--	1,775.09
On-site Emissions	254.16	0.08		255.89
Waste	257.93	15.24	--	578.04
Water Usage	35.29	0.38	9.22E-03	46.04
Light Industrial				
Area	0.02	7.00E-05	--	0.03
Energy	1,930.01	0.07	0.02	1,539.89
Mobile Sources (Trucks)	11,697.12	0.07	0.02	11,698.88
Mobile Sources (Passenger Cars)	2,667.17	0.09	--	2,669.14
On-site Emissions	101.67	0.03		102.36
Waste	97.10	5.74	--	217.60
Water Usage	13.35	0.14	3.49E-03	17.42
Total CO_2E (All Sources)	**42,404.68**			

Source: (Urban Crossroads, 2016c, Table 3-2)

Threshold b) Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

As previously discussed in Subsection 4.6.1E, CARB identified measures in its Scoping Plan that would reduce statewide GHG emissions and achieve the emissions reductions goals of AB 32. Thus, projects that are consistent with the CARB Scoping Plan would not conflict with AB 32's mandate to reduce state GHG emissions. Table 4.6-6, *CARB Scoping Plan Consistency*, presents the 39 recommended actions identified by CARB in its Scoping Plan. Of the 39 measures identified, those that would be applicable to the Project consist primarily of actions related to transportation, electricity and natural gas use, green building design, and industrial land uses. A summary of the Project's consistency with the CARB Scoping Plan recommended actions is presented on the following pages and described in detail in Section 2.11 of *Technical Appendix D* to this EIR. The Project's consistency with applicable measures of the CARB Scoping Plan is also summarized in Table 4.6-6.

Table 4.6-6 CARB Scoping Plan Consistency

ID #	Sector	Strategy Name	Applicable to Project?	Will Project Conflict With Implementation?
T-1	Transportation	Pavley I and II – Light-Duty Vehicle GHG Standards	NO	NO
T-2	Transportation	Low Carbon Fuel Standard (Discrete Early Action)	NO	NO
T-3	Transportation	Regional Transportation-Related GHG Targets	NO	NO
T-4	Transportation	Vehicle Efficiency Measures	NO	NO
T-5	Transportation	Ship Electrification at Ports (Discrete Early Action)	NO	NO
T-6	Transportation	Goods-movement Efficiency Measures	NO	NO
T-7	Transportation	Heavy Duty Vehicle Greenhouse Gas Emission Reduction Measure – Aerodynamic Efficiency (Discrete Early Action)	NO	NO
T-8	Transportation	Medium and Heavy-Duty Vehicle Hybridization	NO	NO
T-9	Transportation	High Speed Rail	NO	NO
E-1	Electricity and Natural Gas	Increased Utility Energy efficiency programs More stringent Building and Appliance Standards	YES	NO
E-2	Electricity and Natural Gas	Increase Combined Heat and Power Use by 30,000GWh	NO	NO
E-3	Electricity and Natural Gas	Renewable Portfolio Standard	NO	NO
E-4	Electricity and Natural Gas	Million Solar Roofs	YES	NO
CR-1	Electricity and Natural Gas	Energy Efficiency	YES	NO
CR-2	Electricity and Natural Gas	Solar Water Heating	NO	NO
GB-1	Green Buildings	Green Buildings	YES	NO
W-1	Water	Water Use Efficiency	YES	NO
W-2	Water	Water Recycling	NO	NO
W-3	Water	Water System Energy Efficiency	YES	NO
W-4	Water	Reuse Urban Runoff	NO	NO
W-5	Water	Increase Renewable Energy Production	NO	NO
W-6	Water	Public Goods Charge (Water)	NO	NO
I-1	Industry	Energy Efficiency and Co-benefits Audits for Large Industrial Sources	YES	NO
I-2	Industry	Oil and Gas Extraction GHG Emission Reduction	NO	NO
I-3	Industry	GHG Leak Reduction from Oil and Gas Transmission	NO	NO
I-4	Industry	Refinery Flare Recovery Process Improvements	NO	NO
I-5	Industry	Removal of Methane Exemption from Existing Refinery Regulations	NO	NO
RW-1	Recycling and Waste Management	Landfill Methane Control (Discrete Early Action)	NO	NO
RW-2	Recycling and Waste Management	Additional Reductions in Landfill Methane – Capture Improvements	NO	NO
RW-3	Recycling and Waste Management	High Recycling/Zero Waste	NO	NO
F-1	Forestry	Sustainable Forest Target	NO	NO
H-1	High Global Warming Potential Gases	Motor Vehicle Air Conditioning Systems (Discrete Early Action)	NO	NO
H-2	High Global Warming Potential Gases	SF_6 Limits in Non-Utility and Non-Semiconductor Applications (Discrete Early Action)	NO	NO
H-3	High Global Warming Potential Gases	Reduction in Perfluorocarbons in Semiconductor Manufacturing (Discrete Early Action)	NO	NO
H-4	High Global Warming Potential Gases	Limit High GWP Use in Consumer Products (Discrete Early Action, Adopted June 2008)	NO	NO
H-5	High Global Warming Potential Gases	High GWP Reductions from Mobile Sources	NO	NO
H-6	High Global Warming Potential Gases	High GWP Reductions from Stationary Sources	NO	NO
H-7	High Global Warming Potential Gases	Mitigation Fee on High GWP Gases	NO	NO
A-1	Agriculture	Methane Capture at Large Dairies	NO	NO

SOURCE: CARB, 2008.

Source: (Urban Crossroads, 2016c, Table 2-5)

- Transportation: Actions T-1, T-2, T-3, and T-4 are related to legislative and public awareness activities required of the State of California and regional planning activities required of metropolitan planning organizations, which are not within the purview of the Project. Actions T-5 and T-6 address operations at ports; because the Project is not located within a port, these actions are not applicable to the Project. Action T-7 requires existing trucks/trailers to be retrofitted with the best available technology and/or CARB-approved technology. The Project would not conflict with this action; however, fleet operators would have the responsibility for demonstrating consistency with this action. Action T-8 requires the creation of a regulatory and/or incentive program to encourage the use of hybrid vehicles and is outside the purview of the Project. Action T-9 addresses a high-speed rail system and is not applicable to the Project. Accordingly, the Project would not conflict with or preclude implementation of the CARB Scoping Plan transportation actions.

- Electricity and Natural Gas & Green Buildings: Actions E-1, CR-1, and GB-1 target regulatory and building practices to increase energy efficiency. The Project would surpass the incumbent Title 24 Energy Efficiency standards and would not conflict with these actions. Actions E-2 and E-3 concern electric utilities and are not applicable to development proposals like the Project. Action E-4 is related to public awareness and incentive programs to promote the use of photovoltaic solar electricity systems. The Project's building is designed to support photovoltaic cells, should they be installed in the future, and the Project would not conflict with Action E-4. Action CR-2 is related to public awareness and incentive programs required of the State of California to promote solar water heaters; this action is not applicable to the Project. Based on the foregoing, the Project would not conflict with or preclude implementation of the CARB Scoping Plan electricity and natural gas or green building actions.

- Water Use: Only Actions W-1 and W-3 are applicable to development proposals like the Project; however, because the Project would not exceed the audit threshold for these actions, the Project is considered consistent with Actions W-1 and W-3 and no specific action or activity is required of the Project. Based on the foregoing, the Project would not conflict with or preclude implementation of the CARB Scoping Plan water use actions.

- Industrial Use: All but one of the Industrial actions are related to oil and gas extraction, refining, and/or transmission and are not applicable to the Project. The Project would not exceed the audit threshold for the one applicable action, Action I-1, and; therefore, is not considered a large emitter of GHGs. Accordingly, the Project would not conflict with Action I-1. Based on the foregoing, the Project would not conflict with or preclude implementation of the CARB Scoping Plan industrial use actions.

- Agriculture: The Project does not include agricultural uses and the Project site does not contain agricultural uses under existing conditions. Therefore, Agriculture Action A-1 is not applicable to the Project and the Project would not conflict with or preclude implementation of the CARB Scoping Plan agriculture actions.

The Project also would comply with a number of regulations, policies, plans, and policy goals that would further reduce GHG emissions, including the following regulations that are particularly applicable to the Project and that would assist in the reduction of GHG emissions:

- Senate Bill 375 (SB 375). In accordance with the mandate of SB375, SCAG prepared their *2012 Regional Transportation Plan/Sustainable Communities Strategy* (*RTP/SCS*) with the goal of reducing regional per capita vehicle miles traveled and GHG emissions. The Project would be consistent with the subject property's land use designations and would not increase the development intensity on the property beyond what is currently anticipated by the City of Moreno Valley's General Plan. Because the Project would be consistent with the adopted General Plan, the Project also would be consistent with SCAG's *2012 RTP/SCS*, which is based on the land use pattern and transportation network contained in local general plans. The Project's consistency with the land use and transportation assumptions within the *2012 RTP/SCS* ensures the Project would not conflict with the *2012 RTP/SCS*'s goal to reduce regional GHG emissions by reducing regional per capita vehicle miles traveled.

- Pavely Fuel Efficiency Standards (AB1493). Establishes fuel efficiency ratings for model year 2009-2016 passenger cars and light trucks. AB 1493 is applicable to the Project because model year 2009-2016 passenger cars and light duty truck vehicles traveling to-and-from the Project site are required to comply. The CARB anticipates that implementation of the Pavley regulations will reduce GHG emissions from California passenger vehicles by about 30 percent in 2016 compared to emissions that occurred prior to AB 1493's enactment.

- Title 20 and 24 California Code of Regulations (Appliance Energy Efficiency Standards and Building Standards Code). Establishes energy efficiency requirements for new (and altered) buildings and appliances. The Project is required to comply with these regulations during the design and construction phase.

- Title 17 California Code of Regulations (Low Carbon Fuel Standard). Requires carbon content of fuel sold in California to be 10 percent less by 2020. Because the Low Carbon Fuel Standard applies to any transportation fuel that is sold, supplied, or offered for sale in California, and to any person who, as a regulated party, is responsible for a transportation fuel in a calendar year, all vehicles accessing the Project site will be required to comply with the Standard.

- California Water Conservation in Landscaping Act of 2006 (AB1881). Required local agencies to adopt the Department of Water Resources updated Water Efficient Landscape Ordinance or equivalent to ensure efficient landscapes in new development and reduced water waste in existing landscapes by January 1, 2010. The Project is required to comply with the City of Moreno Valley's adopted water efficient landscape requirements and would therefore be consistent with the requirements of AB1881.

- Statewide Retail Provider Emissions Performance Standards (SB 1368). Requires energy generators to achieve performance standards for GHG emissions. Energy directly or indirectly supplied to the Project by retail providers would be required to comply with SB 1368.

- Renewable Portfolio Standards (SB 1078). Requires electric utilities to increase the amount of energy obtained from eligible renewable energy resources to 20 percent by 2010 and 33 percent by 2020. Energy directly or indirectly supplied to the Project by electric utilities would be required to comply with SB 1078.

- Executive Orders B-30-15 and S-3-05. Establish policy goals to reduce GHG emissions in California to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. According to the 2014 update to the CARB Scoping Plan, California is on a trajectory to meet or exceed the 2030 and 2050 GHG reduction goals set forth in Executive Orders B-30-15 and S-3-05 via existing regulations and the Scoping Plan measures (CARB, 2014, p. 34). As described above, the Project would not conflict with the Scoping Plan or preclude its implementation; therefore, the Project would not conflict with the GHG emissions reduction policy goals of Executive Orders B-30-15 and S-3-05.

- Moreno Valley Energy Efficiency and Climate Action Strategy. As summarized in Table 4.6-7, *Moreno Valley Energy Efficiency and Climate Action Strategy Consistency*, the Project would not conflict with the City of Moreno Valley's adopted *Energy Efficiency and Climate Action Strategy*.

There are no other plans, policies, or regulations that have been adopted for the purpose of reducing the emissions of GHGs that are applicable to the proposed Project.

As described on the preceding pages, the Project would not conflict with the State's ability to achieve the reduction targets defined in AB 32 and would be consistent with applicable policies and plans related to GHG emissions reduction. Therefore, the Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and would result in a less-than-significant impact.

Table 4.6-7 Moreno Valley Energy Efficiency and Climate Action Strategy Consistency

ID#	Policy	Project Consistency
R2-T1:	Land Use Based Trips and VMT Reduction Policies. Encourage the development of Transit Priority Projects along High Quality Transit Corridors identified in the SCAG Sustainable Communities Plan, to allow a reduction in vehicle miles traveled.	City policy goal; not applicable to private development projects.
R2-T3:	Employment-Based Trip Reductions. Require a Transportation Demand Management (TDM) program for new development to reduce automobile travel by encouraging ride-sharing, carpooling, and alternative modes of transportation.	Consistent with implementation of recommended Mitigation Measure (MM) 4.3-14.
R2-E1:	New Construction Residential Energy Efficiency Requirements. Require energy efficient design for all new residential buildings to be 10 percent beyond the current Title 24 standards. (Reach Code)	Not applicable to the Project; this policy applies to residential projects.
R2-E2:	New Construction Residential Renewable Energy. Facilitate the use of renewable energy (such as solar (photovoltaic) panels or small wind turbines) for new residential developments. Alternative approach would be the purchase of renewable energy resources offsite.	Not applicable to the Project; this policy applies to residential projects.
R2-E5:	New Construction Commercial Energy Efficiency Requirements. Require energy efficient design for all new commercial buildings to be 10% beyond the current Title 24 standards. (Reach Code)	The Project would be consistent with this policy. The City's Climate Action Strategy was established under an older version of Title 24. The current, applicable Title 24 standards are more stringent than previous versions of the code and would achieve greater than the 10% energy reduction envisioned by R2-E5.
R3-E1:	Energy Efficient Development, and Renewable Energy Deployment Facilitation and Streamlining. Updating of codes and zoning requirements and guidelines to further implement green building practices. This could include incentives for energy efficient projects.	City policy goal; not applicable to private development projects.
R3-L2:	Heat Island Plan. Develop measures that address "heat islands." Potential measures include using strategically placed shade trees, using paving materials with a Solar Reflective Index of at least 29, an open grid pavement system, or covered parking.	The Project would comply with the City of Moreno Valley's landscaping requirements and would be consistent with this policy.
R2-W1:	Water Use Reduction Initiative. Consider adopting a per capita water use reduction goal, which mandates the reduction of water use of 20 percent per capita with requirements applicable to new development and with cooperative support of the water agencies.	The Project would be required to comply with California Green Building Standards Code, Chapter 5, Division 5.3, Section 5.303.2, which requires that indoor water use be reduced by 20 percent, and Section 5.304.3, which requires irrigation controllers and sensors. Furthermore, MM 4.3-9 and MM 4.3-10 require to Project to incorporate water-efficient design measures. Based on the foregoing, the Project would be consistent with this strategy.
R3-W1:	Water Efficiency Training and Education. Work with EMWD and local water companies to implement a public information and education program that promotes water conservation.	City policy goal; not applicable to private development projects.
R2-S1:	City Diversion Program. For Solid Waste, consider a target of increasing the waste diverted from the landfill to a total of 75 percent by 2020.	The Project would be required to comply with the City of Moreno Valley's citywide goal of solid waste reduction. Additionally, the Project would be required to be compliant with the City of Moreno Valley's Municipal Code 8.80.030 by implementing a Waste Management Plan. Accordingly, the Project would be consistent with this policy.

4.6.5 Cumulative Impact Analysis

GCC occurs as the result of global emissions of GHGs. An individual project such as the proposed Project does not have the potential to result in direct and significant GCC-related effects in the absence of cumulative sources of GHGs. The CEQA Guidelines also emphasize that the effects of GHG emissions are cumulative, and should be analyzed in the context of CEQA's requirements for cumulative impacts analysis (See CEQA Guidelines § 15130[f]).

Accordingly, the Project-specific impact analysis provided in Subsection 4.6.4 reflects a cumulative impact analysis of the Project's GHG emissions, and concludes that the Project would not conflict with an applicable GHG-reduction plans, policies, or regulations but would generate cumulatively considerable GHG emissions that may have a significant impact on the environment because the Project would exceed the SCAQMD's GHG emissions threshold of 10,000 $MTCO_2e$ per year.

4.6.6 Significance of Impacts before Mitigation

<u>Threshold a): Significant Cumulatively Considerable Impact.</u> The Project is estimated to generate approximately 42,404.68 $MTCO_2e$ annually, which would exceed the SCAQMD screening threshold of 10,000 $MTCO_2e$. As such, the Project would generate substantial, cumulatively considerable GHG emissions that may have a significant impact on the environment.

<u>Threshold b): Less-than-Significant Impact.</u> The Project would be consistent with the CARB Scoping Plan and would not conflict with the GHG reduction mandates of AB 32. In addition, the Project would be consistent with applicable regulations, policies, plans, and policy goals that would further reduce GHG emissions, including the City of Moreno Valley's *Energy Efficiency and Climate Action Strategy*.

4.6.7 Mitigation

The following mitigation measures (MM) are required to minimize the Project's GHG emissions to the maximum practical extent. In addition, MM 4.3-2, MM 4.3-3, and MM 4.3-7 through MM 4.3-17 in EIR Subsection 4.3, *Air Quality*, also would reduce the Project's GHG emissions.

MM 4.6-1 Prior to issuance of a building permit, the City of Moreno Valley shall verify that the roofs for Buildings #1, #2, #3, and #4 are designed to support solar panels. The entire roof area of each building is not required to support panels; the portion of the roof that is to support panels shall be determined by the City and the building's architect at time of building design and building permit issuance.

MM 4.6-2 Prior to building final, the City of Moreno Valley shall verify that the parking lot is marked in compliance with the California Green Building Standards Code, which requires that a certain number of parking spaces be designated for any combination of low-emitting, fuel-efficient and carpool/vanpool vehicles. The designated parking stalls are required to be painted "Clean Air Vehicle."

MM 4.6-3 Prior to issuance of building permits for the landscape plan, the City of Moreno Valley shall review landscape plans to verify that trees will be planted in locations where tree placement would assist with passive solar heating and cooling of the structure, while also avoiding interference with vehicle movements and building operations.

MM 4.6-4 Prior to the approval of permits and approvals that would permit cold storage in Buildings #1, #2, #3, and/or #4, the Project Applicant shall provide information to the City of Moreno Valley demonstrating that the cooling system design is energy efficient.

4.6.8 Significance of Impacts after Mitigation

Threshold a): Significant and Unavoidable Cumulatively Considerable Impact. The application of MM 4.6-1 through MM 4.6-4 and MM 4.3-2, MM 4.3-3, and MM 4.3-7 through MM 4.3-17 in EIR Subsection 4.3 would reduce Project-related GHG emissions; however, these measures would not substantially reduce Project-related mobile source emissions (i.e., construction equipment, passenger cars and trucks), which comprise approximately 86.6% of the Project's total GHG emissions. Mobile source emissions are regulated by State and federal emissions and fuel use standards, and are outside of the control of the Project Applicant, future Project tenants, and the City of Moreno Valley. CEQA Guidelines § 15091 provides that mitigation measures must be within the responsibility and jurisdiction of the Lead Agency in order to be implemented. No other mitigation measures are available that are feasible for the Project Applicant to implement and for the City of Moreno Valley to enforce that have a proportional nexus to the Project's level of impact.

4.7 Hazards & Hazardous Materials

The information and analysis presented in this Subsection is based on the site-specific Phase I Environmental Site Assessment (ESA) prepared by Farallon Consulting (hereafter, Farallon) titled, "Phase I Environmental Site Assessment Report," and dated March 23, 2015. The Phase I Environmental Site Assessment Report is appended to this EIR as *Technical Appendix F*. In addition, this Subsection incorporates the results of a Pesticide Sampling Analysis performed by Farallon and dated January 8, 2016, and a Vapor Migration Analysis prepared by Farrallon and dated May 10, 2016. The Pesticide Sampling Analysis is appended to this EIR as *Technical Appendix M* and the Vapor Migration Analysis is appended to this EIR as *Technical Appendix N*. This Subsection also is based on information from Section 5.5, *Hazards*, of the certified Final EIR prepared for the City of Moreno Valley General Plan (SCH No. 200091075). Refer to Section 7.0, *References*, for a complete list of reference sources.

For the purposes of this EIR, the term "toxic substance" is defined as a substance which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may present an unreasonable risk of injury to human health or the environment. Toxic substances include chemical, biological, flammable, explosive, and radioactive substances.

"Hazardous material" is defined as a substance which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may: 1) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, disposed of, or otherwise mismanaged; or 2) cause or contribute to an increase in mortality or an increase in irreversible or incapacitating illness. Hazardous waste is defined in the California Code of Regulations, Title 22, §66261.3. The defining characteristics of hazardous waste are: ignitability (oxidizers, compressed gases, and extremely flammable liquids and solids), corrosivity (strong acids and bases), reactivity (explosives or generates toxic fumes when exposed to air or water), and toxicity (materials listed by the United States Environmental Protection Agency (USEPA) as capable of inducing systemic damage to humans or animals). Certain wastes are called "Listed Wastes" and are found in the California Code of Regulations, Title 22, §§66261.30 through 66261.35. Wastes appear on the lists because of their known hazardous natures or because the processes that generate them are known to produce hazardous wastes (which are often complex mixtures).

4.7.1 Existing Conditions

As shown in EIR Section 2.0, Figure 2-4, *Aerial Photograph*, the Project site is vacant undeveloped land that is transected by the Perris Valley Storm Drain Channel in a northwest to southeast direction. Overhead utility lines are located along the eastern property boundary adjacent to Indian Street. The Project site is routinely maintained (i.e., disced) to remove vegetation from the site to reduce the risk of fire as required by the Riverside County Fire Department.

A. Project Site Historical Review, Environmental Record Review, Site Inspection

❑ Project Site Historical Review

Farallon reviewed various sources of information to determine the historical use of the Project site, including historical aerial photographs, historical topographic maps, Environmental Data Resources (EDR)-Sanborn collection of maps and regulatory database records, city directories, historical site occupants, and historical site ownership records. Refer to *Technical Appendix F* of this EIR for a more detailed description Farallon's research results.

The Project site has consisted of undeveloped land, either vacant or used for dryland crops since at least 1938. From at least 1938 to 1967, a stream meandered through the western/southwestern portion of the site near the location of the current Perris Valley Storm Drain Channel. By 1967, the stream was replaced by the Perris Valley Storm Drain Channel. From at least 1967 to 1977, a small structure or pond was present on the site near the center of the eastern property line; this feature is no longer visible on the subject property by 1989. During the years 1989 to 2006 Indian Street was paved and many surrounding properties were developed. No hazardous materials or hazardous conditions were apparent on the Project site as a result of Farallon's review of available aerial photographs and historical maps. (Farallon, 2015, pp. 5-1 through 5-2)

❑ Environmental Record Review

Farallon researched federal, state, and local environmental records databases to identify properties within one mile of the Project site with reported environmental issues. A summary of the research results is provided below; a detailed description of the environmental record review results is included in *Technical Appendix F* of this EIR.

Project Site

The Project site was not identified on any federal, state, or local environmental records databases (Farallon, 2015, 7-2).

Surrounding Off-Site Areas

Any facilities reported on federal, state, or local environmental records databases within 0.25 mile up-gradient of the Project site, 0.125-mile cross-gradient of the Project site, or adjacent and down-gradient would be located close enough to the Project site to cause a potential impact on the site. Facilities listed in the database search report but not identified as a reported release facility (e.g., a facility listed as a hazardous waste generator but not as having had a release) and facilities listed as "closed" were not considered to have potentially impacted the Project site, unless the facility was located on an adjacent property.

One property proximate to the Project site, March Air Reserve Base, was identified during the environmental record review. March Air Reserve Base is located west of the Project site, west of Heacock Street, and is identified on several databases that relate to the release of volatile organic compounds (VOCs) in groundwater. VOCs from operations at the Air Base have impacted groundwater in the region, including groundwater beneath the Project site. March Air Reserve Base currently performs groundwater extraction and aboveground treatment to clean contaminated groundwater. The March Air Reserve Base groundwater plume, identified as Operable Unit #1, Site 7, is listed as performing ongoing long-term groundwater monitoring, extraction, and treatment for a solvent groundwater plume. (Farallon, 2015, 9-1) The EPA lists the impacted area as restricted from residential use (Farallon, 2015, 3-2). The location of VOC monitoring wells near the Project site are shown in Figure 2 of Appendix F of the Phase I Environmental Site Assessment Report appended to this EIR as *Technical Appendix F*.

Farallon conducted a review of local agency records and reviewed the Geotracker online database maintained by the State Water Resources Control Board (SWRCB) for releases associated with the Project site and surrounding properties. A search of the GeoTracker databases did not identify any listings for the Project site or adjacent properties, with the exception of the March Air Reserve Base property. The EnviroStor online database maintained by the California Department of Toxic Substances Control (DTSC) and the Enforcement and Compliance History (ECHO) online database maintained by the Environmental Protection Agency (EPA) also did not identify any listings for the Project site or adjacent properties, with the exception of the March Air Reserve Base. (Farallon, 2015, 7-4)

❑ <u>Site Reconnaissance</u>

Farallon conducted an inspection of the Project site on March 16, 2015. During the site visit, Farallon did not observe any on-site features that are potentially relevant to hazardous materials. At the time of site reconnaissance, Farallon observed the property to consist of graded, vacant land containing no structures and covered with weeds. No evidence of storage or handling of hazardous substances was observed. Also, no evidence of stained soil, stressed vegetation, fill material, above ground storage tanks (ASTs), underground storage tanks (USTs), or significant chemical release was observed on the Project site. No water wells were observed on the site, although there are several groundwater monitoring wells on adjacent, off-site properties associated with the March Air Reserve Base groundwater monitoring program. Additionally, Farallon observed tires, construction debris, and minor trash throughout the Project site, primarily along the eastern property line; however, none of the observed waste contained hazardous materials. (Farallon, 2015 ,6-3)

B. Airport Hazards

March Air Reserve Base is located west of Heacock Street, which borders the Project site on the northwest. The *March Air Reserve Base/Inland Port Land Use Compatibility Plan* was adopted by the Riverside County Land Use Commission on November 13, 2014. The *March Air Reserve Base/Inland Port Land Use (March ARB/IPA) Compatibility Plan* is primarily based upon the U.S. Air Force's Air Installation Compatibility Use Zones Study (AICUZ) dated August 2005. The compatibility zones and associated criteria set forth in the *March ARB/IPA* L*and Use Compatibility Plan* provide noise and safety compatibility protection equivalent or greater than the Air Force recommended criteria presented in the AICUZ.

The land uses in the vicinity of March ARB/IPA are generally compatible with base operations (Mead & Hunt, 2014, MA-2). According to *March ARB/IPA Compatibility Plan Draft EIR* (SCH #2013071042) Figure 2-2, *Compatibility Map*, the off-site Perris Valley Storm Drain Channel which traverses the Project site in a northwest to southeast direction forms the boundary between Compatibility Zones within the March Air Reserve Base/Inland Port Airport Influence Area (AIA). Projects located within the AIA require review by the Riverside County Airport Land Use Commission (ALUC) for consistency with the March ARB/IPA Compatibility Plan. The portion of the Project site located west of the Perris Valley Storm Drain Channel (proposed Buildings 3 and 4) are located within Compatibility Zone C1 and the portion of the Project site located east of the Perris Valley Storm Drain Channel (Buildings 1 and 2) are located within Compatibility Zone D. Zone C1 limits the average intensity to 100 people per acre with a maximum single-acre intensity of 250 people. Zone D does not specify any restrictions on residential or non-residential intensity.

The Project site is not located within an Accident Potential Zone, is not located within a General Approach/Departure Traffic Pattern (approximately 80% of aircraft overflights estimated to occur within these limits), and is not located within a Closed Circuit Traffic Pattern Envelope (approximately 80% of large aircraft overflights estimated to occur within these limits) (Mead & Hunt, 2014, Exhibit MA-5). In addition, according to City of Moreno Valley General Plan FEIR Figure 5.5-3, *City Areas Affected by Aircraft Hazard Zones*, the Project site is not located within an Accident Potential Zone or "Clear Zone" (i.e., high risk areas 3,000 feet from each end of the runway).

C. Wildland Fire Hazards

According to City of Moreno Valley General Plan FEIR Figure 5.5-2, *Floodplains and High Fire Hazard Areas*, the Project site is not located in a "High Fire Hazard Area". Also, according to the California Department of Forestry and Fire Protection (Cal Fire) the Project site is not located in a "Very High Fire Hazard Severity Zone" (Cal Fire, 2008). No wildlands are located on the Project site and the Project site is surrounded on all sides by developed properties, paved roads, maintained vacant sites, and/or the Perris Valley Storm Drain Channel. Also, under existing conditions, weed abatement (i.e., discing) occurs on the Project site as required by the Moreno Valley Fire Prevention Bureau to clear vegetative cover and reduce the risks of fires. The closest area to the Project site identified as "Substantial Fire Risk" is the terrain surrounding Lake Perris which is located approximately 2.5 miles southeast of the Project site (City of Moreno Valley, 2006b, Figure 5.5-2).

D. Applicable Environmental Regulations

Hazardous materials and hazardous wastes are regulated by various federal, state, and local regulations to protect public health and the environment. This section summarizes the overall regulatory framework governing hazardous materials management.

❑ Federal Regulations

The United States Environmental Protection Agency (USEPA) is responsible for enforcing federal regulations that affect public health or the environment. The primary federal laws and regulations related to hazardous materials include: the Resource Conservation and Recovery Act (RCRA); the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); and the Superfund Act and Reauthorization Act (SARA). Federal regulations pertaining to hazardous materials and wastes are contained in the Code of Federal Regulations (40 CFR).

RCRA, which was enacted in 1976, is the principal federal law that regulates the generation, management, and transportation of hazardous materials and hazardous wastes. Other specific areas covered by the amendment include regulation of carcinogens; listing of hazardous wastes; permitting for hazardous waste facilities; and leaking underground storage tanks. The USEPA maintains lists of the facilities that generate or transport large quantities of hazardous materials.

CERCLA, enacted in 1980, is a federal law enacted to address abandoned hazardous substance facilities. This act also is referred to as the Superfund Act, and the sites listed under it are referred to as Superfund sites. In 1986, Congress passed the SARA. The SARA required Superfund actions to consider the standards and requirements found in other State and Federal environmental laws and regulations; provided new enforcement authorities and settlement tools; increased State involvement in every phase of the Superfund program; and increased the focus on human health problems posed by hazardous waste sites. SARA also required EPA to revise the Hazard Ranking System (HRS) to ensure that it accurately assessed the relative degree of risk to human health and the environment posed by uncontrolled hazardous waste sites that may be placed on the National Priorities List (NPL).

❑ State Regulations

The California DTSC and the RWQCBs are the primary state agencies charged with regulating hazardous materials in California. The RWQCBs are authorized by the SSWRCB to enforce the provisions of the Porter-Cologne Water Quality Control Act of 1969. The Porter-Cologne Water Quality Control Act gives the RWQCBs authority to require water quality investigations and remediation, if necessary, if groundwater or surface water of the state is threatened. The DTSC is authorized by the USEPA to regulate the management of hazardous waste.

California’s hazardous materials laws incorporate federal standards but are often more stringent than comparable federal laws. The primary laws regulating hazardous materials in California include the California Hazardous Waste Control Law (HWCL), the state equivalent of RCRA, and the Carpenter-Presley-Tanner Hazardous Substance Account Act (HSAA), the state equivalent of CERCLA. State hazardous materials and waste laws are contained in the California Health and Safety Code and the California Water Code, and these regulations are contained in the California Code of Regulations, Titles 22 and 26.

The California Health and Safety Code (Division 20, Chapter 6.95, §25500) establishes minimum statewide standards for Hazardous Materials Business Emergency Plans (HMBEPs). HMBEPs contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the state. Businesses are required to prepare a HMBEP if that business uses, handles, or stores a hazardous material or an extremely hazardous material in quantities greater than or equal to the following: 1) 500 pounds of a solid substance; 2) 55 gallons of a liquid; 3) 200 cubic feet of compressed gas; 4) a hazardous compressed gas in any amount; or 5) hazardous waste in any quantity.

❑ Local Regulations

Federal and state hazardous materials regulations require all businesses that handle more than a specified amount of hazardous materials or extremely hazardous materials to obtain a hazardous materials permit and submit a business plan to its local Certified Unified Program Agency (CUPA). The CUPA also ensures local compliance with all applicable hazardous materials regulations. The CUPA with responsibility for the City of Moreno Valley is the Riverside County Department of Environmental Health (DEH). The Riverside County DEH also manages and oversees 22 programs related to hazardous materials/waste, including programs related to the handling and storage of hazardous materials, hazardous materials remediation, petroleum storage tanks, green waste, solid waste, liquid waste, universal waste and environmental cleanup. The DEH also manages and oversees programs related to emergency response and enforcement, vector control and water quality. (DEH, 2015).

4.7.2 Basis for Determining Significance

The proposed Project would result in a significant impact to hazards and hazardous material if the Project or any Project-related component would:

a) *Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials;*

b) *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;*

c) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;*

d) *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result would it create a significant hazard to the public or the environment;*

e) *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, result in a safety hazard for people residing or working in the project area;*

f) *For a project within the vicinity of a private airstrip or heliport, result in a safety hazard for people residing or working in the project area;*

g) *Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan; or*

h) *Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands area adjacent to urbanized areas or where residences are intermixed with wildlands.*

4.7.3 Impact Analysis

Threshold a)	***Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?***
Threshold b)	***Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?***

❑ **Impacts Analysis for Existing Site Conditions**

During Farallon's field reconnaissance of the Project site in 2015, no evidence of hazardous materials was storage or handling was found. There was no evidence of stained soil, stressed vegetation, fill material, ASTs, USTs, or significant chemical release. As discussed above in Subsection 4.7.1, the Project site has consisted of undeveloped land, either vacant or used for dryland crops from at least 1938. Based on review or aerial photography, the site was likely used sporadically for dryland farming and agricultural use on the property appears to have ceased prior to 1989.

Because the Project site was used in the past for agricultural activities, there is the potential that pesticides were used on the property. However, because the Project proposes to develop the site with industrial uses and the presence of agricultural chemicals in soil is considered de minimis by regulatory agencies in a commercial/industrial setting, impacts are considered less than significant. (Farallon, 2015, p. v) Furthermore, Farallon tested a representative sample of on-site soils (i.e., 19 total samples, a minimum of two samples from each proposed building site) for the presence of organochloride pesticides (pesticides), and determined that pesticide concentrations in on-site soils did not exceed the California Office of Environmental Health Hazard Assessment (OEHHA) screening levels for residential or commercial/industrial use scenarios (Farallon, 2016a, p. 2). Lastly, removal of soils from the Project site during Project construction is not proposed, so there is no potential for on-site soils to be placed outside of a commercial/industrial setting. For these reasons, potential past pesticide use on the subject property would not pose a significant hazard to the public or the environment.

As discussed in Subsection 4.7.1, the March Air Reserve Base groundwater plume, identified as Operable Unit #1, Site 7, is listed as performing ongoing long-term groundwater monitoring, extraction, and treatment for a solvent groundwater plume. (Farallon, 2015, 9-1) According to the most recent available groundwater quality monitoring data, the VOC with the highest vapor intrusion risk – trichloroethene (TCE) – was detected at a concentration of 150 micrograms per liter in a groundwater well located west of the Project site and adjacent to Heacock Street, while TCE was detected at concentrations up to 12 micrograms per liter on the Project site. The California Regional Water Quality Control Board has established Environmental Screening Levels (ESLs) for various chemicals, including TCE. An ESL does not represent a guideline for remediation, rather, an ESL is a conservative screening level to determine if further evaluation is warranted. The ESL for TCE in a non-residential setting, like the proposed Project, is 1,500 micrograms per liter. (Farallon, 2016b, p. 2) Because of the very low concentrations of VOCs reported in groundwater wells proximate to the Project site and the fact that VOC levels are anticipated to decrease over time as the March ARB continues groundwater remediation activities, the presence of VOCs in groundwater is not anticipated to pose a concern to occupants of the property under a non-residential use and development of the Project site would not pose a hazard to the environment (Farallon, 2016b, p. 2). Therefore, a less-than-significant impact would occur.

❑ Temporary Construction-Related Activities

Heavy equipment (e.g., dozers, excavators, tractors) would be operated on the subject property during construction of the Project. This heavy equipment may be fueled and maintained by petroleum-based substances such as diesel fuel, gasoline, oil, and hydraulic fluid, which are considered hazardous if improperly stored or handled. In addition, materials such as paints, adhesives, solvents, and other substances typically used in building construction would be temporarily located on the Project site during construction activities. Improper use, storage, or transportation of hazardous materials can result in accidental releases or spills, potentially posing health risks to workers, the public, and the environment. This is a standard risk on all construction sites, and there would be no greater risk for improper handling, transportation, or spills associated with the proposed Project than would occur on any other similar construction site. Construction contractors would be required to comply with all applicable federal, state, and local laws and regulations regarding the transport, use, and storage of hazardous construction-related materials, including but not limited requirements imposed by the USEPA, DTSC, and the Santa Ana RWQCB. With mandatory compliance with applicable hazardous materials regulations, the Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during the construction phase. Thus, the Project's potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials is less than significant.

❑ Long-Term Operation

The future building user(s) that would occupy the Project site are not yet identified. The types of occupants that are anticipated include high cube warehousing in the largest building (Building 1) and uses such as general warehousing, industrial, manufacturing, assembly, e-commerce, and similar use types in the smaller buildings (Buildings 2, 3, and 4). Up to approximately 174,000 s.f. of cold storage (i.e., refrigeration) space is assumed in the analysis, to account for the potential of a building user to require chilled, refrigerated, or freezer storage space.

It is possible that hazardous materials could be used during the course of a future building user's daily operations. For example, cold storage requires the use and storage of a refrigerant, such as ammonia, which is a hazardous substance. Federal and state Community-Right-to-Know laws allow the public access to information about the amounts and types of chemicals that may be used by businesses on the Project site. Laws also are in place that require businesses to plan and prepare for possible chemical emergencies. Any business that occupies a building on the Project site and that handles/stores substantial quantities of hazardous materials (as defined in §25500 of California Health and Safety Code, Division 20, Chapter 6.95) will require a permit from the County of Riverside, Health Services Agency, Department of Health Hazardous Materials Division in order to register the business as a hazardous materials handler. Such businesses also are required to comply with California's Hazardous Materials Release Response Plans and Inventory Law, which requires immediate reporting to the County of Riverside Fire Department and the State Office of Emergency Services regarding any release or threatened release of a hazardous material, regardless of the amount handled by the business, and to prepare a HMBEP. A HMBEP is a written set of procedures and information created to help minimize the effects and extent of a release or threatened release of a hazardous material.

If businesses that use or store hazardous materials occupy the Project site, the business owners and operators would be required to comply with all applicable federal, state, and local regulations to ensure proper use, storage, use, emission, and disposal of hazardous substances (as described above). With mandatory regulatory compliance, the Project is not expected to pose a significant hazard to the public or the environment through the routine transport, use, storage, emission, or disposal of hazardous materials, nor would the Project increase the potential for accident conditions which could result in the release of hazardous materials into the environment. With mandatory regulatory compliance, potential hazardous materials impacts associated with long-term operation of the Project are regarded as less than significant and no mitigation is required.

Threshold c) ***Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?***

No existing or proposed schools are located within one-quarter mile of the Project site. The nearest schools to the Project site are Rainbow Ridge Elementary School, located at 15950 Indian Street, approximately 0.60-mile north of the Project site and Morning Dove Christian School, located at 25065 Morning Dove Way, approximately 0.60-mile east of the Project site (Google Earth , 2013). According to the City of Moreno Valley General Plan and the MVIAP, there are no school sites planned to be constructed within 0.25 miles of the Project site. Accordingly, the proposed Project has no potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. As described above under the analysis for Thresholds (a) and (b), the transport of hazardous substances or materials to-and-from the Project site during construction and long-term operational activities would be required to comply with applicable federal, State, and local regulations to preclude substantial public safety hazards. Accordingly, there would be no potential for existing or proposed schools to be exposed to substantial safety hazards associated with the routine transport of hazardous substances or materials to-and-from the Project site. Thus, no impact would occur and no mitigation is required. Refer to EIR Subsection 4.2, *Air Quality*, for analysis pertaining to human health risks associated with air pollutant emissions, including risks to the maximally exposed school child located more than one-quarter mile from the Project site.

Threshold d)	***Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result would it create a significant hazard to the public or the environment?***

As discussed in Subsection 4.7.1, the Project site is not located on any list of hazardous materials sites complied pursuant to Government Code Section 65962.5 (Ca.l EPA, n.d.) (Cal. EPA, 2011) (DTSC, 2011) (SWRCB, n.d.) (SWRCB, 2015). Accordingly, no impact would occur.

Threshold e)	***For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?***

As discussed in Subsection 4.7.1, according to the *March ARB/IPA Compatibility Plan Draft EIR* (SCH #2013071042) Figure 2-2, *Compatibility Map*, the Project site is located within Compatibility Zones C1 and D and is located within the Airport Influence Area (AIA) Boundary. The proposed Project was subject to review by the Riverside County ALUC on October 8, 2015, which concluded that the Project would be fully consistent with the March ARB/IPA Compatibility Plan. A copy of the ALUC staff report that contains the conditions of approval imposed on the Project by the ALUC are included in Project's Administrative Record for this EIR on file with the City of Moreno Valley. The ALUC's conditions are repeated as mitigation measures in EIR Subsection 4.7.6. Provided below is a summary of the ALUC's findings with relation to the proposed Project.

- <u>Non-Residential Average Land Use Intensity</u>. The March ARB/IPA Compatibility Plan limits average non-residential intensity within Zone C1 to 100 people per acre, while Zone D does not specify any restrictions on intensity. For the approximately 15.27 acres of the Project site located within Zone C1, the Project proposes a total of 243,232 square feet of warehouse area, 10,000 square feet of first floor office space, and 10,000 square feet of second floor (mezzanine) office space within Buildings 3 and 4. The occupancy rates specified in Appendix C, Table C-1, of the Riverside County Airport Land Use Compatibility Plan, and March Air Reserve Base/Inland Port Airport Compatibility Plan Policy 2.4, indicate that warehouse buildings exceeding 250,000 square feet in gross floor area generate one employee per 500 square feet, while office uses result in one employee per 200 square feet (assuming a 50% reduction due to the ancillary nature of the office uses). Thus, the portion of the Project located within Zone C1 is calculated to generate up to 586 people on 15.27 acres, which results in an average of 38 people per acre. This is below the Zone C1 average acre criterion of 100 people per acre. (ALUC, 2015a)

A second method that the ALUC uses to determine total occupancy involves multiplying the number of parking spaces provided or required (whichever is greater) by average vehicle occupancy (assumed to be 1.5 persons per standard vehicle and 1.0 persons per truck trailer parking/dock space in the absence of more precise data). Based on the number of standard parking spaces provided for Buildings 3 and 4 (212 parking spaces) and truck trailer spaces of 65, the total occupancy is estimated at 383 people. This total occupancy within the 15.27-acre area results in an average intensity of 25 people per acre, which is also consistent with the Zone Cl average acre criterion of 100 people per acre. (ALUC, 2015a) Accordingly, no conflict was identified by the ALUC.

- Non-Residential Single-Acre Land Use Intensity. Compatibility Zone Cl limits maximum single-acre intensity to 250 people. Zone D does not limit non-residential intensity. There are no risk reduction design bonuses available, as March Air Reserve Base/Inland Port Airport is primarily utilized by large aircraft weighing more than 12,500 pounds. For the 243,232 square feet of warehouse area, 10,000 square feet of first floor office space, and 10,000 square feet of second floor (mezzanine) office space within Buildings 3 and 4 and within Compatibility Zone C1, the maximum single-acre area for either Building 3 or 4 would consist of 5,000 square feet of first floor office area, 5,000 square feet of second floor office area, and 38,560 square feet of warehouse area. This would result in a single-acre occupancy of 127, which would be consistent with the Zone C1 single-acre criterion of 250 people per acre. (ALUC, 2015a) Accordingly, no conflict was identified by the ALUC.

- Prohibited and Discouraged Uses. The Project does not propose any uses that are prohibited or discouraged in Compatibility Zones C1 or D. Accordingly, no conflict was identified by the ALUC.

- Noise. The March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan depicts the Project site as being in an area below the 60 CNEL range from aircraft noise. Therefore, the Project would not require special measures to mitigate aircraft-generated noise. Accordingly, no conflict was identified by the ALUC.

- Part 77 Requirements. The elevation of Runway 14-32 at its southerly terminus is 1,488 feet above mean sea level, which is the closest runway to the Project site. At a distance of approximately 3,811 feet from the runway to the closest portion of the Project site, Federal Aviation Administration (FAA) review would be required for any structures with top of roof exceeding 1,526 feet AMSL. On-site elevations range from 1,480 to 1,492 feet AMSL. With a maximum building height of 50 feet, the top point elevation could exceed 1,526 feet AMSL. Therefore, review by the FAA Obstruction Evaluation Service was required. The proposed Plot Plans and their associated architectural elevations were submitted to the FAA Obstruction Evaluation Service and each received a Determination of No Hazard to Air Navigation (copies of which are included in the Project's Administrative Record for this EIR on file with the City of Moreno Valley).

Based on the foregoing analysis, and assuming compliance with the conditions of approval imposed on the Project by the ALUC, the Project would not result in a conflict with any of the policies or requirements of the March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan. Because the Compatibility Plan is intended to minimize potential hazards associated with the March Air Reserve Base/Inland Port Airport, it is concluded that the Project would not result in a safety hazard for people residing or working in the Project area. Accordingly, impacts would be less than significant. Although mitigation is not required, the Project would be subject to several conditions of approval imposed on the Project by the ALUC, which are incorporated below as mitigation measures in EIR Subsection 4.7.6.

Threshold f)	***For a project within the vicinity of a private airstrip or heliport, would the project result in a safety hazard for people residing or working in the project area?***

The Project site is not located within the vicinity of a private airstrip or heliport (Google Earth , 2013). As such, implementation of the Project would have no potential to expose on-site workers to safety hazards associated with a private airfield or an airstrip. Thus, no impact would occur and no mitigation is required.

Threshold g)	***Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan?***

The Project site does not contain any emergency facilities nor does it serve as an emergency evacuation route. During construction and long-term operation, the proposed Project would be required to maintain adequate emergency access for emergency vehicles. As part of the City's discretionary review process, the City of Moreno Valley reviewed the Project's application materials to ensure that appropriate emergency ingress and egress would be available to-and-from the Project site and the Project's four (4) proposed buildings. The City determined that the Project would not substantially impede emergency response times in the local area. Accordingly, implementation of the proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or an emergency evacuation plan, and no impact would occur.

Threshold h)	***Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands area adjacent to urbanized areas or where residences are intermixed with wildlands?***

According to City of Moreno Valley General Plan FEIR Figure 5.5-2, *Floodplains and High Fire Hazard Areas*, the Project site is not located in a "High Fire Hazard Area". Also, according to the California Department of Forestry and Fire Protection (Cal Fire) the Project site is not located in a "Very High Fire Hazard Severity Zone" (Cal Fire, 2008). No wildlands are located on the Project site and the Project site is surrounded on all sides by developed properties, paved roads, maintained vacant sites, and/or the Perris Valley Storm Drain Channel. Also, under existing conditions, weed abatement (i.e., discing) occurs on the Project site as required by the Moreno Valley Fire Prevention Bureau to clear vegetative cover and reduce the risks of fires. Accordingly, implementation of the proposed Project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires and no impact would occur.

4.7.4 Cumulative Impact Analysis

As discussed above under Thresholds (a) and (b), although the future occupants of the Project's proposed buildings are not presently known, if businesses that use or store hazardous materials occupy the Project site, the business owners and operators would be required to comply with all applicable federal, state, and local regulations to ensure proper use, storage, and disposal of hazardous substances. Such uses also would be subject to additional review and permitting requirements by the Moreno Valley Fire Department and Riverside County DEH. Similarly, any other developments in the area proposing the construction of uses with the potential for use, storage, or transport of hazardous materials also would be required to comply with applicable federal, state, and local regulations, and such uses would be subject to additional review and permits from their applicable fire department and Riverside County DEH. Therefore, the potential for release of toxic substances or hazardous materials into the environment, either through accidents or due to routine transport, use, or disposal of such materials, would be reduced to a less than cumulatively significant level. Accordingly, the Project's potential to contribute to a cumulatively significant hazardous materials impact would be less than significant.

The Project site is not located within one-quarter mile of an existing or planned school, therefore the Project would not contribute to a cumulatively significant hazards/hazardous materials impact on any public or private schools located within one-quarter mile of the site.

The Project site is not located on the list of hazardous materials sites compiled pursuant to Government Code § 65962.5. In the unlikely event that hazardous materials are encountered beneath the surface of the site during grading or construction, the materials would be handled and disposed of in accordance with regulatory requirements. Therefore, the Project would not contribute to a cumulatively significant hazardous materials impact associated with a listed hazardous materials site.

As discussed under Threshold (e), the ALUC found the proposed Project to be fully consistent with the March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan, subject to standard conditions of approval imposed by the ALUC. Other developments within the March ARB/IPA's AIA would similarly be required to demonstrate consistency with the Compatibility Plan. As such, cumulatively considerable impacts associated with airport-related hazards would be less than significant and no mitigation would be required beyond mandatory compliance with the conditions of approval imposed on the Project by the ALUC.

The Project site is not located within the vicinity of any private airstrips or helipads. Thus, the Project has no potential to result in cumulatively significant impacts associated with such facilities.

The Project site does not contain any emergency facilities nor does it serve as an emergency evacuation route; thus, there is no potential for the Project to contribute to any cumulative impacts associated with an adopted emergency response plan or emergency evacuation plan.

As discussed under Threshold (h), the Project site is not located within or in close proximity to areas identified as being subject to wildland fire hazards. Additionally, as the surrounding area continues to develop, lands that are currently vacant would be developed in a manner consistent with jurisdictional requirements for fire protection, and would generally decrease the fire hazard potential in the local area. As such, within the cumulative context of the Project vicinity, fire hazards are anticipated to decline over time, and the Project's contribution to cumulative wildfire potential is less than cumulatively considerable.

4.7.5 Significance of Impacts before Mitigation

<u>Threshold a) and b): Less-than-Significant Impact.</u> During Project construction and operation, mandatory compliance to federal, state, and local regulations would ensure that the proposed Project would not create a significant hazard to the environment due to routine transport, use, disposal, or upset of hazardous materials.

<u>Threshold c): No Impact.</u> The Project site is not located within one-quarter mile of any existing or proposed school. Accordingly, the Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

<u>Threshold d): No Impact.</u> The Project site is not located on any list of hazardous materials sites complied pursuant to Government Code § 65962.5.

<u>Threshold e): Less-than-Significant Impact.</u> The Project is consistent with the restrictions and requirements of the March ARB/IPA Compatibility Plan, assuming mandatory compliance with standard ALUC conditions of approval. As such, the Project would not result in an airport safety hazard for people residing or working in the Project area.

Threshold f): No Impact. The Project site is not located within the vicinity of a private airstrip or a helipad. Accordingly, implementation of the Project would have no potential to expose on-site workers to safety hazards associated with a private airfield or an airstrip.

Threshold g): Less-than-Significant Impact. The Project site does not contain any emergency facilities nor does it serve as an emergency evacuation route. During construction and long-term operation, the adequate emergency access is required to be provided for emergency vehicles. Accordingly, implementation of the Project would not impair implementation of or physically interfere with an adopted emergency response plan or an emergency evacuation plan.

Threshold h): No Impact. The Project site is not located in close proximity to wildlands or areas with high fire hazards. Thus, the Project would not expose people or structures to a significant wildfire risk.

4.7.6 Mitigation

Although the Project's impacts to hazards and hazardous materials would be less than significant, the following conditions of approval were imposed on the Project by the ALUC as part of its October 8, 2015 consistency determination. In order to ensure Project compliance with the ALUC determination, the ALUC's conditions of approval are incorporated below as mitigation measures.

MM 4.7-1 Prior to the issuance of building permits, a photometric plan shall be submitted to the City of Moreno Valley and approved. Any outdoor lighting installed shall be hooded or shielded to prevent either the spillage of lumens or reflection into the sky. Outdoor lighting shall be downward facing.

MM 4.7-2 The following uses shall be prohibited:

a) Any use which would direct a steady light or flashing light of red, white, green, or amber colors associated with airport operations toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing at an airport, other than an FAA-approved navigational signal light or visual approach slope indicator.

b) Any use which would cause sunlight to be reflected towards an aircraft engaged in an initial straight climb following takeoff or towards an aircraft engaged in a straight final approach towards a landing at an airport.

c) Any use which would generate smoke or water vapor or which would attract large concentrations of birds, or which may otherwise affect safe air navigation within the area. (Such uses include landscaping utilizing water features, aquaculture, production of cereal grains, sunflower, and row crops, composting operations, trash transfer stations that are open on one or more sides, recycling centers containing putrescible wastes, construction and demolition debris facilities, fly ash disposal, and incinerators.)

d) Any use which would generate electrical interference that may be detrimental to the operation of aircraft and/or aircraft instrumentation.

e) In Buildings 3 and 4: Children's schools, day care centers, libraries, hospitals, skilled nursing and care facilities, congregate care facilities, noise sensitive outdoor nonresidential uses and hazards to flight.

MM 4.7-3 The “Notice of Airport In Vicinity,” included in the ALUC’s October 8, 2015 staff report, shall be given to all prospective purchasers of the property and tenants of the buildings, and shall be recorded as a deed notice. Prior to building final, the Project Applicant shall provide to the City of Moreno Valley a copy of the title report and a model lease agreement for the subject property that includes the airport proximity notice.

MM 4.7-4 The proposed detention basins on the site (including water quality management basins) shall be designed so as to provide for a maximum 48-hour detention period following the conclusion of the storm event for the design storm (may be less, but not more), and to remain totally dry between rainfalls. Vegetation in and around the detention basins that would provide food or cover for bird species that would be incompatible with airport operations shall not be utilized in project landscaping. Trees shall be spaced so as to prevent large expanses of contiguous canopy, when mature. Landscaping in and around the detention basins located westerly of the Perris Valley Storm Drain Channel shall not include trees that produce seeds, fruits, or berries.

MM 4.7-5 March Air Reserve Base must be notified of any land use having an electromagnetic radiation component to assess whether a potential conflict with Air Base radio communications could result. Sources of electromagnetic radiation include radio wave transmission in conjunction with remote equipment inclusive of irrigation controllers, access gates, etc. All sources of electromagnetic radiation shall be noted on building plans and tenant improvement plans.

MM 4.7-6 The Federal Aviation Administration has conducted aeronautical studies of each of the proposed buildings (Aeronautical Study Nos. 2015-AWP-8676-0E through 2015-AWP-8679-0E) and has determined that neither marking nor lighting of these structures is necessary for aviation safety. However, if marking and/or lighting for aviation safety are accomplished on a voluntary basis, such marking and/or lighting (if any) shall be installed in accordance with Federal Advisory Circular 70/7460-1 K Change 2 and shall be maintained therewith for the life of the Project. All voluntary marking and/or lighting shall be identified on building plans.

MM 4.7-7 The maximum height of Building 1 shall not exceed 60 feet above ground level, and the maximum elevation at top point (including any roof-mounted equipment) shall not exceed 1,549 feet above mean sea level.

MM 4.7-8 The maximum height of Building 2 shall not exceed 52 feet above ground level, and the maximum elevation at top point (including any roof-mounted equipment) shall not exceed 1,541 feet above mean sea level.

MM 4.7-9 The maximum height of Building 3 shall not exceed 52 feet above ground level, and the maximum elevation at top point (including any roof-mounted equipment) shall not exceed 1,532 feet above mean sea level.

MM 4.7-10 The maximum height of Building 4 shall not exceed 52 feet above ground level, and the maximum elevation at top point (including any roof-mounted equipment) shall not exceed 1,545 feet above mean sea level.

MM 4.7-11 The specific coordinates, heights, and top point elevations of the proposed buildings shall not be amended without further review by the Airport Land Use Commission and the Federal Aviation Administration; provided, however, that reduction in building height or elevation shall not require further review by the Airport Land Use Commission.

MM 4.7-12 Temporary construction equipment used during actual construction of Building 1 shall not exceed a height of 60 feet and temporary construction equipment used during actual construction of Buildings 2, 3, and 4 shall not exceed a height of 52 feet, unless separate notice is provided to the Federal Aviation Administration through the Form 7460-1 process.

MM 4.7-13 Within five (5) days after construction of each of the buildings reaches its greatest height and prior to building final, FAA Form 7460-2 (Part II), Notice of Actual Construction or Alteration, shall be completed by the project proponent or his/her designee and e-filed with the Federal Aviation Administration, with documentation provided to the City of Moreno Valley. (Instructions are available at https://oeaaa.faa.gov.) This requirement is also applicable in the event the project is abandoned or a decision is made not to construct the applicable building.

4.8 Hydrology/Water Quality

The analysis in this Subsection is based on two reports prepared by Thienes Engineering, titled: 1) "Preliminary Hydrology Calculations," dated March 10, 2016, and appended to this EIR as *Technical Appendix G1*; and 2) "Project Specific Preliminary Water Quality Management Plan (WQMP)," dated March 10, 2016, and appended to this EIR as *Technical Appendix G2*.

The Project site is located within the jurisdiction of the Santa Ana Regional Water Quality Control Board (RWQCB). Accordingly, water quality information for this Subsection was obtained from the Santa Ana RWQCB's *Water Quality Control Plan (Basin Plan) for the Santa Ana River Basin* (updated June 2011). Additionally, the Riverside County Flood Control and Water Conservation District (RCFCWCD) is the agency responsible for the regional flood control system in the Project area. The Project site is located within the boundary of the RCFCWCD's *Perris Valley Master Drainage Plan* and the RCFCWCD's *Sunnymead Master Drainage Plan*. The above-listed documents are available at the website addresses provided in EIR Section 7.0, *References*.

4.8.1 Existing Conditions

A. Regional Hydrology

The Project site is located in the Santa Ana River watershed, which drains a 2,650 square-mile area and is the principal surface flow water body within the region. The Santa Ana River rises in Santa Ana Canyon in the southern San Bernardino Mountains and runs southwesterly across San Bernardino, Riverside, and Orange Counties, where it discharges into the Pacific Ocean at the City of Huntington Beach. The total length of the Santa Ana River and its major tributaries is approximately 700 miles. (SAWPA, 2014, Ch. 3) The Project site's location within the Santa Ana River Watershed is depicted on Figure 4.8-1, *Santa Ana River Watershed Map.*

The San Jacinto River drains the area in the vicinity of the Project site. It starts in the San Jacinto Mountains approximately 30 miles southeast of the Project site, runs west through the City of Canyon Lake, and discharges into Lake Elsinore, which in turn discharges to the Santa Ana River. The Santa Ana River ultimately discharges into the Pacific Ocean. (SAWPA, 2014, Ch. 3)

The Perris Valley Storm Drain Channel, which transects the Project site in a northwest to southeast direction, is one of three major storm drains that serve the City of Moreno Valley. The Perris Valley Storm Drain Channel drains to the San Jacinto River.

B. Site Hydrology

Figure 4.8-2, *Existing Conditions Hydrology Map,* illustrates the drainage pattern of the Project site under existing conditions. As illustrated on Figure 4.8-2, storm water runoff from the western portions of the Project site (i.e., west of the Perris Valley Storm Drain Channel) drains across the subject property in a southeasterly direction as sheet flow before discharging into the Channel. Stormwater runoff from the eastern portion of the Project site (i.e., east of the Perris Valley Storm

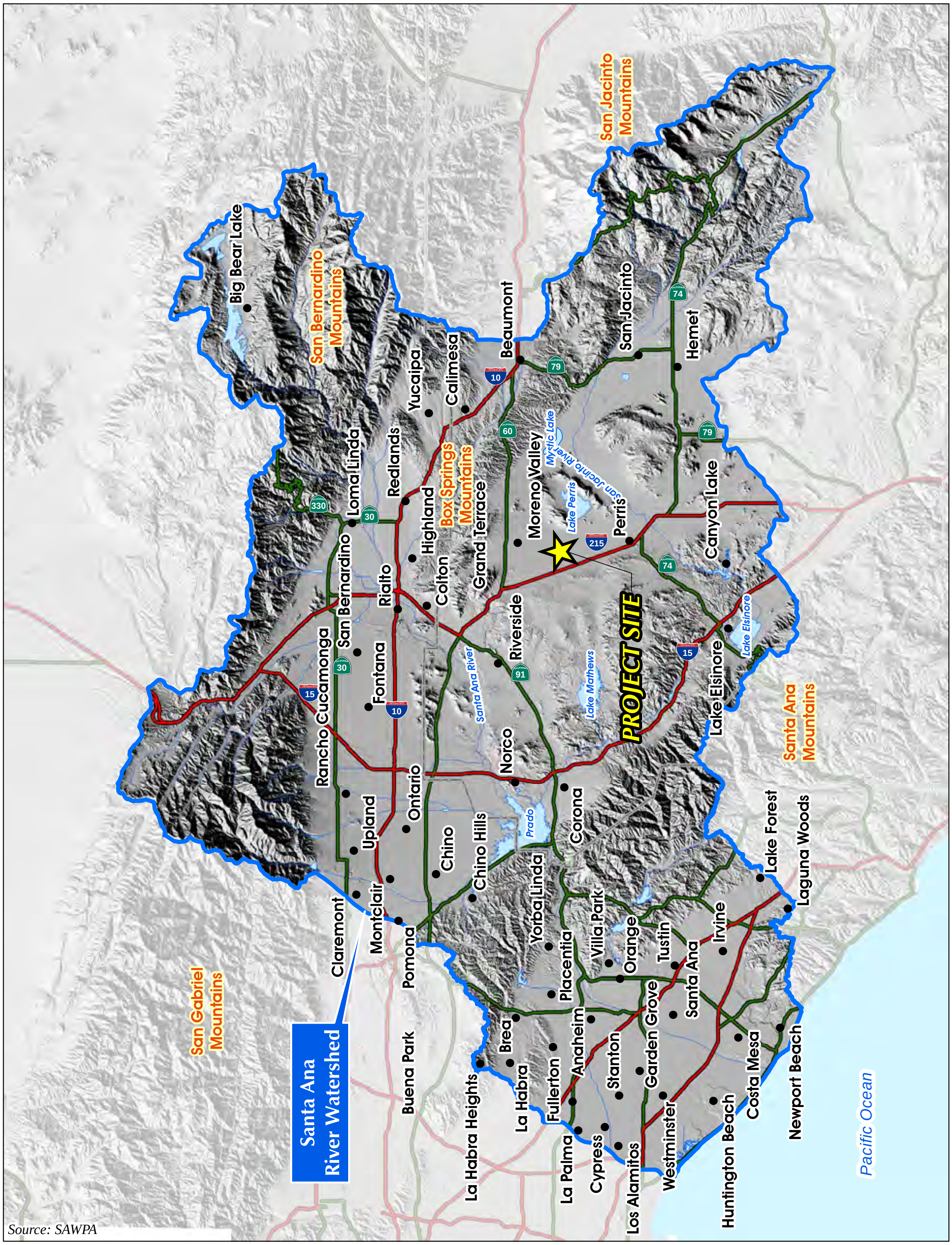
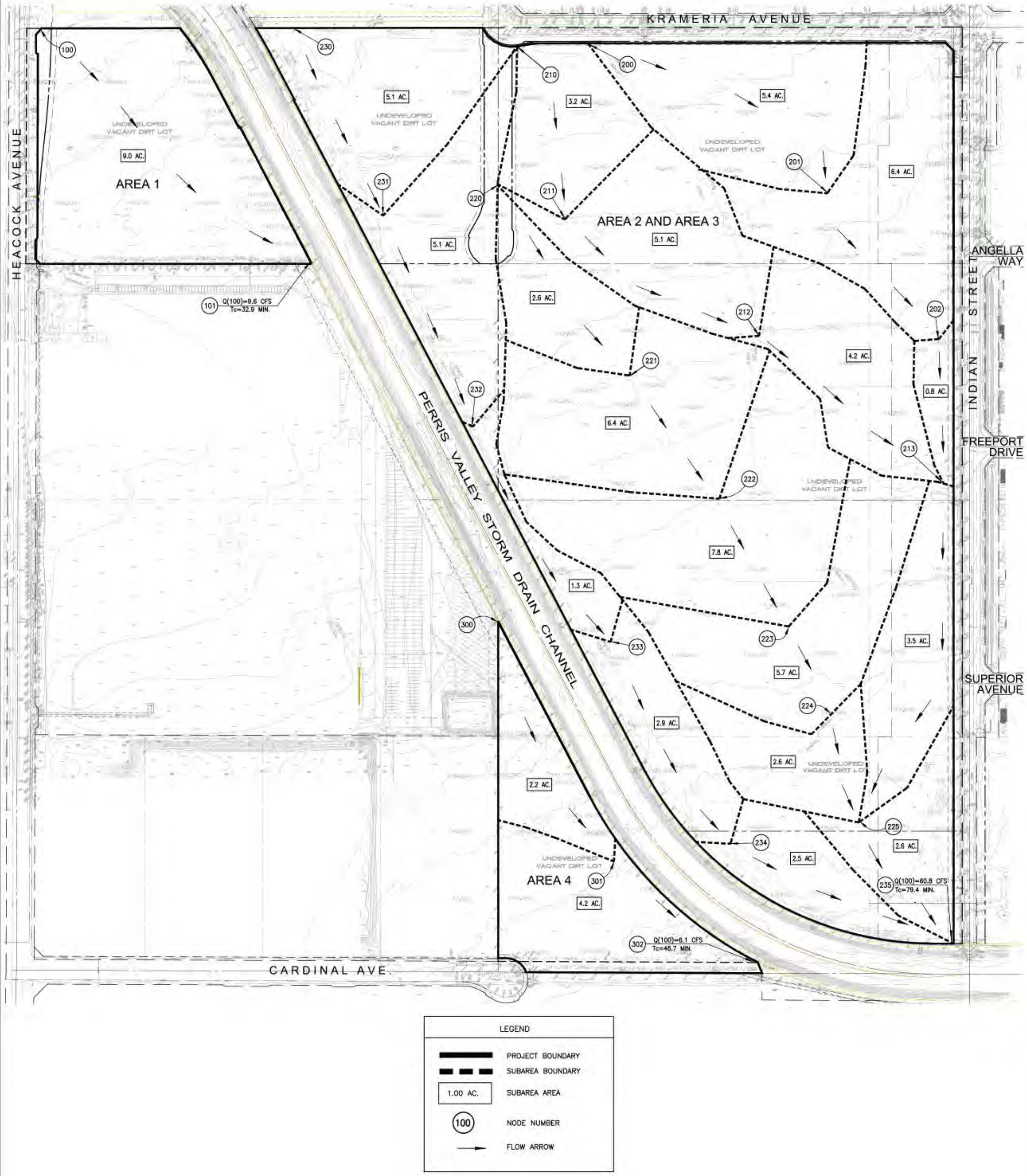


Figure 4.8-1

0 1.625 3.25 6.5
Miles

SANTA ANA RIVER WATERSHED MAP



Source: Thienes Engineering (10-30-14)

Figure 4.8-2

NOT TO SCALE

EXISTING CONDITION HYDROLOGY MAP

Drain Channel) drains across the subject property in a southeasterly direction as sheet flow before concentrating at the site's southeast corner and discharging into the Channel. Under existing conditions, peak stormwater runoff flows on the subject property are approximately 76.5 cubic feet per second (cfs) during a 100-year storm event. (Thienes, 2016a, n.p.)

C. Perris Valley and Sunnymead Master Drainage Plans

The RCFCWCD prepared a number of Master Drainage Plans (MDPs) to identify master-planned drainage and flood control facilities that are needed to safely convey the peak runoff of a 100-year frequency storm. As depicted on Figure 4.8-2, *Perris Valley and Sunnymead Master Drainage Plans*, the portion of the Project site located west of the Perris Valley Storm Drain Channel is located within the Perris Valley Master Drainage Plan and the portion of the Project site located east of the Perris Valley Storm Drain Channel is located within the Sunnymead Master Drainage Plan. The Perris Valley MDP was completed in May 1987 and revised in 1991, while the Sunnymead MDP was completed in October 1978. The Perris Valley Area Drainage Plan (ADP) and the Sunnymead ADP are the financing mechanisms for the planned facilities identified in the Perris Valley and Sunnymead MDPs, respectively. The MDPs address the current and future drainage needs of the Project area and specify facilities capable of economically relieving flooding problems within the plan areas. The MDPs and ADPs include estimates of facility capacity, sizes, and costs. The ADPs act as a financing mechanism used to offset taxpayer costs for planned master drainage facilities by imposing fees on new development within the ADP areas.

As shown on Figure 4.8-2, the Perris Valley and Sunnymead MDPs identify two master-planned drainage facilities in the vicinity of the Project site: 1) the Perris Valley Storm Drain Channel (Line A), which transects the Project site in a northwest to southeast direction; and 2) an open, trapezoidal drainage channel on the east side of Indian Street (Line D) that outlets into the Perris Valley Storm Drain Channel. The Perris Valley Storm Drain Channel is a major regional storm drain facility that has a 28-foot bottom, 11-foot depth and a capacity to convey approximately 5,900 cubic feet per second. Line D is a small, neighborhood-level facility that drains areas adjacent to Indian Street. (RCFCWCD, 1978, pp. 6-7)

D. Flood Hazards

According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panels 06065C0765G and 06065C1430H, the north-central portion of the Project site is located within Flood Zone AO, while the remaining portions of the Project site are located within Flood Zone X (un-shaded). Areas on the Project site within Flood Zone AO are subject to shallow flooding (depths of one foot or less) from the Perris Valley Storm Drain Channel during 100-year storm events. Flood Zone X (unshaded) is classified by FEMA as an area of minimal flood hazard and is subject to potential flooding during extremely rare storm events (i.e., 500-year storm events). (FEMA, 2015) The FEMA FIRM for the Project area is depicted on Figure 4.8-4, *FEMA Flood Insurance Rate Map*.

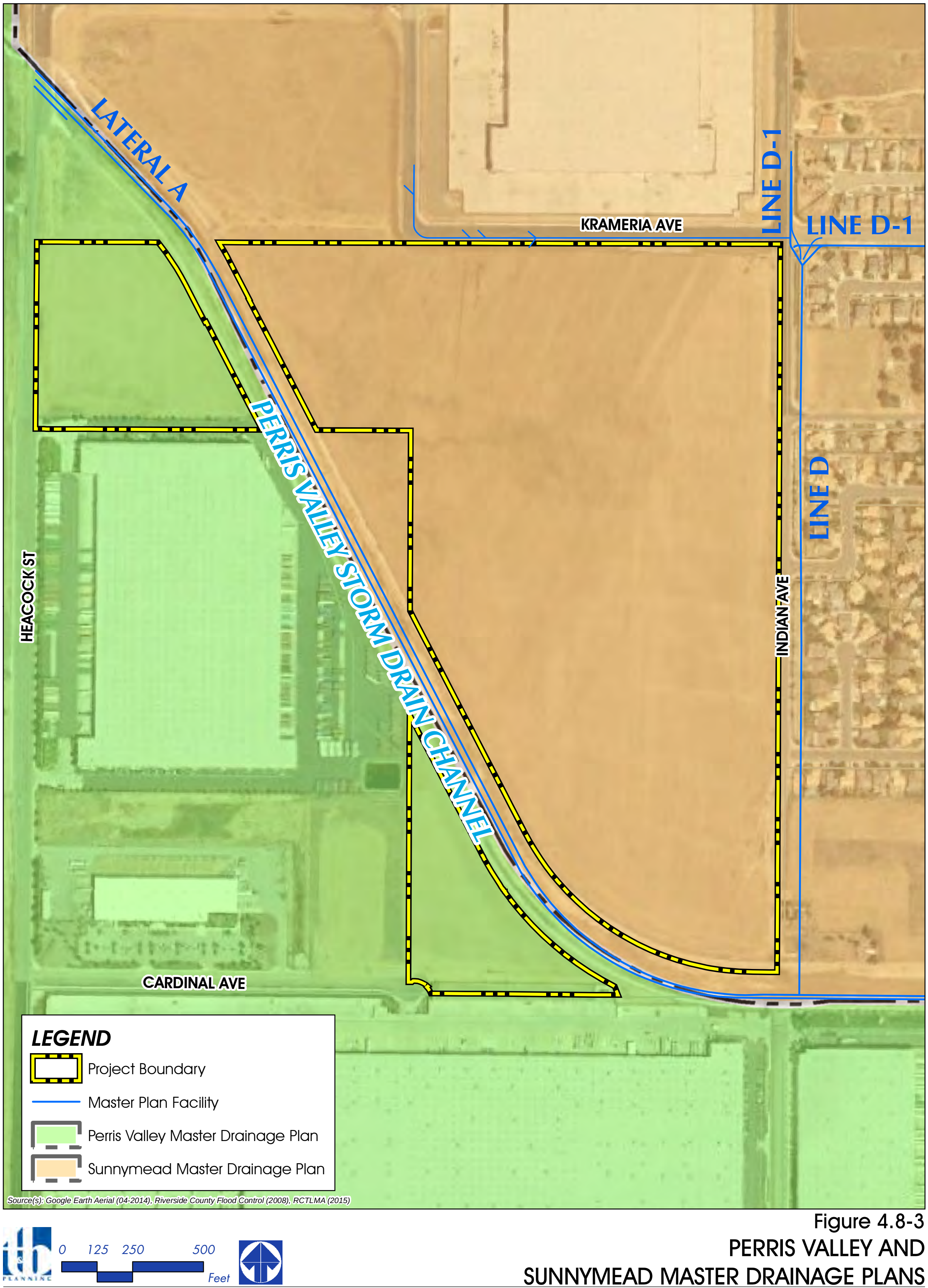


Figure 4.8-3
PERRIS VALLEY AND
SUNNYMEAD MASTER DRAINAGE PLANS

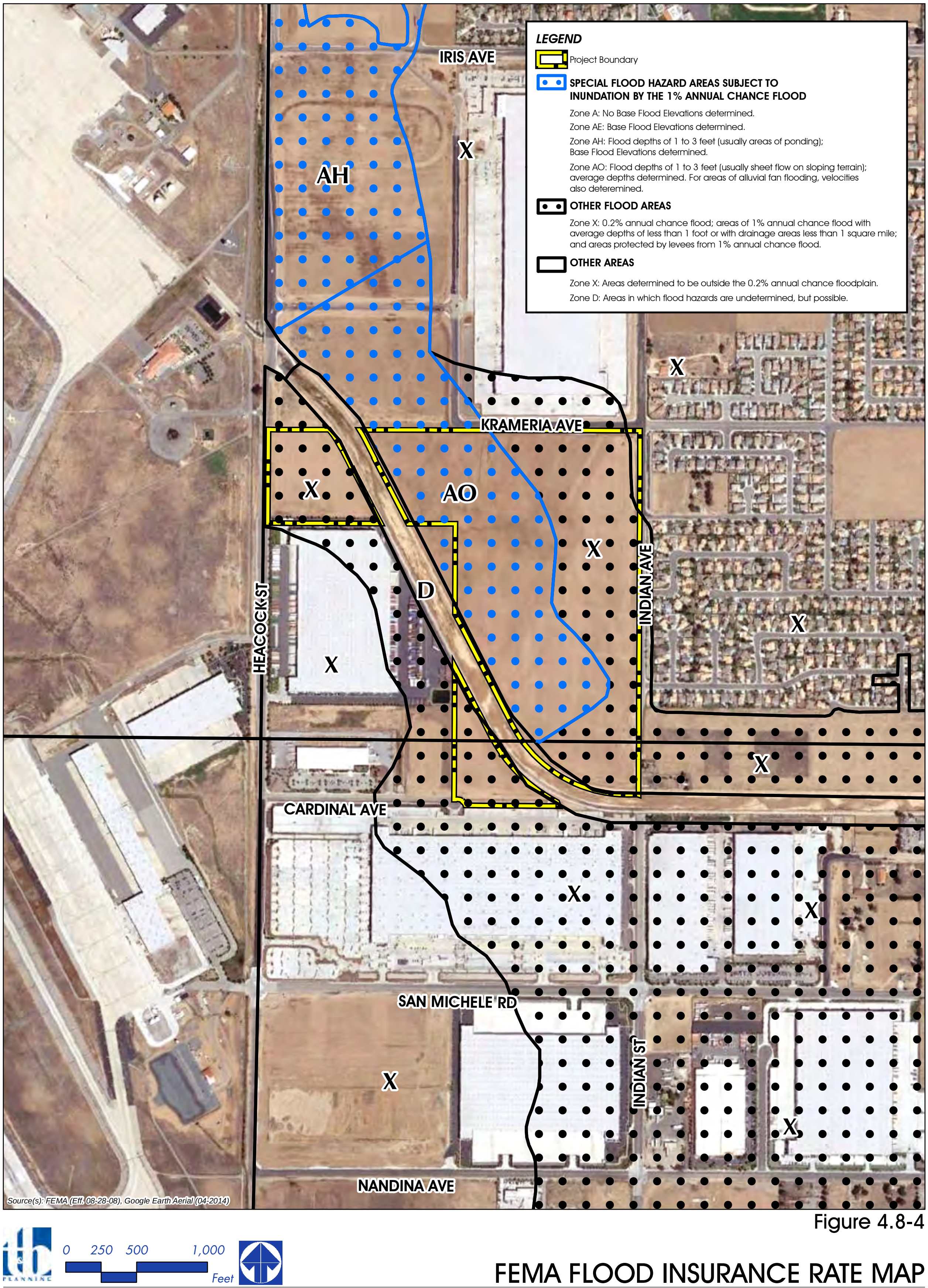


Figure 4.8-4

FEMA FLOOD INSURANCE RATE MAP

E. Water Quality

The California Porter-Cologne Water Quality Control Act (Section 13000 *et seq*. of the California Water Code), and the Federal Water Pollution Control Act Amendment of 1972 (also referred to as the Clean Water Act (CWA)) require that comprehensive water quality control plans be developed for all waters in the State of California. In order to accomplish this, the California State Water Resources Control Board divided the state into planning regions and the present system of nine Regional Water Quality Control Boards (RWQCBs). The Project site and vicinity are located in the Santa Ana River Watershed, which is within the purview of the Santa Ana RWQCB. The Santa Ana RWQCB's *Santa Ana River Basin Water Quality Control Plan* is the governing water quality plan for the region, which sets forth goals and objectives for protecting water quality within the region (SARWQCB, 2011).

The Perris Valley Storm Drain Channel receives all storm water runoff flows from the Project site. Water conveyed by the Perris Valley Storm Channel flows to downstream reaches of the San Jacinto River (Reaches 1 through 3), Lake Elsinore, Temescal Creek (Reaches 1 through 6), the Santa Ana River (Reaches 1 through 3), and, ultimately, the Pacific Ocean (Thienes, 2016b, p. 7). Refer to *Technical Appendix G2* for a detailed list of all the Project site's receiving waters.

The CWA requires all states to conduct water quality assessments of their water resources to identify water bodies that do not meet water quality standards. Water bodies that do not meet water quality standards due to excessive concentrations of pollutants are placed on a list of impaired waters pursuant to Section 303(d) of the CWA. Several of the Project site's receiving waters are included on the CWA's Section 303(d) list of impaired waters because of excessive concentrations of 10 pollutants ("Pollutants of Concern"), including: nutrients (Canyon Lake and Lake Elsinore), pathogens (Canyon Lake and Santa Ana River Reach 3), organic enrichment/low dissolved oxygen (Lake Elsinore), indicator bacteria (Lake Elsinore, Temescal Creek Reach 6, and Santa Ana River Reach 2), nitrate (Santa Ana River Reach 3), copper (Santa Ana River Reach 3), lead (Santa Ana River Reach 3), enterococcus (tidal prism of Santa Ana River and Newport Slough), fecal coliform (tidal prism of Santa Ana River and Newport Slough), and total coliform (tidal prism of Santa Ana River and Newport Slough) (Thienes, 2016b, p. 7).

F. Groundwater

The City of Moreno Valley is underlain by groundwater resources associated with the Perris North and San Jacinto Groundwater Basins. The Eastern Municipal Water Department (EMWD) relies on groundwater resources from each of these groundwater basins for a portion of their total water supply. The Project site is underlain by the Perris North Groundwater Basin (EMWD, 2015, Figure 7-1). Groundwater occurs between 100 and 150 feet below ground surface in the vicinity of the Project site (Farallon, 2015, p. 3-2).

No potable water wells are located on or adjacent to the Project site under existing conditions. However, several groundwater monitoring wells are located on properties adjacent to the Project site. The groundwater monitoring wells were installed to monitor groundwater contamination associated with the March Air Reserve Base (ARB). Groundwater beneath the Project site and surrounding area is thought to be affected by plumes of polluted groundwater from the March ARB. There is no evidence that any activities that occur or have occurred on the Project site contributed to groundwater contamination. (Farallon, 2015, p. 3-2)

G. Applicable Policies and Regulations

❑ Federal Policies and Regulations

The Federal Water Pollution Control Act (also known as the Clean Water Act (CWA)) is the principal federal statute that addresses water resources. The statute employs a variety of regulatory and non-regulatory tools to reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. The broad goal is to restore and maintain the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."

The CWA requires all states to conduct water quality assessments of their water resources and identify water bodies that do not meet water quality standards. The Environmental Protection Agency (EPA) publishes recommended water quality criteria. States are not required to adopt the exact criteria, but state standards must be approved by the EPA and provide the same level of protection as EPA's standards. In California, water quality standards are established by the nine RWQCBs. The Project site is located in the Santa Ana region, and the Santa Ana RWQCB's *Santa Ana River Basin Water Quality Control Plan* is applicable to the Project site and vicinity (SARWQCB, 2011).

The provisions of the CWA applicable to the proposed Project are as follows, which also apply to all construction sites of over one acre in size:

- CWA Section 401 requires federal agencies to obtain a Water Quality Certification from states, territories, and Indian tribes before issuing permits that would result in increased pollutant loads to a water body. A Section 401 certification can be issued only if increased pollutant loads would not cause or contribute to exceedances of water quality standards; and

- CWA Section 402 authorizes the National Pollutant Discharge Elimination System (NPDES) permit program that covers point sources of pollution discharging to a water body. The NPDES program also requires operators of construction sites one acre or larger to prepare a Stormwater Pollution Prevention Plan (SWPPP) for construction activities and obtain authorization to discharge stormwater under an NPDES construction stormwater permit. The NDPES program also requires certain land uses (e.g., industrial uses) to prepare a SWPPP for operational activities and to implement a long-term water quality sampling and monitoring program, unless an exemption has been granted. On April 1, 2014, the California State Water Resources Control Board adopted an updated new NPDES permit for storm water discharge associated with industrial activities (referred to as the "Industrial General Permit"). The new Industrial General Permit, which is more stringent than the existing Industrial General Permit, became effective on July 1, 2015.

❑ State Policies and Regulations

The California Water Code (including the Porter-Cologne Water Quality Control Act (Division 7)) is the principal state law regulating water quality in California. The Porter-Cologne Water Quality Control Act establishes a comprehensive program to protect water quality and the beneficial uses of water, and applies to both surface and groundwater. As mentioned above, the State Water Resources Control Board adopts statewide water quality control plans and its nine RWQCBs are required to develop and adopt regional water quality control plans ("basin plans") that conform to state water quality policy. As mentioned above, the Project site is located in the Santa Ana region. As such, the Santa Ana RWQCB's *Santa Ana River Basin Water Quality Control Plan* is applicable to the Project site; it designates beneficial uses of water bodies to be protected and establishes water quality objectives.

❑ Local Policies and Regulations

Chapter 8.10 *et seq.* (Stormwater/Urban Runoff Management and Discharge Controls) and Section 8.21.170 (National Pollutant Discharge Elimination Systems) of the City of Moreno Valley Municipal Code requires the City to participate as a "Co-permittee" under the NPDES permit program to accomplish the requirements of the CWA. Pursuant to this chapter, the City is required to participate in the improvement of water quality and comply with Federal requirements for the control of urban pollutants to storm water runoff.

4.8.2 Basis for Determining Significance

The proposed Project would result in a significant impact to hydrology/water quality if the Project or any Project-related component would:

a) *Violate any water quality standards or waste discharge requirements;*

b) *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);*

c) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;*

d) *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 surface runoff in a manner which would result in flooding on- or off site;*

e) *Create or contribute runoff which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;*

f) *Otherwise substantially degrade water quality;*

g) *Place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;*

h) *Place within a 100-year flood hazard area structures which would impede or redirect flood flows;*

i) *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; or*

j) *Be subject to inundation by seiche, tsunami, or mudflow?*

4.8.3 Impact Analysis

Threshold a)	***Would the project violate any water quality standards or waste discharge requirements?***

A. Construction-Related Water Quality Impacts

Construction of the Project would involve grading, paving, utility installation, building construction, and landscaping installation, which would result in the generation of potential water quality pollutants such as silt, debris, chemicals, paints, and other pollutants with the potential to affect water quality. As such, short-term water quality impacts have the potential to occur during construction of the Project in the absence of any protective or avoidance measures.

Pursuant to the requirements of the Santa Ana RWQCB and the City Moreno Valley (Municipal Code Chapter 8.10 *et seq.* and § 8.21.170), the Project would be required to obtain a NPDES Municipal Stormwater Permit for construction activities. The NPDES permit is required for all projects that include construction activities, such as clearing, soil stockpiling, grading, and/or excavation that disturb at least one (1) acre of total land area. In addition, the Project would be required to comply with the Santa Ana RWQCB's *Santa Ana River Basin Water Quality Control Program*. Compliance with the NPDES permit and the *Santa Ana River Basin Water Quality Control Program* involves the preparation and implementation of a SWPPP for construction-related activities. The SWPPP will specify the Best Management Practices (BMPs) that the Project would be required to implement during construction activities to ensure that all potential pollutants of concern are prevented, minimized, and/or otherwise appropriately treated prior to being discharged from the subject property. Examples of BMPs that may be utilized during construction include, but are not limited to, sandbag barriers, geotextiles, storm drain inlet protection, sediment traps, rip rap soil stabilizers, and hydroseeding. Mandatory compliance with the SWPPP would ensure that the proposed Project does violate any water quality standards or waste discharge requirements during construction activities. Therefore, water quality impacts associated with construction activities would be less than significant and no mitigation measures would be required.

B. Post-Development Water Quality Impacts

Storm water pollutants commonly associated with the land uses proposed by the Project include bacterial indicators, metals, nutrients, pesticides, toxic organic compounds, sediments, trash and debris, and oil and grease. Based on current receiving water impairments (pursuant to the CWA's Section 303(d) list), the Project's pollutants of concern are bacterial indicators, metals, nutrients, and toxic organic compounds. (Thienes, 2016b, p. 22)

Pursuant to the Moreno Valley Municipal Code (Chapter 8.10 *et seq.* and § 8.21.170), the Project would be required to implement a Water Quality Management Plan (WQMP) to demonstrate compliance with the City's NPDES permit and to minimize the release of potential waterborne pollutants, including pollutants of concern for downstream receiving waters. The WQMP is a site-specific post-construction water quality management program designed to address the pollutants of concern of a development project via BMPs, implementation of which ensures the on-going protection of the watershed basin. The Project's Preliminary WQMP, prepared by Thienes Engineering, is included as *Technical Appendix G2* appended to this EIR. As identified in *Technical Appendix G2*, the proposed Project is designed to include on-site, structural source control BMPs (consisting of six water quality/detention basins) as well as operational source controls (including but not limited to: the installation of water-efficient landscape irrigation systems, storm drain system stenciling and signage, and implementation of common area maintenance programs) to minimize, prevent, and/or otherwise appropriately treat storm water runoff flows before they are discharged from the site. Compliance with the WQMP would be required as a condition of Project approval pursuant to Municipal Code Chapter 8.10 and Municipal Code § 8.21.170, and long-term maintenance of on-site BMPs would be required to ensure their long-term effectiveness. Therefore, water quality impacts associated with long-term operational activities would be less than significant.

In addition to the WQMP, the NDPES program also requires certain land uses, including industrial land uses as proposed by the Project, to prepare a SWPPP for operational activities and to implement a long-term water quality sampling and monitoring program, unless an exemption has been granted. On April 1, 2014, the California State Water Resources Control Board adopted an updated new NPDES permit for storm water discharge associated with industrial activities (referred to as the "Industrial General Permit"). The new Industrial General Permit, which is more stringent than the existing Industrial General Permit, became effective on July 1, 2015. Under the newly effective NPDES Industrial General Permit, the Project would be required to prepare a SWPPP for operational activities and implement a long-term water quality sampling and monitoring program or receive an exemption. Because the permit is dependent upon the operational activities of the buildings, and the

Project's future building occupants and their operations are not known at this time, details of the SWPPP (including BMPs) or potential exemption to the SWPPP operational activities requirement cannot be determined at this time. However, based on the requirements of the NPDES Industrial General Permit, it is anticipated that the Project's mandatory compliance with all applicable regulations would further reduce potential water quality impacts during long-term operation.

Based on the foregoing analysis, the Project would not violate any water quality standards or waste discharge requirements during long-term operation. Impacts would be less than significant.

Threshold b)	***Would the project 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)?***

No potable groundwater wells are proposed by the Project. The proposed Project would be served with potable water by the EMWD. The EMWD relies on local potable groundwater as a source of its water supply (in addition to imported water from the Metropolitan Water District of Southern California, desalted ground water, and recycled water). The EMWD has indicated it has sufficient available water resources, including groundwater resources, to adequately serve the Project in addition to past, present, and future commitments to supply water (refer to *Technical Appendix J*). Therefore, the proposed Project would not substantially deplete groundwater supplies and the Project's impact to groundwater supplies would be less than significant.

Development of the Project would increase impervious surface coverage on the property, which would reduce the amount of water percolating down into the underground aquifer that underlies the Project site and a majority of the City. However, and as noted in the City's General Plan EIR (City of Moreno Valley, 2006b, pp. 5.7-12), "the impact of an incremental reduction in groundwater would not be significant as domestic water supplies are not reliant on groundwater as a primary source." Additionally, water captured by the proposed Project's water quality/detention basins and landscaped areas would have the opportunity to percolate into the ground. With buildout of the Project, the local groundwater levels would not be adversely affected. Accordingly, buildout of the Project with these design features would not interfere substantially with groundwater recharge.

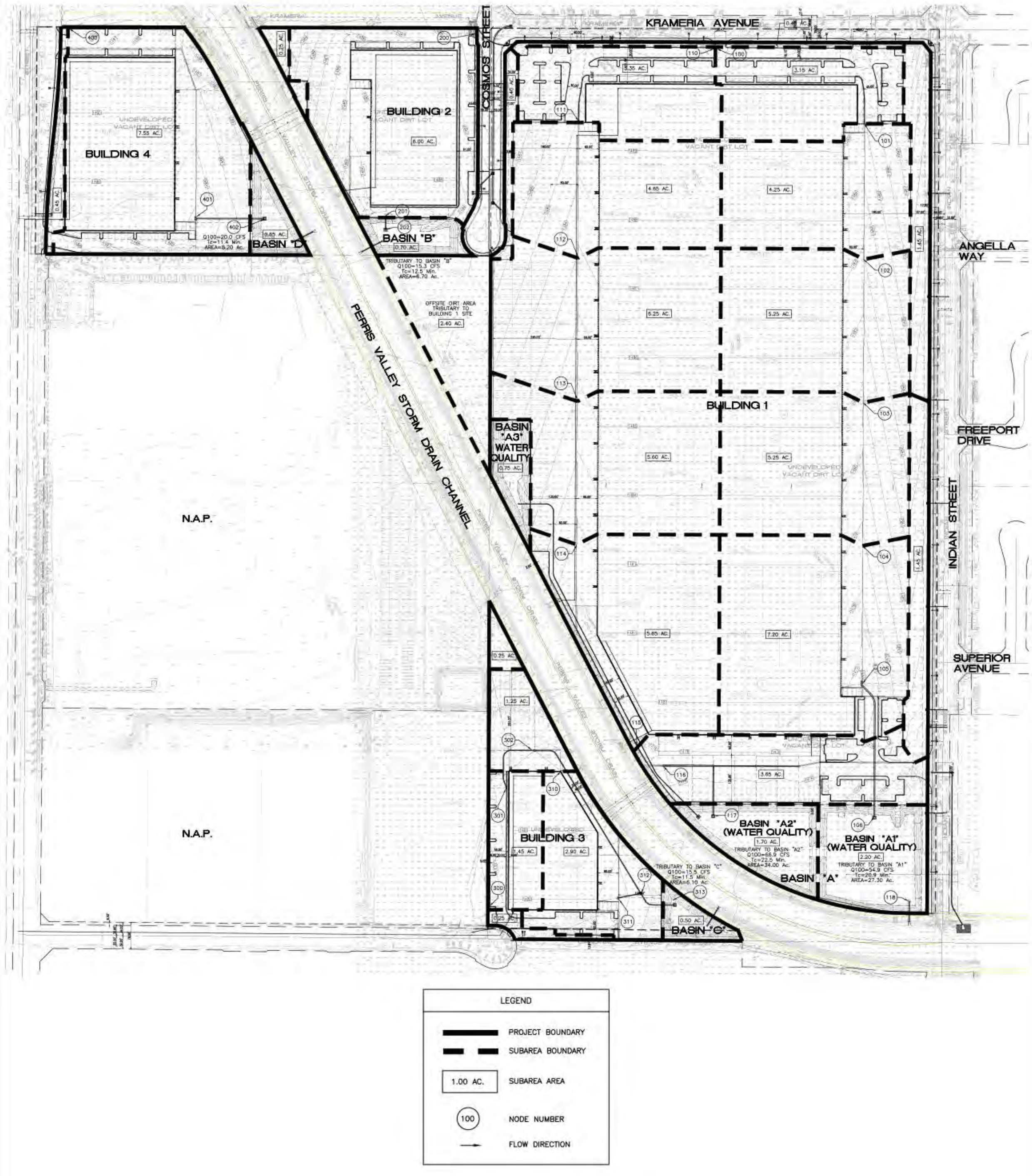
For the reasons stated above, the Project would neither substantially deplete groundwater supplies nor interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Impacts would be less than significant.

Threshold c)	***Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?***

The proposed Project would alter existing ground contours of the Project site, which would result in changes to the site's existing drainage patterns; however, surface water runoff discharged from the Project site would follow a similar overall pattern across the Project site and would ultimately discharge into the Perris Valley Storm Drain Channel as occurs under existing conditions (Thienes, 2016a, n.p.). The post-development drainage characteristics of the Project site are illustrated on Figure 4.8-5, *Proposed Condition Hydrology Map*. The Project proposes to construct an integrated system of underground storm drain pipes, catch basins, and water quality/detention basins to capture on-site storm water runoff flows, convey the runoff across the site, and treat the runoff to minimize the amount of water-borne pollutants carried from the Project site. As summarized in the Project's WQMP (refer to *Technical Appendix G2)*, the Project's proposed BMPs, including the water quality/detention basins, are effective at removing sediment from surface water runoff (Thienes, 2016b). Compliance with the WQMP would be required as a condition of Project approval and long-term maintenance of on-site water quality features would be required to ensure their long-term effectiveness (pursuant to Municipal Code Chapter 8.10 *et seq.* and § 8.21.170). Therefore, surface water runoff flows leaving the Project site would not carry substantial amounts of sediment. Additionally, the Project would install rip-rap at each of the proposed storm drain outlets within the Perris Valley Storm Drain Channel to dissipate the energy of surface water runoff flows and preclude substantial erosive impacts within the Perris Valley Storm Drain Channel. Because the Project would retain the site's general drainage pattern and because the Project would incorporate features designed to minimize sediment within surface water runoff, the Project would not result in substantial erosion or siltation on- site or off-site and a less-than-significant impact would occur.

Threshold d)	***Would the project 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 of surface runoff in a manner which would result in flooding on- or off site?***

In both the pre- and post-development conditions (long-term), all surface water runoff would travel across the Project site in a southeasterly direction and would be discharged into the Perris Valley Storm Drain Channel. Under existing conditions, peak surface water runoff flows on the subject property are approximately 76.5 cfs during the 100-year storm event. Under long-term development conditions, the Project's peak surface water runoff flows are projected to be approximately 170 cfs during the 100-year storm event (without accounting for the Project's proposed storm drain system). However, as demonstrated in the Project's site-specific hydrology study (*Technical Appendix G1*), the Project's proposed water quality/detention basins are designed to accommodate the incremental increase in on-site surface water runoff volume that would result from development of the Project.



Source: Thienes Engineering (10-30-14)

Figure 4.8-5

NOT TO SCALE

PROPOSED CONDITION HYDROLOGY MAP

Furthermore, the proposed water quality/detention basins are designed to gradually release surface water runoff flows from the Project site into the Perris Valley Storm Drain Channel so that post-development flow conditions would resemble existing conditions. (Thienes, 2016a, n.p.) Based on the foregoing information, the Project would not substantially alter the existing drainage pattern of the Project site or substantially increase the rate of surface water runoff from the site in a manner that would result in flooding on- or off-site. A less-than-significant impact would occur.

Threshold e) Would the project create or contribute runoff which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

As discussed above under the analysis of Threshold d), the proposed Project is designed to ensure that post-development surface water runoff rates and volumes closely resemble those that occur under existing conditions. According to hydrology calculations prepared by Thienes Engineering, the Perris Valley Storm Drain has sufficient available capacity under existing conditions to accommodate the Project site's surface water runoff flows. (Thienes, 2016a, n.p.) Accordingly, the Project would not create or contribute runoff which would exceed the capacity of any planned stormwater drainage system, and impacts would be less than significant.

As discussed under the analysis of Threshold a), the proposed Project would be required to comply with a future SWPPP and the Project's WQMP (*Technical Appendix G2*), which identify required BMPs to be incorporated into the Project to ensure that near-term construction activities and long-term post-development activities of the proposed Project would not result in substantial amounts of polluted runoff. Therefore, with mandatory compliance with the Project's SWPPP and WQMP, the proposed Project would not create or contribute substantial additional sources of polluted runoff, and impacts would be less than significant.

Threshold f) Would the project otherwise substantially degrade water quality?

There are no conditions associated with the proposed Project that would otherwise result in the substantial degradation of water quality beyond what is described above in Thresholds a), c) and/or e). Thus, the Project would not otherwise substantially degrade water quality. No impact would occur.

Threshold g) Would the project place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

The Project does not include housing. Therefore, there is no potential for the Project to place housing within a 100-year flood hazard area. No impact would occur as a result of the Project.

Threshold h)	***Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?***

The north-central portion of the Project site is located within the 100-year floodplain (Zone AO), as mapped by FEMA on FIRM Panels 06065C0765G and 06065C1430H (refer to Figure 4.8-4). The portions of the Project site located within Zone AO are subject to flood depths up to one-foot.

The Project's proposed grading plan, included as part of Tentative Parcel Map No. 36150 (PA15-0018), is designed such that the building pads of all buildings located within Zone AO would be raised by approximately two to three feet above existing conditions and would be above the base flood elevation of the 100-year floodplain. Furthermore, an approved development project located upstream of the Project site (March Business Center, SCH No. 2011061033) constructed improvements to the local storm drain network that – combined with Project-related improvements described in detail in EIR Section 3.0, *Project Description* – would remove the Project site from the 100-year floodplain and would safely convey runoff flows downstream (Thienes, 2016a). Accordingly, the Project would not result in increased flood hazards to off-site properties.

As a condition of approval from the City of Moreno Valley, the Project will be required to secure a Conditional Letter of Map Revision (CLOMR) and Permanent Letter of Map Revision (LOMR) from FEMA to demonstrate that proposed Project structures would be located outside of a 100-year flood hazard area. To obtain a CLOMR, the Project Applicant must prepare detailed construction drawings and flood hazard analyses as well as a standard application package (including project information forms, exhibits, etc.) for review by FEMA. If the proposed Project meets the minimum floodplain management criteria of the National Flood Insurance Program (NFIP), then FEMA will issue a CLOMR, which would allow full construction activities to occur on-site and upon issuance of the appropriate permits by the City of Moreno Valley. Upon completion of construction activities, but prior to occupancy of any structure in the mapped floodplain, the Project Applicant must provide FEMA with detailed "as-built" drawings and flood hazard analyses, as well as a standard application package, to demonstrate that the Project was constructed in accordance with preliminary plans reviewed and approved by FEMA as part of the CLOMR process. If FEMA determines that the Project is consistent with the original CLOMR approval and meets the minimum floodplain management criteria of the NFIP, then a LOMR is issued and the FIRM is officially revised to remove the affected areas of the subject property from the floodplain. Mitigation Measure MM 4.8-1 is provided to ensure that the LOMR is in place at the time of need.

Threshold i)	***Would the project 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?***

The nearest dam to the Project site is Lake Perris, located approximately 2.5 miles southeast of the Project site. According to City of Moreno Valley General Plan FEIR Figure 5.5-2, *Floodplains and High Fire Hazard Areas*, the Project site is not located in an identified dam inundation area for Lake

Perris. The Perris Valley Storm Drain Channel, a Riverside County flood control facility that transects the Project site in a northwest to southeast direction is not considered a levee and no levees occur in the Project vicinity. Accordingly, the Project would not 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. Impacts would be less than significant.

Threshold j) Would the project be subject to inundation by seiche, tsunami, or mudflow?

The Pacific Ocean is located more than 40 miles from the Project site. Thus, there is no potential for tsunamis to impact the Project site. In addition, the Project site and immediate surrounding area do not contain steep hillsides subject to mudflow. The nearest water body to the Project site is Lake Perris which is located approximately 2.5 miles southeast and downstream of the Project site. Due to the distance from Lake Perris to the Project site and the topographic characteristics of the area, a seiche in Lake Perris would have no impact on the Project site. Although the Perris Valley Storm Drain Channel traverses a portion of the Project site, it is not an enclosed or semi-enclosed basin that would be conducive to reverberation and creation of seiches. Therefore, the Project site would not be subject to seiches, mudflows, and/or tsunamis. Thus, no impact would occur.

4.8.4 Cumulative Impact Analysis

The cumulative impact analysis considers construction and operation of the proposed Project in conjunction with other development projects in the vicinity of the Project site and resulting from full General Plan buildout in the City of Moreno Valley and surrounding areas. The analysis of potential cumulative impacts to hydrology/water quality is divided into six general topics of discussion by combining the Thresholds of Significance (as listed above in Subsection 4.8.3) into groupings of like topics as follows:

A. Water Quality

During Project construction, the proposed Project and other development projects within the Santa Ana River watershed would have the potential to result in a cumulative water quality impact, including erosion and sedimentation. Pursuant to the requirements of the State Water Resources Control Board and the Santa Ana RWQCB, all construction projects that disturb one or more acres of land area are required to obtain a NPDES permit and obtain coverage for construction activities. In order to obtain coverage, an effective site-specific SWPPP is required to be developed and implemented for all development projects. The SWPPP must identify potential on-site pollutants and identify and implement an effective combination of erosion control and sediment control measures to reduce or eliminate discharge of pollutants to surface water from stormwater and non-stormwater discharges. In addition, the Project and all cumulative developments would be required to comply with the Santa Ana RWQCB's *Santa Ana River Basin Water Quality Control Program*. With compliance to these mandatory regulatory requirements, the Project's contribution to water quality impairments during Project construction would not be cumulatively considerable and mitigation is not required.

As discussed in detail under the analysis of Threshold a), a Project-specific WQMP has been prepared to identify pollutants of concern within the Project site's watershed and to identify specific BMPs to address those pollutants in Project-related surface water runoff discharge under long-term operational conditions. Compliance with the WQMP would be required as a condition of Project approval pursuant to Municipal Code Chapter 8.10 *et seq.* and § 8.21.170. Other developments within the watershed would similarly be required to prepare site-specific WQMPs and to incorporate BMPs into site design as necessary to ensure that runoff does not substantially contribute to existing water quality violations. With implementation of the Project as designed – including the proposed water quality/detention basins – and mandatory compliance to the Project's WQMP (*Technical Appendix G2*), the Project's surface water runoff would not contribute to a violation of water quality standards or waste discharge requirements or exacerbate an existing violation. Accordingly, the Project's long-term operational impacts to water quality would not be cumulatively considerable and no mitigation would be required.

B. Groundwater Supply and Recharge

Although the proposed Project would increase the amount of impervious surfaces on the site, the Project incorporates design features that would allow some surface runoff to infiltrate into the groundwater basin, including water quality/detention basins and permeable landscape areas. Also, as previously noted, the City's General Plan EIR evaluated potential impacts to the groundwater basins beneath the City and concluded that the incremental reduction in groundwater would not be significant as domestic water supplies are not reliant on groundwater as a primary source (City of Moreno Valley, 2006b, pp. 5.7-12). Furthermore, groundwater beneath the proposed Project site is thought to be contaminated due to operations at the adjacent March ARB, indicating that groundwater beneath the proposed Project site is not suitable as a source of potable water. For these reasons, the proposed Project would not result in cumulatively considerable impacts associated with the depletion of groundwater supplies or substantial interference with groundwater recharge.

C. Erosion and Siltation

As discussed under the analysis of Threshold c), although the Project would alter the drainage characteristics interior to the Project site as compared to existing conditions, these alterations would not be substantial because the site's general drainage pattern and discharge points would be maintained. Additionally, all on-site runoff would be treated by the Project's BMPs, which were selected for their ability to remove sediment from storm water runoff. Accordingly, due to the design of the proposed Project, there is less-than-significant potential for the Project to make a cumulatively considerable impact associated with substantial alterations to the existing drainage pattern of the site or area which could result in substantial erosion or siltation on- or off-site

D. Flood Hazards

The proposed Project would generally maintain the existing drainage pattern of the site and the proposed Project would not affect the course of any streams or rivers. In addition, the Project's proposed storm water drainage system is designed to ensure that peak flood volumes and flows are substantially similar to those that occur under existing conditions. Accordingly, because the Project would not increase flooding potential either on or off the site, the Project would have a less than significant cumulatively considerable impact associated with flooding.

The Project does not involve the construction of residential uses, nor would the Project increase flood hazards on off-site properties such that residential structures could be impacted by floods. Accordingly, the Project has no potential to contribute to cumulative impacts associated with flooding of residential properties.

The proposed Project would place structures within an existing 100-year flood hazard area that is subject to inundation up to one-foot in depth. The proposed grading plan for the Project is designed such that all building pads would be raised above the base flood elevation of the 100-year floodplain to ensure on-site structures would not be subject to flood hazards. Furthermore, an approved development project located upstream of the Project site (March Business Center, SCH No. 2011061033) constructed improvements to the local storm drain network that – combined with Project-related improvements described in detail in EIR Section 3.0, *Project Description* – would remove the Project site from the 100-year floodplain and would safely convey runoff flows downstream. Because of the site-specific nature of this impact, the Project would not contribute to cumulative impacts associated with other existing, planned, or proposed development.

The Project would not 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. Thus, the Project has no potential to contribute to a cumulatively considerable impact associated with a levee or a dam.

E. Stormwater Drainage System Capacity

The Project's proposed storm drain improvements would have sufficient capacity to accommodate and convey storm water runoff flows generated by the Project and would convey the expected future storm water runoff flows associated with buildout of the *Perris Valley MDP* and *Sunnymead MDP* areas. All development projects in the *Perris Valley MDP* and *Sunnymead MDP* areas are required to demonstrate that storm drain capacity is available to service their anticipated flows. As such, cumulative impacts would be less than significant and the proposed Project's contribution of flows would thus be less than cumulatively considerable.

F. Other Hazards

The Project site is not subject to hazards associated with seiches, tsunamis, or mudflows. There are no components of the proposed Project that would increase the potential for seiches, tsunamis, or mudflows. Accordingly, the Project has no potential to cumulatively contribute to other hazards.

4.8.5 Significance of Impacts before Mitigation

<u>Threshold a): Less-than-Significant Impact.</u> The Project would not violate any water quality standards or waste discharge requirements on a direct or cumulatively considerable basis. The

Project is required to prepare a SWPPP to address construction-related water quality issues, and is required to comply with a site-specific WQMP and its associated BMPs.

Threshold b): Less-than-Significant Impact. The Project does not propose the installation of any water wells on the Project site that would extract groundwater. Also, the proposed Project would not interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or lowering of the local groundwater table level.

Threshold c): Less-than-Significant Impact. The Project would maintain the existing general drainage pattern of the site and would not result in substantial erosion or siltation on- or off-site.

Threshold d): Less-than-Significant Impact. The Project would not significantly increase flood hazards and would not result in a substantial increase in the rate of surface runoff in a manner that would result in increased flood hazards on- or off-site.

Threshold e): Less-than-Significant Impact. The Project would not create or contribute runoff which would exceed the capacity of existing or planned stormwater drainage systems, nor would the Project provide substantial additional sources of polluted runoff.

Threshold f): No Impact. There are no conditions associated with the proposed Project that would otherwise result in the substantial degradation of water quality.

Threshold g): No Impact. The Project does not propose housing and would not place housing within a 100-year flood hazard area.

Threshold h): Less-than-Significant Impact. The Project would construct buildings within an area subject to shallow flooding (i.e., depths of one-foot or less) during a 100-year storm event; however, the Project is designed to ensure that redirected flood flows would not result in substantial adverse effects to on-site and/or off-site areas.

Threshold i): Less-than-Significant Impact. The proposed Project would not 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.

Threshold j): No impact. The Project site is not subject to hazards associated with seiches, tsunamis, or mudflow.

4.8.6 Mitigation

The following mitigation measure would ensure compliance to conditions of approval issued by the City of Moreno Valley:

MM 4.8-1 Prior to building final, the Project Applicant shall provide evidence to the City of Moreno Valley that an application for a Final Letter of Map Revision (LOMR) has been submitted to FEMA to permanently remove the development area from the FEMA 100-year floodplain, and shall demonstrate to the satisfaction of the City of Moreno Valley that the finished floor height of the structure is outside the 100-year floodplain elevation as mapped by FEMA.

4.9 Land Use/Planning

This Subsection discusses consistency of the proposed Project with applicable land use and planning policies adopted by the City of Moreno Valley and other governing agencies for the purpose of reducing adverse effects on the physical environment.

The proposed Project (described in Section 3.0, *Project Description*) is consistent with the property's land use designations as applied by the City of Moreno Valley General Plan and the Moreno Valley Industrial Area Plan (Specific Plan 208), as well as the property's zoning designation. CEQA Guidelines § 15183(a) mandates that projects which are consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified, shall not require additional environmental review, except as might be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site. In this case, the subject property was evaluated as part of an EIR certified in 1989 for Specific Plan 208 (State Clearinghouse Number 1988080813) and as part of the City's General Plan Program EIR certified in 2006 (State Clearinghouse Number 2000091075). These EIRs are hereby incorporated by reference and available for public review at the locations indicted in EIR Section 7.0, *References.* The analysis below focuses on the Project-specific details associated with implementation of the Project Applicant's proposal to implement the site's Industrial land use and zoning designations.

4.9.1 Existing Conditions

A. Existing Land Use and Development

Refer to Section 2.0, *Environmental Setting*, for a full description of existing on-site and surrounding land uses. In summary, the Project site is a vacant undeveloped 89.4-acre site that is transected by the Perris Valley Storm Drain Channel in a northwest to southeast direction. Approximately 15.3 acres of the Project site is located west of the Perris Valley Storm Drain Channel and approximately 74.1 acres of the Project site is located east of the Perris Valley Storm Drain Channel. The Project site is located within the geographical limits of the Moreno Valley Industrial Area Plan (MVIAP) (Specific Plan (SP) 208) in a portion of the City of Moreno Valley that is developing as a center for distribution warehousing, e-commerce, and light industrial land uses. The MVIAP area has been designated for these types of uses since 1989 (approximately 26 years ago).

The Project site is bordered by vacant, undeveloped land on the northwest and a large warehouse building on the northeast occupied by Proctor & Gamble. The vacant, undeveloped land located northwest of the Project site is approved for development as a warehouse distribution center (March Business Center). Located farther north of the Project site is Iris Avenue, undeveloped land, and residential development. The Project site is bordered on the south by partially developed Cardinal Avenue, a large warehouse building occupied by Amazon, and the Perris Valley Storm Drain Channel. Located farther south and southeast are a collection of warehouse distribution buildings, undeveloped parcels that are designated for future industrial development, and small parcels that contain small commercial, industrial, or manufacturing structures. Immediately to the east of the Project site is Indian Street. East of Indian Street are single-family residential homes, with pockets of undeveloped land designated for future residential development. The Project site is bordered on the west by two large warehouse/industrial buildings and Heacock Street. West of Heacock Street is the March Air Reserve Base.

B. *Applicable Land Use and Planning Policies*

❑ City of Moreno Valley General Plan

As discussed in EIR Section 2.0, *Environmental Setting*, and depicted on Figure 2-2, *Existing General Plan Land Use Designations*, the City's General Plan designates the Project site for "Business Park/Light Industrial (BP)" land uses. Surrounding land use designations consist of "Business Park/Light Industrial (BP)" land uses to the north and south; "Residential R5" (maximum 5 dwelling units per acre (du/ac)) to the east; and the March Air Reserve Base to the west.

The City of Moreno Valley General Plan (July 11, 2006) is a policy document that reflects the City's vision for the future of Moreno Valley. The General Plan is organized into seven separate elements, including: Community Development; Economic Development; Parks, Recreation and Open Space; Circulation; Safety; Conservation; and Housing. Each element is associated with a series of policies to guide the City's vision for future development. The following is a summary of the City's General Plan Elements.

Community Development Element

The Community Development Element functions as a land use guide for future development in the City. The Element identifies the general distribution, general location, and extent of land uses, such as housing, business, industry, open space, recreation, floodplains, and public facilities. These designations are reflected on the General Plan Land Use Map, which are applied on a parcel-by-parcel basis throughout the City. The Community Development Element also provides standards for residential density and non-residential intensity. It governs how land is to be used; therefore, many of the issues and policies contained in other elements of the General Plan are linked in some degree to this Element. (City of Moreno Valley, 2006a, Ch. 2)

Economic Development Element

The Economic Development Element is an element that is intended to be added to the General Plan in the future, following completion of an Economic Development Strategy, which is presently being conducted by the City. At the time the Project's Notice of Preparation (NOP) was distributed for public review on June 17, 2015, no policy guidance had been established as part of the General Plan's Economic Development Element. (City of Moreno Valley, 2006a, Ch. 3)

Parks, Recreation and Open Space Element

The Parks, Recreation and Open Space Element includes specific policies related to open space preservation, outdoor recreation and recreation facilities, and trails. (City of Moreno Valley, 2006a, Ch. 4)

Circulation Element

The purpose of the Circulation Element is to develop a safe, efficient, environmentally and financially sound, integrated vehicular circulation system. It also is intended to provide for safe and adequate non-vehicular transportation, including pedestrian, bicycle, and public transportation systems. General Plan EIR Figure 5.2-1, *Circulation Plan*, identifies the adopted circulation plan that identifies the City of Moreno Valley's existing system of major roadways, freeways and arterial streets. General Plan EIR Figure 5.2-6, *Proposed Circulation Plan*, shows the proposed Circulation Plan. As shown on General Plan Figure 5.2-6, Heacock Street is identified for development as an "Arterial (100-foot right-of-way)," while Krameria Avenue and Indian Street are identified for improvement as "Minor Arterial" roadways (88-foot right-of-way). The Circulation Element also depicts level of service (LOS) standards for Circulation Element roadways throughout the City. As shown on General Plan EIR Figure 5.2-7, *LOS Standards*, Heacock Street, Krameria Avenue and Indian Street are identified as having a LOS D standard. As identified in General Plan Table 5.2-1, *Level of Service (LOS) Descriptions*, LOS D traffic flow conditions are identified as high-density, but stable flow. (City of Moreno Valley, 2006b, Table 5.2-1)

The City's Circulation Element also plans for alternative transportation systems including a bikeway system and a public transit system. For transit service, Moreno Valley is primarily served by the Riverside Transit Agency (RTA), which provides bus service to most of Riverside County, including the City of Moreno Valley and the Project site. In addition, the Riverside County Transportation Commission (RCTC) owns several Metrolink stations that serve Riverside County, including the Moreno Valley/March Field Station on Alessandro Boulevard immediately west of Interstate 215. Refer to the discussion below under "City of Moreno Valley Bicycle Master Plan" for information on existing and planned bicycle facilities surrounding the Project site.

Safety Element

The goal of the Safety Element is to assist the City in achieving acceptable levels of protection from natural and man-made hazards to life, health, and property, and to ensure that emergency services in the City are adequate to meet the City's needs during both minor emergencies and major catastrophic situations. (City of Moreno Valley, 2006a, Ch. 6)

Conservation Element

The Conservation Element is intended to achieve the wise use of natural resources within the City and immediate environs. Issues addressed by the Conservation Element include erosion, water quality and supply, biological resources and associated habitat, energy conservation, historical/archaeological resources, visual quality, and solid waste and recycling. (City of Moreno Valley, 2006a, Ch. 7)

Housing Element

The Housing Element identifies and establishes the City's policies with respect to meeting the needs of existing and future residents of the City. Specific components of the Housing Element, which also are requirements of state law, include the following: an assessment of housing needs and inventory; an analysis and program for preserving assisted housing developments; a statement of community goals, quantified objectives, and policies relative to the maintenance, preservation, improvement, and development of housing; and a program which sets forth a five-year schedule of actions that the City is undertaking, or intends to undertake, to implement the policies set forth in the Housing Element. (City of Moreno Valley, 2006a, Ch. 8)

❑ Moreno Valley Industrial Area Plan (Specific Plan 208)

The Project site is located within the geographical boundaries of the Moreno Valley Industrial Area Plan (MVIAP). The MVIAP "establishes development regulations and design standards that will ensure quality development which will contribute to the City's industrial employment base…" (MVIAP, 2002, I-4) The MVIAP includes specific zoning designations and standards for development within its geographical boundaries. As shown in Figure 2-3, *Moreno Valley Industrial Area Plan Land Use Map*, of EIR Section 2.0, *Environmental Setting*, the MVIAP applies an "Industrial" zoning designation to the Project site. The "Industrial" designation permits a wide range of industrial and industrial/business related support uses, including the uses proposed by the Project.

As also shown on Figure 2-3, the MVIAP identifies a 300-foot residential buffer along the eastern boundary of the Project site, along Indian Street. The MVIAP *300-Foot Proximity to Residential District* criteria is intended to provide a buffer between residential districts within the MVIAP without affecting the integrity of lands available for industrial uses. Where parcels exceed 300 feet in depth from a Major Arterial, permitted uses may extend beyond this distance so as not to affect the integrity of industrial uses, if the development proposal is part of an integrated industrial or business park, as determined by the Community & Economic Director. (MVIAP, 2002, III-2)

In association with the approval of the warehouse building occupied by Proctor & Gamble that is located immediately north of the Project site, on August 26, 2008, the City approved an amendment to the *300-Foot Proximity to Residential District* by Ordinance No. 780, an ordinance of the City Council of Moreno Valley approving P07-121, (Specific Plan Amendment). The Specific Plan Amendment increased the landscape setback and reduced the building setback in the Residential Buffer Zone along Indian Street, north of Krameria Avenue up to Iris Avenue. The Specific Plan Amendment resulted in an amended Page III-2, Section III, C1: *300 Foot Proximity to Residential District of the MVIAP*, as follows:

> *"The criteria is intended to provide a buffer between residential districts within the Area Plan without affecting the integrity of lands available for industrial uses. Where parcels exceed 250 feet in depth from a Major Arterial, permitted uses may extend beyond this distance so as not to affect the integrity of lands available for industrial uses, if the development proposal is part of an integrated industrial or business park, as determined by the Community Development Director. The residential buffer is measured from the centerline of the street. In addition, the City will allow reduction of the 250 foot buffer along Indian Street from Iris Avenue to*

Krameria Avenue to a minimum of 100 feet provided it is maintained as a linear landscape feature accessible to the adjacent community. Minor encroachment within the 50 foot enhanced landscaped buffer is acceptable to provide for screen wall articulation and water quality facilities/features as approved by the City of Moreno Valley. Any reduction shall be dependent on air quality and noise analysis showing no significant adverse impacts on adjacent residentially zoned areas." (City of Moreno Valley, 2008)

Section IV of the MVIAP, *Development Framework*, identifies planned roadway improvements. The MVIAP identifies Heacock Street as a Major Arterial (100-foot right-of-way width and a 76-foot curb-to-curb width, with two travel lanes in each direction) and Krameria Avenue and Indian Street as Minor Arterials (88-foot right-of way width and a curb-to curb width of 64 feet). (MVIAP, 2002, IV-7) Additionally, the MVIAP identifies specific goals and objectives related to land use compatibility, urban design, and public facilities and services. Guidelines are provided related to urban design, urban form, landscape design, special corridors, open space/trails, and entries. In addition, the MVIAP provides development standards related to drainage and flood control, water and wastewater, and public services, and includes policies related to implementation of the MVIAP. The proposed Project's consistency with the applicable portions of the MVIAP is discussed below in Subsection 4.9.3.

❑ City of Moreno Valley Zoning Ordinance

Development of the Project site is regulated by the development regulations and design standards contained in the MVIAP. As discussed above, the MVIAP applies the "Industrial" zoning designation to the proposed Project site. The development regulations and design standards contained within the MVIAP supersede the zoning standards contained in the City's Zoning Ordinance. The MVIAP is herein incorporated by reference pursuant to CEQA Guidelines § 15150 and is available for review at the physical location indicated in EIR Section 7.0, *References*.

❑ City of Moreno Valley Bicycle Master Plan

The City of Moreno Valley Bicycle Master Plan, published in November 2014, was prepared by the City to conform to the Western Riverside Council of Governments' (WRCOG) Non-Motorized Transportation Plan, as well as other regional plans. The Plan identifies deficiencies and opportunities in the City's existing bicycle facility system and presents a long-range plan for the provision of a safe, convenient and efficient environment for bicycle travel in Moreno Valley. On and surrounding the Project site, the Plan calls for a Class 2 bike lane along Krameria Avenue east of Indian Street (east of the Project site), a Class 2 bike lane on Indian Street between Krameria Avenue and the Perris Valley Storm Drain Channel (along the Project site's frontage), a Class 3 bike route on Indian Street south of the Perris Valley Storm Drain Channel (south of the Project site), a Class 2 bike lane on Heacock Street (along the Project site's frontage) and a Class 1 Multi-Use Path along the Perris Valley Storm Drain Channel (transects the Project site), called the "South City Aqueduct Path" that traverses from Heacock Street to Kitching Street. Refer to EIR Subsection 4.11, *Transportation/Traffic*, for an analysis of the Project's consistency with the City of Moreno Valley Bicycle Master Plan.

❑ SCAQMD Air Quality Management Plan

Currently, the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) are exceeded in most parts of the South Coast Air Basin (SCAB). In response, and in conformance with California Health & Safety Code § 40702 et seq. and the California Clean Air Act, the South Coast Air Quality Management District (SCAQMD) adopted an Air Quality Management Plan (AQMP) to plan for the regional improvement of air quality. AQMPs are updated regularly to more effectively reduce emissions and accommodate growth. Each version of the plan is an update of the previous plan and has a 20-year horizon with a revised baseline. The most recent AQMP was adopted by the SCAQMD Governing Board on December 7, 2012. The 2012 AQMP incorporated the latest scientific and technological information and planning assumptions, including the *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)* prepared by the Southern California Association of Governments (SCAG) and updated emission inventory methodologies for various source categories. The air quality levels projected in the 2012 AQMP are based on several assumptions. For example, the 2012 AQMP assumed that development associated with general plans, specific plans, residential projects, and wastewater facilities will be constructed in accordance with population growth projections identified by SCAG in its *2012-2035 RTP/SCS*. The 2012 AQMP also assumes that such development projects will implement strategies to reduce air emissions generated during the construction and operational phases of development. Accordingly, if a proposed project is consistent with these growth forecasts, and if available emissions reduction strategies are implemented as effectively as possible on a project-specific basis, then the project is considered to be consistent with the 2012 AQMP. The proposed Project's consistency with the SCAQMD Air Quality Management Plan is discussed in detail in EIR Section 4.3, *Air Quality*.

❑ SCAG Regional Transportation Plan (RTP)

The SCAG is a Joint Powers Authority (JPA) under California state law, established as an association of local governments and agencies that voluntarily convene as a forum to address regional issues. The SCAG region encompasses six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) and 191 cities in an area covering more than 38,000 square miles. (SCAG, 2015).

As a MPO and public agency, SCAG develops transportation and housing plans that transcend jurisdictional boundaries that affect the quality of life for Southern Californian as a whole. SCAG's *2012-2035 RTP/SCS* includes a chapter titled "Goods Movement" that is applicable to the proposed Project. It states that the SCAG region hosts one of the largest clusters of logistics activity in North America. Logistics activities, and the jobs that go with them, depend on a network of warehousing and distribution facilities, highway and rail connections, and intermodal rail yards. The Goods Movement Chapter of the *2012-2035 RTP/SCS* identifies the Project site as being within a warehouse cluster (SCAG, 2013, Figure 3-4). The Goods Movement section states:

> *"Goods movement and freight transportation are essential to supporting the SCAG regional economy and quality of life. The goods movement system in the SCAG region is a multimodal, coordinated network that includes deep water marine ports, international border crossings, Class I rail lines, interstate highways, state routes and local roads, air cargo facilities, intermodal facilities, and regional distribution and warehousing clusters. In 2010, over 1.15 billion tons of cargo valued at almost $2 trillion moved across the region's transportation system. Whether carrying imported goods from the San Pedro Bay Ports to regional distribution centers, supplying materials for local manufacturers, or delivering consumer goods to SCAG residents, the movement of freight provides the goods and services needed to sustain regional industries and consumers on a daily basis."* (SCAG, 2013, p. 1)

According to SCAG's *Comprehensive Regional Goods Movement Plan and Implementation Strategy*, the SCAG region has a large demand for warehouse space and the demand will continue into the foreseeable future, resulting in a large unmet demand by the year 2035 (SCAG, 2013, pp. 4-39 and 4-40). SCAG reports that a substantial amount of available industrial land for this type of development is located in the vicinity of the SR-60 corridor, particularly in Moreno Valley, Perris, and near March Air Reserve Base (i.e., the vicinity of the Project site) (SCAG, 2013, p. 6-16). The proposed Project's consistency with the RTP is discussed in detail in EIR Section 4.11, *Transportation/Traffic.*

Although SCAG approved an update to the *RTP/SCS* in April 2016, the 2012 version is appropriate for analysis herein because it was the version in effect when the NOP for this EIR was published in June 2015.

❑ Riverside County Congestion Management Plan (CMP)

The Riverside County Congestion Management Plan (CMP) was prepared by the Riverside County Transportation Commission (RCTC) in accordance with Proposition 111, which was passed in June 1990. The CMP was established in the State of California to more directly link land use, transportation, and air quality and to prompt reasonable growth management programs that would more effectively utilize new and existing transportation funds, alleviate traffic congestion and related impacts, and improve air quality. Deficiencies along the CMP system are identified by the RCTC when they occur so that improvement measures can be identified. Understanding the reason for these deficiencies and identifying ways to reduce the impact along a critical CMP corridor is intended to conserve scarce funding resources and help target those resources appropriately. The proposed Project's consistency with the CMP is discussed in detail in EIR Section 4.11, *Transportation/Traffic.*

❑ Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

The Western Riverside County MSHCP, a regional Habitat Conservation Plan (HCP), was adopted on June 17, 2003, and an Implementing Agreement (IA) was executed between the United States Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and participating entities. The intent of the Western Riverside County MSHCP is to preserve native vegetation and meet the habitat needs of multiple species, rather than focusing preservation efforts on one species at a time. As such, the Western Riverside County MSHCP is intended to streamline review of individual projects with respect to the species and habitats addressed in the Western Riverside County MSHCP and to provide for an overall conservation area that would be of greater benefit to biological resources than would result from a piecemeal regulatory approach. The Western Riverside County MSHCP provides coverage (including take authorization for listed species) for special-status plant and animal species, as well as mitigation for impacts to sensitive species.

Through agreements with the USFWS and the CDFW, the Western Riverside County MSHCP designates 146 special-status animal and plant species that receive some level of coverage under the plan. Of the 146 "Covered Species" designated under the Western Riverside County MSHCP, the majority of these species have no additional survey/conservation requirements. In addition, through compliance with the Western Riverside County MSHCP, the MSHCP provides mitigation for project-specific impacts to Covered Species so that the impacts would be reduced to below a level of significance pursuant to CEQA.

As shown on Figure 2-5, *MSHCP Criteria Areas* in EIR Section 2.0, *Environmental Setting*, the Project site is not located within any MSHCP Criteria Cells. The nearest MSHCP Criteria Cells are located approximately 2.8 miles to the southwest of the Project site. Although the Project site is not designated for conservation under the MSHCP, the Project site is located within the MSHCP burrowing owl survey area. The burrowing owl species is a species on the *Additional Survey Needs and Procedures* (Section 6.3.2) list and surveys for burrowing owl are required as part of the project review process within the burrowing owl survey area where suitable habitat is present. Burrowing owls located as a result of survey efforts are required to be addressed in accordance with procedures described in Section 6.3.2, MSHCP, Volume I. (RCA, Volume I Section 9) The proposed Project's consistency with the Western Riverside County MSHCP is discussed in detail in EIR Section 4.4, *Biological Resources*.

❑ March Air Reserve Base/Inland Port Land Use Compatibility Plan

March Air Reserve Base is located west of Heacock Street which borders the Project site on the northwest. March Joint Powers Authority (JPA) is a public entity created for the purpose of addressing the use, reuse, and joint use of realigned March AFB. The four individual public entities that cooperatively formed the JPA are the cities of Perris, Moreno Valley, and Riverside, and the County of Riverside (March JPA, n.d.). The *March Air Reserve Base/Inland Port (March ARB/IPA) Land Use Compatibility Plan* was adopted by the Riverside County Land Use Commission on November 13, 2014. The compatibility zones and associated criteria set forth in the *Compatibility Plan* provide noise and safety compatibility protection equivalent or greater than the Air Force recommended criteria presented in their Air Installation Compatibility Use Zone Study (AICUZ) dated August 2005. The land uses in the vicinity of March ARB/IPA are generally compatible with base operations (Mead & Hunt, 2014, pp. MA-2).

The off-site Perris Valley Storm Drain Channel which traverses the Project site in a northwest to southeast direction forms the boundary between Compatibility Zones within the March Air Reserve Base/Inland Port Airport Influence Area (AIA). Projects located within the AIA require review by the Riverside County Airport Land Use Commission (ALUC) for consistency with the *March ARB/IPA Land Use Compatibility Plan*. The portion of the Project site located west of the Perris Valley Storm Drain Channel (proposed Buildings 3 and 4) are located within Compatibility Zone C1 of the AIA and the portion of the Project site located east of the Perris Valley Storm Drain Channel (proposed Buildings 1 and 2) are located within Compatibility Zone D of the AIA. Zone C1 limits the average intensity to 100 people per acre with a maximum single-acre intensity of 250 people, while Zone D does not specify any restrictions on residential or non-residential intensity. (ALUC, 2015a)

The City of Moreno Valley has established an Air Installation Compatibility Use Overlay District as part of its Municipal Code (Section 9.07.060). According to City code, “It is the intent and purpose of this air installation compatibility use overlay (AICUZ overlay) district to limit public exposure to aircraft accidents and noise and to encourage future development that is compatible with continued operation of March Air Force Base” (ESA, 2014, 3.2-7) According to City of Moreno Valley Municipal Code 9.070.60, the AICUZ overlay district shall apply within the Accident Potential Zone I and II as depicted on the official zoning atlas. The provisions of the AICUZ overlay shall apply in addition to the provisions of the underlying district. Development within the AICUZ overlay district shall avoid uses which concentrate large numbers of people, are noise sensitive, create hazards to aircraft operations, pose special health and safety hazards in the event of an aircraft accident; or involve public facilities and utilities for which disruption would have an adverse impact on large numbers of people.

The proposed Project’s consistency with the *March ARB/IPA Land Use Compatibility Plan* is discussed in detail in EIR Subsection 4.7, *Hazards & Hazardous Materials*.

4.9.2 Basis for Determining Significance

The proposed Project would result in a significant impact to land use/planning if the Project or any Project-related component would:

a) *Physically divide an established community;*

b) *Conflict with an applicable land use plan, policy or regulation of any 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*

c) *Conflict with any applicable habitat conservation plan or natural community conservation plan.*

4.9.3 Impact Analysis

Threshold a)	***Physically divide an established community?***

The Project site consists of vacant and undeveloped land that is located within the geographical limits of the MVIAP in a developing area of the City of Moreno Valley that is designated for industrial development. Thus, development of the Project site as a logistics center would not physically disrupt or divide the arrangement of an established community. The property is proposed to be developed in accordance with its assigned General Plan land use designation and MVIAP zoning designation. Properties adjacent to the Project site to the north, south, and west have either been developed or are planned for long-term development with industrial land uses. Property to the east is developed with single-family homes. The Project site has been designated for industrial development by the MVIAP since 1989. Development of the Project site as proposed by the Project would not isolate divide the residential neighborhood to the east from any neighboring communities. The Project site is positioned at the border of planned industrial development, west of existing and planned residential development. Thus, the Project would not result in the division of an established community. No impact would occur.

Threshold b)	***Conflict with an applicable land use plan, policy or regulation of any 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?***

Provided below is a discussion of the Project's consistency with the land use planning and policy documents described above in Subsection 4.9.1 that are applicable to the proposed Project.

- ❑ **City of Moreno Valley General Plan**

The City of Moreno Valley General Plan designates the Project site for "Business Park/Light Industrial (BP)" land use, and the Project proposes no change to the site's existing land use designation. The proposed Project involves the construction and operation of a warehouse distribution logistics center with four (4) buildings offering up to 1,737,518 s.f. of total building space. Associated improvements to the property would include loading docks, surface parking areas, drive aisles, roadway improvements, utility infrastructure, landscaping, exterior lighting, signage, and water quality detention basins. As discussed in more detail in EIR Section 3.0, *Project Description*, the four (4) buildings are designed to range in size from approximately 97,222 s.f. to approximately 1,351,770 s.f. with a minimum FAR of 0.34 and a maximum FAR of 0.50. The FAR for the overall Project site would be 0.47. At the time this EIR was prepared, the future occupants of the proposed buildings are unknown; however, Building 1 is intended to accommodate high cube warehouse distribution users (e.g., dry goods storage/distribution) while Buildings 2, 3, and 4 are intended to accommodate light industrial users (e.g., light manufacturing). The planned uses for the site would be fully consistent with the site's existing General Plan "Business Park/Light Industrial (BP)" land use designation. The proposed Project would not conflict with any specific policies in the

General Plan Community Development; Economic Development; Parks, Recreation and Open Spaces; Circulation; Safety; or Housing Elements that were adopted for the purpose of avoiding or mitigating an environmental effect.

Additionally, the General Plan Conservation Element includes a number of policies intended to avoid or mitigate an environmental effect. These policies are categorized under the subheadings of Biological Resources; Cultural and Historical Resources; Solid Waste; Soils; Water Resources; Energy Resources; Agricultural Resources; Scenic Resources; and Mineral Resources. Specific policies related to these issue areas are contained in Chapter 9 of the General Plan. Although implementation of the Project would result in environmental effects to several of these issue areas (e.g., Biological Resources, Soils, etc.), such effects are addressed under the appropriate Subsections within this EIR, and mitigation is proposed to reduce impacts to less-than-significant levels. Because the Project would not result in any significant, unavoidable impacts to environmental resources protected by the General Plan Conservation Element, the Project is determined to be consistent with the Conservation Element policies.

Accordingly, the proposed Project would be fully consistent with the Moreno Valley General Plan and would not conflict with any policies adopted for the purpose of reducing or avoiding an environmental effect, and no impact would occur.

❑ Moreno Valley Industrial Area Plan (Specific Plan 208)

The Project site is located in the MVIAP which encompasses 1,540 acres of land that is designated "Industrial." The proposed Project involves the construction and operation of a logistics center providing four (4) buildings with loading docks and supported by surface parking areas, drive aisles, roadway improvements, utility infrastructure, landscaping, exterior lighting, signage, and water quality detention basins. The land use proposed by the Project is consistent with the MVIAP's "Industrial" designation.

As discussed in more detail above in Subsection 4.9.1, the MVIAP calls for a 300-foot setback along the eastern boundary of the Project site. As applied to the Project, the setback is measured from the nearest residential zoning designation (i.e., centerline of Indian Street) and primary high cube warehouse/light industrial uses on the Project site. The MVIAP *300-Foot Proximity to Residential District* criteria is intended to provide a buffer between residential districts and industrial development within the MVIAP without affecting the integrity of lands available for industrial uses. The *300-Foot Proximity to Residential District* was amended by Ordinance No. 780 (approved and adopted August 26, 2008), which reduced the required 300-foot setback along Indian Street between Krameria Avenue and Iris Avenue to a minimum distance of 100 feet (measured from the centerline of Indian Street), provided that a 50-foot-wide enhanced landscape buffer is provided between the industrial development and existing residential uses.

The Project proposes a Specific Plan Amendment (SPA) that would amend the setback requirement specified in the MVIAP as it applies to the segment of Indian Street between Krameria Avenue and the Perris Valley Storm Drain Channel to match the previously approved Ordinance No. 780. The amendment would reduce the required setback along this portion of Indian Street from 300 feet to 100 feet (measured from the roadway centerline), while adding a new requirement to maintain a minimum 50-foot wide enhanced landscaping zone within the 100-foot buffer area. The modified buffer proposed by the Project would be consistent with the spirit of the MVIAP's original buffer requirements because the enhanced landscape zone proposed by the Project would maximize the amount of screening on the eastern boundary of the Project site (and would provide substantially more landscaping than originally required by the MVIAP), thereby obscuring proposed on-site warehouse distribution and light industrial uses when viewed from nearby, off-site residential uses as well as creating a creating visual and physical separation between on- and off-site uses. The required minimum 50-foot enhanced landscape zone has been accommodated by the Project's design, as shown on EIR Figure 3-4, and would be accessible to the adjacent residential community via a proposed sidewalk along the Project's eastern boundary.

Environmental impacts associated with the reduced buffer zone have been evaluated throughout this EIR, including but not limited to the following Subsections: 4.3, *Air Quality*; 4.7, *Hazards and Hazardous Materials*; and 4.10, *Noise*. The results of the analysis in these Subsections as it relates to the reduced buffer requirement are briefly discussed below:

- Air Quality: The analysis in EIR Subsection 4.3, *Air Quality*, demonstrates that, with implementation of Mitigation Measures and Best Available Control Technologies (BACT), the proposed Project would not expose nearby sensitive receptors (i.e., residential uses located east of Indian Street) to substantial pollutant concentrations, including diesel particulate matter emissions, and would not expose sensitive receptors to substantial odor impacts.

- Hazards and Hazardous Materials: As concluded in EIR Subsection 4.7, *Hazards and Hazardous Materials*, the Project would not result in significant hazards to the public or environment associated with near-term construction or long-term operation.

- Noise: The analysis in Subsection 4.10, *Noise*, concludes that operation of the proposed Project would not expose any residential properties to noise levels exceeding City standards.

Based on the foregoing analysis and the analysis within EIR Subsections 4.3, 4.7, and 4.10, the reduction in the required buffer distance from 300 feet, as currently required by the MVIAP, to the 100-foot buffer with a required 50-foot wide enhanced landscape area proposed by the Project, would result in less-than-significant impacts affecting nearby residential uses. Additionally, with approval of the Project's proposed SPA, the Project would not conflict with any MVIAP policies adopted for the purpose of avoiding or mitigating an environmental effect. Accordingly, impacts due to a conflict with the MVIAP would be less than significant.

❑ SCAQMD Air Quality Management Plan

The 2012 SCAQMD AQMP is the applicable air quality plan for the Project area, and the SCAQMD has established two criteria for determining consistency with the 2012 AQMP pursuant to Chapter 12, Sections 12.2 and 12.3 of the SCAQMD CEQA Air Quality Handbook. Refer to EIR Subsection 4.3, *Air Quality*, for a detailed analysis of the Project's consistency with the AQMP. As discussed in the analysis in Subsection 4.3, the Project is expected to exceed criteria standards pollutant thresholds established by the SCAQMD for VOCs and NO_X during Project construction, VOC, NO_X, CO, NO_X, and PM_{10} and $PM_{2.5}$ during short-term periods when construction and operational activities may overlap, and VOC and NO_X emissions during the Project's long-term operation, the Project has the potential to cumulatively contribute toward obstructing the SCAQMD's ability to implement the AQMP. It is important to note, however, that the Project's emissions were anticipated by the *2012 AQMP* and the AQMP's air quality attainment goals. That is, the land use and development intensity proposed by the Project are consistent with the City of Moreno Valley General Plan and the MVIAP and are therefore within the scope of air quality considerations reflected in the 2012 AQMP. As such, implementation of the Project would neither increase the frequency or severity of existing air quality violations disclosed in the AQMP. Moreover, the Project's urban location and proximity to local and regional transportation facilities act to reduce vehicle miles traveled and associated mobile (vehicle) air pollutant emissions. Additionally, the Project's incorporation of mandatory energy-efficient technologies a required by CALGreen and mandatory compliance with the SCAQMD rules and control requirements act to reduce stationary-source air emissions. These Project attributes and features are consistent with and support the AQMP's air pollution reduction strategies and promote timely attainment of the AQMD's air quality standards.

❑ SCAG Regional Transportation Plan and Regional Comprehensive Plan

SCAG's 2008 RCP and 2012 *RTP/SCS* are the applicable SCAG planning documents that apply to the proposed Project. The RCP and *RTP/SCS* goals are meant to provide guidance for considering the proposed Project within the context of regional goals and policies. As shown in Table 4.9-1, *Analysis of Consistency with SCAG 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy Goals*, implementation of the proposed Project would not be consistent with the adopted *RTP/SCS*'s Goal G6, related to regional air quality. Thus, the Project's contribution to regional air quality in the context of *RTP/SCS* consistency would be cumulatively considerable.

Table 4.9-1 Analysis of Consistency with SCAG 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy Goals

RTP/SCS Goal	Goal Statement	Project Consistency Discussion
G1	Align the plan investments and policies with improving regional economic development and competitiveness.	No inconsistency identified. This policy would be implemented by cities and the counties within the SCAG region as part of comprehensive local and regional planning efforts.
G2	Maximize mobility and accessibility for all people and goods in the region.	No inconsistency identified. EIR Subsection 4.11, *Transportation/ Traffic*, evaluates Project-related traffic impacts and specifies mitigation measures to ensure that roadway and intersection and intersection improvements needed to accommodate Project traffic volumes are implemented concurrent with proposed development.
G3	Ensure travel safety and reliability for all people and goods in the region.	No inconsistency identified. The proposed Project would implement improvements to the local circulation network that would enhance travel safety and reliability in the local area.
G4	Preserve and ensure a sustainable regional transportation system.	No inconsistency identified. This policy would be implemented by cities and the counties within the SCAG region as part of the overall planning and maintenance of the regional transportation system. The Project would have no adverse effect on such planning or maintenance efforts.
G5	Maximize the productivity of our transportation system.	No inconsistency identified. This policy would be implemented by cities and the counties within the SCAG region as part of comprehensive transportation planning efforts. The Project would be consistent with the City of Moreno Valley's General Plan Circulation Element, which meets this goal to maximize productivity.
G6	Protect the environment and health for our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking).	Inconsistency identified. The proposed Project would not conflict with any General Plan policies related to non-motorized transportation, as no such facilities are planned in the Project area (except for bike lanes on surrounding roadways, which would be accommodated by the Project). The analysis in EIR Subsection 4.3, *Air Quality*, demonstrates that, with mitigation measures and BACT, the Project's air quality emissions would be substantially reduced; however, the Project's operational emissions of VOCs and NO_X would exceed the SCAQMD thresholds of significance, which would contribute to existing air quality violations within the region (i.e., ozone). Accordingly, the Project would not be consistent with *RTP/SCS* Goal G6.
G7	Actively encourage and create incentives for energy efficiency, where possible.	No inconsistency identified. This policy would be implemented by cities and the counties within the SCAG region as part of comprehensive transportation planning efforts.

Table 4.9-1 Analysis of Consistency with SCAG 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy Goals

RTP/SCS Goal	Goal Statement	Project Consistency Discussion
G8	Encourage land use and growth patterns that facilitate transit and non-motorized transportation.	No inconsistency identified. The Project complies with all General Plan and MVIAP policies related to transit and non-motorized transportation.
G9	Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	No inconsistency identified. This policy provides guidance to the City of Moreno Valley to monitor the transportation network and to coordinate with other agencies as appropriate.

Source: *SCAG 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy.* (Refer to the following web site for more information: http://rtpscs.scag.ca.gov/Documents/2012/final/f2012RTPSCS.pdf

❑ Riverside County Congestion Management Plan (CMP)

As indicated in EIR Subsection 4.11, *Transportation/Traffic*, although implementation of the proposed Project would not result in any direct impacts to CMP facilities, under Opening Year (2020) conditions and General Plan Buildout (Post 2035) conditions Project traffic would contribute to projected deficiencies at CMP arterial intersections and CMP freeway mainline, freeway ramp merge/diverge junctions and freeway ramps. As concluded in EIR Subsection 4.11, although mitigation measures are proposed to reduce the Project's traffic-related impacts to the maximum feasible extent, mitigation is not available to reduce all of the Project's cumulatively considerable impacts to CMP facilities to less-than-significant levels. As such, the Project's cumulative contribution to traffic under Opening Year (2020) and General Plan Buildout (Post 2035) conditions represents a conflict with the CMP for which additional mitigation is not available. Thus, the Project's impacts due to a conflict with the CMP would be cumulatively considerable.

❑ Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

As discussed under the analysis of Threshold f) within EIR Subsection 4.4, *Biological Resources*, with implementation of Mitigation Measures MM 4.4-1 and 4.4-2, the proposed Project would be fully consistent with the Western Riverside County MSHCP, including MSHCP requirements related to Reserve Assembly; Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools; Protection of Narrow Endemic Plants; Guidelines Pertaining to Urban/Wildland Interface; and Additional Needs Survey and Procedures. Refer to EIR Subsection 4.4, *Biological Resources* for a complete analysis of the proposed Project's consistency with the MSHCP. Accordingly, the Project is determined to be consistent with the MSHCP requirements and no impact due to a conflict with the MSHCP would occur.

❑ March Air Reserve Base/Inland Port Land Use Compatibility Plan

The Project site is located within the March Air Reserve Base/Inland Port Airport Influence Area (AIA). The portion of the Project site located west of the Perris Valley Storm Drain Channel (proposed Buildings 3 and 4) are located within Compatibility Zone C1 of the AIA and the portion of the Project site located east of the Perris Valley Storm Drain Channel (Buildings 1 and 2) are located within Compatibility Zone D of the AIA. On October 8, 2015, the Riverside County ALUC evaluated the proposed Project for consistency with the *March ARB/IPA Land Use Compatibility Plan*. The ALUC determined that the Project is compatible and issued conditions of approval on the Project which are included as mitigation measures in EIR Subsection 4.7, *Hazards and Hazardous Materials*. Please refer to EIR Subsection 4.7 for a thorough discussion of the ALUC's determination and the Project's consistency with the *Compatibility Plan*. (ALUC, 2015) Accordingly, the Project would not conflict with the March ARB/IPA Compatibility Plan, and a less-than-significant impact would occur.

❑ Conclusion

Based on the analysis presented above, the proposed Project would result in significant impacts due to a conflict with the SCAG's *RTP/SCS* and the Riverside County CMP. Mitigation measures are identified in this EIR to reduce the Project's air quality and traffic impacts to the maximum feasible extent; however, additional mitigation measures are not available to reduce the associated air quality and cumulatively considerable transportation impacts to below levels of significance. Accordingly, the Project's conflicts with the SCAG's *RTP/SCS* and the Riverside County CMP represent significant and unavoidable impacts of the proposed Project.

Threshold c)	***Conflict with any applicable habitat conservation plan or natural community conservation plan***

The only applicable habitat conservation plan or natural community plan is the Western Riverside County MSHCP. As indicated in the analysis of the Project's consistency in EIR Subsection 4.4, *Biological Resources*, and as summarized above under the discussion and analysis of Threshold b), the proposed Project would be consistent with the policies of the Western Riverside County MSHCP. As such, the proposed Project would not conflict with any applicable habitat conservation plan or natural community conservation plan. Thus, no impact would occur.

4.9.4 Cumulative Impact Analysis

Regarding Threshold (a), the Project site does not provide access to established communities. Therefore, the proposed Project would not isolate communities or residences from neighborhood communities. As such, the Project has no potential to result in cumulatively considerable impacts associated with the physical arrangement of an established community.

Regarding Threshold (b), the Project would result in significant and unavoidable impacts due to a conflict with the SCAG's *RTP/SCS* and the Riverside County CMP. These conflicts result from the

Project's significant and unavoidable emissions of VOC, NO_X, CO, NO_X, and PM_{10} and $PM_{2.5;}$, and due to the contribution of Project traffic to projected deficiencies at CMP arterial intersections and CMP freeway mainline, freeway ramp merge/diverge junctions and freeway ramps. Other cumulative developments within the region also have the potential to result in air quality pollutant emissions and/or would contribute traffic to the CMP arterial intersections and CMP freeway mainline, freeway ramp merge/diverge junctions and freeway ramps that would receive traffic from the Project. Accordingly, the Project's significant and unavoidable impact due to conflicts with the SCAG's *RTP/SCS* and the Riverside County CMP would be cumulatively considerable.

As discussed under Threshold (c), the proposed Project would not conflict with the Western Riverside County MSHCP. Accordingly, there is no potential to contribute cumulatively significant impacts due to a conflict with any applicable habitat conservation plan or natural community conservation plan, and impacts would be less-than-cumulatively considerable.

4.9.5 Significance of Impacts before Mitigation

Threshold a): No impact. The proposed Project would not physically divide an established community.

Threshold b): Significant Cumulatively Considerable Impact. The Project would result in cumulatively considerable impacts due to a conflict with SCAQMD's AQMP and the SCAG's *RTP/SCS*'s Goal G6 related to regional air quality, and the Riverside County CMP.

Threshold c): No Impact. The proposed Project would not conflict with the Western Riverside County MSHCP.

4.9.6 Mitigation

Refer to all mitigation measures presented in this EIR. No additional, feasible mitigation measures are available to mitigate the Project's air quality impacts and traffic impacts to CMP facilities beyond the mitigation already provided in EIR Subsections 4.3 and 4.11.

4.9.7 Significance of Impacts after Mitigation

Threshold b): Significant and Unavoidable Cumulatively Considerable Impact. Although mitigation measures are presented in EIR Subsections 4.3 and 4.11 to reduce the Project's significant air quality impacts and the Project's traffic impacts to CMP arterial intersections and CMP freeway mainline, freeway ramp merge/diverge junctions and freeway ramps, the required mitigation would not reduce the Project's impacts to below a level of significance. There are no additional mitigation measures available to further reduce the Project's cumulatively considerable contribution these impacts that conflict with the SCAQMD's AQMP, SCAG's *RTP/SCS* Goal G6, and the Riverside County CMP.

4.10 Noise

This Subsection addresses the environmental issue of noise. The information contained herein is based in part on a technical report prepared by Urban Crossroads, Inc. titled, "Moreno Valley Logistics Center Noise Impact Analysis, City of Moreno Valley," dated February 25, 2016 and appended to this EIR as *Technical Appendix H* (Urban Crossroads, Inc., 2016d). All references used in this Subsection are listed in EIR Section 7.0, *References*.

As described in Section 3.0, *Project Description*, the Project proposes an alternate site plan that would omit Building 2 and construct a 166-space truck trailer parking lot in its place. In the event that the alternate site plan is implemented, the parking lot would be used as overflow parking for Building 1. If Building 2 is not constructed, the potential operational noise sources within the Project site would be concomitantly reduced, thereby reducing the total operational noise levels expected at the nearby receiver locations. In addition, the omission of Building 2 would reduce the duration of construction equipment used during Project construction activities, thereby reducing the construction-related noise levels expected at nearby receiver locations. (Urban Crossroads, Inc., 2016d, pp. 69 and 95) For this reason, the analysis herein addresses the Project with proposed Building 2, which has the potential for a greater noise impact than the alternate site plan.

4.10.1 Existing Conditions

A. Noise Definitions

Noise is simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm, or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise sources by discriminating against very low and very high frequencies of the audible spectrum; dBA are adjusted to reflect only those frequencies that are audible to the human ear. The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). For example, normal human voice conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA at approximately 100 feet. (Urban Crossroads, Inc., 2016d, pp. 11-12)

B. Noise Descriptors

Environmental noise descriptors are generally based on averages, rather than instantaneous noise levels. The most commonly used figure is the equivalent sound level (Leq). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in dBA. The Leq represents a steady state sound level containing the same total energy as a time varying signal over a given sample period and is commonly used to describe the "average" noise levels within the environment. (Urban Crossroads, Inc., 2016d, p. 12)

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Day-

Night Average Noise Level (LDN) and the Community Noise Equivalent Level (CNEL), which represent composite 24-hour noise levels, are utilized. The LDN and the CNEL are weighted averages of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The LDN time of day corrections include the addition of 10 decibels to dBA Leq sound levels at night between 10:00 p.m. and 7:00 a.m. The CNEL time of day corrections require the addition of 5 decibels to dBA Leq sound levels in the evening from 7:00 p.m. to 10:00 p.m., in addition to the corrections for LDN. These additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. LDN and CNEL do not represent the actual sound heard at any particular time, but rather represent the total sound exposure. The City of Moreno Valley relies on the 24-hour CNEL level to apply the more conservative evening hour corrections to the 24-hour noise levels. (Urban Crossroads, Inc., 2016d, p. 12)

C. Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. The manner in which noise reduces with distance depends on geometric spreading, ground absorption, atmospheric effects, and shielding, as described below.

❑ Geometric Spreading

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a “line source,” which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. (Urban Crossroads, Inc., 2016d, p. 12)

❑ Ground Absorption of Noise

To account for the ground-effect attenuation (absorption) of noise, two types of site conditions are commonly used in traffic noise models: soft site and hard site conditions. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receptor, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receptor such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading of sound waves, the excess ground attenuation results in an overall noise drop-off rate of 4.5 dB per doubling of distance from a line source. (Urban Crossroads, Inc., 2016d, pp. 12-13)

❑ Atmospheric Effects

Compared to calm conditions, when the wind is blowing, receptors located downwind from a noise source can experience increased noise levels, whereas locations upwind can experience lowered noise levels. Sound levels also can be increased at large distances (e.g., more than 500 feet.) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors that may affect noise levels include air temperature, humidity, and turbulence. (Urban Crossroads, Inc., 2016d, p. 13)

- ❑ **Shielding**

A large object or barrier in the path between a noise source and a receptor can substantially attenuate noise levels at the receptor. The amount of attenuation provided by shielding depends on the size of the barrier and the frequency content of the noise source. Solid objects or barriers such as walls are most effective at attenuating noise. Effective noise barriers can reduce noise levels by 10 to 15 dBA. Shielding by trees and other such vegetation typically only has an "out of sight, out of mind" effect. That is, the perception of noise level tends to decrease when vegetation blocks the line-of-sight to nearby noise receivers. (Urban Crossroads, Inc., 2016d, p. 13)

D. Traffic Noise Prediction

Vehicle noise is a combination of the noise produced by the engine, exhaust, and tires on the roadway. According to the *Highway Traffic Noise Analysis and Abatement Policy and Guidance*, provided by the 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 have an effect on CNEL. As the number of medium and heavy trucks increases and becomes a larger percentage of the vehicle mix, adjacent noise level impacts will increase. (Urban Crossroads, Inc., 2016d, p. 13)

E. Community Response to Noise

A variety of reactions can be expected from people exposed to any given noise environment. Surveys have shown that approximately ten percent of the people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of 1 dBA is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain. Despite this variability in behavior on an individual level, the population as a whole can be expected to exhibit the following responses to changes in noise levels: a) an increase or decrease of 1 dBA cannot be perceived except in carefully controlled laboratory experiments, b) a change of 3 dBA is considered barely perceptible, and c) changes of 5 dBA or more are considered readily perceptible. (Urban Crossroads, Inc., 2016d, pp. 14-15)

F. Vibration

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 ground-borne 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, ground-borne vibrations may be described by amplitude and frequency. Vibration is usually expressed in peak particle velocity (PPV) in inches per second (in/sec) and described in units of velocity (inches per second) and decibels (dB) and is denoted as VdB. The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne 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. (Urban Crossroads, Inc., 2016d, pp. 15-16) The Federal Transit Administration (FTA) indicates that vibration-velocity levels of 90 VdB or greater have the potential to result in damage to buildings (Urban Crossroads, Inc., 2016d, p. 20)

4.10.2 Existing Noise Conditions

A. Existing Ambient Noise Environment

To assess existing noise levels in the Project's study area, Urban Crossroads collected 24-hour noise level measurements from Monday March 9 to Tuesday March 10, 2015, at nine sensitive receiver locations located around the Project site and along local roads that Project-related traffic is expected to use. The noise measurement locations are identified in Figure 4.10-1, *Noise Measurement Locations.* By collecting individual hourly noise level measurements, it is possible to describe the daytime and nighttime hourly noise levels and calculate the 24-hour CNEL. To describe the existing noise environment, it is not necessary to collect measurements at every sensitive receiver location because each receiver measurement represents a group of buildings that share acoustical equivalence. In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. (Urban Crossroads, Inc., 2016d, p. 27) The nine sensitive receiver locations shown on Figure 4.10-1 are representative of all locations that have the potential to be most affected by the proposed Project's construction and operational noise.

Table 4.10-1, *24-Hour Ambient Noise Level Measurements*, identifies the hourly daytime (8:00 a.m. to 10:00 p.m.) and nighttime (10:01 p.m. to 7:59 a.m.) noise levels collected at each noise level measurement location. More detail about the existing hourly ambient noise levels described below is contained in Appendix 5.2 of *Technical Appendix H.*

- **Location L1** represents the noise levels at the southeast corner of Cactus Avenue and Unity Court adjacent to existing residential homes. The noise level measurements collected show an overall 24-hour exterior noise level of 79.7 dBA CNEL. The hourly noise levels measured at location L1 ranged from 73.0 to 77.2 dBA Leq during the daytime hours and from 68.2 to 76.5 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 75.3 dBA Leq with an average nighttime noise level of 73.0 dBA Leq. (Urban Crossroads, Inc., 2016d, p. 29)

- **Location L2** represents the existing noise levels on Heacock Street north of Meyer Drive near existing residential homes. The noise level measurements collected show an overall 24-

hour exterior noise level of 72.1 dBA CNEL. The hourly noise levels measured at location L2 ranged from 64.3 to 68.0 dBA Leq during the daytime hours and from 61.3 to 68.3 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 65.9 dBA Leq with an average nighttime noise level of 65.6 dBA Leq. (Urban Crossroads, Inc., 2016d, p. 29)

- **Location L3** represents the noise levels at the southeast corner of 6th Street and Midway Street near an existing baseball diamond and park. The 24-hour CNEL indicates that the overall exterior noise level is 58.9 dBA CNEL. At location L3 the background ambient noise levels ranged from 44.8 to 53.4 dBA Leq during the daytime hours to levels of 46.7 to 56.7 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 50.2 dBA Leq with an average nighttime noise level of 52.9 dBA Leq. (Urban Crossroads, Inc., 2016d, p. 29)

- **Location L4** represents the existing noise levels on Heacock Street north of Gentian Avenue adjacent to an existing residential community. The noise level measurements collected show an overall 24-hour exterior noise level of 74.7 dBA CNEL. The hourly noise levels measured at location L4 ranged from 65.9 to 70.6 dBA Leq during the daytime hours and from 62.0 to 72.2 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 68.8 dBA Leq with an average nighttime noise level of 68.1 dBA Leq. (Urban Crossroads, Inc., 2016d, p. 29)

- **Location L5** represents the noise levels on Iris Avenue west of Indian Street and the Rainbow Ridge Elementary School. An existing logistics warehouse is located south of this location across Iris Avenue. The noise level measurements collected show an overall 24-hour exterior noise level of 73.1 dBA CNEL. The hourly noise levels measured at location L5 ranged from 62.6 to 68.0 dBA Leq during the daytime hours and from 55.6 to 72.8 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 66.2 dBA Leq with an average nighttime noise level of 67.0 dBA Leq. (Urban Crossroads, Inc., 2016d, p. 29)

- **Location L6** represents the existing noise levels north of the Project site on Indian Street near an existing residential home. The noise level measurements collected show an overall 24-hour exterior noise level of 68.8 dBA CNEL. The hourly noise levels measured at location L6 ranged from 56.5 to 67.1 dBA Leq during the daytime hours and from 51.8 to 67.6 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 61.5 dBA Leq with an average nighttime noise level of 62.5 dBA Leq. (Urban Crossroads, Inc., 2016d, p. 30)

- **Location L7** represents the noise levels on Indian Street south of Krameria Avenue near existing residential homes located northeast of the Project site. The noise measurements collected show an overall 24-hour exterior noise level of 67.2 dBA CNEL. The background ambient noise levels ranged from 59.6 to 67.9 dBA Leq during the daytime hours to levels of

50.8 to 66.0 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 64.1 dBA Leq with an average nighttime noise level of 60.6 dBA Leq. (Urban Crossroads, Inc., 2016d, p. 30)

- **Location L8** located east of the Project site, represents the existing noise levels on Indian Street near existing residential homes. The noise level measurements collected show an overall 24-hour exterior noise level of 66.4 dBA CNEL. The hourly noise levels measured at location L8 ranged from 57.8 to 62.9 dBA Leq during the daytime hours and from 50.7 to 65.0 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 60.8 dBA Leq with an average nighttime noise level of 60.2 dBA Leq. (Urban Crossroads, Inc., 2016d, p. 30)

- **Location L9** represents the noise levels east of the Project site on Indian Street, south of Superior Avenue near existing residential homes. The 24-hour CNEL indicates that the overall exterior noise level is 58.2 dBA CNEL. The background ambient noise levels ranged from 47.7 to 56.5 dBA Leq during the daytime hours to levels of 45.1 to 55.6 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 53.1 dBA Leq with an average nighttime noise level of 51.7 dBA Leq. (Urban Crossroads, Inc., 2016d, p. 30)

Table 4.10-1 provides the energy average noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed by Urban Crossroads, Inc. during these time periods expressed as a single number. Appendix 5.2 of *Technical Appendix H* provides a summary of the hourly noise levels for each hour as well as the minimum and maximum noise levels recorded during the daytime and nighttime period. The background ambient noise levels in the Project study area are dominated by the transportation related noise associated with the arterial roadway network that includes the auto and heavy truck activities near the noise level measurement locations. Secondary background ambient noise is also included in the noise level measurements from existing stationary noise sources in the Project study area, such as existing truck loading activities north of the Project site; however, these noise sources are generally overshadowed by vehicular traffic noise levels. (Urban Crossroads, Inc., 2016d, pp. 30-31)

B. Existing Ground-Borne Vibration

The Project site is located approximately 1.3 miles east of Interstate 215 (I-215), 4.2 miles south of State Route 60 (SR-60), and 2.5 miles northwest of Lake Perris. On a local level, the Project site is located south of Krameria Avenue, north of Cardinal Avenue, east of Heacock Street and the March Air Reserve Base, and west of Indian Street. Ground-borne vibration levels from automobile traffic are generally overshadowed by vibration generated by heavy trucks that roll over the same uneven roadway surfaces. However, due to the rapid drop-off rate of ground-borne vibration and the short duration of the associated events, vehicular traffic-induced ground-borne vibration is rarely perceptible beyond the roadway right-of-way. (Urban Crossroads, Inc., 2016d, p. 41) There is no ground-borne vibration perceptible to humans experienced at the Project site under existing conditions.

C. *Airport Noise*

The Project site is within the March Air Reserve Base Airport Influence Area boundary. As depicted on Exhibit MA-4 of the *March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan*, the Project site is located outside of the 60 CNEL range from aircraft noise. (Riverside County ALUC, 2014, Exhibit MA-7D and Exhibit MA-4) (County of Riverside ALUC, 2015, p. 3) Therefore, aircraft noise is not typically perceptible at the Project site.

D. *City of Moreno Valley Noise Standards*

The Noise Ordinance included in Chapter 11.80 of the Moreno Valley Municipal Code provides performance standards and noise control guidelines for operational activities and for construction activities, as described below.

❑ Operational Noise Standards

Moreno Valley Municipal Code Section 11.80.030.C, *Nonimpulsive Sound Decibel Limits*, provides the following restriction:

> *No person shall maintain, create, operate or cause to be operated on private property any source of sound in such a manner as to create any nonimpulsive sound which exceeds the limits set forth for the source land use category (as defined in Section 11.80.020) in Table 11.80.030-2 when measured at a distance of two hundred (200) feet or more from the real property line of the source of the sound, if the sound occurs on privately owned property, or from the source of the sound, if the sound occurs on public right-of-way, public space or other publicly owned property. Any source of sound in violation of this subsection shall be deemed prima facie to be a noise disturbance.* (Moreno Valley n.d. Section 11.80.030.C)

For industrial and commercial land uses, based on the commercial land use standard of Moreno Valley Municipal Code Table 11.80.030-2, the operational noise level limits are 65 dBA Leq during the daytime hours (8:00 a.m. to 10:00 p.m.) and 60 dBA Leq during the nighttime hours (10:01 p.m. to 7:59 a.m.). Therefore, at a distance of 200 feet from the property line, operational noise from commercial and industrial buildings is not permitted to exceed 65 dBA Leq during the day and 60 dBA Leq during the night. (Urban Crossroads, Inc., 2016d, p. 19)

❑ Construction Noise Standards

The City of Moreno Valley Municipal Code has established restrictions on the time of day that construction activities can occur. Moreno Valley Municipal Code Section 11.80.030.D.7, *Construction and Demolition*, states:

No person shall operate or cause operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between the hours of 8:00 p.m. and 7:00 a.m. the following day such that the sound there from creates a noise disturbance, except for emergency work by public service utilities or for other work approved by the city manager or designee.

A noise disturbance is defined by the Moreno Valley Municipal Code as any sound which: a) disturbs a reasonable person of normal sensitivities; b) exceeds the sound level limits set forth in Municipal Code Table 11.80.030-2; or c) is plainly audible as defined in Municipal Code Section 11.80.030. Where no specific distance is set forth for the determination of audibility, references to noise disturbance are deemed to mean plainly audible at a distance of 200 feet from the real property line of the source of the sound on private property or from the source of the sound on roads or other publicly owned property.

4.10.3 Methodology for Calculating Project-Related Impacts

The Project's Noise Impact Analysis (*Technical Appendix H*) analyzes potential noise effects associated with the construction and operation of a logistics center with 1,351,770 s.f. of high-cube warehouse land uses (1 building) and 385,748 s.f. of light industrial land uses (3 buildings) with a site layout identical to the proposed Project. In comparison to the proposal evaluated in *Technical Appendix H*, the Project proposes to develop the subject property with seven (7) fewer square feet of high-cube warehouse land uses and 1,331 fewer square feet of light industrial land uses. Because the proposal analyzed by *Technical Appendix H* was more intense than the proposed Project, the analyses presented therein and summarized in this EIR provides a conservative, worst-case analysis of the Project's potential noise effects.

A. Construction Noise Analysis Methodology

The proposed Project would be constructed in phases over approximately 14 months, as described in Section 3.0, *Project Description.* The types and numbers of heavy equipment that the Project Applicant expects to use during construction activities are listed in Table 3-4, *Construction Equipment to be Used*. In order to assess the expected noise levels that would be generated by the Project's construction activities, Urban Crossroads collected reference noise level measurements at similar construction sites at which the same types of construction equipment were operating. Table 4.10-2, *Construction Reference Noise Levels,* provides a summary of the 16 construction reference noise level measurements collected by Urban Crossroads. All construction noise level measurements presented in Table 4.10-2 were adjusted by Urban Crossroads to describe a common reference distance of 50 feet. Refer to Appendix 10.1 of *Technical Appendix H* for a more detailed discussion of construction reference noise levels. (Urban Crossroads, Inc., 2016d, pp. 72-73)

Noise levels diminish with distance from the noise source at a rate of 6 dBA per doubling of distance. For example, a noise level of 72 dBA measured at 50 feet from the noise source to the receiver would be reduced to 66 dBA at 100 feet from the source to the receiver, and would be further reduced to 60 dBA at 200 feet from the source to the receiver.

To assess the potential for short-term construction noise impacts, as well as long-term operational impacts, analysis of the Project's construction noise level impacts were completed for eight representative noise-sensitive receiver locations (R1 through R8) which represent the nearest sensitive receivers to the Project site. As shown in Figure 4.10-2, *Noise Receiver Locations*, representative noise-sensitive receivers in the vicinity of the Project site include the single-family residential homes at locations R1 and R3 through R8, and Rainbow Ridge Elementary School at location R2. Location R8 is the closest noise-sensitive receiver where an existing residential home is located approximately 101 feet east of the Project site's southeastern boundary. (Urban Crossroads, Inc., 2016d, p. 59)

B. Stationary Operational Noise Analysis Methodology

The proposed Project's future building occupants are unknown at the present time. Therefore, the noise impact analysis in *Technical Appendix H* assumes the Project would be operational 24 hours per day, seven days per week, with the potential for a portion of the total building square footage to be occupied by a cold storage (refrigeration) space. Business operations would primarily be conducted within the enclosed buildings, with the exception of traffic movement, parking, and the loading and unloading of trucks at designated loading bays. (Urban Crossroads, Inc., 2016d, pp. 61-62)

Because the future tenants of the proposed Project are unknown, the Project's operational noise levels were estimated based on reference noise level measurements collected by Urban Crossroads at other similar operating buildings. The reference noise levels are intended to describe the expected operational noise sources that may include idling trucks, delivery truck activities, parking, backup alarms, refrigerated containers or reefers, as well as loading and unloading of dry goods. To estimate the off-site operational noise impacts associated with the proposed Project, the reference noise level measurements were collected from operating logistics warehouse buildings that produce similar operational noise sources as would be expected at the Project site. See Section 9.3 of *Technical Appendix H* for more detail about the reference noise level measurements collected by Urban Crossroads. (Urban Crossroads, Inc., 2016d, p. 62)

As shown on Table 4.10-3, Reference Noise Level Measurements, the loudest reference noise level of 70.1 dBA was measured at a distance of 30 feet at a height of 8 feet. While the actual operational noise levels at the Project site will depend on the eventual building users' intensity of activity and hours of operation, a reference noise level of 70.1 dBA Leq is used to describe the expected peak Project operational noise activity since it was the loudest noise level recorded at the reference sites that have similar warehouse, distribution storage, and industrial operational characteristics to building users expected at the Project site. (Urban Crossroads, Inc., 2016d, p. 64)

C. Transportation-Related Noise Analysis Methodology

❑ Federal Highway Administration Traffic Noise Prediction Model

The estimated roadway noise impacts from vehicular traffic were calculated by Urban Crossroads using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model FHWA-RD-77-108. The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California, the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. Adjustments are then made to the REMEL to account for: 1) the roadway classification (e.g., collector, secondary, major or arterial), 2) the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), 3) the total average daily traffic (ADT), 4) the travel speed, 5) the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, 6) the roadway grade, 7) the angle of view (e.g., whether the roadway view is blocked), 8) the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and 9) the percentage of total ADT which flows each hour throughout a 24-hour period. (Urban Crossroads, Inc., 2016d, p. 33)

❑ Off-Site Traffic Noise Prediction Model Inputs

Table 4.10-4, *Off-Site Roadway Parameters*, presents the roadway parameters used to assess the Project's off-site transportation noise impacts. Table 4.10-4 identifies the 24 study area roadway segments, the distance from the centerline to adjacent land use based on the functional roadway classifications according to the City of Moreno Valley General Plan Circulation Element, and the posted vehicle speeds. For the purpose of the off-site analysis, soft site conditions were used to analyze the traffic noise impacts on each roadway segment in the Project study area because landscaping typically exists between the street surface and the noise receiver. (Urban Crossroads, Inc., 2016d, p. 33)

To quantify off-site traffic noise levels, the Project's vehicular trips, the Existing (without and with Indian Street Bridge), Opening Year (2020), and General Plan Buildout (2035) conditions average daily traffic (ADT) volumes were based on the Project's traffic impact analysis (*Technical Appendix J1*). While the traffic volumes presented in *Technical Appendix J1* are expressed as Passenger Car Equivalent (PCE) trips, the site-specific noise analysis (*Technical Appendix H)* relies on the net Project trips to accurately account for the noise effects of individual truck trips on the study area roadway network. (Urban Crossroads, Inc., 2016d, pp. 33 and 36)

To quantify the off-site noise levels, the Project related truck trips were added to the heavy truck category in the FHWA noise prediction model. The addition of the Project related truck trips increases the percentage of heavy trucks in the vehicle mix. This approach recognizes that the FHWA noise prediction model is significantly influenced by the number of heavy trucks in the vehicle mix. The Project truck trip-ends trucks were assigned to the 24 study area roadway segments based on the estimated Project truck trip distribution percentages. Using the Project truck trips in combination with the Project trip distribution, the number of additional Project truck trips and vehicle mix percentages for each of the study area roadway segments were calculated. (Urban Crossroads, Inc., 2016d, p. 36)

D. Vibration Analysis Methodology

Operational and construction activities can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected structures and the soil type. Construction vibration is generally associated with pile driving and rock blasting, neither of which are proposed on the Project site. Other construction equipment such as air compressors, light trucks, hydraulic loaders, etc., generate little or no ground vibration. Occasionally large bulldozers and loaded trucks can cause perceptible vibration levels at close proximity. While not enforceable regulations within the City of Moreno Valley, the FTA guidelines of 80 VdB for sensitive land uses provide the basis for determining the relative significance of potential Project-related vibration impacts due to on-site operational and construction activities. (Urban Crossroads, Inc., 2015d, p. 20)

Ground-borne vibration levels from automobile traffic are generally overshadowed by vibration generated by heavy trucks that roll over the same uneven roadway surfaces. However, due to the rapid drop-off rate of ground-borne vibration and the short duration of the associated events, vehicular traffic-induced ground-borne vibration is rarely perceptible beyond the roadway right-of-way, and rarely results in vibration levels that cause damage to buildings in the vicinity. However, while vehicular traffic is rarely perceptible, construction has the potential to result in varying degrees of temporary ground vibration, depending on the specific construction activities and equipment used. Ground vibration levels associated with various types of construction equipment are summarized in Table 4.10-5, *Vibration Source Levels for Construction Equipment.* Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the human response (annoyance) using the vibration assessment methods defined by the FTA. (Urban Crossroads, Inc., 2016d, p. 41)

4.10.4 Basis for Determining Significance

The proposed Project would result in a significant impact to noise if the Project or any Project-related component would result in:

a) *Exposure to 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;*

b) *Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;*

c) *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;*

d) *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;*

e) *For a project located within an airport land use plan, or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels; or*

f) *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.*

In relation to Threshold a., the City of Moreno Valley General Plan does not include a noise element or specific transportation related noise standards; rather, noise is considered in the Environmental Safety section of the General Plan Safety Element. While the General Plan provides background and noise fundamentals, it does not identify criteria to assess potential noise-related impacts. Therefore, for purposes of evaluating potential noise impacts under Threshold a., noise standards contained in the City of Moreno Valley Municipal Code are relied upon as the basis for determining significance. Refer above to Subsection 4.10.2D, *City of Moreno Valley Noise Standards.*

While the City of Moreno Valley Municipal Mode provides noise standards that are sufficient to assess the significance of noise impacts under Threshold a., the Municipal Code does not define the levels at which noise and vibration increases are considered substantial for use under Thresholds b., c., or d. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise and vibration levels, and the location of sensitive receptors in order to determine if a noise or vibration increase represents a substantial increase and thus a significant adverse environmental impact. For purposes of this EIR and based in part on the noise compatibility criteria by land use category provided in the *General Plan Guidelines*, a publication of the California Office of Planning and Research (OPR, 2003, p. 250), and the noise level increases that are normally perceptible to humans (Urban Crossroads, Inc., 2016d, pp. 14-15), noise level increases associated with the Project's operation will be considered significant based on the following:

When the noise levels at existing and planned non-noise sensitive land uses (e.g. business park, industrial, etc.):

- Are less than the OPR *General Plan Guidelines'* normally acceptable 70 dBA and the Project creates a readily perceptible 5 dBA or greater noise level increase; or
- Are greater than the OPR *General Plan Guidelines* normally acceptable 70 dBA and the Project creates a barely perceptible 3 dBA or greater Project noise level increase.

When the noise levels at existing and planned noise-sensitive land uses (e.g. residential, etc.):

- Are less than 60 dBA and the Project creates a 5 dBA or greater noise level increase;
- Range from 60 to 65 dBA and the Project creates a 3 dBA or greater noise level increase; or
- Already exceed 65 dBA, and the Project creates a 1.5 dBA or greater noise level increase.

The City's Municipal Code does not set a noise level limit on construction activities. It only regulates the hours of construction, not the noise levels. Therefore, this EIR applies the Municipal

Code's operational noise limits of 65 dBA Leq during the daytime hours (8:00 a.m. to 10:00 p.m.) and 60 dBA Leq during the nighttime hours (10:01 p.m. to 7:59 a.m.) as the thresholds of significance for construction noise at any noise-sensitive receiver location.

For purposes of this EIR and based in part on the FTA's Transit Noise and Vibration Impact Assessment, if Project generated vibration levels exceed the FTA maximum acceptable vibration standard of 80 vibration decibels (VdB) at sensitive receiver locations, impacts will be considered significant. The FTA guidelines allow 80 VdB for residential uses and buildings where people normally sleep. Furthermore, the 80 VdB threshold is below the vibration level at which building damage has the potential to occur (i.e., 90 VdB). (Urban Crossroads, Inc., 2016d, p. 20)

4.10.5 Impact Analysis

Threshold a)	***Would the project result in exposure to 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?***
Threshold c)	***Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?***
Threshold d)	***Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?***

A. Construction Noise Impact Analysis

Construction equipment operating on the Project site would create intermittent periods of noise when construction equipment is in operation, which would cause short-term increases in ambient noise levels. Urban Crossroads, Inc. used Computer Aided Noise Abatement (CadnaA) software to graphically represent the noise level contour boundaries for each stage of the Project's construction. CadnaA has the ability to analyze the noise level of multiple types of noise sources and calculate the noise levels at any location. The program also calculates the noise reduction effects of topography, buildings, and other barriers. (Urban Crossroads, Inc., 2016d, p. 72)

Noise sensitive receivers are located to the east and northeast of the Project site. Based on the proposed stages of Project construction, the loudest construction-related noise levels at each receiver location would occur when multiple pieces of heavy equipment are simultaneously operating near the eastern and northern Project site boundaries. In reality, it is highly unlikely that all pieces of heavy construction equipment would be operating simultaneously at the same time and at the same location adjacent to the Project site boundaries. Instead, noise levels would vary day-to-day and would vary throughout the workday as equipment moves around the site. Tables 10-2 through 10-6 of *Technical Appendix H* report the expected construction noise levels during each phase of construction. Phase I includes the construction of proposed Buildings 1 and 2 and Phase II includes the construction of proposed Buildings 3 and 4. It is important to note that once Buildings 1 and 2 are constructed, the building structures themselves would act as noise barriers and substantially attenuate construction noise levels at sensitive receivers located east of the Project site, from construction activity noise for Buildings 3 and 4, which would be occurring west of Buildings 1 and 2. (Urban Crossroads, Inc., 2016d, pp. 74-76)

❑ Analysis of Daytime Construction Noise

Figure 4.10-3 through Figure 4.10-5 show the noise contours by stage for Phase I daytime construction activities. Figure 4.10-6 through Figure 4.10-8 show the noise contours by stage for Phase II daytime construction activities. Table 4.10-6, *Phase I Daytime Construction Noise Levels at Receiver Locations*, shows that Phase I daytime construction noise levels are expected to range from 39.2 to 67.2 dBA Leq at the nearby receiver locations. Table 4.10-7, *Phase 2 Daytime Construction Noise Levels at Receiver Locations*, shows that Phase II daytime construction levels are expected to range from 35.8 to 57.6 dBA Leq at the nearby receiver locations. Peak noise levels would be below the 65 dBA Leq construction noise level significance threshold at all receiver locations with the exception of receiver location R8 during Phase I construction activities. Thus, Phase I construction-related noise would result in a significant impact at location R8, requiring mitigation. Location R8 is a residential home located east of Indian Street just north of the Perris Valley Storm Drain Channel and fronts on Indian Street. There is no barrier wall in this location under existing conditions.

❑ Analysis of Nighttime Construction Noise

Construction activity on the Project site would occur during daytime hours. However, there is a potential that the construction contractor would elect to conduct some limited work at night, such as the pouring of concrete that requires cooler air temperatures than may be possible during the day. The City of Moreno Valley Municipal Code Section 11.80.030.D.7 states that "no person shall operate or cause operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between the hours of 8:00 p.m. and 7:00 a.m. the following day such that the sound there from creates a noise disturbance, except for emergency work by public service utilities or for other work approved by the city manager or designee." Should nighttime concrete pour activities occur during the building construction and paving stages of Project construction, Figure 4.10-9 and Figure 4.10-10 show noise contours by stage for Phase I nighttime construction activities and Figure 4.10-11 and Figure 4.10-12 show noise contours by stage for Phase II nighttime construction activities. Table 4.10-8, *Phase I Nighttime Construction Noise Levels at Receiver* Locations, shows that the Phase I nighttime activity noise levels are expected to range from 31.2 to 59.3 dBA Leq at the nearby receiver locations. Table 4.10-9, *Phase II Nighttime Construction Noise Levels at Receiver* Locations, shows that the Phase II nighttime activity noise levels are expected to range from 27.8 to 49.6 dBA Leq at the nearby receiver locations. Peak noise levels would be below the 60 dBA Leq nighttime noise level construction noise level significance threshold at all receiver locations. Thus, Phase I and Phase II nighttime construction activities would result in less-than-significant noise impacts and no mitigation is required.

B. Stationary Operational Noise Impact Analysis

Stationary noise sources associated with the Project's long-term operation are expected to include idling trucks, delivery truck activities, parking, backup alarms, refrigerated containers or reefers, as well as the loading and unloading of dry goods. The Project proposes a 100-foot setback at the eastern property boundary, within which would be a 50-foot-wide contiguous enhanced landscaping zone. Adjacent to the west side of the landscaped area would be a 14-foot high solid screen wall, which would provide noise attenuation as well as screen the truck parking and loading areas from view along Indian Street.

Table 4.10-10, *Operational Noise Level Projections at Receiver Locations*, presents the calculated exterior noise levels, including the attenuation provided by the existing 6-foot high wall located on the east side of Indian Street shown on Figure 4.10-13, *Operational Noise Source Locations*. As indicated in Table 4.10-10, the hourly noise levels associated with the Project at the closest noise sensitive receivers are expected to range from 24.4 to 46.6 dBA Leq. The operational noise level calculations are included in Appendix 9.2 of *Technical Appendix H*. (Urban Crossroads, Inc., 2016d, p. 66)

As indicated on Table 4.10-11, *Daytime Operational Noise Level Contributions*, the Project is expected to generate the loudest daytime operational noise level contribution of up to 0.9 dBA at noise receiver location R7. Because the existing ambient noise level at noise sensitive receiver R7 is less than 60 dBA and the Project would create less than a readily perceptible Project-related noise level increase (less than 5 dBA), pursuant to the operational noise significance threshold described in Subsection 4.10.4 and as shown in Table 4.10-11, the Project-related operational noise level contributions to the daytime ambient noise levels at nearby sensitive receiver locations would be less than significant and no mitigation is required. (Urban Crossroads, Inc., 2016d, p. 67)

Table 4.10-12, *Nighttime Operation Noise Level Contributions*, the Project is expected to generate the loudest nighttime operational noise level contribution of up to 1.2 dBA Leq at noise receiver location R7. Because the existing ambient noise level at noise sensitive receiver R7 is less than 60 dBA and the Project would create a less than readily perceptible Project-related noise level (less than 5 dBA), pursuant to the operational noise threshold of significance described in Subsection 4.10.4 and as shown in Table 4.10-12, the Project-related operational noise level contributions to the nighttime ambient noise levels at nearby sensitive receivers would be less than significant and no mitigation is required. (Urban Crossroads, Inc., 2016d, pp. 67-68)

In summary, Project operational noise levels associated with idling trucks, delivery truck activities, parking, backup alarms, refrigerated containers or reefers, as well as the loading and unloading of dry goods, would not exceed the City of Moreno Valley operational noise standard of 65 dBA Leq daytime and 60 dBA Leq nighttime at any of the noise sensitive receivers within 200 feet and closer than 200 feet of the Project boundaries. Accordingly, the Project's operation would not result in exposure to persons to or generation of noise levels in excess of standards established in the Moreno Valley Municipal Code, or applicable standards of other agencies; the Project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the Project; and the Project would not result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project. Accordingly, Project- related operational noise impacts are less than significant and no mitigation is required.

C. Transportation-Related Noise Impact Analysis

Urban Crossroads, Inc. used noise contours to assess the Project's incremental traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA noise levels. The noise contours do not take into account the effect of any existing noise barriers or topography that may affect ambient noise levels. In addition, since the noise contours reflect modeling of vehicular noise on study area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area. A summary of the traffic noise level contours for each of the traffic scenarios is included in Appendix 7.1 of *Technical Appendix H*. The study area includes intersections where the Project is calculated to contribute 50 or more peak hour trips. Roads carrying less than 50 peak hour Project-related trips have no potential to be significantly impacted by Project-related noise because the Project's traffic volume would be too low to increase noise levels above significance thresholds. (Urban Crossroads, Inc., 2016d, p. 44)

❑ Existing plus Project Conditions

Table 4.10-13, *Existing plus Project Off-Site Traffic Noise Impact – Without Indian Street Bridge*, presents a comparison of existing noise levels to noise levels that would result under the scenario with implementation of the proposed Project (without the Indian Street Bridge) in the absence of cumulative development and ambient growth. As shown in Table 4.10-13, the Project would generate noise level increases approaching 0.8 dBA CNEL under the Existing plus Project (with Indian Street Bridge) conditions. Therefore, based on the significance criteria presented in Subsection 4.10.4 and above, the Project-related noise increases would not cause Existing plus Project (without the Indian Street bridge) noise levels to exceed the significance criteria. Furthermore, the Project's contribution of off-site traffic-related noise along Project study area roadway segments would actually decrease under the theoretical Existing plus Project with Indian Street Bridge scenario, as compared to the scenario without the Indian Street Bridge (refer to Table 4.10-14, *Existing plus Project Off-Site Traffic Noise Impacts – With Indian Street Bridge*). As shown in Table 4.10-14, under the theoretical Existing plus Project with Indian Street Bridge scenario, the Project would contribute noise level increases along study area roadway segments up to 0.6 dBA CNEL, which would not exceed the significance criteria presented in Subsection 4.10.4. Accordingly, under the Existing with Project conditions traffic scenario, the Project's off-site, traffic-related noise contributions would be less than significant and no mitigation is required. (Urban Crossroads, Inc., 2016d, p. 44)

❑ Opening Year (2020) with Project Conditions

Table 4.10-15, *Opening Year (2020) Off-Site Project-Related Traffic Noise Impacts*, presents a comparison of the Opening Year (2020) without and with Project conditions CNEL noise levels. As shown on Table 4.10-15, the Project would generate noise level increases approaching 0.4 dBA CNEL. Therefore, based on the significance criteria presented in Subsection 4.10.4 and above, Project-related noise increases at the adjacent land uses would not exceed the significance criteria. Accordingly, under the Opening Year (2020) with Project conditions traffic scenario, the Project-related off-site noise increases at the adjacent land uses would be less than significant and no mitigation is required. (Urban Crossroads, Inc., 2016d, p. 44)

❑ General Plan Buildout (2035) Project Conditions

Table 4.10-16, *General Plan Buildout (2035) Project-Related Traffic Noise Impacts*, presents a comparison of General Plan Buildout (2035) without and with Project conditions CNEL noise levels. As shown on Table 4.10-16, the Project would generate noise level increases approaching 0.3 dBA CNEL. Therefore, based on the significance criteria presented in Subsection 4.10.4 and above, under the Opening Year (2020) with Project Conditions traffic scenario, the Project-related off-site noise level increases at the adjacent land uses would be less than significant and no mitigation is required. (Urban Crossroads, Inc., 2016d, p. 52)

D. Analysis of Consistency with the City's Noise Ordinance

The proposed Project includes the operation of a logistics center with four buildings. The reference noise level of 70.1 dBA Leq represents a worse-case operational scenario that assumes operational activities occurring 24-hours per day, seven days per week and also accounts for potential noise associated with cold storage (refrigeration). (Urban Crossroads, Inc., 2016d, p. 64)

As shown on Table 4.10-17, Operational Noise Level Projections at a Distance of 200 Feet, the Project operational noise levels at a distance of 200 feet are estimated at 53.6 dBA Leq. Based on the operational noise standard described in Subsection 4.10.4 and as shown in Table 4.10-17, the Project's operational noise levels would satisfy the City of Moreno Valley Municipal Code daytime 65 dBA Leq and nighttime 60 dBA Leq exterior noise level standards for industrial and commercial land uses, at a distance of 200 feet. Therefore, stationary operational noise levels would comply with the Municipal Code and impacts would be less than significant under Threshold a). No mitigation is required. (Urban Crossroads, Inc., 2016d, p. 66)

Although Project-related operational noise levels would be less than significant based on the City of Moreno Valley Municipal Code standards measured at 200 feet, some receiver locations are located within 200 feet from the Project site boundaries. Therefore, to determine the potential Project-related operational noise impacts at each receiver, including those located within 200 feet of the Project boundaries, Urban Crossroads, Inc. evaluated the Project-related noise level contribution at nearby receiver locations, as described below.

Threshold b)	*Would the project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?*

A. Short-Term Construction Ground-Borne Vibration Levels

It is expected that ground-borne vibration from the Project's construction activities would cause only intermittent, localized intrusion. The proposed Project's construction activities most likely to cause vibration impacts are heavy mobile construction equipment and trucks hauling building materials to the Project site. Using the vibration source level of construction equipment provided in Table 4.10-18, *Construction Equipment Vibration Levels*, and the construction vibration assessment methodology published by the FTA, Urban Crossroads estimated the Project's vibration levels. Table 4.10-18, *Construction Equipment Vibration Levels*, presents the expected Project-related vibration levels at the eight receiver locations. (Urban Crossroads, Inc., 2016d, p. 94)

Based on the reference vibration levels provided by the FTA, a large bulldozer represents the peak source of vibration with a reference level of 87 VdB at a distance of 25 feet. At distances to the nearest sensitive receivers range from 101 to 2,853 feet from the Project site, construction vibration levels are expected to range from 25.3 to 68.8 VdB. Based on the FTA maximum acceptable vibration standard of 80 VdB at sensitive receiver locations (see Subsection 4.10.4), the proposed Project's construction activities would not include or require equipment, facilities, or activities that would result in a perceptible human response (annoyance) or damage to buildings. Therefore, the Project's vibration associated construction impacts would be less than significant. Furthermore, vibration levels at the site of the closest sensitive receiver 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. Therefore, the potential for the Project to result in exposure of persons to, or generation of, excessive ground-borne vibration would be less than significant and no mitigation is required (Urban Crossroads, Inc., 2016d, p. 95)

B. Long-Term Operational Vibration

Although the human threshold of perception is around 65 VdB, human response to vibration is not usually significant unless the vibration level exceeds 70 VdB. Truck vibration levels are dependent on vehicle characteristics, load, speed, and pavement condition. Typical vibration levels for heavy trucks at normal traffic speeds do not exceed 65 VdB and therefore would be below 80 VdB at nearby sensitive receiver locations. During long-term operation of the Project, trucks would travel to and from the Project site on surrounding roadways; however, vibration levels for heavy trucks operating at the posted speed limits on smooth, paved surfaces as is expected on the Project site and surrounding roadways, are typically below the human threshold of perception (65 VdB) and therefore below the FTA maximum acceptable vibration standard of 80 VdB as presented in Subsection 4.10.4. Accordingly, the Project's long-term operational vibration impacts would not result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. Thus, impacts are less than significant and no mitigation is required.

Threshold e)	***For a project located within an airport land use plan, or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?***

As discussed in Subsection 4.10.1, the Project site is within the March Air Reserve Base Airport Influence Area boundary and in an area below the 60 CNEL range from aircraft noise. (Riverside County ALUC, 2014, Exhibit MA-7D and Exhibit MA-4) (County of Riverside ALUC, 2015, p. 3) Also, the Project proposes a logistics center with four building and does not propose noise sensitive land uses. Accordingly, for a project located within an airport land use plan, within two miles of a public airport or public use airport, the Project would not expose people working in the Project area to excessive noise levels. Thus, impacts are less than significant and no mitigation is required.

Threshold f)	***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***

There are no private airfields or private airstrips in the vicinity of the Project site. Therefore, the proposed Project would not expose people to excessive noise levels associated with operations at a private airstrip. Thus, no impact would occur.

4.10.6 Cumulative Impact Analysis

The cumulative impact analysis considers construction and operation of the proposed Project in conjunction with other development projects in the vicinity of the Project site resulting from full General Plan buildout and buildout in the surrounding areas.

A. Construction-Related Noise Impacts

Construction activities associated with the Project, especially activities involving heavy construction equipment would create intermittent periods of noise when construction equipment is in operation and cause a short-term increase in ambient noise levels. The peak noise level anticipated during construction activities would occur during Phase I daytime grading, paving, and building construction and application of architectural coatings. As previously shown in Table 4.10-6, *Phase I Daytime Construction Noise Levels at Receiver Locations*, the Project's Phase I daytime construction activities would expose noise sensitive receiver location R8 to noise levels in excess of 65 dBA Leq during daytime hours. Project construction noise levels combined with ambient noise and vehicular noise from potential cumulative development projects would have a cumulative noise effect on noise receiver location R8. In the event that construction activities occur on any properties surrounding the Project site simultaneously with Project-related construction activities and that also contribute construction noise to receiver R8, a cumulative impact may occur and the Project's construction-related noise contribution to the overall noise level in the Project study area would be cumulatively considerable. Such noise levels would represent a cumulatively considerable substantial or periodic increase in ambient noise levels in the Project study area above levels existing without the Project.

Accordingly, the Project's short-term construction-related noise impacts would result in a cumulatively considerable short-term impact. Because construction noise would be temporary in nature, Project construction activities would result in a less than cumulatively considerable substantial permanent (long-term) increase in ambient noise levels in the Project study area above levels existing without the Project.

B. Stationary Noise Impacts

As shown on Table 4.10-11, *Daytime Operational Noise Level Contributions,* the Project is expected to generate a daytime operational noise level contribution of up to 0.1 dBA at receiver location R6, 0.9 dBA at noise receiver location R7, and 0.7 dBA at receiver location R8. These locations are positioned east of Indian Street directly across the street from the Project site. When the Project's proposed Building 1 and Building 2 are in place, these structures will act as barriers and attenuate noise from other operational activities occurring in the area to the north and west. Stationary noise that these receiver locations may experience from the warehouse building located immediately north of the Project site is considered as part of the existing conditions noise measurements. Because the existing ambient noise level at noise sensitive receiver locations R6, R7, and R8 are less than 60 dBA and the Project creates a readily perceptible Project-related noise level increase of less than 5 dBA, pursuant to the operational noise significance threshold described in Subsection 4.10.4 and as shown in Table 4.10-11, the Project-related operational noise level contributions to the daytime ambient noise levels at nearby sensitive receiver locations would be less than significant and less than cumulatively considerable. No mitigation is required. (Urban Crossroads, Inc., 2016d, p. 67)

As shown on Table 4.10-12, *Nighttime Operation Noise Level Contributions,* the Project is expected to generate a nighttime operational noise level contribution of up to 0.1 dBA at receiver location R5, 0.2 dBA at receiver location R6, 1.2 dBA at noise receiver location R7, and 0.9 dBA at receiver location R8. When the Project's proposed Building 1 and Building 2 are in place, these structures will act as barriers and attenuate noise from other operational activities occurring in the area to the north and west. Stationary noise that these receiver locations may experience from the warehouse building located immediately north of the Project site is considered as part of the existing conditions noise measurements. Because the existing ambient noise levels at these locations are less than 60 dBA and the Project creates a readily perceptible Project-related noise level less than 5 dBA, pursuant to the operational noise threshold of significance described in Subsection 4.10.4 and as shown in Table 4.10-12, the Project-related operational noise level contributions to the nighttime ambient noise levels at nearby sensitive receivers would be less than significant and less than cumulatively considerable. No mitigation is required. (Urban Crossroads, Inc., 2016d, pp. 67-68)

C. Transportation-Related Noise Impacts

The level of significance attributed to a cumulative noise impact is based on a comparison of the Existing with Project noise levels with the General Plan Buildout (2035) without Project noise levels. Table 4.10-19, *General Plan Buildout (2035) Off-Site Cumulative Traffic Noise Impacts*, shows that the cumulative increase from Existing to General Plan Buildout (2035) without Project conditions would range from 0.7 to 16.4 dBA CNEL. Based on the significance criteria, the cumulative increase represents a significant cumulative impact on 10 of the study area roadway segments. However, to determine if the Project-related contribution to the cumulative noise impact is cumulatively considerable and thus potentially significant, the Existing without Project noise levels are subtracted from the General Plan Buildout (2035) with Project noise levels to determine the Project plus cumulative noise increase. As shown on Table 4.10-19, the actual Project-related contribution to the cumulative noise increases would approach 0.3 dBA CNEL and therefore would not exceed the significance thresholds. Therefore, because the Project-related off-site traffic noise level increases represent a less than significant contribution to the cumulative noise impacts, the Project-related traffic noise level increases would be less than cumulatively considerable. No mitigation is required. (Urban Crossroads, Inc., 2016d, p. 52)

D. Ground-Borne Vibration or Ground-Borne Noise

Based on the FTA maximum acceptable vibration standard of 80 vibration decibels (VdB) at sensitive receiver locations (see Subsection 4.10.4), the proposed Project's construction activities would not include or require equipment, facilities, or activities that would result in a perceptible human response (annoyance). Therefore, the Project's vibration-associated construction impacts would be less than significant. Furthermore, vibration levels at the site of the closest sensitive receiver 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. Therefore, the potential for the Project to result in cumulatively considerable ground-borne vibration would be less than significant.

Under long-term conditions, the operational activities of the proposed Project would not include or require equipment, facilities, or activities that would result in perceptible ground-borne vibration. Trucks would travel to and from the Project site on surrounding roadways; however, vibration levels for heavy trucks operating at the posted speed limits on smooth, paved surfaces as is expected on the Project site and surrounding roadways, are typically below the human threshold of perception (65 VdB) and therefore below the FTA maximum acceptable vibration standard of 80 (VdB) as presented in Subsection 4.10.4. Accordingly, long-term operation of the Project would not expose people to or generate excessive ground-borne vibration or ground-borne noise levels. For this reason, impacts would be less than cumulatively considerable.

E. Airport Noise

The proposed Project does not involve the construction, operation, or use of any public airports, public use airports, or private airstrips. There are no conditions associated with the proposed Project that would contribute airport noise or exposure of additional people to unacceptable levels of airport noise. Accordingly, the Project would have no potential to cumulatively contribute to impacts associated with noise from a public airport, public use airport, or private airstrip. Additionally, the Project is in an area below the 60 CNEL range from March Air Reserve Base Airport aircraft noise and the Project is not a noise-sensitive land use and would not contribute towards the exposure of people to excessive airport-related noise.

4.10.7 Significance of Impacts before Mitigation

Threshold a): Less-than-Significant Impact. The Project would not generate noise levels in excess of the noise levels allowed by the Moreno Valley Municipal Code.

Threshold b): Less-than-Significant Impact. The Project's construction and operational activities would not result in a perceptible human response (annoyance) to vibration because vibration levels at sensitive receiver locations would be below 80 vibration decibels (VdB).

Thresholds c) and d): Significant Short-Term Direct and Cumulatively Considerable Impact. Phase I of Project-related construction activities would result in a short-term direct impact to one noise-sensitive receiver, a residential home located east of Indian Street near the Project site's southwestern corner. In the event that construction activities occur on any properties surrounding the Project site simultaneously with Project-related construction activities, and that also would contribute construction noise to this residential home, a cumulative impact may occur and the Project's construction-related noise contribution to the overall noise level at this off-site property would also be cumulatively considerable.

Threshold e): Less-than-Significant Impact. The Project site is within the March Air Reserve Base Airport Influence Area boundary but outside of the 60 CNEL range for aircraft noise. In addition, the Project does not propose noise sensitive land uses that could be disturbed by periodic aircraft noise.

Threshold f): No Impact. There are no private airfields or private airstrips in the vicinity of the Project site. Therefore, the proposed Project would not expose people to excessive noise levels associated with operations at a private airstrip.

4.10.8 Mitigation

The following mitigation measures would reduce noise level increases produced by the Project's Phase I construction-related activities to nearby noise-sensitive receivers.

MM 4.10-1 All construction activities shall comply with the City of Moreno Valley Noise Ordinance (Chapter 11.80 of the City of Moreno Valley Municipal Code). This requirement shall be noted on all grading and building plans and in bid documents issued to construction contractors.

MM 4.10-2 Prior to the issuance of grading permits and building permits that would authorize grading and paving construction activities within 280 feet of Indian Street between Superior Avenue and the Perris Valley Storm Drain Channel, the construction contractor shall install a minimum 6-foot high temporary noise control barrier at the southeast corner of Parcel 1 (the Building 1 site) extending northward approximately 400 feet along Indian Street. Alternatively, with the approval of the property owner at 16950 Indian Street (noise receiver location R8), the temporary noise barrier can instead be installed along the west property line of that existing residential home. The temporary noise control barrier must present a solid face from top to bottom and must be a minimum of 6 feet high. The temporary noise control barrier shall comply with the following:

a) The noise barrier shall be constructed using an acoustical blanket (e.g. vinyl acoustic curtains or quilted blankets) attached to the construction site perimeter fence or equivalent temporary fence posts.

b) The noise barrier shall be maintained in good repair during the duration of grading and paving activities on Parcel 1. Any damage shall be promptly repaired. Gaps, holes, or weaknesses in the barrier or openings between the barrier and the ground shall be promptly repaired.

c) The noise control barrier and associated elements shall be completely removed upon the conclusion of the grading and paving construction activity on Parcel 1.

d) In the event that the noise barrier is constructed at 16950 Indian Street (noise receiver location R8), documentation of property owner approval to construct the noise barrier shall be provided to the City of Moreno Valley Planning Division prior to construction of the barrier.

MM 4.10-3 Prior to issuance of any grading and building permits, the City of Moreno Valley shall review grading and building plans to ensure the following notes are included on the plans. Project contractors shall be required to comply with these notes and maintain written records of such compliance that can be inspected by the City of Moreno Valley upon request.

a) Construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with the manufacturer's standards. The construction contractor shall place all stationary equipment so that emitted noise is directed away from noise sensitive receivers located east and northeast of the Project site.

b) During construction activities on Parcel 1, construction contractors shall locate equipment staging in the vicinity of the intersection of Cosmos Street and Krameria Avenue to create distance between construction-related noise sources and noise-sensitive receivers located east and northeast of Indian Street.

c) Haul truck deliveries shall use approved truck routes and occur during the same hours specified for construction equipment (7:00 a.m. to 8:00 p.m. on any given day) by the Moreno Valley Municipal Code Section 11.80.030.D.7 The construction contractor shall prepare a haul route exhibit for review and approval by the City of Moreno Valley Public Works Department, Land Development Division and shall design delivery routes to minimize exposure of sensitive land uses or residential dwellings to haul truck-related noise (Moreno Valley Municipal Code Section 8.21.050.H.7).

Although operational-related noise impacts would be less than significant, the following mitigation measure is required to further reduce the Project's operational noise levels.

MM 4.10-4 Prior to the issuance of building permits, the City of Moreno Valley shall review building plans to ensure that the following notes are included on the plans. Contractors shall be required to comply with these notes and maintain written records of such compliance that can be inspected by the City of Moreno Valley upon request. Additionally, prior to building permit issuance, the Project's property owner(s) shall provide documentation to the City of Moreno Valley verifying that provisions are made in the buildings' lease agreements that inform tenants of the following:

a) All on-site operating equipment under the control of the building user that is used in outdoor areas (including but not limited to trucks, tractors, forklifts, and hostlers), shall be operated with properly functioning and well-maintained mufflers.

b) Speed bumps are not allowed. Quality pavement conditions shall be maintained on the property that is free of vertical deflection (i.e. speed bumps) to minimize truck noise.

4.10.9 Significance of Impacts after Mitigation

<u>Threshold c) and d): Less-than-Significant Impact</u>. Implementation of Mitigation Measures MM 4.10-1 through MM 4.10-2 would reduce the construction-related noise levels at receiver location R8 to 60.3 dBA Leq, primarily from the attenuation provided by a minimum 6-foot high temporary construction noise barrier during the Phase 1 grading and paving stages of construction. Therefore, with implementation of Mitigation Measure MM 4.10-2, impacts would be less than significant. Refer to Figure 4.10-14, *Phase I Grading and Paving-Location of Temporary Construction Barrier*.

Table 4.10-1 24-Hour Ambient Noise Level Measurements

Location[1]	Distance To Project Boundary (Feet)	Description	Hourly Noise Level (dBA Leq)[2]		CNEL
			Daytime	Nighttime	
L1	10,500'	Located at the southeast corner of Cactus Avenue and Unity Court adjacent to existing residential homes.	75.3	73.0	79.7
L2	8,330'	Located on Heacock Street north of Meyer Drive near existing residential homes.	65.9	65.6	72.1
L3	5,360'	Located at the southeast corner of 6th Street and Midway Street near an existing baseball diamond and park.	50.2	52.9	58.9
L4	5,880'	Located on Heacock Street north of Gentian Avenue adjacent to an existing residential community.	68.8	68.1	74.7
L5	2,740'	Located on Iris Avenue west of Indian Street and the Rainbow Ridge Elementary School. An existing logistics warehouse is located south of Iris Avenue.	66.2	67.0	73.1
L6	1,250'	Located north of the Project site on Indian Street near an existing residential home.	61.5	62.5	68.8
L7	90'	Located on Indian Street south of Krameria Avenue near existing residential homes and northeast of the Project site.	64.1	60.6	67.2
L8	100'	Located east of the Project site on Indian Street near existing residential homes.	60.8	60.2	66.4
L9	75'	Located east of the Project site on Indian Street, south of Superior Avenue near existing residential homes.	53.1	51.7	58.2

[1] See Figure 4.10-1 for noise measurement locations.
[2] Energy (logarithmic) average hourly levels. The long-term 24-hour measurement printouts are included in Appendix 5.2 of *Technical Appendix H*.
Daytime = 8:00 a.m. to 10:00 p.m. Nighttime = 10:01 p.m. to 7:59 p.m.
Source: (Urban Crossroads, Inc., 2016d, Table 5-1)

Table 4.10-2 Construction Reference Noise Levels

ID	Noise Source	Reference Distance From Source (Feet)	Reference Noise Levels @ Reference Distance		Reference Noise Levels @ 50 Feet[5]	
			dBA Leq	dBA Lmax	dBA Leq	dBA Lmax
1	Truck Pass-Bys & Dozer Activity[1]	30'	63.6	68.1	59.2	63.7
2	Dozer Activity[1]	30'	68.6	76.4	64.2	72.0
3	Construction Vehicle Maintenance Activities[2]	30'	71.9	74.8	67.5	70.4
4	Foundation Trenching[2]	30'	72.6	74.9	68.2	70.5
5	Rough Grading Activities[2]	30'	77.9	84.8	73.5	80.4
6	Water Truck Pass-By & Backup Alarm[3]	30'	76.3	82.3	71.9	77.9
7	Dozer Pass-By[3]	30'	84.0	89.9	79.6	85.5
8	Two Scrapers & Water Truck Pass-By[3]	30'	83.4	89.0	79.0	84.6
9	Two Scrapers Pass-By[3]	30'	83.7	86.9	79.3	82.5
10	Scraper, Water Truck, & Dozer Activity[3]	30'	79.7	87.7	75.3	83.3
11	Concrete Mixer Truck Movements[4]	50'	71.2	73.1	71.2	73.1
12	Concrete Paver Activities[4]	30'	70.0	75.7	65.6	71.3
13	Concrete Mixer Pour & Paving Activities[4]	30'	70.3	76.3	65.9	71.9
14	Concrete Mixer Backup Alarms & Air Brakes[4]	50'	71.6	78.8	71.6	78.8
15	Concrete Mixer Pour Activities[4]	50'	67.7	79.2	67.7	79.2

[1] As measured by Urban Crossroads, Inc. on 10/14/15 at a business park construction site located at the northwest corner of Barranca Parkway and Alton Parkway in the City of Irvine.
[2] As measured by Urban Crossroads, Inc. on 10/20/15 at a construction site located in Rancho Mission Viejo.
[3] As measured by Urban Crossroads, Inc. on 10/30/15 during grading operations within an industrial construction site located in the City of Ontario.
[4] Reference noise level measurements were collected from a nighttime concrete pour at an industrial construction site, located at 27334 San Bernardino Avenue in the City of Redlands, between 1:00 a.m. and 2:00 a.m. on 7/1/15.
[5] Reference noise levels are calculated at 50 feet using a drop off rate of 6 dBA per doubling of distance (point source).
Source: (Urban Crossroads, Inc., 2016d, Table 10-1)

Table 4.10-3 Reference Noise Level Measurements

Noise Source	Duration (hh:mm:ss)	Distance From Source (Feet)	Noise Source Height (Feet)	Hourly Activity (Minutes)[4]	Hourly (dBA Leq)
Truck Idle/Reefer Activity[1]	0:14:00	30'	8'	60	70.1
Entry Gate Activity[1]	0:10:00	20'	8'	60	69.2
Entry Gate Activity[2]	0:15:00	20'	8'	60	64.0
Unloading/Docking Activity[2]	0:15:00	30'	8'	60	67.2
Distribution/Warehouse Activity[3]	24:00:00	25'	8'	60	69.1

[1] Reference noise level measurements were collected from the existing operations of the Nature's Best distribution facility located at 16081 Fern Avenue in the City of Chino. The reference noise level measurements were collected on Wednesday, January 7, 2015.
[2] Reference noise level measurements were collected from the existing operations of the Motivational Fulfillment & Logistics Services distribution facility located at 6810 Bickmore Avenue in the City of Chino. The reference noise level measurements were collected on Wednesday, January 7, 2015.
[3] The reference noise level measurements include the daytime and nighttime noise levels associated with idling trucks, delivery truck activities, parking, backup alarms, refrigerated containers or reefers, as well as loading and unloading of dry goods. Reference noise level measurements were collected from the existing 24-hour operations of Veg Fresh Farms and FedEx distribution facility located at 500 East Orangethorpe Avenue in the City of Anaheim. The reference noise level measurements were collected on Tuesday, January 22, 2013.
[4] Duration (minutes within the hour) of noise activity during peak hourly conditions.
Source: (Urban Crossroads, Inc., 2016d, Table 9-1)

Table 4.10-4 Off-Site Roadway Parameters

ID	Roadway	Segment	Adjacent Planned Land Use[1]	Distance from Centerline to Nearest Adjacent Land Use (Feet)[2]	Posted Vehicle Speed (mph)
1	Graham St.	n/o Cactus Av.	Light Industrial	44'	45
2	Graham St.	s/o Cactus Av.	March Air Reserve Base	44'	45
3	Heacock St.	n/o Cactus Av.	Residential	50'	45
4	Heacock St.	s/o Cactus Av.	Residential	50'	45
5	Heacock St.	s/o John F. Kennedy Dr.	Residential	50'	50
6	Heacock St.	s/o Gentian Av.	Business Park	50'	50
7	Heacock St.	s/o Iris Av.	Business Park	50'	50
8	Heacock St.	s/o Krameria Av. (North)	Business Park	50'	50
9	Heacock St.	n/o Cardinal Av.	Business Park	50'	40
10	Heacock St.	s/o Cardinal Av.	Business Park	50'	40
11	Heacock St.	s/o San Michele Rd.	Business Park	50'	50
12	Heacock St.	s/o Nandina Av.	Open Space	50'	25
13	Indian St.	n/o Krameria Av.	Residential	44'	50
14	Indian St.	s/o Krameria Av.	Residential	44'	50
15	Cactus Av.	w/o Elsworth St.	Business Park	44'	50
16	Cactus Av.	e/o Elsworth St.	Business Park	44'	50
17	Cactus Av.	e/o Frederick St.	Light Industrial	44'	50
18	Cactus Av.	e/o Graham St.	Light Industrial	44'	50
19	Cactus Av.	e/o Heacock St.	Residential	44'	45
20	John F. Kennedy Dr.	e/o Heacock St.	Residential	50'	45
21	Krameria Av.	e/o Indian St.	Residential	44'	40
22	Harley Knox Bl.	w/o Patterson Av.	March Air Reserve Base	50'	45
23	Harley Knox Bl.	w/o Webster Av.	March Air Reserve Base	50'	45
24	Harley Knox Bl.	e/o Webster Av.	Business Park	50'	45

[1] Source: City of Moreno Valley General Plan Land Use Map, Figure 2-2.

[2] Distance to adjacent land use is based on right-of-way distances for each functional roadway classification provided in the General Plan Circulation Element.

Source: (Urban Crossroads, Inc., 2016d, Table 6-1)

Table 4.10-5 Vibration Source Levels for Construction Equipment

Equipment	Vibration Decibels (VdB) at 25 feet[1]
Small bulldozer	58
Jackhammer	79
Loaded Trucks	86
Large bulldozer	87

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.
Source: (Urban Crossroads, Inc., 2016d, Table 6-9)

Table 4.10-6 Phase I Daytime Construction Noise Levels at Receiver Locations

Receiver Location[1]	Type of Noise/ Attenuation	Daytime Construction Noise Levels (dBA Leq)						Threshold Exceeded?[3]
		Grading	Trenching	Building Const.	Arch. Coating	Paving	Peak	
R1	Equipment Noise Level[2]	67.5	61.4	67.5	67.5	67.5	39.2	No
	Distance to Construction[3]	2,743'	2,743'	2,813'	2,813'	2,743'		
	Distance Attenuation4	-22.7	-22.7	-23.0	-23.0	-22.7		
	Existing Barrier Attenuation[5]	-5.6	-5.6	-5.6	-5.6	-5.6		
	Noise Level at Receiver:	39.2	33.1	39.0	39.0	39.2		
R2	Equipment Noise Level[2]	67.5	61.4	67.5	67.5	67.5	44.5	No
	Distance to Construction[3]	2,844'	2,844'	2,987'	2,987'	2,844'		
	Distance Attenuation4	-23.1	-23.1	-23.5	-23.5	-23.1		
	Existing Barrier Attenuation[5]	0.0	0.0	0.0	0.0	0.0		
	Noise Level at Receiver:	44.5	38.4	44.0	44.0	44.5		
R3	Equipment Noise Level[2]	67.5	61.4	67.5	67.5	67.5	49.8	No
	Distance to Construction[3]	1,543'	1,543'	1,696'	1,696'	1,543'		
	Distance Attenuation4	-17.7	-17.7	-18.6	-18.6	-17.7		
	Existing Barrier Attenuation[5]	0.0	0.0	0.0	0.0	0.0		
	Noise Level at Receiver:	49.8	43.7	49.0	49.0	49.8		
R4	Equipment Noise Level[2]	67.5	61.4	67.5	67.5	67.5	54.6	No
	Distance to Construction[3]	471'	471'	678'	678'	471'		
	Distance Attenuation4	-7.4	-7.4	-10.6	-10.6	-7.4		
	Existing Barrier Attenuation[5]	-5.5	-5.5	-5.4	-5.4	-5.5		
	Noise Level at Receiver:	54.6	48.5	51.5	51.5	54.6		
R5	Equipment Noise Level[2]	67.5	61.4	67.5	67.5	67.5	64.7	No
	Distance to Construction[3]	152'	152'	392'	392'	152'		
	Distance Attenuation4	2.4	2.4	-5.8	-5.8	2.4		
	Existing Barrier Attenuation[5]	-5.2	-5.2	-5.3	-5.3	-5.2		
	Noise Level at Receiver:	64.7	58.6	56.4	56.4	64.7		
R6	Equipment Noise Level[2]	67.5	61.4	67.5	67.5	67.5	63.0	No
	Distance to Construction[3]	176'	176'	429'	429'	176'		
	Distance Attenuation4	1.1	1.1	-6.6	-6.6	1.1		
	Existing Barrier Attenuation[5]	-5.6	-5.6	-5.5	-5.5	-5.6		
	Noise Level at Receiver:	63.0	56.9	55.4	55.4	63.0		
R7	Equipment Noise Level[2]	67.5	61.4	67.5	67.5	67.5	64.5	No
	Distance to Construction[3]	153'	153'	362'	362'	153'		
	Distance Attenuation4	2.3	2.3	-5.2	-5.2	2.3		
	Existing Barrier Attenuation[5]	-5.3	-5.3	-5.4	-5.4	-5.3		
	Noise Level at Receiver:	64.5	58.4	57.0	57.0	64.5		
R8	Equipment Noise Level[2]	67.5	61.4	67.5	67.5	67.5	67.2	Yes
	Distance to Construction[3]	207'	207'	492'	492'	207'		
	Distance Attenuation4	-0.3	-0.3	-7.8	-7.8	-0.3		
	Existing Barrier Attenuation[5]	0.0	0.0	0.0	0.0	0.0		
	Noise Level at Receiver:	67.2	61.1	59.7	59.7	67.2		

[1] Noise receiver locations are shown on Figure 4.10-2.
[2] Noise level of the closest construction stage to each receiver, as provided on as provided in *Technical Appendix H*, Table 10-7, Construction Equipment Noise Level Summary at 200 Feet.
[3] Distance from the nearest point of construction activity to the nearest receiver.
[4] Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.
[5] Calculated barrier attenuation (Appendix 10.2 of *Technical Appendix H*) provided by the existing barriers and buildings in the Project study area, as shown on Figure 4.10-2.
[6] Do the peak construction noise levels exceed the 65 dBA Leq construction noise level threshold during the daytime hour?
Source: (Urban Crossroads, Inc., 2016d Table 10-8)

Table 4.10-7 Phase 2 Daytime Construction Noise Levels at Receiver Locations

Receiver Location[1]	Type of Noise/ Attenuation	Daytime Construction Noise Levels (dBA Leq)						Threshold Exceeded?[3]
		Grading	Trenching	Building Const.	Arch. Coating	Paving	Peak	
R1	Equipment Noise Level[2]	67.5	61.4	67.5	67.5	67.5	38.4	No
	Distance to Construction[3]	3,006'	3,006'	3,088'	3,088'	3,006'		
	Distance Attenuation4	-23.5	-23.5	-23.8	-23.8	-23.5		
	Existing Barrier Attenuation[5]	-5.6	-5.6	-5.5	-5.5	-5.6		
	Noise Level at Receiver:	38.4	32.3	38.2	38.2	38.4		
R2	Equipment Noise Level[2]	67.5	61.4	67.5	67.5	67.5	35.8	No
	Distance to Construction[3]	3,692'	3,692'	3,773'	3,773'	3,692'		
	Distance Attenuation4	-25.3	-25.3	-25.5	-25.5	-25.3		
	Existing Barrier Attenuation[5]	-6.4	-6.4	-6.3	-6.3	-6.4		
	Noise Level at Receiver:	35.8	29.7	35.7	35.7	35.8		
R3	Equipment Noise Level[2]	67.5	61.4	67.5	67.5	67.5	37.1	No
	Distance to Construction[3]	2,782'	2,782'	2,864'	2,864'	2,782'		
	Distance Attenuation4	-22.9	-22.9	-23.1	-23.1	-22.9		
	Existing Barrier Attenuation[5]	-7.6	-7.6	-7.5	-7.5	-7.6		
	Noise Level at Receiver:	37.1	31.0	36.9	36.9	37.1		
R4	Equipment Noise Level[2]	67.5	61.4	67.5	67.5	67.5	41.0	No
	Distance to Construction[3]	2,245'	2,245'	2,422'	2,422'	2,245'		
	Distance Attenuation4	-21.0	-21.0	-21.7	-21.7	-21.0		
	Existing Barrier Attenuation[5]	-5.5	-5.5	-8.5	-8.5	-5.5		
	Noise Level at Receiver:	41.0	34.9	37.4	37.4	41.0		
R5	Equipment Noise Level[2]	67.5	61.4	67.5	67.5	67.5	39.1	No
	Distance to Construction[3]	2,022'	2,022'	2,318'	2,318'	2,022'		
	Distance Attenuation4	-20.1	-20.1	-21.3	-21.3	-20.1		
	Existing Barrier Attenuation[5]	-8.3	-8.3	-7.9	-7.9	-8.3		
	Noise Level at Receiver:	39.1	33.0	38.3	38.3	39.1		
R6	Equipment Noise Level[2]	67.5	61.4	67.5	67.5	67.5	38.6	No
	Distance to Construction[3]	1,654'	1,654'	1,792'	1,792'	1,654'		
	Distance Attenuation4	-18.4	-18.4	-19.0	-19.0	-18.4		
	Existing Barrier Attenuation[5]	-10.6	-10.6	-10.6	-10.6	-10.6		
	Noise Level at Receiver:	38.6	32.5	37.9	37.9	38.6		
R7	Equipment Noise Level[2]	67.5	61.4	67.5	67.5	67.5	48.4	No
	Distance to Construction[3]	962'	962'	1,184'	1,184'	962'		
	Distance Attenuation4	-13.6	-13.6	-15.4	-15.4	-13.6		
	Existing Barrier Attenuation[5]	-5.5	-5.5	-5.5	-5.5	-5.5		
	Noise Level at Receiver:	48.4	42.3	46.6	46.6	48.4		
R8	Equipment Noise Level[2]	67.5	61.4	67.5	67.5	67.5	57.6	No
	Distance to Construction[3]	629'	629'	1,008'	1,008'	629'		
	Distance Attenuation4	-10.0	-10.0	-14.0	-14.0	-10.0		
	Existing Barrier Attenuation[5]	0.0	0.0	0.0	0.0	0.0		
	Noise Level at Receiver:	57.6	51.5	53.5	53.5	57.6		

[1] Noise receiver locations are shown on Figure 4.10-2.

2 Noise level of the closest construction stage to each receiver, as provided in *Technical Appendix H*, Table 10-7, Construction Equipment Noise Level Summary at 200 Feet..

[3] Distance from the nearest point of construction activity to the nearest receiver.

[4] Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

[5] Calculated barrier attenuation (Appendix 10.2 of *Technical Appendix H*) provided by the existing barriers and buildings in the Project study area, as shown on Figure 4.10-2.

[6] Do the peak construction noise levels exceed the 65 dBA Leq construction noise level threshold during the daytime hours?

Source: (Urban Crossroads, Inc., 2016d, Table 10-9)

Table 4.10-8 Phase I Nighttime Construction Noise Levels at Receiver Locations

Receiver Location[1]	Type of Noise/ Attenuation	Nighttime Construction Noise Levels (dBA Leq)			Threshold Exceeded?[3]
		Building Const.	Paving	Peak	
R1	Equipment Noise Level[2]	59.6	59.6	31.2	No
	Distance to Construction[3]	2,813'	2,743'		
	Distance Attenuation4	-23.0	-22.7		
	Existing Barrier Attenuation[5]	-5.6	-5.6		
	Noise Level at Receiver:	31.0	31.2		
R2	Equipment Noise Level[2]	59.6	59.6	36.5	No
	Distance to Construction[3]	2,987'	2,844'		
	Distance Attenuation4	-23.5	-23.1		
	Existing Barrier Attenuation[5]	0.0	0.0		
	Noise Level at Receiver:	36.1	36.5		
R3	Equipment Noise Level[2]	59.6	59.6	41.8	No
	Distance to Construction[3]	1,696'	1,543'		
	Distance Attenuation4	-18.6	-17.7		
	Existing Barrier Attenuation[5]	0.0	0.0		
	Noise Level at Receiver:	41.0	41.8		
R4	Equipment Noise Level[2]	59.6	59.6	46.6	No
	Distance to Construction[3]	678'	471'		
	Distance Attenuation4	-10.6	-7.4		
	Existing Barrier Attenuation[5]	-5.4	-5.5		
	Noise Level at Receiver:	43.6	46.6		
R5	Equipment Noise Level[2]	59.6	59.6	56.7	No
	Distance to Construction[3]	392'	152'		
	Distance Attenuation4	-5.8	2.4		
	Existing Barrier Attenuation[5]	-5.3	-5.2		
	Noise Level at Receiver:	48.4	56.7		
R6	Equipment Noise Level[2]	59.6	59.6	55.1	No
	Distance to Construction[3]	429'	176'		
	Distance Attenuation4	-6.6	1.1		
	Existing Barrier Attenuation[5]	-5.5	-5.6		
	Noise Level at Receiver:	47.4	55.1		
R7	Equipment Noise Level[2]	59.6	59.6	56.6	No
	Distance to Construction[3]	362'	153'		
	Distance Attenuation4	-5.2	2.3		
	Existing Barrier Attenuation[5]	-5.4	-5.3		
	Noise Level at Receiver:	49.0	56.6		
R8	Equipment Noise Level[2]	59.6	59.6	59.3	No
	Distance to Construction[3]	492'	207'		
	Distance Attenuation4	-7.8	-0.3		
	Existing Barrier Attenuation[5]	0.0	0.0		
	Noise Level at Receiver:	51.7	59.3		

[1] Noise receiver locations are shown on Figure 4.10-2.

[2] Noise level of the closest construction stage to each receiver, as provided on as provided in *Technical Appendix H*, Table 10-7, Construction Equipment Noise Level Summary at 200 Feet.

[3] Distance from the nearest point of construction activity to the nearest receiver.

[4] Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

[5] Calculated barrier attenuation (Appendix 10.2 of *Technical Appendix H)* provided by the existing barriers and buildings in the Project study area, as shown on Figure 4.10-2.

[6] Do the peak construction noise levels exceed the 65 dBA Leq construction noise level threshold during the daytime hours?

Source: (Urban Crossroads, Inc., 2016d, Table 10-10)

Table 4.10-9 Phase II Nighttime Construction Noise Levels at Receiver Locations

Receiver Location[1]	Type of Noise/ Attenuation	Nighttime Construction Noise Levels (dBA Leq)			Threshold Exceeded?[3]
		Building Const.	Paving	Peak	
R1	Equipment Noise Level[2]	59.6	59.6	30.4	No
	Distance to Construction[3]	3,088'	3,006'		
	Distance Attenuation4	-23.8	-23.5		
	Existing Barrier Attenuation[5]	-5.5	-5.6		
	Noise Level at Receiver:	30.3	30.4		
R2	Equipment Noise Level[2]	59.6	59.6	27.8	No
	Distance to Construction[3]	3,773'	3,692'		
	Distance Attenuation4	-25.5	-25.3		
	Existing Barrier Attenuation[5]	-6.3	-6.4		
	Noise Level at Receiver:	27.7	27.8		
R3	Equipment Noise Level[2]	59.6	59.6	29.1	No
	Distance to Construction[3]	2,864'	2,782'		
	Distance Attenuation4	-23.1	-22.9		
	Existing Barrier Attenuation[5]	-7.5	-7.6		
	Noise Level at Receiver:	28.9	29.1		
R4	Equipment Noise Level[2]	59.6	59.6	33.1	No
	Distance to Construction[3]	2,422'	2,245'		
	Distance Attenuation4	-21.7	-21.0		
	Existing Barrier Attenuation[5]	-8.5	-5.5		
	Noise Level at Receiver:	29.4	33.1		
R5	Equipment Noise Level[2]	59.6	59.6	31.2	No
	Distance to Construction[3]	2,318'	2,022'		
	Distance Attenuation4	-21.3	-20.1		
	Existing Barrier Attenuation[5]	-7.9	-8.3		
	Noise Level at Receiver:	30.4	31.2		
R6	Equipment Noise Level[2]	59.6	59.6	30.6	No
	Distance to Construction[3]	1,792'	1,654'		
	Distance Attenuation4	-19.0	-18.4		
	Existing Barrier Attenuation[5]	-10.6	-10.6		
	Noise Level at Receiver:	29.9	30.6		
R7	Equipment Noise Level[2]	59.6	59.6	40.4	No
	Distance to Construction[3]	1,184'	962'		
	Distance Attenuation4	-15.4	-13.6		
	Existing Barrier Attenuation[5]	-5.5	-5.5		
	Noise Level at Receiver:	38.6	40.4		
R8	Equipment Noise Level[2]	59.6	59.6	49.6	No
	Distance to Construction[3]	1,008'	629'		
	Distance Attenuation4	-14.0	-10.0		
	Existing Barrier Attenuation[5]	0.0	0.0		
	Noise Level at Receiver:	45.5	49.6		

[1] Noise receiver locations are shown on Figure 4.10-2.
[2] Noise level of the closest construction stage to each receiver, as provided on as provided in *Technical Appendix H*, Table 10-7, Construction Equipment Noise Level Summary at 200 Feet..
[3] Distance from the nearest point of construction activity to the nearest receiver.
[4] Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.
[5] Calculated barrier attenuation (Appendix 10.2 of *Technical Appendix H*) provided by the existing barriers and buildings in the Project study area, as shown on Figure 4.10-2
[6] Do the peak construction noise levels exceed the 65 dBA Leq construction noise level threshold during the daytime hours?
Source: (Urban Crossroads, Inc., 2016d, Table 10-11)

Table 4.10-10 Operational Noise Level Projections at Receiver Locations

Receiver Location[1]	Project Noise (dBA Leq)[2]	Distance From Source To Receiver (Feet)[3]	Attenuation (dBA Leq)		Noise Level At Receiver Locations (dBA Leq)[6]
			Distance[4]	Existing Noise Barriers[5]	
R1	70.1	3,042'	-40.1	-5.6	24.4
R2	70.1	3,098'	-40.3	0.0	29.8
R3	70.1	1,792'	-35.5	0.0	34.6
R4	70.1	726'	-27.7	-5.5	36.9
R5	70.1	307'	-20.2	-5.4	44.5
R6	70.1	264'	-18.9	-5.4	45.8
R7	70.1	241'	-18.1	-5.4	46.6
R8	70.1	518'	-24.7	0.0	45.4

[1] See Exhibit 9-A for the noise receiver and noise source locations.
[2] Worst-case Project-only reference noise level from Table 4.10-3.
[3] Estimated distances to nearest loading dock activities.
[4] Noise levels diminish at a rate 6 dBA per doubling of distance and a reference distance of 30 feet.
[5] Calculated noise attenuation provided by the recommended barriers.
[6] Calculated Project stationary source noise levels (Appendix 9.2 of *Technical Appendix H*).
Source: (Urban Crossroads, Inc., 2016d, Table 9-3)

Table 4.10-11 Daytime Operational Noise Level Contributions

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Contribution[6]	Threshold Exceeded?[7]
R1	24.4	L5	66.2	66.2	0.0	No
R2	29.8	L5	66.2	66.2	0.0	No
R3	34.6	L6	61.5	61.5	0.0	No
R4	36.9	L7	64.1	64.1	0.0	No
R5	44.5	L7	64.1	64.1	0.0	No
R6	45.8	L8	60.8	60.9	0.1	No
R7	46.6	L9	53.1	54.0	0.9	No
R8	45.4	L9	53.1	53.8	0.7	No

[1] See Figure 4.10-2 for the sensitive receiver locations.
[2] Total Project operational noise levels.
[3] Reference noise level measurement locations as shown on Figure 4.10-1.
[4] Observed daytime ambient noise levels.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance Criteria.
Source: (Urban Crossroads, Inc., 2016d, Table 9-4)

Table 4.10-12 Nighttime Operation Noise Level Contributions

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Contribution[6]	Threshold Exceeded?[7]
R1	24.4	L5	67.0	67.0	0.0	No
R2	29.8	L5	67.0	67.0	0.0	No
R3	34.6	L6	62.5	62.5	0.0	No
R4	36.9	L7	60.6	60.6	0.0	No
R5	44.5	L7	60.6	60.7	0.1	No
R6	45.8	L8	60.2	60.4	0.2	No
R7	46.6	L9	51.7	52.9	1.2	No
R8	45.4	L9	51.7	52.6	0.9	No

[1] See Figure 4.10-2 for the sensitive receiver locations.
[2] Total Project operational noise levels.
[3] Reference noise level measurement locations.
[4] Observed nighttime ambient noise levels.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance Criteria.
Source: (Urban Crossroads, Inc., 2016d, Table 9-5)

Table 4.10-13 Existing plus Project Off-Site Traffic Noise Impact – Without Indian Street Bridge

ID	Road	Segment	Adjacent Planned Land Use[1]	CNEL at Adjacent Land Use (dBA)[2]			Threshold Exceeded?[3]	
				No Project	With Project	Project Addition	Noise-Sensitive	Non Noise-Sensitive
1	Graham St.	n/o Cactus Av.	Light Industrial	64.8	64.8	0.0	No	No
2	Graham St.	s/o Cactus Av.	March Air Reserve Base	65.7	65.7	0.0	No	No
3	Heacock St.	n/o Cactus Av.	Residential	68.8	68.8	0.0	No	No
4	Heacock St.	s/o Cactus Av.	Residential	71.1	71.4	0.3	No	No
5	Heacock St.	s/o John F. Kennedy Dr.	Residential	71.3	71.7	0.4	No	No
6	Heacock St.	s/o Gentian Av.	Business Park	70.2	70.7	0.5	No	No
7	Heacock St.	s/o Iris Av.	Business Park	67.5	68.3	0.8	No	No
8	Heacock St.	s/o Krameria Av. (North)	Business Park	67.2	67.8	0.6	No	No
9	Heacock St.	n/o Cardinal Av.	Business Park	65.6	65.9	0.3	No	No
10	Heacock St.	s/o Cardinal Av.	Business Park	64.8	65.3	0.5	No	No
11	Heacock St.	s/o San Michele Rd.	Business Park	63.2	63.2	0.0	No	No
12	Heacock St.	s/o Nandina Av.	Open Space	45.2	45.2	0.0	No	No
13	Indian St.	n/o Krameria Av.	Residential	64.1	64.2	0.1	No	No
14	Indian St.	s/o Krameria Av.	Residential	60.7	60.9	0.2	No	No
15	Cactus Av.	w/o Elsworth St.	Business Park	73.3	73.5	0.2	No	No
16	Cactus Av.	e/o Elsworth St.	Business Park	73.1	73.3	0.2	No	No
17	Cactus Av.	e/o Frederick St.	Light Industrial	73.5	73.7	0.2	No	No
18	Cactus Av.	e/o Graham St.	Light Industrial	73.5	73.7	0.2	No	No
19	Cactus Av.	e/o Heacock St.	Residential	69.9	70.0	0.1	No	No
20	John F. Kennedy Dr.	e/o Heacock St.	Residential	66.6	66.6	0.0	No	No
21	Krameria Av.	e/o Indian St.	Residential	61.6	61.8	0.2	No	No
22	Harley Knox Bl.	w/o Patterson Av.	March Air Reserve Base	68.6	68.8	0.2	No	No
23	Harley Knox Bl.	w/o Webster Av.	March Air Reserve Base	66.6	67.0	0.4	No	No
24	Harley Knox Bl.	e/o Webster Av.	Business Park	66.6	67.0	0.4	No	No

[1] Source: City of Moreno Valley General Plan Land Use Map, Figure 2-2.
[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.
[3] Significance Criteria.
Source: (Urban Crossroads, Inc., 2016d, Table 7-8)

Table 4.10-14 Existing plus Project Off-Site Traffic Noise Impacts – With Indian Street Bridge

ID	Road	Segment	Adjacent Planned Land Use[1]	CNEL at Adjacent Land Use (dBA)[2]			Threshold Exceeded?[3]	
				No Project	With Project	Project Addition	Noise-Sensitive	Non Noise-Sensitive
1	Graham St.	n/o Cactus Av.	Light Industrial	64.8	64.8	0.0	No	No
2	Graham St.	s/o Cactus Av.	March Air Reserve Base	65.7	65.7	0.0	No	No
3	Heacock St.	n/o Cactus Av.	Residential	68.8	68.8	0.0	No	No
4	Heacock St.	s/o Cactus Av.	Residential	71.1	71.3	0.2	No	No
5	Heacock St.	s/o John F. Kennedy Dr.	Residential	71.3	71.6	0.3	No	No
6	Heacock St.	s/o Gentian Av.	Business Park	70.2	70.6	0.4	No	No
7	Heacock St.	s/o Iris Av.	Business Park	67.5	68.1	0.6	No	No
8	Heacock St.	s/o Krameria Av. (North)	Business Park	67.2	67.4	0.2	No	No
9	Heacock St.	n/o Cardinal Av.	Business Park	65.6	65.9	0.3	No	No
10	Heacock St.	s/o Cardinal Av.	Business Park	64.8	65.3	0.5	No	No
11	Heacock St.	s/o San Michele Rd.	Business Park	63.2	63.2	0.0	No	No
12	Heacock St.	s/o Nandina Av.	Open Space	45.2	45.2	0.0	No	No
13	Indian St.	n/o Krameria Av.	Residential	64.1	64.2	0.1	No	No
14	Indian St.	s/o Krameria Av.	Residential	60.7	60.9	0.2	No	No
15	Cactus Av.	w/o Elsworth St.	Business Park	73.3	73.4	0.1	No	No
16	Cactus Av.	e/o Elsworth St.	Business Park	73.1	73.2	0.1	No	No
17	Cactus Av.	e/o Frederick St.	Light Industrial	73.5	73.6	0.1	No	No
18	Cactus Av.	e/o Graham St.	Light Industrial	73.5	73.6	0.1	No	No
19	Cactus Av.	e/o Heacock St.	Residential	69.9	70.0	0.1	No	No
20	John F. Kennedy Dr.	e/o Heacock St.	Residential	66.6	66.6	0.0	No	No
21	Krameria Av.	e/o Indian St.	Residential	61.6	61.8	0.2	No	No
22	Harley Knox Bl.	w/o Patterson Av.	March Air Reserve Base	68.6	68.9	0.3	No	No
23	Harley Knox Bl.	w/o Webster Av.	March Air Reserve Base	66.6	67.2	0.6	No	No
24	Harley Knox Bl.	e/o Webster Av.	Business Park	66.6	67.2	0.6	No	No

[1] Source: City of Moreno Valley General Plan Land Use Map, Figure 2-2.
[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.
[3] Significance Criteria.
Source: (Urban Crossroads, Inc., 2016d, Table 7-9)

Table 4.10-15 Opening Year (2020) Off-Site Project-Related Traffic Noise Impacts

ID	Road	Segment	Adjacent Planned Land Use[1]	CNEL at Adjacent Land Use (dBA)[2]			Threshold Exceeded?[3]	
				No Project	With Project	Project Addition	Noise-Sensitive	Non Noise-Sensitive
1	Graham St.	n/o Cactus Av.	Light Industrial	66.7	66.7	0.0	No	No
2	Graham St.	s/o Cactus Av.	March Air Reserve Base	68.0	68.0	0.0	No	No
3	Heacock St.	n/o Cactus Av.	Residential	69.1	69.1	0.0	No	No
4	Heacock St.	s/o Cactus Av.	Residential	71.4	71.7	0.3	No	No
5	Heacock St.	s/o John F. Kennedy Dr.	Residential	71.9	72.2	0.3	No	No
6	Heacock St.	s/o Gentian Av.	Business Park	70.9	71.3	0.4	No	No
7	Heacock St.	s/o Iris Av.	Business Park	70.3	70.7	0.4	No	No
8	Heacock St.	s/o Krameria Av. (North)	Business Park	70.8	71.1	0.3	No	No
9	Heacock St.	n/o Cardinal Av.	Business Park	69.1	69.3	0.2	No	No
10	Heacock St.	s/o Cardinal Av.	Business Park	68.8	69.0	0.2	No	No
11	Heacock St.	s/o San Michele Rd.	Business Park	64.2	64.2	0.0	No	No
12	Heacock St.	s/o Nandina Av.	Open Space	45.2	45.2	0.0	No	No
13	Indian St.	n/o Krameria Av.	Residential	65.7	65.8	0.1	No	No
14	Indian St.	s/o Krameria Av.	Residential	61.0	61.1	0.1	No	No
15	Cactus Av.	w/o Elsworth St.	Business Park	75.4	75.5	0.1	No	No
16	Cactus Av.	e/o Elsworth St.	Business Park	75.5	75.6	0.1	No	No
17	Cactus Av.	e/o Frederick St.	Light Industrial	75.6	75.7	0.1	No	No
18	Cactus Av.	e/o Graham St.	Light Industrial	74.7	74.9	0.2	No	No
19	Cactus Av.	e/o Heacock St.	Residential	72.0	72.0	0.0	No	No
20	John F. Kennedy Dr.	e/o Heacock St.	Residential	67.4	67.4	0.0	No	No
21	Krameria Av.	e/o Indian St.	Residential	62.8	63.0	0.2	No	No
22	Harley Knox Bl.	w/o Patterson Av.	March Air Reserve Base	71.5	71.6	0.1	No	No
23	Harley Knox Bl.	w/o Webster Av.	March Air Reserve Base	70.4	70.6	0.2	No	No
24	Harley Knox Bl.	e/o Webster Av.	Business Park	70.3	70.5	0.2	No	No

[1] Source: City of Moreno Valley General Plan Land Use Map, Figure 2-2.

[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.

[3] Significance Criteria.

Source: (Urban Crossroads, Inc., 2016d, Table 7-10)

Table 4.10-16 General Plan Buildout (2035) Project-Related Traffic Noise Impacts

ID	Road	Segment	Adjacent Planned Land Use[1]	CNEL at Adjacent Land Use (dBA)[2]			Threshold Exceeded?[3]	
				No Project	With Project	Project Addition	Noise-Sensitive	Non Noise-Sensitive
1	Graham St.	n/o Cactus Av.	Light Industrial	68.2	68.2	0.0	No	No
2	Graham St.	s/o Cactus Av.	March Air Reserve Base	70.0	70.3	0.3	No	No
3	Heacock St.	n/o Cactus Av.	Residential	69.8	69.9	0.1	No	No
4	Heacock St.	s/o Cactus Av.	Residential	71.6	71.8	0.2	No	No
5	Heacock St.	s/o John F. Kennedy Dr.	Residential	72.4	72.6	0.2	No	No
6	Heacock St.	s/o Gentian Av.	Business Park	71.7	71.9	0.2	No	No
7	Heacock St.	s/o Iris Av.	Business Park	71.6	71.8	0.2	No	No
8	Heacock St.	s/o Krameria Av. (North)	Business Park	71.7	71.8	0.1	No	No
9	Heacock St.	n/o Cardinal Av.	Business Park	69.9	70.0	0.1	No	No
10	Heacock St.	s/o Cardinal Av.	Business Park	69.9	70.1	0.2	No	No
11	Heacock St.	s/o San Michele Rd.	Business Park	68.9	69.2	0.3	No	No
12	Heacock St.	s/o Nandina Av.	Open Space	61.3	61.6	0.3	No	No
13	Indian St.	n/o Krameria Av.	Residential	69.2	69.3	0.1	No	No
14	Indian St.	s/o Krameria Av.	Residential	70.7	70.7	0.0	No	No
15	Cactus Av.	w/o Elsworth St.	Business Park	76.3	76.4	0.1	No	No
16	Cactus Av.	e/o Elsworth St.	Business Park	75.8	75.8	0.0	No	No
17	Cactus Av.	e/o Frederick St.	Light Industrial	75.7	75.8	0.1	No	No
18	Cactus Av.	e/o Graham St.	Light Industrial	75.0	75.1	0.1	No	No
19	Cactus Av.	e/o Heacock St.	Residential	73.4	73.4	0.0	No	No
20	John F. Kennedy Dr.	e/o Heacock St.	Residential	69.0	69.0	0.0	No	No
21	Krameria Av.	e/o Indian St.	Residential	65.0	65.1	0.1	No	No
22	Harley Knox Bl.	w/o Patterson Av.	March Air Reserve Base	72.6	72.8	0.2	No	No
23	Harley Knox Bl.	w/o Webster Av.	March Air Reserve Base	72.9	73.1	0.2	No	No
24	Harley Knox Bl.	e/o Webster Av.	Business Park	73.0	73.0	0.0	No	No

[1] Source: City of Moreno Valley General Plan Land Use Map, Figure 2-2.
[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.
[3] Significance Criteria.
Source: (Urban Crossroads, Inc., 2016d, Table 7-11)

Table 4.10-17 Operational Noise Level Projections at a Distance of 200 Feet

Noise Source	Reference Noise Level (dBA Leq)	Distance Attenuation at 200 feet (dBA Leq)[1]	Hourly Activity (Minutes)[2]	Hourly Activity Adjustment (dBA Leq)	Calculated Noise Level at 200 feet (dBA Leq)
Truck Idle/Reefer Activity	70.1	-16.5	60	0.0	53.6

[1] Drop off rate of 6 dBA per doubling of distance (point source).
[2] Duration (minutes within the hour) of noise activity during peak hourly conditions.
Source: (Urban Crossroads, Inc., 2016d, Table 9-2)

Table 4.10-18 Construction Equipment Vibration Levels

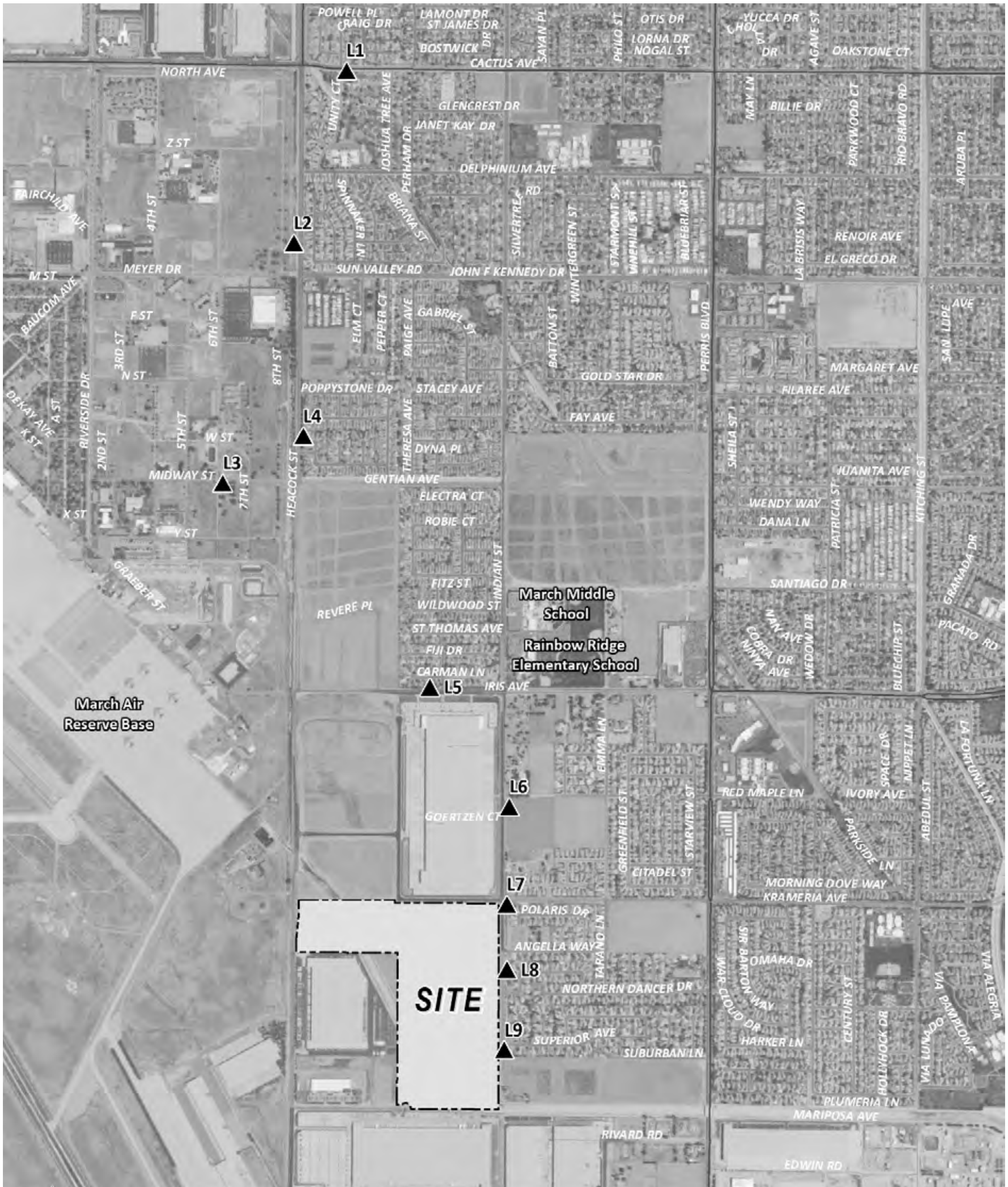
Receiver[1]	Distance To Construction Activity (Feet)	Receiver Vibration Levels (VdB)[2]					Threshold Exceeded?[3]
		Small Bulldozer	Jackhammer	Loaded Trucks	Large Bulldozer	Peak Vibration	
R1	2,744'	0.0	17.8	24.8	25.8	25.8	No
R2	2,853'	0.0	17.3	24.3	25.3	25.3	No
R3	1,544'	4.3	25.3	32.3	33.3	33.3	No
R4	471'	19.7	40.7	47.7	48.7	48.7	No
R5	133'	36.2	57.2	64.2	65.2	65.2	No
R6	161'	33.7	54.7	61.7	62.7	62.7	No
R7	144'	35.2	56.2	63.2	64.2	64.2	No
R8	101'	39.8	60.8	67.8	68.8	68.8	No

[1] Noise receiver locations.
[2] Based on the Vibration Source Levels of Construction Equipment included on as provided in *Technical Appendix H*, Table 10-7, Construction Equipment Noise Level Summary at 200 Feet..
[3] Does the peak vibration exceed the FTA maximum acceptable vibration standard of 80 (VdB)?
Source: (Urban Crossroads, Inc., 2016d, Table 10-13)

Table 4.10-19 General Plan Buildout (2035) Off-Site Cumulative Traffic Noise Impacts

ID	Road	Segment	CNEL at Adjacent Land Use[1]		Cumulative-Related			Project-Related				Cumulatively Considerable Project Contributions?		
			Existing Without Project	Year 2035 Without Project	Cumulative Increase From Existing[2]	Threshold Exceeded?[3] Noise-Sensitive	Threshold Exceeded?[3] Non-Noise-Sensitive	Year 2035 With Project[1]	Project Increase From Existing[4]	Threshold Exceeded?[3] Noise-Sensitive	Threshold Exceeded?[3] Non-Noise-Sensitive	Project Contr.[5]	Cumulatively Considerable?[6] Noise-Sensitive	Cumulatively Considerable?[6] Non-Noise-Sensitive
1	Graham St.	n/o Cactus Av.	64.8	68.2	3.4	No	No	68.2	3.4	No	No	0.0	No	No
2	Graham St.	s/o Cactus Av.	65.7	70.0	4.3	No	No	70.3	4.6	No	No	0.3	No	No
3	Heacock St.	n/o Cactus Av.	68.8	69.8	1.0	No	No	69.9	1.1	No	No	0.1	No	No
4	Heacock St.	s/o Cactus Av.	71.1	71.6	0.5	No	No	71.8	0.7	No	No	0.2	No	No
5	Heacock St.	s/o John F. Kennedy Dr.	71.3	72.4	1.1	No	No	72.6	1.3	No	No	0.2	No	No
6	Heacock St.	s/o Gentian Av.	70.2	71.7	1.5	No	No	71.9	1.7	No	No	0.2	No	No
7	Heacock St.	s/o Iris Av.	67.5	71.6	4.1	No	No	71.8	4.3	No	No	0.2	No	No
8	Heacock St.	s/o Krameria Av. (North)	67.2	71.7	4.5	No	No	71.8	4.6	No	No	0.1	No	No
9	Heacock St.	n/o Cardinal Av.	65.6	69.9	4.3	No	No	70.0	4.4	No	No	0.1	No	No
10	Heacock St.	s/o Cardinal Av.	64.8	69.9	5.1	No	Yes	70.1	5.3	No	Yes	0.2	No	No
11	Heacock St.	s/o San Michele Rd.	63.2	68.9	5.7	No	Yes	69.2	6.0	No	Yes	0.3	No	No
12	Heacock St.	s/o Nandina Av.	45.2	61.3	16.1	No	Yes	61.6	16.4	No	Yes	0.3	No	No
13	Indian St.	n/o Krameria Av.	64.1	69.2	5.1	Yes	No	69.3	5.2	Yes	No	0.1	No	No
14	Indian St.	s/o Krameria Av.	60.7	70.7	10.0	Yes	No	70.7	10.0	Yes	No	0.0	No	No
15	Cactus Av.	w/o Elsworth St.	73.3	76.3	3.0	No	Yes	76.4	3.1	No	Yes	0.1	No	No
16	Cactus Av.	e/o Elsworth St.	73.1	75.8	2.7	No	No	75.8	2.7	No	No	0.0	No	No
17	Cactus Av.	e/o Frederick St.	73.5	75.7	2.2	No	No	75.8	2.3	No	No	0.1	No	No
18	Cactus Av.	e/o Graham St.	73.5	75.0	1.5	No	No	75.1	1.6	No	No	0.1	No	No
19	Cactus Av.	e/o Heacock St.	69.9	73.4	3.5	Yes	No	73.4	3.5	Yes	No	0.0	No	No
20	John F. Kennedy Dr.	e/o Heacock St.	66.6	69.0	2.4	Yes	No	69.0	2.4	No	No	0.0	No	No
21	Krameria Av.	e/o Indian St.	61.6	65.0	3.4	Yes	No	65.1	3.5	Yes	No	0.1	No	No
22	Harley Knox Bl.	w/o Patterson Av.	68.6	72.6	4.0	No	No	72.8	4.2	No	No	0.2	No	No
23	Harley Knox Bl.	w/o Webster Av.	66.6	72.9	6.3	No	Yes	73.1	6.5	No	Yes	0.2	No	No
24	Harley Knox Bl.	e/o Webster Av.	66.6	73.0	6.4	No	Yes	73.0	6.4	No	Yes	0.0	No	No

[1] Source: City of Moreno Valley General Plan Land Use Map, Figure 2-2.
[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.
[3] Significance Criteria.
Source: (Urban Crossroads, Inc., 2016d, Table 7-12)



LEGEND:

▲ Noise Measurement Locations

N

Source: Urban Crossroads (11-23-15)

Figure 4.10-1

NOT TO SCALE

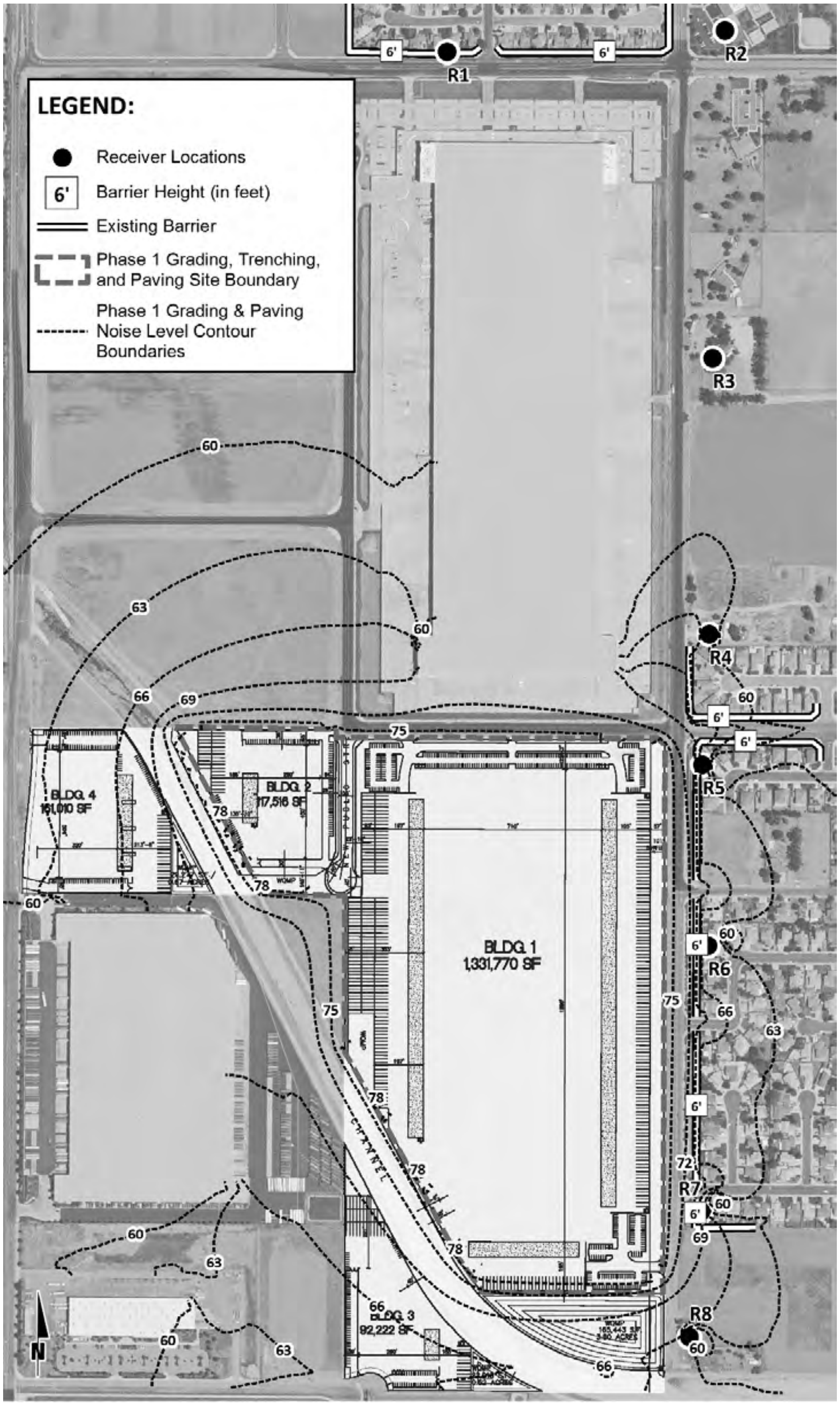
NOISE MEASUREMENT LOCATIONS

Source: Urban Crossroads (11-23-15)

Figure 4.10-2

NOISE RECEIVER LOCATIONS

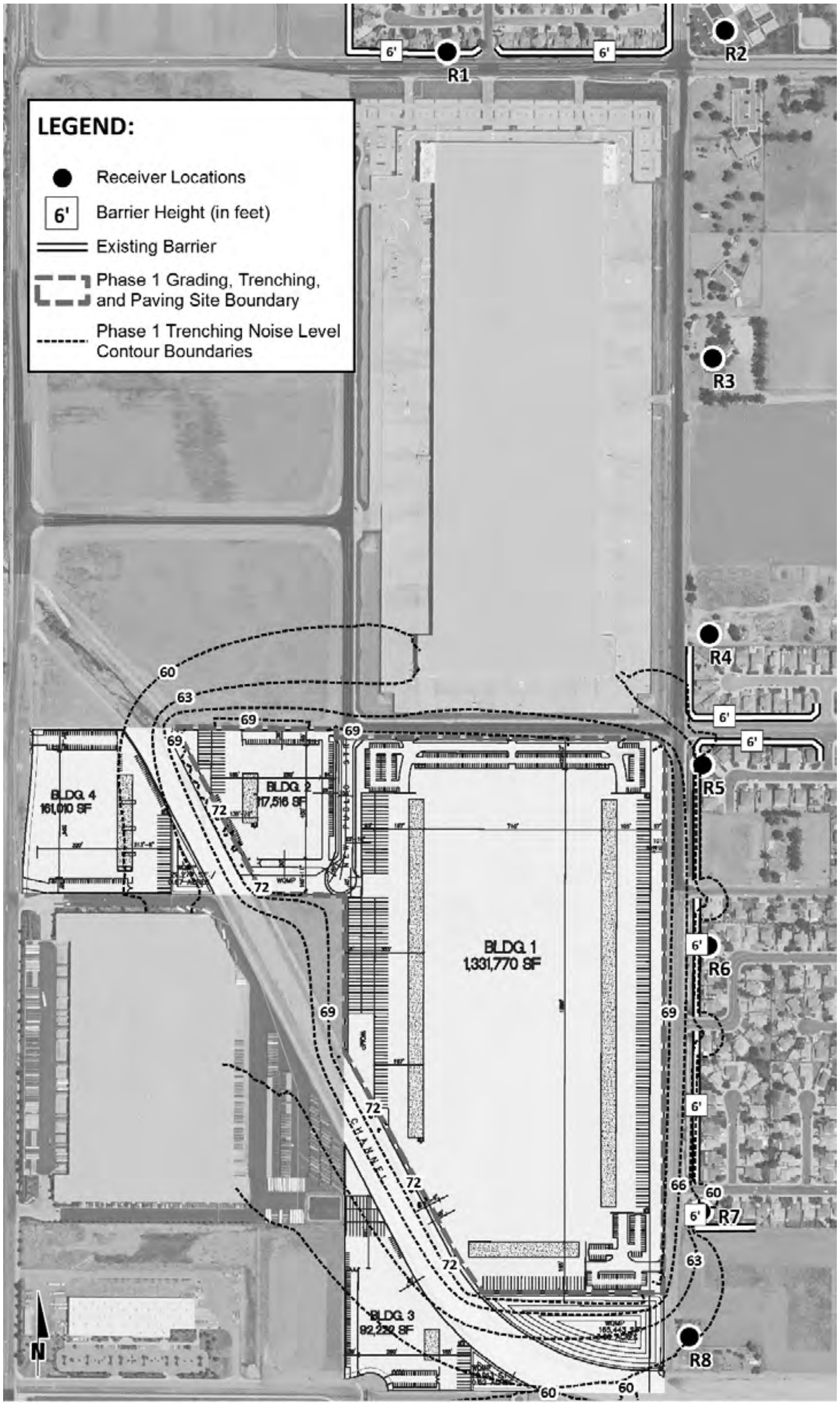
NOT TO SCALE



Source: Urban Crossroads (11-23-15)

NOT TO SCALE

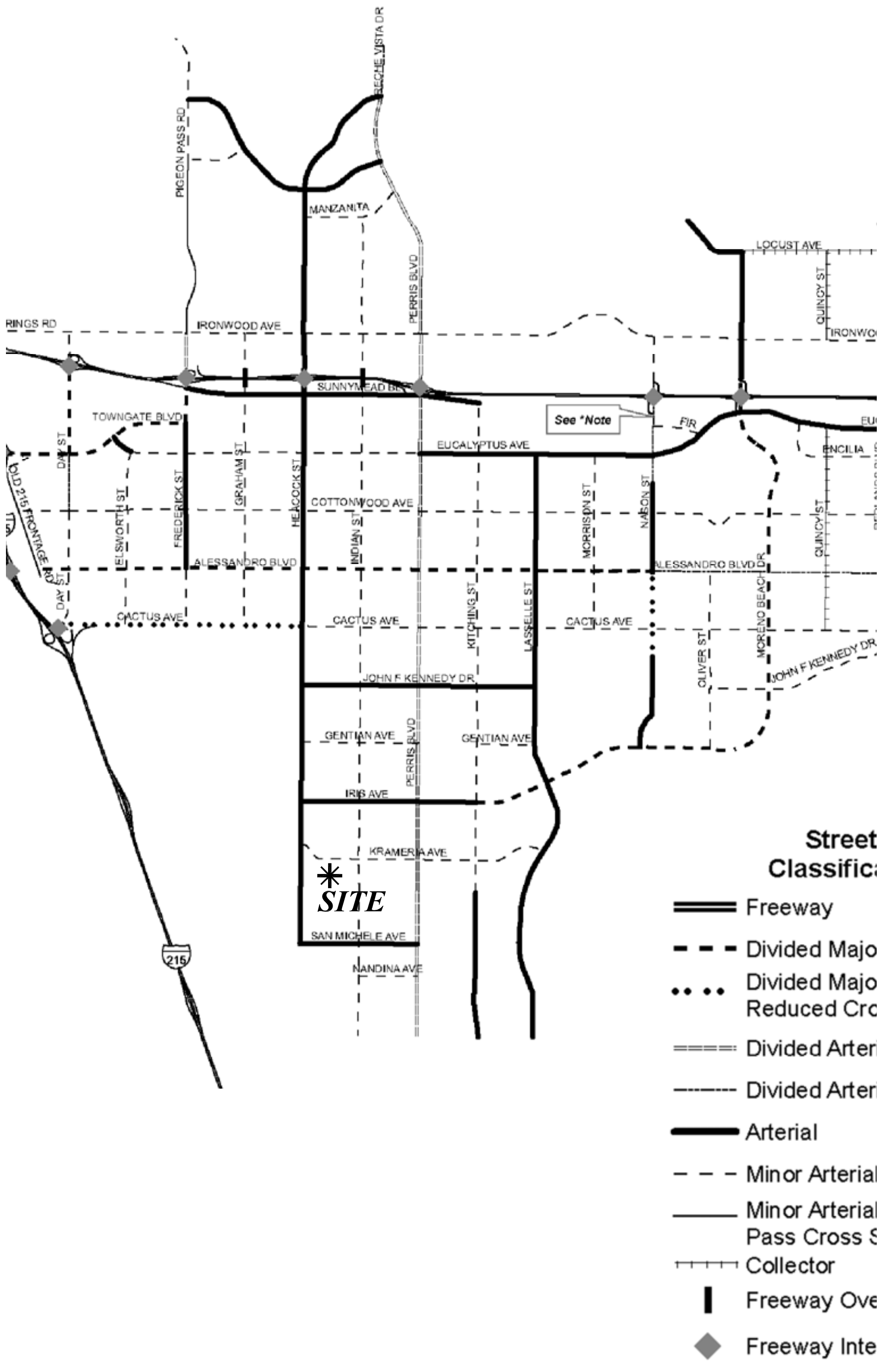
Figure 4.10-3
PHASE 1 GRADING AND PAVING EQUIPMENT NOISE CONTOURS



Source: Urban Crossroads (11-23-15)

NOT TO SCALE

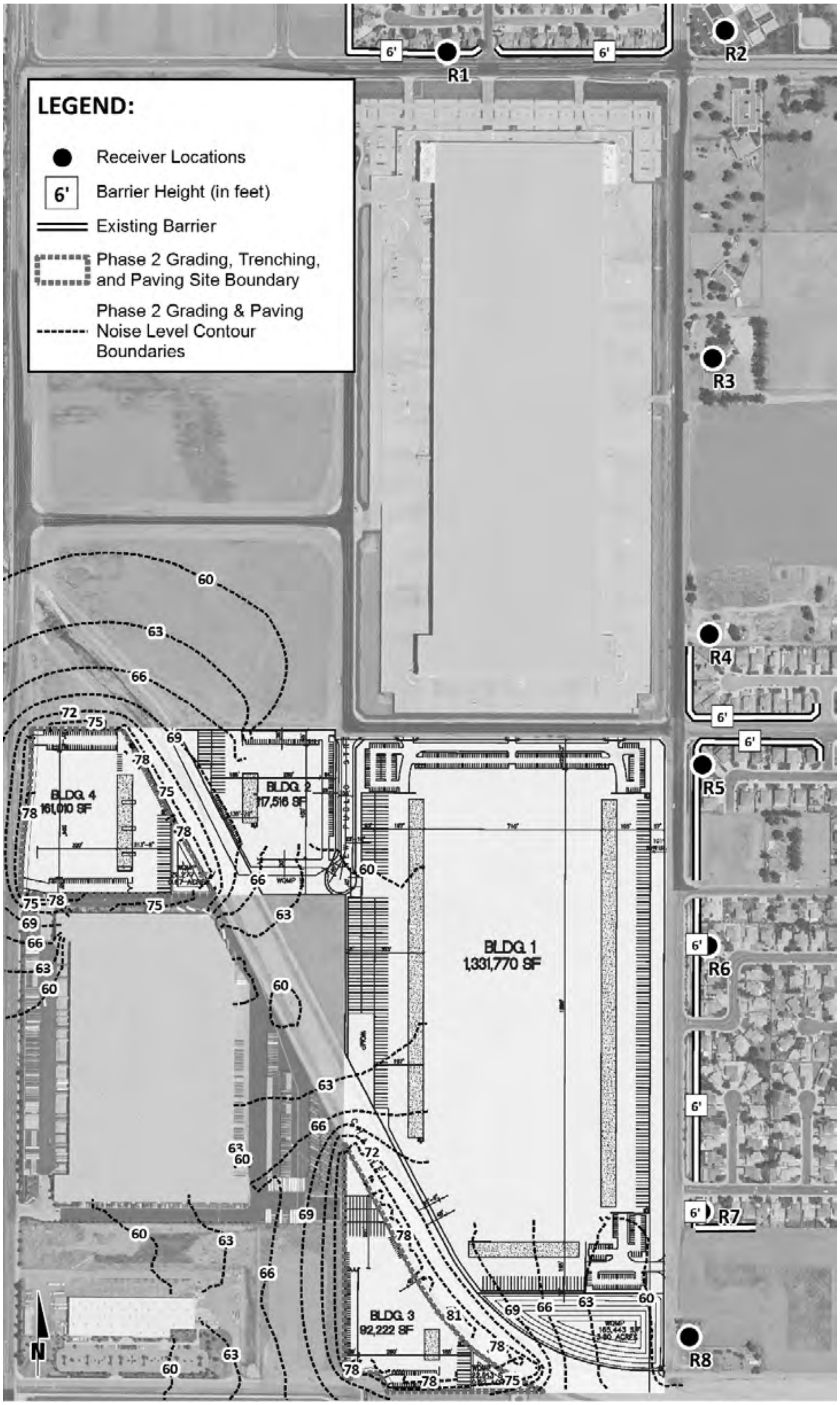
Figure 4.10-4
PHASE 1 TRENCHING EQUIPMENT NOISE CONTOURS



Source: Urban Crossroads (11-23-15)

NOT TO SCALE

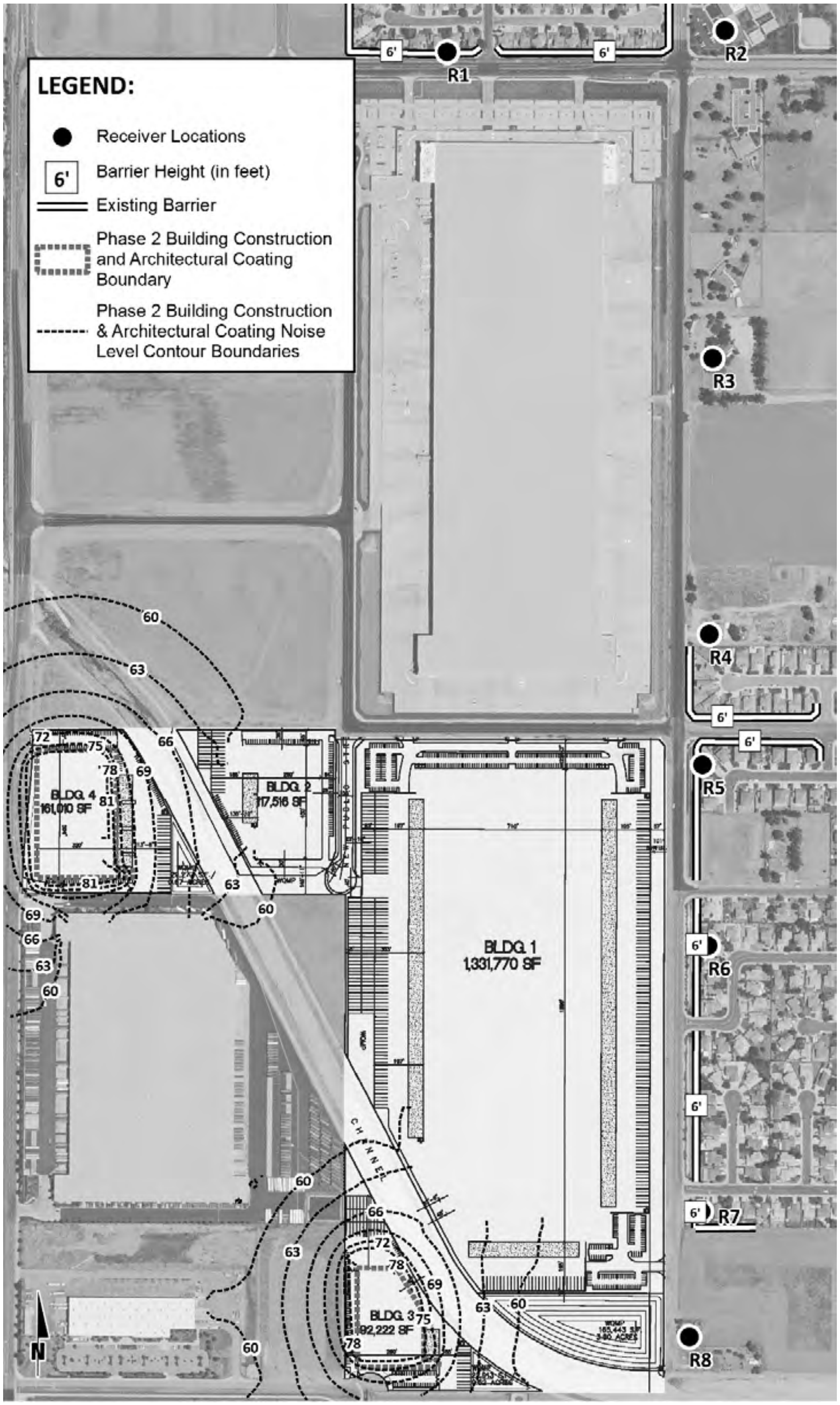
Figure 4.10-5
PHASE 1 BUILDING CONSTRUCTION AND
ARCHITECTURAL COATING NOISE CONTOURS



Source: Urban Crossroads (11-23-15)

NOT TO SCALE

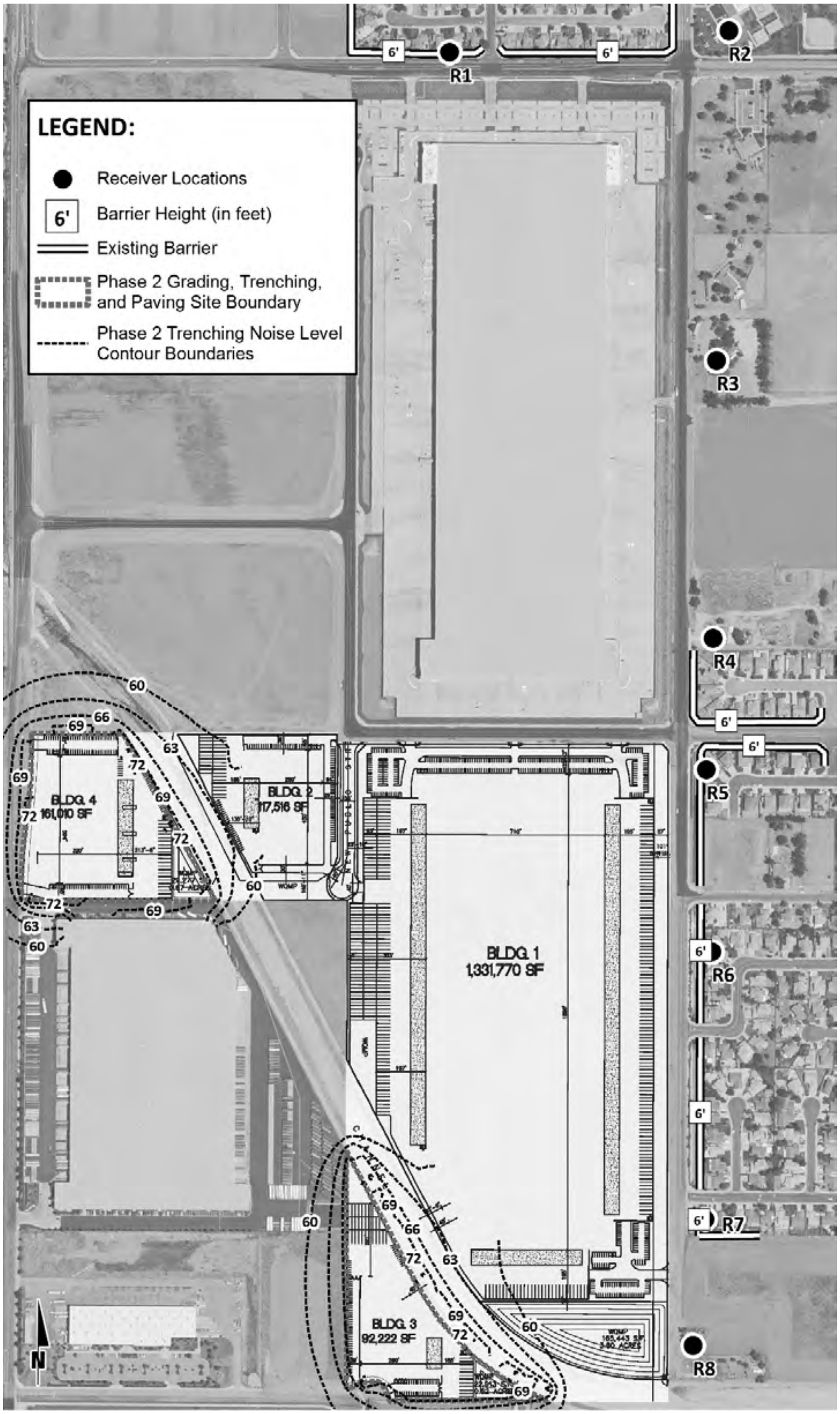
Figure 4.10-6
PHASE 2 GRADING AND PAVING EQUIPMENT NOISE CONTOURS



Source: Urban Crossroads (11-23-15)

Figure 4.10-7
PHASE 2 BUILDING CONSTRUCTION AND ARCHITECTURAL COATING NOISE CONTOURS

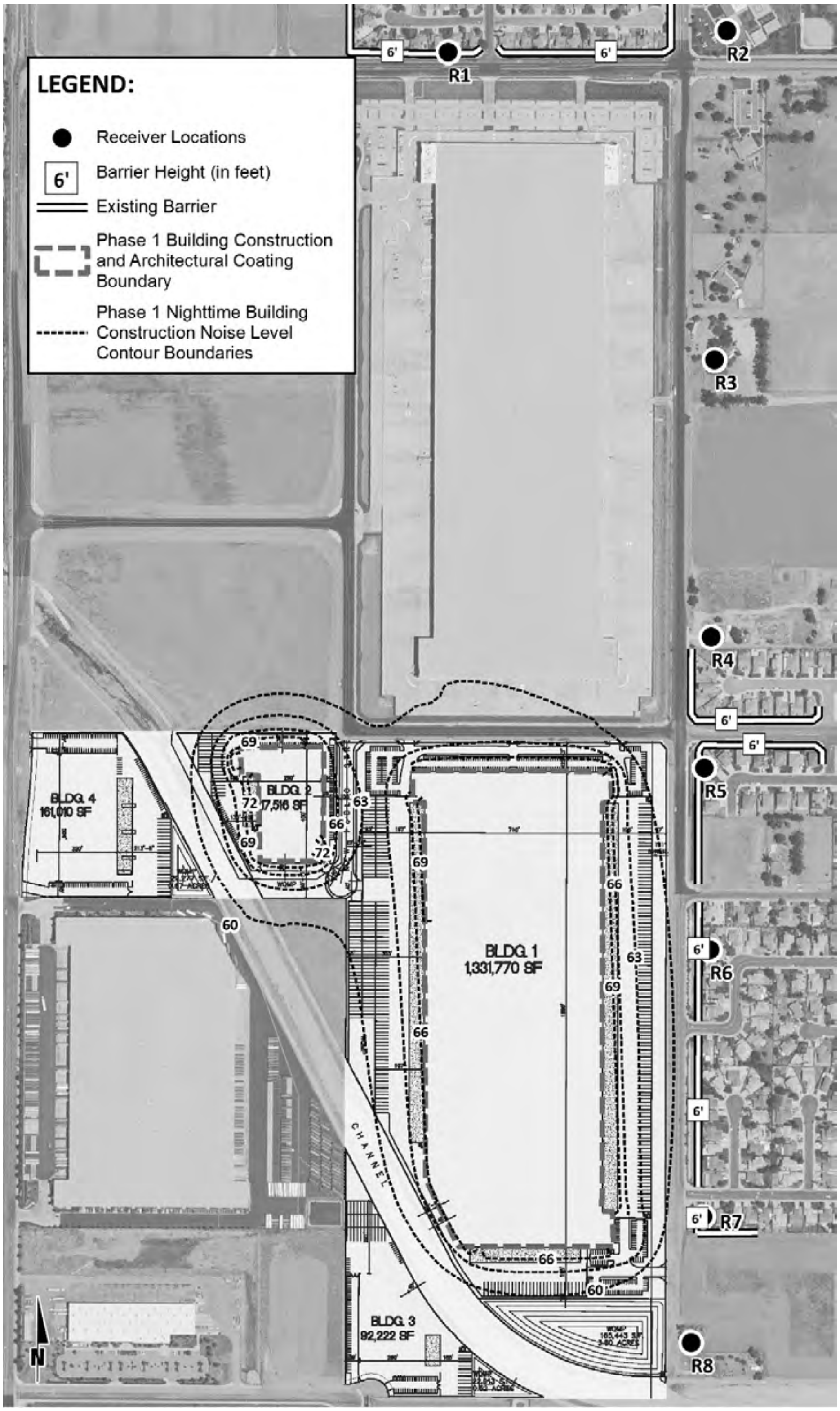
NOT TO SCALE



Source: Urban Crossroads (11-23-15)

Figure 4.10-8
PHASE 2 TRENCHING EQUIPMENT
NOISE CONTOURS

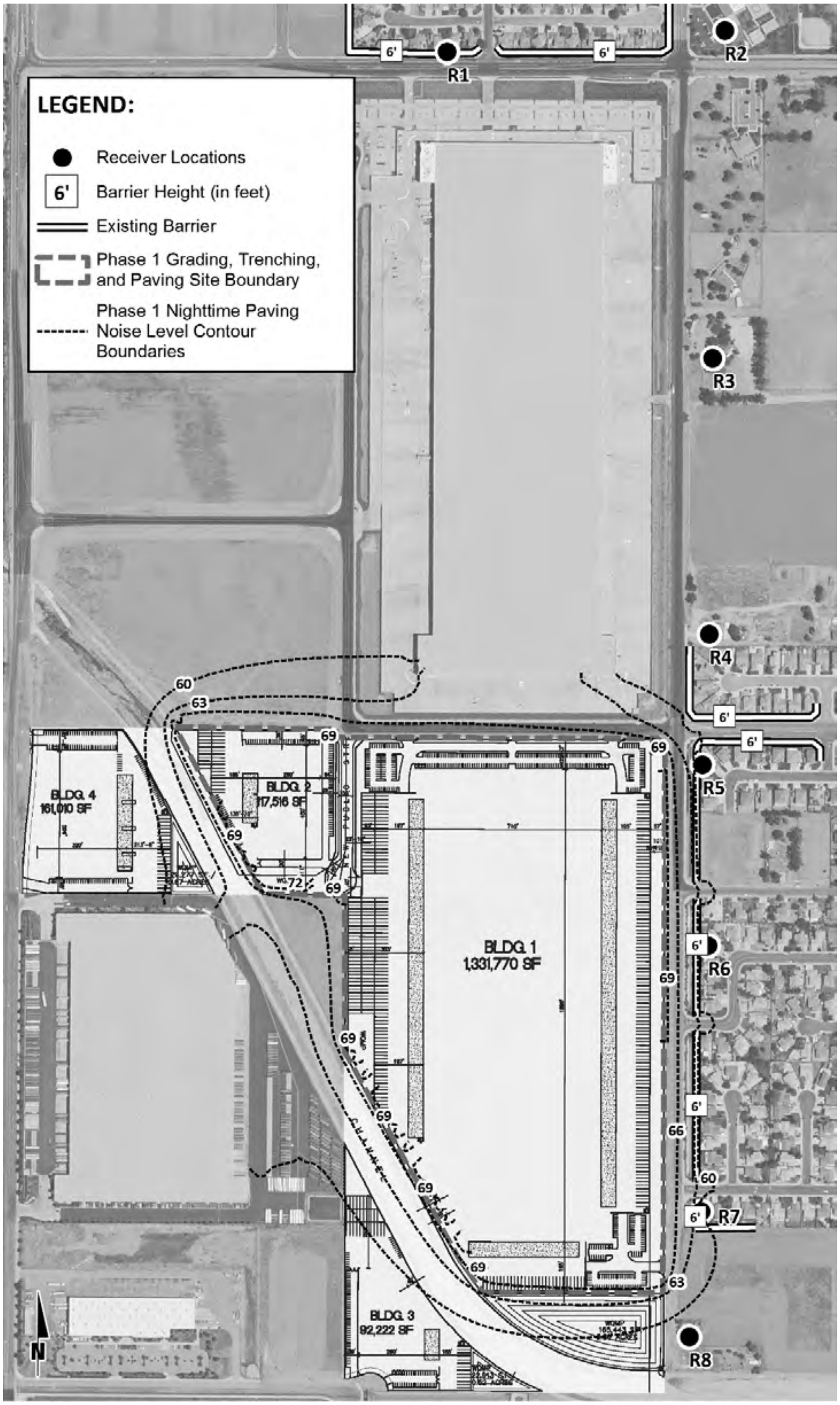
NOT TO SCALE



Source: Urban Crossroads (11-23-15)

NOT TO SCALE

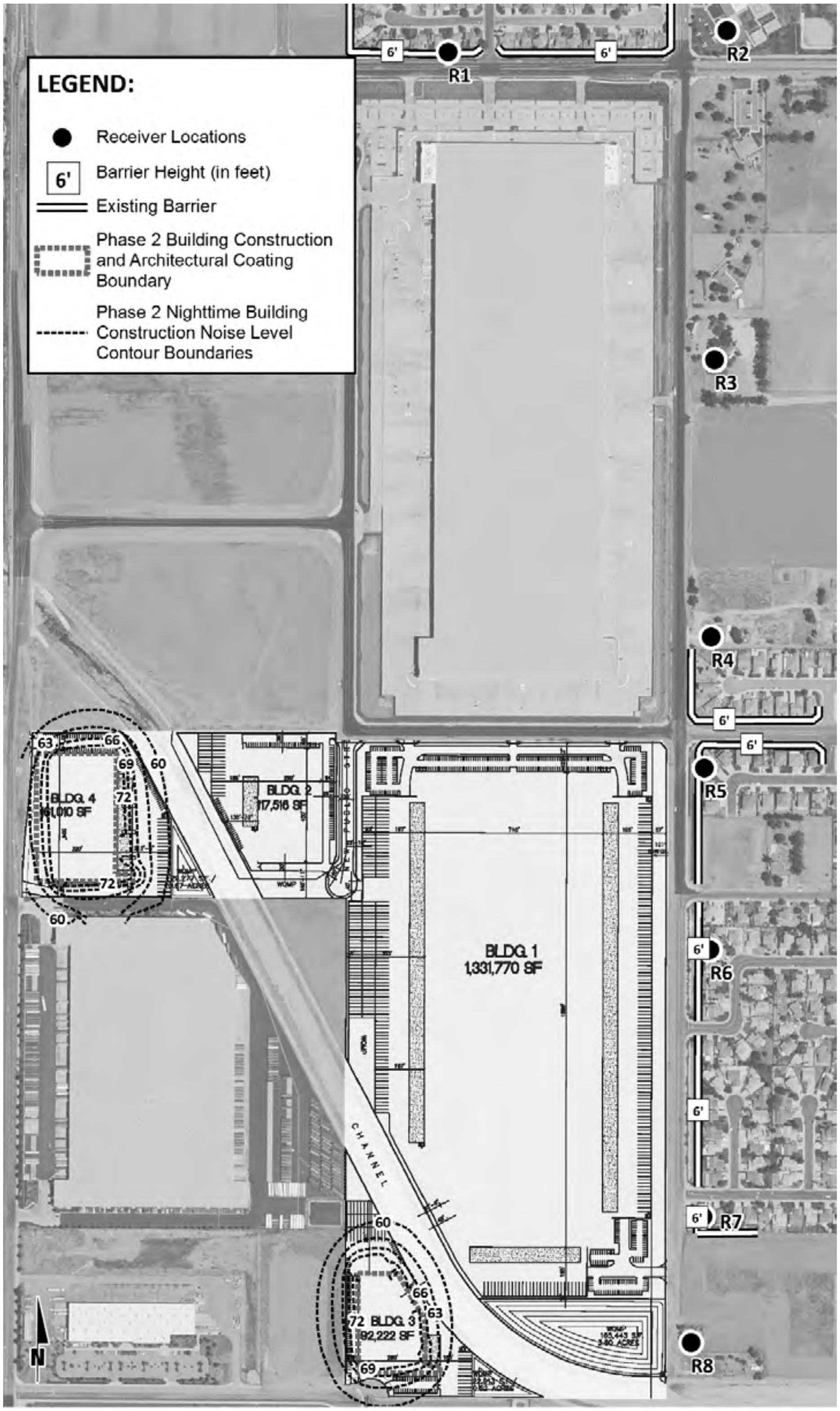
Figure 4.10-9
PHASE 1 NIGHTTIME BUILDING CONSTRUCTION EQUIPMENT NOISE CONTOURS



Source: Urban Crossroads (11-23-15)

NOT TO SCALE

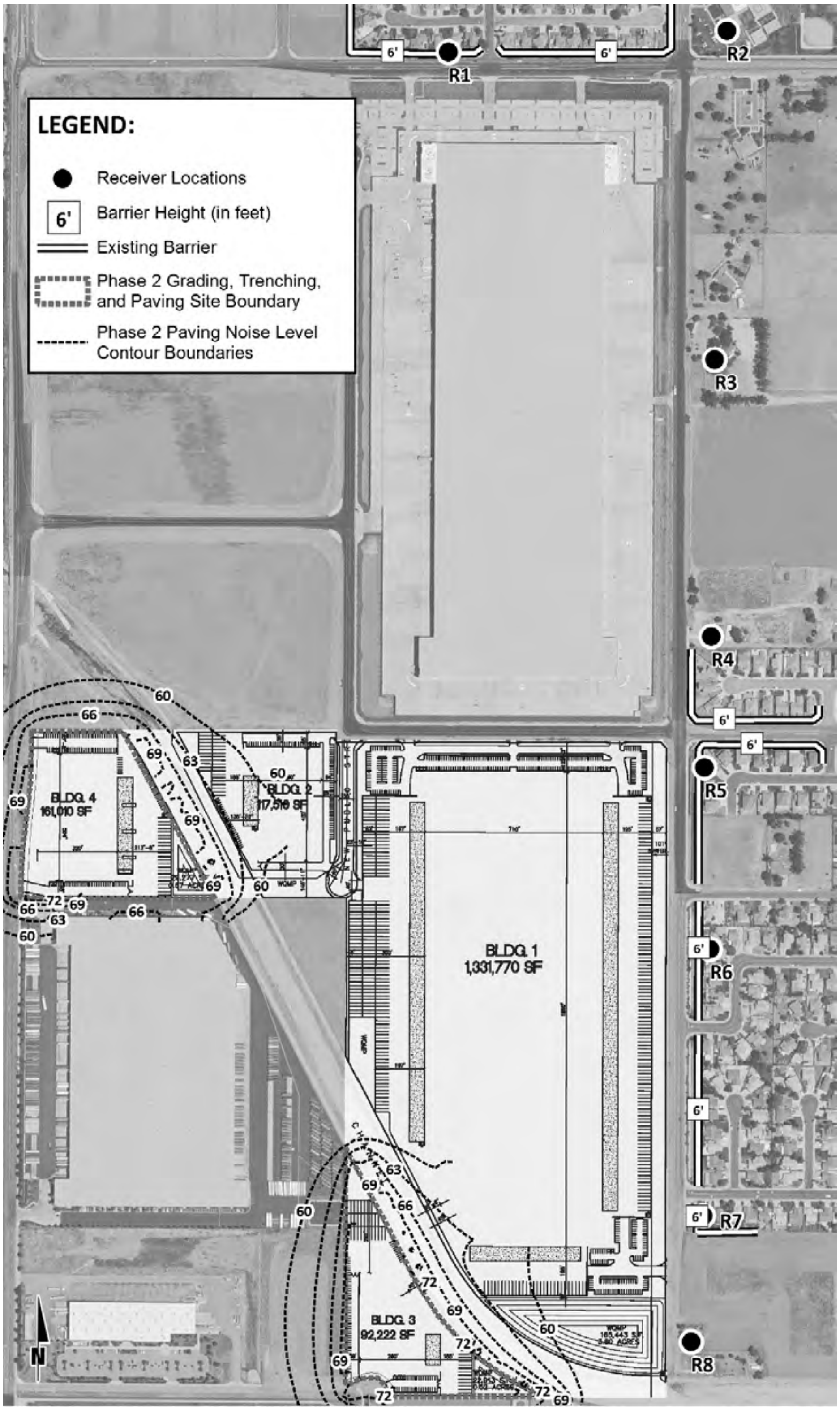
Figure 4.10-10
PHASE 1 NIGHTTIME PAVING EQUIPMENT NOISE CONTOURS



Source: Urban Crossroads (11-23-15)

NOT TO SCALE

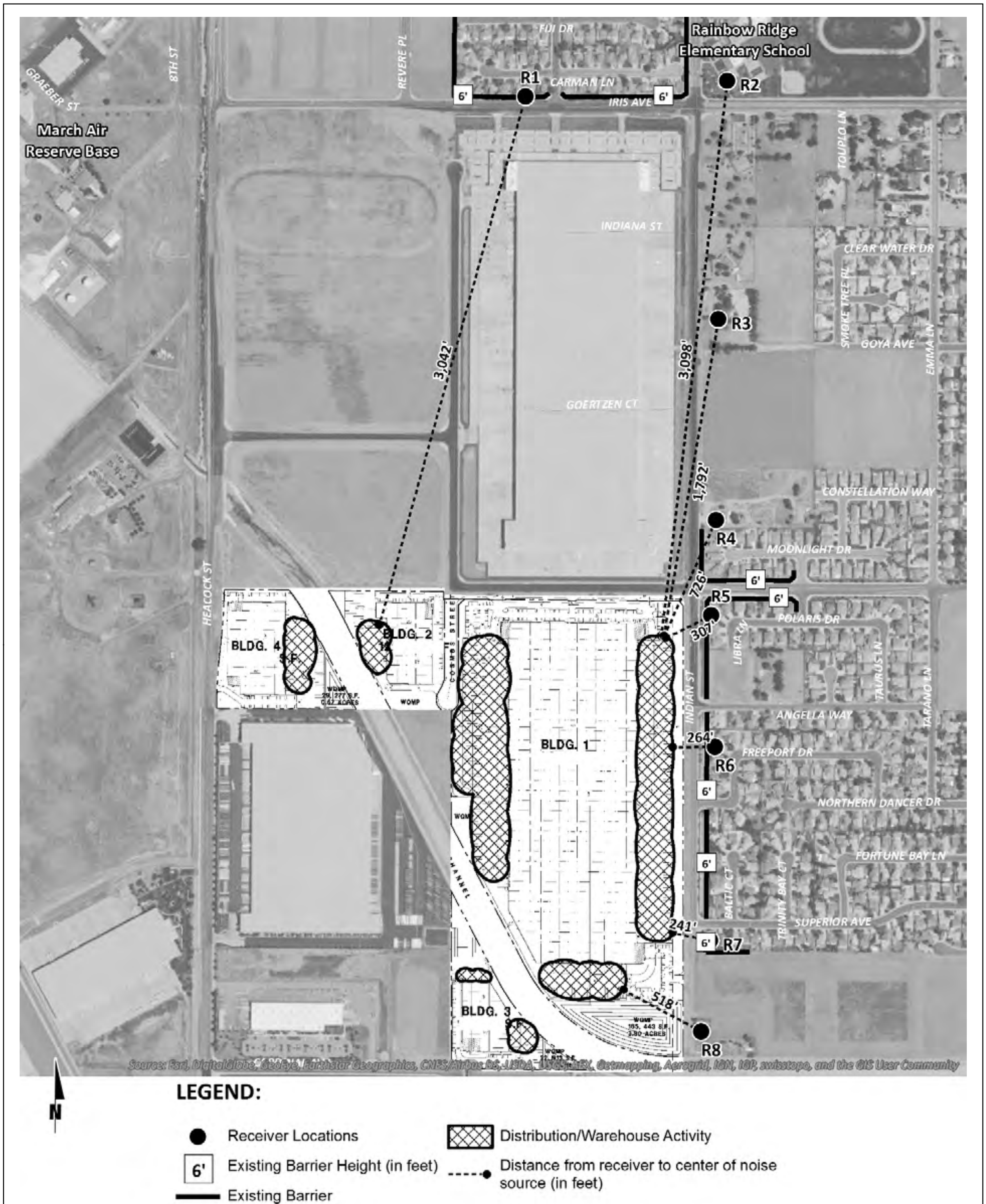
Figure 4.10-11
PHASE 2 NIGHTTIME BUILDING CONSTRUCTION EQUIPMENT NOISE CONTOURS



Source: Urban Crossroads (11-23-15)

NOT TO SCALE

Figure 4.10-12
PHASE 2 NIGHTTIME PAVING EQUIPMENT NOISE CONTOURS

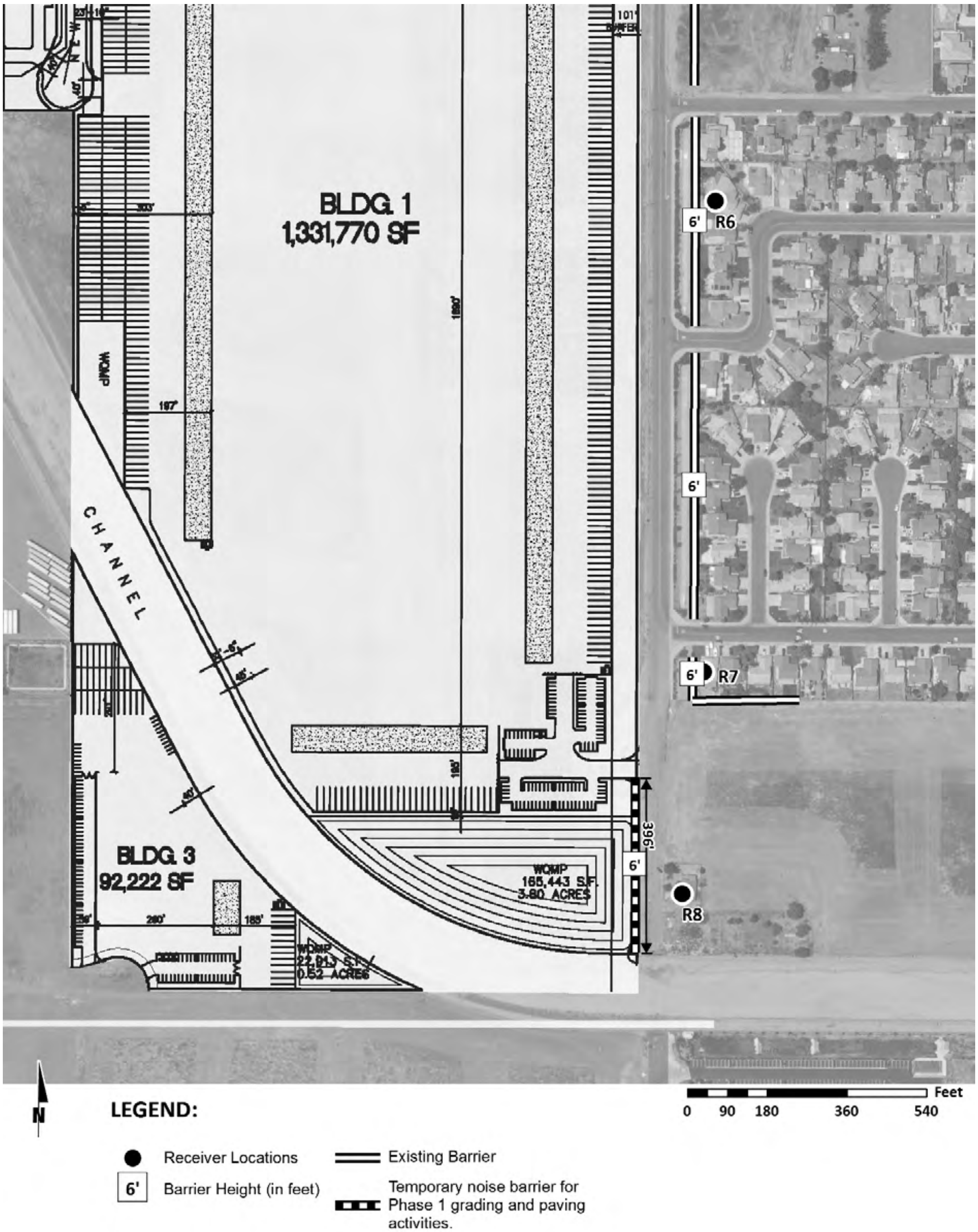


Source: Urban Crossroads (11-23-15)

Figure 4.10-13

NOT TO SCALE

OPERATIONAL NOISE SOURCE LOCATIONS



Source: Urban Crossroads (11-23-15)

Figure 4.10-14
PHASE 1 GRADING AND PAVING-LOCATION OF TEMPORARY CONSTRUCTION BARRIER

NOT TO SCALE

4.11 Transportation/Traffic

The following analysis is based on three technical studies prepared by Urban Crossroads, Inc. that evaluate the Project's potential to adversely affect local and regional circulation. These studies include: 1) "Moreno Valley Logistics Center Traffic Impact Analysis, City of Moreno Valley, California" (dated June 17, 2016), which is included as *Technical Appendix I1* to this EIR (Urban Crossroads, 2016e); 2) "Moreno Valley Logistics Center Supplemental Basic Freeway Segment Analysis" (dated September 23, 2015), which is included as *Technical Appendix I2* to this EIR (Urban Crossroads, 2015a); 3) "Moreno Valley Logistics Center Construction Traffic Evaluation" (dated November 17, 2015), which is included as *Technical Appendix I3* to this EIR (Urban Crossroads, 2015b); and 4) "Moreno Valley Logistics Center Fair Share Calculations" (dated June 17, 2016), which is included as *Technical Appendix I4* to this EIR (Urban Crossroads, 2016f).

The above-listed reports were prepared in accordance with the City of Moreno Valley Transportation Engineering Division's *Traffic Impact Analysis Preparation Guide* (August 2007). The scoping agreement for the Project's Traffic Impact Analysis (*Technical Appendix I1*) was approved by the City of Moreno Valley prior to the commencement of the Analysis and is included as Appendix 1.1 to *Technical Appendix I1*. Also, where appropriate, *Technical Appendices I1*, *I2*, and *I3* address requirements as identified by the County of Riverside Congestion Management Program (CMP) and the California Department of Transportation (Caltrans) *Guide for the Preparation of Traffic Impact Studies* (December 2002).

4.11.1 Study Area Description

The geographic area that was evaluated for Project-related effects to the transportation and circulation network (hereafter referred to as the "Project study area") is defined as follows:

A. Intersections

The Project study area includes all intersections at which the proposed Project would add 50 or more peak-hour trips (Urban Crossroads, 2016e, p. 5). A "peak hour trip" is defined as a trip that occurs between the hours of 7:00 AM and 9:00 AM (AM peak hour) or between the hours of 4:00 PM and 6:00 PM (PM peak hour) in conformance with the requirements of the City of Moreno Valley Transportation Engineering Division's *Traffic Impact Analysis Preparation Guide* and based on direction provided by City of Moreno Valley Transportation Engineering Division staff. The "50 peak hour trip" criteria utilized by the City of Moreno Valley is consistent with the methodology utilized by many other jurisdictions, including the County of Riverside, and generally represents a threshold of trips at which a typical intersection would have the potential to be significantly impacted. Although each intersection may have unique operating characteristics, this traffic engineering rule of thumb is a valid and proven way to establish a study area (Urban Crossroads, 2016e, p. 6). Intersections that would not receive more than 50 peak hour trips from the Project are not required to be included in the study area, because the contribution of fewer than 50 peak hour trips to an intersection is considered to be a less than significant impact on both a direct and cumulatively considerable basis.

Thirty-two (32) intersections are located within the Project study area, as listed in Table 4.11-1, *Project Study Area Intersections*. For ease of reference throughout this EIR Subsection, identification numbers are assigned to each intersection listed Table 4.11-1 and correspond to the intersection locations identified on Figure 4.11-1, *Project Study Area Intersection Locations*. The Project's study area includes intersections wholly or partially under the jurisdictions of the City of Moreno Valley, the City of Perris, the County of Riverside, Caltrans, and the March Joint Powers Authority (JPA).

B. Roadway Segments

In conformance with the requirements of the City of Moreno Valley Transportation Engineering Division's *Traffic Impact Analysis Preparation Guide* and based on direction provided by City of Moreno Valley Transportation Engineering Division staff, the Project's study area includes all roadway segments that would receive 50 or more peak hour trips from the Project in the AM or PM peak hours. A total of 48 roadway segments are located within the Project study area; these segments are listed in Table 4.11-2, Project Study Area Roadway Segments. (Urban Crossroads, 2016e, p. 8) For ease of reference throughout this EIR Subsection, identification numbers are assigned to each roadway segment listed in Table 4.11-2. The Project's study area includes roadways segments under the jurisdictions of the City of Moreno Valley and the City of Perris.

C. Freeway Mainline Segments

All freeway mainline segments are under the jurisdiction of Caltrans. To facilitate management of the State highway system, Caltrans is divided into individual districts with each district responsible for State highway system facilities within their geographic area. The Caltrans district with jurisdiction over the Project's geographic area, District 8, requests that quantitative traffic impact analyses for proposed development projects within the MVIAP area evaluate potential impacts to freeway mainline segments when that project is anticipated to contribute 50 or more two-way peak hour trips to a freeway mainline segment. Because impacts to freeway segments dissipate with distance from the point of entry to the State highway system (i.e., at ramps receiving a project's traffic), Caltrans District 8 has indicated that when a project's traffic volumes dissipate to fewer than 50 peak hour trips on a freeway mainline segment, they become unrecognizable from other traffic on the State highway system. Thus, Caltrans does not require a project's entire vehicular travel path on State highway facilities to be studied. (Caltrans, 2014)

The Project study area includes all freeway mainline segments that would receive 25 or more two-way peak hour trips from the Project, which results in a more conservative (i.e., larger) study area than typically requested by Caltrans District 8 for development projects located in the MVIAP area (as described above). The 58 freeway mainline segments located within the Project study area are listed in Table 4.11-3, *Project Study Area Freeway Mainline Segments*. For ease of reference throughout this EIR Subsection, identification numbers are assigned to each roadway segment listed Table 4.11-3. The Project study area includes northbound and southbound segments of I-215, eastbound and westbound segments of SR-60, and eastbound and westbound segments of SR-91.

The Project would not contribute 25 or more peak hour trips to any eastbound or westbound segment of SR-60 east of Frederick Street (Urban Crossroads, 2015a, p. 2).

Because I-215 and SR-60 overlap between I-215 and SR-91, the overlapping freeway segments can be referred to as either "I-215" or "SR-60." For purposes of analysis in this Subsection and *Technical Appendix I2*, all SR-60 eastbound/westbound mainline segments located west of I-215 and east of SR-91 are referred to as northbound/southbound segments of I-215 (refer to Table 4.11-3).

D. Freeway Ramp Junction Merge/Diverge Ramp Junctions

The Project study area includes seven freeway ramp junction merge/diverge ramp junction locations for I-215, in both the northbound and southbound locations. These locations are where the highest volumes of Project traffic (i.e., 50 or more peak hour trips) would merge and diverge across freeway lanes and potentially disrupt traffic flow (Urban Crossroads, 2016e, p. 10). The freeway ramp junction merge/diverge areas located within the Project study area and their corresponding identification numbers are listed in Table 4.11-4, *Project Study Area Freeway Ramp Merge/Diverge Junctions*. All freeway ramp junctions are under the jurisdiction of Caltrans.

E. Freeway Ramps

The Project's traffic would access I-215 at Harley Knox Boulevard and Cactus Avenue. Consistent with Caltrans traffic study guidelines, the I-215 off-ramp intersections at Harley Knox Boulevard and Cactus Avenue are included in the Project study area. (Urban Crossroads, 2016e, p. 36)

4.11.2 Existing Conditions

The Project site is located in the southern portion of the City of Moreno Valley and north of the City of Perris. Figure 4.11-2, *City of Moreno Valley General Plan Circulation Plan*, and Figure 4.11-3, *City of Perris General Plan Circulation Plan*, depict the two cities' roadway network for major roads located adjacent to and surrounding the Project site. The Project site is located approximately 1.3 miles east of I-215, approximately 4.2 miles south of SR-60, and approximately 10 miles southeast of SR-91.

A. Existing Intersection Conditions

Manual AM and PM peak hour turning movement counts were collected at all study area intersections in April 2015, with the exception of the Patterson Avenue / Harley Knox Boulevard and Heacock Street / Harley Knox Boulevard intersections. At the time that traffic counts were collected in April 2015, the City of Perris was widening Harley Knox Boulevard between Western Way and Perris Boulevard and, due to construction activities, operations at the Patterson Avenue / Harley Knox Boulevard and Heacock Street / Harley Knox Boulevard intersections were considered atypical. Accordingly, baseline traffic conditions at Patterson Avenue / Harley Knox Boulevard intersection are based on available traffic count data from February 2014 and baseline traffic conditions at the Heacock Street / Harley Knox Boulevard intersection are based on available traffic data from May 2013. The City of Moreno Valley Transportation Engineering Division determined the 2013 and 2014 traffic count data from these intersections to be representative of normal historical operating conditions at these intersections. To approximate expected normal, existing conditions at the Patterson Avenue / Harley Knox Boulevard and Heacock Street / Harley Knox Boulevard intersections, a two percent annual growth rate was applied to the 2013 and 2014 traffic count data; this approach was reviewed and approved by the City of Moreno Valley. (Urban Crossroads, 2016e, p. 60)

The traffic count data includes a tabulation of passenger cars, 2-axle trucks, 3-axle trucks, and 4-or-more axle trucks, in accordance with City of Moreno Valley traffic report requirements. Larger vehicles take up more space on the roadway and take longer to accelerate and decelerate than smaller, passenger vehicles; therefore, converting larger vehicle to into passenger car equivalents (PCEs) allows for traffic to be represented as a standardized unit. For purposes of the analysis, a PCE factor of 1.5 was applied to 2-axle truck trips, 2.0 was applied to 3-axle truck trips, and 3.0 was applied for 4-or-more-axle truck trips. (Urban Crossroads, 2016e, p. 60) A detailed description of the methodology used to classify peak hour and daily traffic trips is provided in *Technical Appendix I1*.

Figure 4.11-4, *Existing Peak Hour Intersection Traffic Volumes*, illustrates weekday, peak hour traffic volumes at Project study area intersections. Except where specifically noted, all of the vehicle trips/volumes presented on Figure 4.11-4 and used in the analysis presented in this EIR Subsection and *Technical Appendix I1* are shown in terms of PCEs.

❑ Existing Intersection Levels of Service

Existing peak hour traffic operations were evaluated at Project study area intersections based on the analysis methodologies presented in Subsection 4.11.3. The levels of service (LOS) for Project study area intersections during peak hours are summarized in Table 4.11-5, *Existing Intersection Levels of Service*. As shown in Table 4.11-5, all existing intersections in the Project study area operate at acceptable LOS during peak hours under existing conditions, with the exception of the following intersections (Urban Crossroads, 2016e, p. 62):

- Heacock Street / Gentian Avenue (Intersection #12) in the PM peak hour; and
- Heacock Street / Iris Avenue (Intersection #13) in the PM peak hour.

Under existing conditions, Intersection #12, Intersection #13, and the Western Way / Harley Knox Boulevard intersection (Intersection #7) warrant a traffic signal (Urban Crossroads, 2016e, p. 69). Meeting this signal warrant condition does not require that a traffic control signal be installed at a particular intersection location. It means that other traffic factors and conditions should be evaluated in order to determine whether the signal is truly justified. Ultimately, the need for a traffic signal at any location should be evaluated by the City Engineer.

B. Existing Roadway Segment Conditions

Average daily traffic (ADT) along Project study area roadways was determined using a combination of traffic count devices (i.e., road tubes) deployed in April 2015 plus calculations based on the manual peak hour intersection volume data described above under Subsection 4.11.2A (Urban Crossroads, 2016e, p. 62). A detailed description of the methodology used to quantify daily traffic trips on Project study area roadway segments is provided in *Technical Appendix I1*. Figure 4.11-5, *Existing Average Daily Traffic*, illustrates average daily weekday traffic along Project study area roadway segments.

❑ Existing Roadway Segment Levels of Service

Existing daily operating conditions at existing Project study area roadway segments were evaluated based on the analysis methodologies presented in Subsection 4.11.3. The LOS for Project study area roadway segments are summarized in Table 4.11-6, *Existing Roadway Segment Levels of Service*. As shown in Table 4.11-6, all roadway segments within Project study area operate at acceptable LOS under existing conditions, with the exception of the segment of Heacock Street south of Gentian (Roadway #34) (Urban Crossroads, 2016e, p. 69).

C. Existing Freeway Conditions

Freeway mainline segment and interchange traffic volume data was obtained from Caltrans' Performance System (PeMS) website in April 2015. In an effort to conduct a conservative analysis, the maximum value observed within the three-day period was utilized for the weekday AM and weekday PM peak hours (Urban Crossroads, 2016e, p. 40).

Consistent with industry-standard methodology (i.e., Transportation Research Board's *Highway Capacity Manual*) actual vehicles, as opposed to PCE volumes, were utilized to calculate density and the associated LOS letter grade for each freeway segment. Truck traffic, expressed as a percentage of total traffic, is included as part of the data used to perform the density calculation in an effort to not overstate traffic volumes and potential impacts (Urban Crossroads, 2016e, pp. 39-40). Existing, peak hour traffic volumes along freeway mainline segments in the Project study area are summarized in Table 4.11-7, *Existing and Existing plus Project Freeway Mainline Levels of Service*.

❑ Existing Freeway Mainline Segments Levels of Service

Existing peak hour operations along freeway mainline segments in the Project study area were evaluated using the analysis methodologies presented in Subsection 4.11.3. All freeway mainline segments located in the Project study area operate at acceptable LOS during the AM and PM peak hours under existing conditions (Urban Crossroads, 2015a, p. 6). The peak hour LOS for study freeway mainline segments are summarized in Table 4.11-7.

❑ Existing Freeway Ramp Junction Merge/Diverge Levels of Service

Existing peak hour operations at freeway ramp junction merge/diverge areas within the Project study area were evaluated using the analysis methodologies presented in Subsection 4.11.3. All Project study area freeway ramp junction merge/diverge areas operate at acceptable LOS during peak hours under existing conditions (Urban Crossroads, 2016e, p. 69). The existing peak hour LOS for the freeway ramp junction merge/diverge areas are summarized in Table 4.11-8, *Existing Freeway Ramp Junction Merge/Diverge Levels* of Service.

❑ Existing Freeway Ramp Levels of Service

Existing freeway ramp queuing in the Project study area was evaluated using the methodologies presented in Subsection 4.11.3. As summarized in Table 4.11-9, *Existing Freeway Off-Ramp Levels of Service*, all freeway ramps in the Project study area feature acceptable stacking lengths under existing conditions.

D. Existing Mass Transit

The Riverside Transit Agency (RTA) is responsible for providing bus transit service within the Project study area. Two bus routes, Route 19 and Route 20, operate in close proximity to the Project site. Route 19 provides year-round service between the Moreno Valley Mall and Perris Station Transit Center via Perris Boulevard; the nearest Route 19 bus station to the Project site is located at the Krameria Avenue / Perris Boulevard intersection (approximately 0.50-mile east of the site). Route 20 provides seasonal service in the Project vicinity (i.e., during the school year) between Magnolia Center and Moreno Valley College; the nearest Route 20 bus station to the Project site is located at the Krameria Avenue / Emma Lane intersection (approximately 0.25-mile east of the site).

There is no commuter rail service in the City of Moreno Valley under existing conditions; however, the "Perris Valley Line," a 24-mile extension of the Metrolink commuter rail service from Downtown Riverside to Perris, is expected to become operational in December 2015. The Perris Valley Line will connect to Metrolink's 91 Line which runs through Corona and Fullerton to Los Angeles. The Perris Valley Line will run along the west side of I-215 and the nearest station to the Project site (Moreno Valley/March Field Station, 14160 Meridian Parkway, Riverside, CA) is located approximately 5.0 roadway miles from the Project site. (Downey, 2015)

E. Existing Pedestrian and Bicycle Facilities

Field observations conducted by Urban Crossroads indicate nominal pedestrian and bicycle activity within the study area (Urban Crossroads, 2016e, p. 60). According to City of Moreno Valley General Plan, the Project site abuts Class III bikeways on Heacock Street, Krameria Avenue, and Indian Street. Class III bikeways are designated bikeways, not striped, and are shared with vehicles (City of Moreno Valley, 2006a, pp. 5-3). In January 2015, the City of Moreno Valley adopted a Bicycle Master Plan, which updates and supersedes the recommendations of the General Plan. The Bicycle Master Plan identifies a planned Class I, multi-use bike path along the segment of the Perris Valley Storm Drain Channel that traverses the Project site (within property owned by the Riverside County Flood Control and Water Conservation District) as well as Class II (striped) bike lanes along the segments of Heacock Street and Indian Street that abut the Project site.

F. Existing Truck Routes

Pursuant to City of Moreno Valley Municipal Code § 12.36.010, the street segments listed below are designated as truck routes:

- Alessandro Boulevard (I-215 to the easterly City limits)
- Cactus Avenue (I-215 to Perris Boulevard)
- Elsworth Avenue (Alessandro Boulevard to Cactus Avenue)
- Frederick Street (Cactus Avenue to Sunnymead Boulevard)
- Gilman Springs Road (SR-60 to the easterly City limits)
- Graham Street (Alessandro Boulevard to Cactus Avenue)
- Heacock Street (San Michele Road to Reche Vista Drive)
- Indian Street (San Michelle Road to the southerly City limits)
- Ironwood Avenue (Pigeon Pass to Perris Boulevard)
- Moreno Beach Drive (Alessandro Boulevard to the SR-60 westbound ramps)
- Nandina Avenue (Perris Boulevard to Indian Street)
- Perris Boulevard (Ironwood Avenue to the southerly City limits)
- Pigeon Pass Road (Sunnymead Boulevard to Ironwood Avenue)
- Reche Vista Road (Heacock Street to the northerly City limits)
- Redlands Boulevard (SR-60 eastbound ramps to the northerly City limits)
- San Michelle Road (Perris Boulevard to Heacock Street)
- Sunnymead Boulevard (Frederick Street to Perris Boulevard); and
- Theodore Street (Alessandro Boulevard to Ironwood Avenue).

The City of Perris also has established truck routes. City of Perris-designated truck routes in the vicinity of the Project site include Harley Knox Boulevard, Indian Street, and Perris Boulevard (City of Perris, 2005, Exhibit CE-9).

G. Existing Airport Facilities

The Project site is located adjacent to the March Air Reserve Base. Due to the proximity of the Project site to the March Air Reserve Base, the Project site is subject to the March Air Reserve Base Airport Land Use Compatibility Plan (ALUCP). The March Air Reserve Base ALUCP identifies land use standards and design criteria for new development located in the proximity of the March Air Reserve Base to ensure compatibility between the airport and surrounding land uses and to maximize public safety. The portions of the Project site located west of the Perris Valley Storm Drain Channel are located within “Compatibility Zone C1” and the portions of the Project site located east of the Perris Valley Storm Drain Channel are located within “Compatibility Zone D.” Within Compatibility Zone C1, noise-sensitive land uses (e.g., schools, libraries, hospitals) and land uses that accommodate the habitation/congregation of very large groups of people are discouraged and design features that may pose a hazard to flight are prohibited (e.g., extremely tall objects, visual or electronic forms of interference). Within Compatibility Zone D, there are no land use or design restrictions, with the exception of hazards to flight. (RCALUC, 2014, p. 9, Map MA-1)

H. Applicable Plans, Regulations, and Policies

❑ SCAG Regional Transportation Plan (RTP)

The Southern California Association of Governments (SCAG) is a regional agency established pursuant to California Government Code §6500, also referred to as the Joint Powers Authority law. SCAG is designated as a Council of Governments (COG), a Regional Transportation Planning Agency (RTPA), and a Metropolitan Planning Organization (MPO). The Project site is within SCAG's regional authority. On April 4, 2012, SCAG adopted the *2012-2035 Regional Transportation Plan / Sustainable Communities Strategy* (*RTP/SCS*) with goals to: 1) maximize mobility and accessibility for all people and goods in the region; 2) ensure travel safety and reliability for all people and goods in the region; 3) preserve and ensure a sustainable transportation system; 4) maximize productivity of the transportation system; 5) protect the environment, improve air quality, and promote energy efficiency; 6) encourage land use and growth patterns that complement the transportation investments and improve the cost-effectiveness of expenditures; and 7) maximize the security of the transportation system (SCAG, 2012a, p. 13).

❑ County of Riverside Congestion Management Program

The Riverside County Congestion Management Program (CMP) was prepared by the Riverside County Transportation Commission (RCTC). The intent of the CMP is to more directly link land use, transportation, and air quality planning and to prompt reasonable growth management programs that would more effectively utilize new and existing transportation funds to alleviate traffic congestion and related impacts and improve air quality. The Riverside County CMP was first adopted in December 1992 and has been updated 11 times, with the most recent comprehensive update in December 2011. The CMP states that deficiencies along the CMP system must be identified when they occur so that improvement measures can be identified. Understanding the reason for these deficiencies and identifying ways to reduce the impact of future growth and development along a critical CMP corridor is intended to conserve scarce funding resources and help target those resources appropriately.

The Riverside County CMP roadway network includes the following intersections in the Project study area (Urban Crossroads, 2016e, pp. 5-6):

- I-215 southbound ramps / Cactus Avenue (Intersection #1);
- I-215 southbound ramps / Harley Knox Boulevard (Intersection #2);
- I-215 northbound ramps / Cactus Avenue (Intersection #3); and
- I-215 northbound ramps / Harley Knox Boulevard (Intersection #4).

In addition, three CMP roadway network freeways are located within the Project study area: I-215, SR-60; and SR-91 (RCTC, 2011, p. 2-3).

❑ Transportation Uniform Mitigation Fee (TUMF) Program

In 2000, the Western Riverside Council of Governments (WRCOG) established the Transportation Uniform Mitigation Fee (TUMF) Program to mitigate the cumulative regional impacts of projected future growth and new development on the region's arterial highway system. The TUMF Program applies a uniform mitigation fee to new development projects that is collected by each WRCOG member agency, including the City of Moreno Valley. The collected funds are pooled and used by WRCOG to fund transportation network improvements, including roads, bridges, interchanges, and railroad grade separations, identified by the public works departments of WRCOG member agencies and listed in the *Regional System of Highways and Arterials* (*RHSA*). (WRCOG, 2014, pp. 4-5)

❑ City of Moreno Valley Development Impact Fee (DIF) Program

The City of Moreno Valley created its Development Impact Fee (DIF) program to impose and collect fees from new residential, commercial, and industrial development for the purpose of funding local improvements necessary to accommodate City growth as identified in the City's General Plan Circulation Element. The identification of specific roadway and intersection improvement projects and the timing to use the DIF fees is established through periodic capital improvement programs which are overseen by the City's Public Works Department. (Urban Crossroads, 2016e, p. 16)

❑ Cities of Moreno Valley and Perris General Plan Circulation Elements

The General Plans for the Cities of Moreno Valley and Perris each contain a Circulation Element that is intended to guide the development of the local circulation system in a manner that is compatible with the respective General Plan Land Use Element. To help meet traffic demands and achieve balanced growth, both cities have adopted specific goals and policies, which serve as the basis for their Circulation Element. Refer to *Technical Appendix I1* for a detailed summary of the General Plan Circulation Elements for the Cities of Moreno Valley and Perris.

4.11.3 Methodology for Calculating Project-Related Traffic Impacts

The Project's traffic impact analyses (*Technical Appendices I1* through *I3*) analyze potential transportation/traffic effects associated with the construction and operation of a logistics center with 1,351,770 s.f. of high-cube warehouse land uses (1 building) and 385,748 s.f. of light industrial land uses (3 buildings) with a site layout identical to the proposed Project. In comparison to the proposal evaluated in *Technical Appendices I1* through *I3*, the Project proposes to develop the subject property with seven (7) fewer square feet of high-cube warehouse land uses and 1,331 fewer square feet of light industrial land uses. Because the proposal analyzed by *Technical Appendices I1* through *I3* was more intense than the proposed Project, the analyses presented therein and summarized in this EIR provides a conservative, worst-case analysis of the Project's potential transportation/traffic effects.

A. Level of Service (LOS)

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS has been used as the basis for determining the significance of traffic impacts as standard practice in CEQA documents for decades. LOS is a qualitative description of traffic flow based on several factors such as speed, travel time, delay, and freedom to maneuver. In 2013, California Senate Bill (SB) 743 was passed, which is intended to balance the need for LOS for traffic planning with the need to build infill housing and mixed use commercial developments within walking distance of mass transit facilities, downtowns, and town centers and to provide greater flexibility to local governments to balance these sometimes competing needs. At full implementation of SB 743, the California Governor's Office of Planning and Research (OPR) is expected to replace LOS as the metric against which traffic impacts are evaluated, with a metric based on vehicle miles traveled (VMT). At the time the NOP for this EIR was released (June 2015), a VMT metric was not adopted by OPR, and the City of Moreno Valley in its capacity as Lead Agency, as well as surrounding local agencies in which the Project's traffic would circulate, use LOS as the significance criteria for evaluating a Project's traffic impacts. For this reason, a LOS metric and not a VMT metric is appropriately used as the significance criterion in this EIR.

Six LOS levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing breakdown in 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. Table 4.11-10 and Table 4.11-11 summarize typical operational conditions at signalized and unsignalized intersections for each LOS classification, respectively. (Urban Crossroads, 2016e, pp. 33-35)

Based on LOS standards utilized by the City of Moreno Valley, the target LOS C or LOS D should be maintained along City roads (including intersections) wherever possible. LOS D is the limit of acceptable traffic operations along City of Moreno Valley roads (including intersections) that are adjacent to freeway on/off ramps and/or adjacent to employment generating land uses (Urban Crossroads, 2016e, p. 42). All of the City of Moreno Valley roads within the Project study area are located adjacent to freeway on/off ramps and/or to employment generating land uses; therefore, LOS D is considered to be the limit of acceptable service for purposes of this analysis. Based on the LOS standards utilized by the City of Perris, County of Riverside, March JPA, intersections that operate at LOS E or F are considered deficient. The City of Perris considers roadway segments that operate at LOS E or F to be deficient. (Urban Crossroads, 2016e, pp. 41, 43)

For CMP facilities, the Riverside County CMP defines LOS F as the deficient service level for CMP highways and roadways (including intersections). However, as a conservative measure, the analysis presented in this Subsection and *Technical Appendices I1* through *I3* considers LOS E and LOS F to be deficient along CMP facilities. (Urban Crossroads, 2016e, p. 43)

Caltrans has established LOS performance criteria to determine the significance of impacts on the circulation network within their jurisdiction. Generally, Caltrans considers LOS D to be the limit of acceptable traffic operations during the peak hour (Urban Crossroads, 2016e, p. 43). Table 4.11-12 and Table 4.11-13 summarize the typical freeway operational conditions for each LOS classification.

B. Intersection Capacity Analysis

The intersection LOS analysis is based on the traffic volumes observed during peak hour conditions. The following peak hours were selected for analysis because these hours are typically experience the most traffic during a 24-hour period:

- Weekday AM peak hour (between 7:00 AM and 9:00 AM)
- Weekday PM peak hour (between 4:00 PM and 6:00 PM)

For signalized intersections, the Cities of Moreno Valley and Perris, the County of Riverside, and the March JPA require operations analysis based on the methodology described in the *Highway Capacity Manual* (*HCM*). Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. At signalized intersections LOS is directly related to the average control delay per vehicle and is correlated to a LOS designation as described in Table 4.11-10. (Urban Crossroads, 2016e, p. 33)

Per the Caltrans *Guide for the Preparation of Traffic Impact Studies*, the traffic modeling and signal timing optimization software package Synchro (Version 8 Build 806) was used to analyze signalized intersections under Caltrans' jurisdiction, which include the I-215 ramps at Harley Knox Boulevard and Cactus Avenue. All other Project study area intersections outside of Caltrans' jurisdiction also were analyzed using the Synchro (Version 8 Build 806) software package (Urban Crossroads, 2016e, pp. 33-34).

For unsignalized intersections, the Cities of Moreno Valley and Perris, the County of Riverside, and the March JPA require that operations be evaluated using the methodology described in the *HCM*. At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. For all-way stop controlled intersections, LOS is computed for the intersection as a whole (Urban Crossroads, 2016e, p. 35). The LOS rating is based on the weighted average control delay expressed in seconds per vehicle, as shown in Table 4.11-11.

For a more detailed discussion on intersection capacity analysis methodology, refer to Subsection 2.2 of *Technical Appendix I1*.

C. Traffic Signal Warrant Analysis

The term "signal warrants" refers to the list of criteria used by Caltrans and other public agencies to quantitatively justify or ascertain the potential need for installation of a traffic signal at an unsignalized intersection. The signal warrant criteria presented in the latest edition of the Federal Highway Administration's (FHWA) *Manual on Uniform Traffic Control Devices* (*MUTCD*), as amended by the *MUTCD 2014 California Supplement*, is used for all unsignalized study area intersections (Urban Crossroads, 2016e, pp. 37-38). For more information on signal warrant methodology, refer to Subsection 2.5 of *Technical Appendix I1*.

Traffic signal warrant analyses were performed for all Project study area intersections that were not signalized under existing conditions (refer to Table 4.11-14, *Traffic Signal Warrant Analysis Intersections*). A signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic control signal be installed at a particular intersection location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant. (Urban Crossroads, 2016e, pp. 37-38)

D. Roadway Segment Capacity Analysis

Roadway segment operations were evaluated using the daily capacity values contained in the City of Moreno Valley Transportation Engineering Division's *Traffic Impact Analysis Preparation Guide* and the City of Perris General Plan Circulation Element. These roadway capacities, as summarized in Table 4.11-15, *Roadway Segment Capacity LOS Thresholds*, are "rule of thumb" estimates for planning purposes and are affected by such factors as intersections (spacing, configuration, and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic), and pedestrian and bicycle traffic. As such, where the ADT-based roadway segment analysis indicates a deficiency (unacceptable LOS), a review of the more detailed peak hour intersection analysis and progression analysis are undertaken. The more detailed peak hour intersection analysis explicitly accounts for factors that affect roadway capacity. Therefore, roadway segment widening is typically only recommended if the peak hour intersection analysis indicates the need for additional through lanes (Urban Crossroads, 2016e, pp. 35-36).

E. Freeway Mainline Segment Analysis

For purposes of analysis, the freeway system in the study area has been broken into segments defined by the freeway-to-arterial interchange locations. The freeway segments evaluated in *Technical Appendix I2* are based upon peak hour directional volumes, and the freeway segment analysis is based on the methodology described in the *HCM* and performed using HCS2010 software. The performance measure preferred by Caltrans to calculate LOS is density. Density is expressed in terms of passenger cars per mile per lane. Table 4.11-12 summarizes the freeway segment LOS thresholds for each density range utilized for the analysis. For a more detailed discussion of freeway mainline segment analysis methodology, refer to Subsection 2.6 of *Technical Appendix I1* and *Technical Appendix I2*.

F. Freeway Ramp Junction Merge/Diverge Ramp Junction Analysis

The freeway ramp junction merge/diverge analysis is based on the *HCM* ramps and ramp junction analysis method and performed using HCS2010 software. Although the *HCM* indicates the influence area for a freeway ramp merge/diverge junction is 1,500 feet, the Project's analysis has been performed at all ramp locations with respect to the nearest on- or off-ramp at each interchange in an effort to be consistent with Caltrans guidance/comments on other projects in the region. The results – reported in passenger car per mile per lane – are 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 freeway ramp merge/diverge junction. (Urban Crossroads, 2016e, pp. 40-41). Table 4.11-13 summarizes the freeway ramp junction merge/diverge LOS thresholds utilized in the analysis. For more information on the freeway ramp junction merge/diverge analysis methodology, refer to Subsection 2.7 of *Technical Appendix I1*.

G. Freeway Ramp Queuing Analysis

The traffic progression analysis tool and *HCM* intersection analysis program, Synchro, was used to assess the potential impacts/needs of the freeway ramps with traffic added from the proposed Project. Storage (turn-pocket) length recommendations at the ramps are based upon the 95th percentile queue resulting from the Synchro 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 (Urban Crossroads, 2016e, pp. 36-37). For more information on the freeway ramp queuing analysis methodology, refer to Subsection 2.4 of *Technical Appendix I1*.

H. Cumulative Impact Analysis

CEQA Guidelines § 15130 requires that an EIR disclose the impact from the Project along with the incremental impacts from closely related past, present, and reasonably foreseeable future projects (i.e., cumulative impact analysis). As previously described in EIR Subsection 4.0, *Environmental Analysis*, the analysis of the Project's potential cumulative traffic impacts utilizes a summary of projections approach plus a list of projects approach in order to provide a conservative, worst-case analysis. Data for the summary of projections approach was obtained from the sources previously described in EIR Subsection 4.0. The list of 301 cumulative projects was identified in consultation with planning and engineering staff from the Cities of Moreno Valley, Riverside and Perris, and the County of Riverside based on their records of past, pending, and foreseeable future projects in Moreno Valley and surrounding jurisdictions as of approximately June 2015 (the date that the NOP for this EIR was issued). For purposes of analysis in *Technical Appendices I1, I2*, and *I3* and this Subsection, the cumulative projects were grouped into 261 traffic analysis zones based on their physical locations (Urban Crossroads, 2016e, pp. 102, 105, 109-115). The list of the 301 projects considered in the cumulative impact analysis is included in EIR Subsection 4.0. Descriptive and locational information about each project considered in the cumulative impact analysis can be found in Section 4.7 of *Technical Appendix I1*.

I. Future Year Background Traffic

❑ Opening Year (2020) Background Traffic

As directed by City of Moreno Valley Transportation Engineering Division staff, Opening Year background traffic forecasts are defined as existing (2015) traffic conditions plus five (5) years of ambient growth (i.e., Year 2020). Opening Year (2020) background traffic forecasts are based upon a background, or ambient, growth rate of two percent per year, compounded annually. Accordingly, the total ambient growth rate assumed for the Project is 10.41 percent. This ambient growth factor is intended to approximate area-wide growth not accounted by known cumulative development projects. According to regional population projections included in SCAG's *2012 RTP/SCS*, Moreno Valley's population is projected to increase by approximately 36.2 percent between 2008 and 2035, which corresponds to an approximately 1.15 percent annual growth rate, compounded annually. During the same time period, job growth is estimated to increase by approximately 99.4 percent, which corresponds to an approximately 2.59 percent annual growth rate, compounded annually. Accordingly, the 2 percent annual growth rate utilized in *Technical Appendices I1* and *I2* and this Subsection approximates the anticipated growth in regional traffic volumes, especially when considered in addition to Project-related traffic and traffic generated by other known development projects. This methodology would tend to overstate, as opposed to understate, potential impacts to traffic and circulation. (Urban Crossroads, 2016e, p. 102)

❑ General Plan Buildout (Post-2035) Background Traffic

For purposes of the analysis in *Technical Appendices I1* and *I2* and this Subsection, the General Plan Buildout (Post-2035) background traffic conditions were derived from the Riverside County Transportation Analysis Model (RivTAM). The RivTAM model reflects land use and circulation network data from cities and public agencies within Riverside County and is consistent with SCAG's traffic model for the southern California region. To provide a more detailed long-range (Post-2035) traffic impact analysis for the Project as presented in *Technical Appendices I1* and *I2* and this EIR Subsection, Urban Crossroads supplemented and modified the RivTAM model using industry-accepted procedures for model forecast refinement and smoothing rather than rely on RivTAM model defaults. The modifications performed by Urban Crossroads provide for a conservative analysis of the Project's potential impacts under General Plan Buildout (Post-2035) conditions that would overstate – as opposed to understate – the Project's potential impacts. Refer to Subsection 4.8 of *Technical Appendix I1* for a detailed description of the refinements made to the RivTAM model for purposes of the Project's traffic impact analysis. (Urban Crossroads, 2016e, pp. 116-117)

J. Future Year Roadway Conditions

❑ Opening Year (2020) Roadway Conditions

The Project's traffic analyses assume that the traffic facilities listed below will be place for the Project's Opening Year (2020) traffic analysis scenario, in addition to the lane configurations and traffic controls in place under existing conditions (Urban Crossroads, 2016e, p. 141):

- Project driveways and those facilities assumed to be constructed by the Project to provide access to the Project site; and
- Driveways and those facilities assumed to be constructed by nearby cumulative development projects to provide site access.

The traffic analysis also assumes that several freeway mainline improvements that are currently in various stages of planning, design, and construction will be completed by the Project's Opening Year (2020). The planned enhancements to the regional freeway system in the Project vicinity that are assumed to be in place by Year 2020 are summarized below (Urban Crossroads, 2015a, pp. 5-6). It is reasonable to anticipate that these facilities will be in place under Opening Year (2020) conditions because these improvements are planned capital improvements of Caltrans.

- I-215: The I-215/Cactus Avenue interchange will be improved to extend the northbound auxiliary lane between Alessandro Boulevard and Cactus Avenue (expected to be completed by 2018); and
- SR-91: Several construction projects are underway to improve traffic mobility along SR-91, including the including the construction of one carpool lane in each direction between Adams Street and the SR-60/SR-91/I-215 freeway interchange (expected to be complete by the end of 2015); the addition of two tolled express lanes and one mixed flow lane in each direction between SR-71 and I-15; and the addition of an eastbound mixed flow lane between I-15 and Pierce Street (expected to be complete by 2017).

Refer to *Technical Appendix I2* for additional information on these planned freeway mainline improvements.

❑ General Plan Buildout (Post-2035) Roadway Conditions

The Project's traffic analyses assume that the traffic facilities listed below will be place under General Plan Buildout (Post-2035) conditions, in addition to the lane configurations and traffic controls in place under existing conditions (Urban Crossroads, 2016e, p. 167). It is reasonable to anticipate that these facilities will be in place under General Plan Buildout (Post-2035) conditions because these improvements are planned capital improvements that have funding programs in place for their eventual construction.

- Project driveways and those facilities assumed to be constructed by the Project to provide access to the Project site;
- Driveways and those facilities assumed to be constructed by nearby cumulative development projects to provide site access;
- Heacock Street extension, from its existing terminus to Harley Knox Boulevard;
- Indian Street bridge crossing to connect Indian Street on both sides of the Perris Valley Storm Drain Channel; and

- Other parallel facilities, that although not included within the Project study area, are anticipated to be in place for General Plan Buildout traffic conditions and would affect the travel patterns within the Project study area (e.g., Nandina Avenue, Markham Street).

The traffic analysis also assumes that several freeway mainline improvements that are currently in various stages of planning, design, and construction will be completed by the General Plan Buildout (Post-2035) scenario. The reasonably foreseeable, planned enhancements to the regional freeway system in the Project vicinity that are assumed to be in place by Year 2035 or later are summarized below and are in addition to the improvements expected for the Opening Year (2020) scenario as described above (Urban Crossroads, 2015a, p. 6). It is reasonable to anticipate that these facilities will be in place under General Plan Buildout (Post-2035) conditions because these improvements are planned capital improvements of Caltrans.

- I-215: An approximately 10.75-mile segment of I-215, between Nuevo Road in the City of Perris and Box Springs Road in the City of Riverside, will be widened to add one carpool lane (high-occupancy vehicle lane) in each direction; however, a completion date for the I-215 expansion project has not been set due to budget constraints. Once the I-215 expansion costs and funding are determined, the planning, design and construction process is estimated to last approximately 8.5 years.

Refer to *Technical Appendix I2* for additional information on these planned freeway mainline improvements.

K. Fair Share Calculation

In instances where the Project is projected to contribute to cumulatively considerable impact to a roadway facility, and the recommended mitigation measure is a "fair share" monetary contribution toward the construction of roadway improvements needed to correct the circulation deficiency, the Project's fair share contribution is determined by the following equations (Urban Crossroads, 2016e, p. 44):

If the intersection is operating at deficient LOS under existing conditions, the Project's fair share cost of improvements would be determined by the ratio of Project traffic to total traffic.

Project Fair Share % = Project Traffic / General Plan Buildout Total Traffic

If the intersection is operating at acceptable LOS under existing conditions, the Project's fair share cost of improvements would be determined by the ratio of Project traffic to new traffic.

Project Fair Share % = Project Traffic / (Post-2035 Traffic - Existing Traffic)

These calculations are reasonable mitigation under CEQA because they establish a proportional nexus between the Project's impact and the recommended mitigation. Refer to Subsection 2.10 of

Technical Appendix I1 for more information on the methodology used to calculate the Project's fair share contribution toward future roadway improvements.

4.11.4 Basis for Determining Significance

The proposed Project would result in a significant impact to the transportation/traffic system if the Project or any Project-related component would:

a) *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;*

b) *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;*

c) *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;*

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

e) *Result in inadequate emergency access; or*

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

A. Determining Significance of Impacts

❑ **Intersections and Roadway Segments**

For purposes of determining the significance of traffic impacts under this Subsection and in accordance with the City of Moreno Valley's *Traffic Impact Analysis Preparation Guide*, and applicable City of Perris, County of Riverside, March JPA, and Caltrans traffic impact evaluation guidelines, a significant direct traffic impact would occur when the addition of Project traffic to existing (2015) traffic conditions causes an intersection or roadway segment that operates at an acceptable LOS under existing (2015) traffic conditions (i.e., LOS D or better) to fall to LOS E or F. If a roadway segment operates at LOS E or LOS F but the intersections at both extents of the roadway segment operates at LOS D or better, then traffic flow through the roadway segment is considered acceptable. (Urban Crossroads, 2016e, pp. 35-36, 43-44)

Cumulative traffic impacts are deficiencies that are not directly caused by the Project, but occur as a result of regional growth combined with that or other nearby cumulative development projects. The Project's contribution of traffic to a particular cumulative transportation deficiency is deemed cumulatively considerable if the Project adds substantial traffic to the forecasted deficiency (as measured by the 50 or more peak hour trip threshold) (Urban Crossroads, 2016e, pp. 43-44). A Project's contribution to a cumulative impact can be reduced to less than significant if the Project is required to implement or fund its fair share of physical improvements designed to alleviate the potential cumulative impact. If full funding of future physical improvements is not reasonably assured, a short-term unmitigated cumulative impact may occur until the needed improvement is fully funded and constructed.

❑ Freeway Mainline Segments and Ramp Junctions

For purposes of the analysis in this EIR Subsection, if a freeway mainline segment or ramp junction is projected to operate at an acceptable level of service (i.e., LOS D or better) without the Project and the Project would contribute traffic that is expected to cause the facility to operate at an unacceptable level of service (i.e., LOS E or F), the Project's impact is considered direct and significant. If the facility would operate at a deficient LOS without the Project and the Project would contribute traffic to the deficiency, the addition of Project traffic would be considered cumulatively considerable. (Urban Crossroads, 2016e, p. 44)

❑ Freeway Ramp Queuing

To determine whether the addition of Project traffic at a freeway ramp results in a significant impact, the stacking distance is measured to determine if the addition of Project traffic would result in a deficiency. Stacking distance on freeway ramps is acceptable if the required 95th percentile stacking distance is less than or equal to the stacking distance provided. Therefore, a significant impact would occur if the 95th percentile stacking distance need was greater than the stacking distance provided.

4.11.5 Impact Analysis

The roadway improvements proposed by the Project are described in EIR Section 3.0, *Project Description*, the construction of which would be ensured as part of the Project's conditions of approval issued by the City of Moreno Valley in association with the Project's approval process. The construction of proposed roadway improvements, including driveway connections, is assumed throughout the analysis presented in *Technical Appendices I1, I2,* and *I3* and summarized in this Subsection.

Threshold a)	***Would the project 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?***

The analysis of Threshold (a) focuses on potential impacts to local roadways (including intersections), based on acceptable LOS standards established by the Cities of Moreno Valley and Perris, as well as applicable March JPA and Caltrans standards. Refer to Threshold (b) for an analysis of potential impacts to the Riverside County CMP roadway network, including potential impacts to mainline segments of I-215, SR-60, and SR-91 in the Project study area.

❑ Project Vehicle Trip Generation

Vehicle trip generation represents the amount of traffic that is both attracted to and produced by a development project. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed by a given project. The vehicle trip generation rates utilized to estimate the amount of traffic that would be generated by the Project are based on data collected by the Institute of Transportation Engineers (ITE) and presented in the most recent edition of their *Trip Generation* manual (9th Edition, 2012).

Construction Vehicle Trip Generation

During the Project's construction stage, traffic to and from the Project site would be generated by activities such as construction employee trips, delivery of construction materials, and use of heavy equipment. Project-related construction trips are expected to vary from day to day, as the number of employees on-site would fluctuate during the various stages of Project construction and deliveries of building materials/equipment would occur periodically based on need. Regardless, to provide a conservative analysis of potential worst-case impacts during the Project's construction period, the theoretical maximum number of vehicle trips were quantified for the Project's most intensive stage of construction. The most intensive stage of construction is estimated to occur in January 2017, when Buildings 1, 2, 3, and 4 would be under different stages of active construction. For analysis purposes, the estimation of Project-related construction traffic not only assumes that all four building sites would be fully staffed by construction workers but that all four building sites would receive substantial deliveries of construction materials at the same time. Based on these assumptions, the Project is estimated to generate up to 2,427 vehicle trips per day, including 689 passenger car trips and 1,738 truck trips, during construction (Urban Crossroads, 2015b, p. 3).

After converting the Project's construction-related vehicle trips to PCE using the conversion factors previously described in Subsection 4.11.1A, the Project is estimated to generate a maximum of 4,239 daily PCE trips, including 110 AM peak hour trips and 422 PM peak hour trips, as summarized in Table 4.11-16, *Project Construction Trip Generation Summary (Passenger Car Equivalent)*. AM peak hour trips are estimated to be substantially lower than PM peak hour trips because most construction workers are anticipated to arrive at the Project site before the AM peak hour (i.e., before 7:00 AM) but would leave the Project site during the PM peak hour (i.e., around 4:00 PM). The converted trip rates presented in Table 4.11-16 are utilized throughout the analysis in *Technical Appendix I3* and this EIR Subsection to determine the Project's effect to the transportation and circulation network. (Urban Crossroads, 2015b, p. 3)

For more information on the vehicle trip generation methodology, refer to *Technical Appendix I3*.

Operational Vehicle Trip Generation

Due to the size and proposed use of Building 1, the Building is evaluated as a high-cube warehouse (ITE Land Use Code 152) which has a weighted average daily vehicle trip generation rate of 1.68 trips per thousand square feet of building space. The vehicle mix (i.e., percentage of passenger car trips vs. truck trips) for Building 1 is based on values contained in the ITE's *Trip Generation* manual. For truck trips, the ITE's *Trip Generation* manual provides no guidance on truck fleet mix (i.e., percentage of 2-axle, 3-axle, and 4-axle trips); therefore, data regarding truck vehicle mix is based on recommendations provided the by the South Coast Air Quality Management District's (SCAQMD). The SCAQMD recommends the use of a specific truck mix by axle-type to better quantify trip rates associated with local warehouse and distribution projects. (Urban Crossroads, 2016e, pp. 77-78)

Buildings 2, 3, and 4 are proposed for light industrial users and have been evaluated as such (ITE Land Use Code 110). The weighted average daily vehicle trip generation rate for light industrial land uses is 6.97 trips per thousand square feet of building space. The ITE's *Trip Generation* manual contains limited data for vehicle mix and truck fleet for light industrial land uses; therefore, the vehicle mix and truck fleet for Buildings 2, 3, and 4 are based on information from a survey of industrial buildings in the City of Fontana which is documented in a report titled *Truck Trip Generation Study*. (Urban Crossroads, 2016e, pp. 78, 80)

Based on the trip generation assumptions for Buildings 1, 2, 3, and 4, the Project is estimated to generate approximately 4,960 vehicle trips per day, including 3,519 daily passenger car trips and 1,441 daily truck trips (Urban Crossroads, 2016e, p. 82).

Table 4.11-17, *Project Trip Generation (Passenger Car Equivalent)*, summarizes the trip generation rates and vehicle mix for the land use proposed by the Project, with PCE factors applied. Consistent with standard traffic engineering practice in southern California, PCE factors are applied to Project-related traffic due to the expected heavy truck component of the Project's traffic. PCE factors allow the typical "real-world" mix of vehicle types to be represented as a single, standardized unit – the passenger car – for the purposes of capacity and LOS analyses. (Urban Crossroads, 2016e, p. 79) After converting to PCE, the Project is estimated to generate 6,975 daily PCE trips, including 660 trips during the AM peak hour and 718 trips during the PM peak hour, as summarized in Table 4.11-18, *Project Trip Generation Summary (Passenger Car Equivalent)*. The converted trip rates presented in Table 4.11-18 are utilized throughout the analysis in *Technical Appendices I1* and *I2* and this EIR Subsection to determine the Project's effect to the transportation and circulation network.

For more information on the trip generation methodology, refer to Subsection 4.1 of *Technical Appendix I1*.

❑ Project Vehicle Trip Distribution

Trip distribution is the process of identifying the probable destinations, directions, or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land uses and surrounding regional access routes are considered, to identify the route where the Project's traffic would distribute. The trip distribution pattern of passenger cars is heavily influenced by the geographical location of the Project site, the location of surrounding uses, and the proximity to the regional freeway system. The trip distribution patterns for truck traffic are strongly influenced by the location of designated local truck routes.

Construction Vehicle Trip Distribution

The Project's construction-related trip distribution, as illustrated on Figure 4.11-6 and Figure 4.11-7, was developed based on anticipated travel patterns to and from the Project site for both construction workers and vendors. Figure 4.11-8, *Project Construction Traffic Volumes*, depicts the Project's construction-related ADT along Project study area roadways (presented in PCE) and AM and PM peak hour volumes at Project study area intersections (presented in PCE).

Operational Vehicle Trip Distribution

The Project's operational trip distribution was developed based on anticipated travel patterns to and from the Project site for both passenger cars and truck traffic and based on the estimated completion of on-going/planned improvements to the local roadway network that could affect travel patterns in the Project area (Urban Crossroads, 2016e, p. 80). The near- and long-range (Post-2035) traffic distribution patterns for Project-related passenger car and truck trips are graphically depicted on Figure 4.11-9 through Figure 4.11-14. The Project's near- and long-range (Post-2035) ADT along Project study area roadways (presented in PCE) and peak hour volumes at Project study area intersections (presented in PCE) are illustrated on Figure 4.11-15 through Figure 4.11-17.

❑ Analysis Scenarios

The Project's potential impacts to the transportation and circulation network are assessed for each of the conditions listed below.

- Short-Term Construction Conditions
- Existing plus Project Conditions
- Opening Year (2020) Conditions
- General Plan Buildout (Post-2035) Conditions

The Short-Term Construction Conditions analysis determines the potential for Project construction-related traffic or construction-related activities (i.e., construction activities within the public right-of-way) to result in an adverse effect to the local roadway system, based on existing (2015) traffic conditions. Types of traffic anticipated during construction include but is not limited to employees traveling to/from the Project site as well as deliveries of construction materials to the Project site.

Information for existing conditions is disclosed in Subsection 4.11.2, above, and represents the baseline traffic conditions as they existed when the NOP for the EIR was circulated for public review in 2015. The Existing plus Project analysis determines traffic impacts that would occur on the existing roadway system with the addition of Project traffic in the theoretical scenario of the Project being placed upon existing conditions. The Existing plus Project scenario is presented to disclose direct impacts as required by CEQA. In the case of the proposed Project, the estimated time period between the distribution of the NOP for the Project's EIR (2015) and estimated Project buildout (2017) is two years. During this time period, traffic conditions are not static – other projects are being constructed, the transportation network is evolving, and traffic patterns are changing. Therefore, the Existing plus Project scenario is very unlikely to materialize in real world conditions and thus does not accurately describe the environment will exist when the proposed Project is constructed and becomes operational. Regardless, the Existing plus Project scenario is evaluated to satisfy CEQA requirements to identify the Project's impacts to the existing environment. At the request of the City of Moreno Valley Transportation Engineering staff, the Existing plus Project analysis also evaluates local traffic conditions under the theoretical scenario where a bridge is constructed over the Perris Valley Storm Drain Channel to connect Indian Street on both sides of the Channel by the time the Project completes construction.[1]

The Opening Year (2020) analysis includes an evaluation of traffic conditions at the "opening" of the Project. Pursuant to the methodology established by the City of Moreno Valley Transportation Engineering Division in their *Traffic Impact Analysis Preparation Guide*, "opening year" is defined as existing conditions plus five (5) years. In the case of the Project, 2015 represents the existing condition; therefore, the Opening Year is defined as 2020. The Opening Year (2020) analysis is utilized to determine if improvements funded through local and regional transportation mitigation fee

[1] The Indian Street bridge over the Perris Valley Storm Drain Channel is planned by the City of Moreno Valley General Plan Circulation Element; however, the bridge crossing is not included on any near-term capital improvement program and its construction cannot be assured prior to 2035.

programs such as the Transportation Uniform Mitigation Fee (TUMF) program, City of Moreno Valley Development Impact Fee (DIF) program, or other approved funding mechanisms can accommodate near-term future anticipated traffic plus the Project at the applicable target LOS. If the funded improvements can provide the target LOS, then the Project's payment into these mandatory fee programs will be considered as cumulative mitigation through Conditions of Approval applied on the Project by the City of Moreno Valley.

The General Plan Buildout (Post-2035) analysis is utilized to determine if planned local and regional transportation improvements, which are funded through local and regional transportation mitigation fee programs such as the Transportation Uniform Mitigation Fee (TUMF) program, City of Moreno Valley Development Impact Fee (DIF) program, and other approved funding mechanisms, can accommodate expected long-term growth and development at the applicable target LOS. Under the General Plan Buildout (Post-2035) scenario, the bridge over the Perris Valley Storm Drain Channel that connects Indian Street on both sides of the Channel would be completed. If the funded improvements can provide the target LOS, then the Project's payment into these mandatory fee programs will be considered as cumulative mitigation through Conditions of Approval applied on the Project by the City of Moreno Valley.

A. Short-Term Construction Traffic Impact Analysis

Projected roadway segment ADT volumes under short-term construction conditions are illustrated on Figure 4.11-18, *Short-Term Construction Average Daily Traffic*. Projected peak hour intersection turning movement volumes under short-term construction conditions are illustrated on Figure 4.11-19, *Short-Term Construction Peak Hour Intersection Volumes*.

❑ Intersection Operations Analysis

Table 4.11-19, *Short-Term Construction Intersection Analysis*, summarizes the peak hour LOS at Project study area intersections under the Project's short-term construction conditions. The analysis presented in Table 4.11-19 indicates that all intersections in the Project study area would operate at acceptable LOS during Project construction with the exception of the following intersections:

- Heacock Street / Gentian Avenue (Intersection #12) in the PM peak hour;
- Heacock Street / Iris Avenue (Intersection #13) in the PM peak hour; and
- Heacock Street / San Michele Road (Intersection #18) in the PM peak hour.

As previously disclosed under Subsection 4.11.2A, Intersections #12 and #13 operate at unacceptable LOS during the PM peak hour under existing conditions without Project-related construction traffic. Although the Project's construction-related traffic would not cause Intersections #12 and #13 to operate at deficient LOS, the Project would contribute substantial traffic to the cumulative LOS deficiencies at these Intersections. The Project's contribution to the significant impact would be cumulatively considerable and mitigation is required. Because the Project's construction-related traffic would not cause the LOS deficiencies at Intersections #12 and #13, the Project's mitigation only is required to offset the Project's incremental traffic contribution to these Intersections and would not be required to correct the existing transportation deficiencies.

Notwithstanding the above, the Project's construction-related traffic would cause the LOS at Intersection #18 to degrade from acceptable to unacceptable levels during the PM peak hour (refer to Table 4.11-19). The Project would result in a significant impact at Intersection #18 during short-term construction activities and mitigation is required.

❑ Traffic Signal Warrant Analysis

Under the Project's short-term construction conditions, no additional unsignalized intersections within the Project study area warrant consideration for a traffic signal beyond the three intersections – Intersections #7, #12, and #13 – where a traffic signal is already warranted under existing conditions (without Project construction-related traffic), as previously described in 4.11.2A (Urban Crossroads, 2015b, p. 6).

Meeting a traffic signal warrant does not inherently require that a traffic signal be installed at a particular intersection. Rather, a traffic signal warrant means that other traffic factors and conditions should be evaluated to determine whether a signal is justified. As shown in Table 4.11-19, Intersection #7 is estimated to operate at acceptable LOS during the Project's short-term construction conditions without a traffic signal. Because Intersection #7 can maintain acceptable LOS despite meeting a traffic signal warrant, *Technical Appendix I3* does not recommend a traffic signal at this Intersection (Urban Crossroads, 2015b, pp. 7-8). The Project would result in a less-than-significant impact to the traffic signal warrant at Intersection #7 under short-term construction conditions.

As shown in Table 4.11-19, Intersections #12 and #13 are projected to experience unacceptable LOS during the Project's short-term construction conditions; therefore, *Technical Appendix I3* recommends a traffic signal at these Intersections to improve traffic flow (Urban Crossroads, 2015b, pp. 7-8). Although the Project's construction-related traffic would not cause Intersections #12 and #13 to warrant a traffic signal, the Project would contribute substantial traffic to the cumulative traffic signal warrant at these Intersections. The Project's contribution to these significant impacts would be cumulatively considerable and mitigation is required. Because the Project's construction-related traffic would not cause the traffic signal warrant at either Intersections #12 and #13, the Project's mitigation only is required to offset the Project's incremental contribution of traffic to these Intersections and would not be required to correct the existing transportation deficiencies.

❑ Roadway Segment Operations Analysis

Table 4.11-20, *Short-Term Construction Roadway Segment Analysis*, summarizes the LOS along Project study area roadway segments under short-term construction conditions. As shown on Table 4.11-20, the following two roadway segments are projected to operate at unacceptable LOS during Project construction:

- Heacock Street, south of Gentian Avenue (Roadway #34); and

- Heacock Street, north of Iris Avenue (Roadway #35).

The Project's construction-related traffic would not cause the LOS deficiency along Roadway #34 as this Roadway Segment operates at unacceptable LOS under existing conditions without Project-related construction traffic (refer to Table 4.11-20). Although the Project's construction-related traffic would not cause Roadway #34 to operate at deficient LOS, the Project would contribute substantial traffic to the cumulative LOS deficiency along this Roadway Segment. The Project's contribution to the significant impact would be cumulatively considerable and mitigation is required. Because the Project's construction-related traffic would not cause the LOS deficiencies along Roadway #34, the Project's mitigation only is required to offset the Project's incremental traffic contribution to this Roadway Segment and would not be required to correct the existing transportation deficiency.

Notwithstanding the above, the Project's construction-related traffic would cause the LOS along Roadway #35 to degrade from acceptable to unacceptable levels (refer to Table 4.11-20). The Project would result in a significant impact along Roadway #35 during short-term construction activities and mitigation is required.

B. Existing plus Project Traffic Impact Analysis

Projected roadway segment ADT volumes under Existing plus Project conditions (without and with the Indian Street Bridge) are illustrated on Figure 4.11-20 and Figure 4.11-21, respectively. Projected peak hour intersection turning movement volumes under Existing plus Project conditions (without and with the Indian Street Bridge) are illustrated on Figure 4.11-22 and Figure 4.11-23, respectively.

❑ Intersection Operations Analysis

Without Indian Street Bridge

Table 4.11-21, *Existing plus Project Intersection Analysis*, summarizes the peak hour LOS at Project study area intersections under Existing plus Project conditions without the Indian Street Bridge. As shown in Table 4.11-21, all intersections in the Project study area would operate at acceptable LOS with the exception of the following intersections:

- Heacock Street / Gentian Avenue (Intersection #12) in the AM and PM peak hours;
- Heacock Street / Iris Avenue (Intersection #13) in the AM and PM peak hours; and
- Heacock Street / San Michele Road (Intersection #18) in the PM peak hour.

As previously disclosed under Subsection 4.11.2A, Intersections #12 and #13 operate at unacceptable LOS during the PM peak hour under existing conditions without Project-related traffic. The Project would not cause the PM peak hour LOS deficiency at Intersections #12 and #13 but would contribute substantial traffic to the cumulative LOS deficiencies at these Intersections; therefore, the Project's contribution to the significant impact would be cumulatively considerable under Existing plus Project conditions (without the Indian Street Bridge) and mitigation is required.

Notwithstanding the above, the Project would cause the LOS deficiencies at Intersections #12 and #13 (during the AM peak hour) and Intersection #18 (during the PM peak hour) (refer to Table 4.11-21). The Project's AM peak hour impacts to Intersections #12 and #13 and PM peak hour impact to Intersection #18 would be significant under Existing plus Project conditions (without the Indian Street Bridge) and mitigation is required.

The Heacock Street / Cactus Avenue intersection (Intersection #10) would operate at an acceptable, overall LOS under Existing plus Project conditions (without the Indian Street Bridge). However, with the addition of Project-related traffic, the performance of the northbound left turn lane would degrade to unacceptable LOS during the AM and PM peak hours. The Project's impact to the northbound left turn lane at Intersection #10 would be significant and mitigation is required.

With Indian Street Bridge

Under Existing plus Project conditions with the Indian Street Bridge, all intersections listed above that experience a LOS deficiency without the Bridge – Intersections #12, #13, and #18 – would continue to experience LOS deficiencies during the PM peak hour (refer to Table 4.11-21). Thus, under the theoretical scenario where the Indian Street Bridge is constructed under existing conditions, the Project's impacts at Intersections #12, #13, and #18 would be similar to the impacts that would occur without the Bridge, as described above.

Although Intersection #10 would operate at acceptable LOS under Existing plus Project conditions with the Indian Street Bridge, the northbound left turn lane at this Intersection would perform at unacceptable LOS during the AM and PM peak hours due to the addition of Project-related traffic. Thus, under the theoretical scenario where the Indian Street Bridge is constructed under existing conditions, the Project's impact to the northbound left turn lane at Intersection #10 would be similar to the impact that would occur without the Bridge, as described above.

In addition, under Existing plus Project conditions with the Indian Street Bridge, the intersection of Indian Street / Harley Knox Boulevard (Intersection #30) would operate at deficient LOS during the PM peak hour with the addition Project-related traffic (refer to Table 4.11-21). Accordingly, under the theoretical scenario where the Indian Street Bridge is constructed under existing conditions, the Project would result in a significant impact at Intersection #30 and mitigation is required.

❑ <u>Traffic Signal Warrant Analysis</u>

Without Indian Street Bridge

Under Existing plus Project conditions without the Indian Street Bridge, traffic signals would be warranted at the same three intersections that warrant a traffic signal under existing conditions (i.e., Intersections #7, #12, and #13). In addition, the intersections of Heacock Street / Cardinal Avenue (Intersection #17) and Indian Street / Krameria Avenue (Intersection #26) would also meet the numeric threshold for consideration of a traffic signal under the Existing plus Project conditions without the Indian Street Bridge. (Urban Crossroads, 2016e, p. 130)

As previously noted, meeting a traffic signal warrant does not inherently require that a traffic signal be installed at a particular intersection location. Rather, a traffic signal warrant means that other traffic factors and conditions should be evaluated in order to determine whether a signal is actually justified. As shown in Table 4.11-21, Intersections #7, #17, and #26 are projected to operate at acceptable LOS without a traffic signal after the addition of Project traffic (without the Indian Street Bridge). Because these Intersections can maintain acceptable LOS despite meeting a traffic signal warrant, *Technical Appendix I1* does not recommend a traffic signal at these locations (Urban Crossroads, 2016e, pp. 130, 132, 138-139). The Project's impact to the traffic signal warrant at Intersections #7, #17, and #26 would be less than significant under Existing plus Project conditions without the Indian Street Bridge.

As shown in Table 4.11-21, Intersections #12 and #13 are projected to experience unacceptable LOS under Existing plus Project conditions without the Indian Street Bridge; therefore, *Technical Appendix I1* recommends a traffic signal at these Intersections to improve traffic flow (Urban Crossroads, 2016e, pp. 130, 132, 138-139). Although the Project's traffic would not cause Intersections #12 and #13 to warrant a traffic signal, the Project would contribute substantial traffic to the cumulative traffic signal warrant at these Intersections. The Project's contribution to these significant impacts would be cumulatively considerable under Existing plus Project conditions (without the Indian Street Bridge) and mitigation is required. Because the Project would not cause the traffic signal warrant at either Intersections #12 and #13, the Project's mitigation only is required to offset the Project's incremental contribution of traffic to these Intersections and would not be required to correct existing transportation deficiencies.

With Indian Street Bridge

Under Existing plus Project conditions with the Indian Street Bridge, all intersections listed above that warrant a traffic signal without the Bridge – Intersections #7, 12, #13, #17, and #18 – would continue to warrant a traffic signal (refer to Table 4.11-21). Traffic signals are recommended at Intersections #12 and #13 under Existing plus Project conditions with the Indian Street Bridge because these intersections experience unstable traffic flow, whereas traffic signals are not be recommended at Intersections #7, #17, and #18 because these intersections experience little traffic flow interruption without a traffic signal despite meeting the mathematical warrant for a signal. (Urban Crossroads, 2016e, pp. 130, 132, 138-139) Thus, under the theoretical scenario where the Indian Street Bridge is constructed under existing conditions, the Project's impacts to traffic signal warrants at Intersections #7, 12, #13, #17, and #18 would be similar to the impacts that would occur without the Bridge, as described above.

In addition, the intersection of Heacock Street / Nandina Avenue (Intersection #19) would meet the mathematical warrant for consideration of a traffic signal under Existing plus Project conditions with the Indian Street Bridge. However, as shown in Table 4.11-21, Intersection #19 is projected to operate at acceptable LOS under Existing plus Project conditions (with the Indian Street Bridge). Because Intersection #19 can maintain acceptable LOS despite meeting a traffic signal warrant, *Technical Appendix I1* does not recommend a traffic signal at the Intersection. (Urban Crossroads, 2016e, pp. 130, 132, 138-139) Because a traffic signal is not recommended at Intersection #19, the Project's impact to the traffic signal warrant at this Intersection would be less than significant under Existing plus Project conditions with the Indian Street Bridge.

❑ Roadway Segment Operations Analysis

Without Indian Street Bridge

Table 4.11-22, *Existing plus Project Roadway Segment Analysis*, summarizes the LOS along Project study area roadway segments under Existing plus Project conditions without the Indian Street Bridge. As shown in Table 4.11-22, all roadway segments in the Project study area would operate at acceptable LOS with the exception of the following segments:

- Heacock Street, south of Gentian Avenue (Roadway #34);
- Heacock Street, north of Iris Avenue (Roadway #35); and
- Heacock Street, Iris Avenue to Krameria Avenue (Roadway #36).

Project-related traffic would not cause the LOS deficiency along Roadway #34 as this Roadway Segment operates at unacceptable LOS (i.e., LOS F) under existing conditions without Project-related construction traffic (refer to Table 4.11-22). Although the Project would not cause Roadway #34 to operate at deficient LOS, the Project would contribute substantial traffic to the cumulative LOS deficiency along this Roadway Segment. The Project's contribution to the significant impact would be cumulatively considerable under Existing plus Project conditions (without the Indian Street Bridge) and mitigation is required. Because the Project would not cause the LOS deficiency along Roadway #34, the Project's mitigation only is required to offset the Project's incremental traffic contribution to this Roadway Segment and would not be required to correct the existing transportation deficiency.

Notwithstanding the above, addition of Project traffic to Roadway Segments #35 and #36 under Existing plus Project conditions without the Indian Street Bridge would cause the LOS along these Roadway Segments to degrade from acceptable to unacceptable levels (refer to Table 4.11-22). Accordingly, the Project would result in a significant impact along Roadway Segments #35 and #36 under Existing plus Project conditions without the Indian Street Bridge and mitigation is required.

With Indian Street Bridge

Under Existing plus Project conditions with the Indian Street Bridge, the roadway segments that would experience deficient LOS without the Bridge – Roadway Segments #34, #35, and #36 – would continue to operate at deficient LOS (refer to Table 4.11-22). No additional roadway segments would operate at deficient LOS under Existing plus Project conditions with the Indian Street Bridge, as compared to the scenario without the Bridge. Therefore, under the theoretical scenario where the

Indian Street Bridge is constructed under existing conditions, the Project's impacts to study area roadway segments would be similar to the impacts that would occur without the Bridge, as described above.

C. *Opening Year (2020) Traffic Impact Analysis*

Projected roadway segment ADT volumes and peak hour intersection turning movement volumes under Opening Year (2020) traffic conditions are illustrated on Figure 4.11-24, *Opening Year (2020) Average Daily Traffic*, and Figure 4.11-25, *Opening Year (2020) Peak Hour Intersection Volumes*.

❑ Intersection Operations Analysis

Table 4.11-23, *Opening Year (2020) Intersection Analysis*, summarizes the LOS at Project study area intersections during the AM and PM peak hours under Opening Year (2020) conditions. As shown in Table 4.11-23, the following 17 intersections would operate at unacceptable LOS under Opening Year (2020) conditions:

- I-215 southbound ramps / Cactus Avenue (Intersection #1) in AM and PM peak hours;
- I-215 southbound ramps / Harley Knox Boulevard (Intersection #2) in the AM and PM peak hours;
- I-215 northbound ramps / Cactus Avenue (Intersection #3) in the AM and PM peak hours;
- I-215 northbound ramps / Harley Knox Boulevard (Intersection #4) in the PM peak hour;
- Elsworth Street / Cactus Avenue (Intersection #5) in the AM peak hour;
- Western Way / Harley Knox Boulevard (Intersection #7) in the PM peak hour;
- Graham Street / Cactus Avenue (Intersection #8) in the AM and PM peak hours;
- Patterson Avenue / Harley Knox Boulevard (Intersection #9) in the AM and PM peak hours;
- Heacock Street / Cactus Avenue (Intersection #10) in the AM and PM peak hours;
- Heacock Street / Gentian Avenue (Intersection #12) in the AM and PM peak hours;
- Heacock Street / Iris Avenue (Intersection #13) in the AM and PM peak hours;
- Heacock Street / San Michele Road (Intersection #18) in the AM and PM peak hours;
- Indian Street / San Michele Road (Intersection #28) in the AM and PM peak hours;
- Indian Street / Nandina Avenue (Intersection #29) in the AM and PM peak hours;
- Indian Street / Harley Knox Boulevard (Intersection #30) in the PM peak hour;
- Perris Boulevard / Cactus Avenue (Intersection #31) in the AM and PM peak hours; and
- Perris Boulevard / Krameria Avenue (Intersection #32) in the PM peak hour.

The Project would contribute substantial traffic to the projected cumulative LOS deficiencies at the intersections listed above. Therefore, the Project's contribution to the significant impacts at the above-listed intersections would be cumulatively considerable under Opening Year (2020) conditions and mitigation is required.

❑ Traffic Signal Warrant Analysis

Under Opening Year (2020) traffic conditions, traffic signals warrant consideration at the same five traffic signals that warrant a traffic signal under Existing plus Project conditions, as described above (i.e., Intersections #7, #12, #13, #17, and #26) (Urban Crossroads, 2016e, p. 155).

As previously noted, meeting a traffic signal warrant does not inherently require that a traffic signal be installed at a particular intersection location. Rather, a traffic signal warrant means that other traffic factors and conditions should be evaluated in order to determine whether a signal is actually justified. As shown in Table 4.11-23, Intersections #17 and #26 are projected to operate at acceptable LOS under Opening Year (2020) traffic conditions without a traffic signal. Because Intersections #17 and #26 can maintain acceptable LOS despite meeting a traffic signal warrant, *Technical Appendix I1* does not recommend a traffic signal at these Intersections (Urban Crossroads, 2016e, pp. 147, 160-161). Accordingly, the Project's impact to the traffic signal warrants at Intersections #17 and #26 would be less than significant under Opening Year (2020) conditions.

Intersections #7, #12, and #13 are projected to experience unacceptable LOS under Opening Year (2020) conditions (refer to Table 4.11-23); therefore, *Technical Appendix I1* recommends traffic signals at these Intersections to improve traffic flow (Urban Crossroads, 2016e, pp. 160-161). The Project would contribute substantial traffic to the significant traffic signal warrant at Intersections #7, #12, and #13; therefore, the Project's contribution to the signal warrants at these Intersections would be cumulatively considerable under Opening Year (2020) conditions.

❑ Roadway Segment Operations Analysis

Table 4.11-24, *Opening Year (2020) Roadway Segment Analysis*, summarizes the LOS along Project study area roadways in the Opening Year (2020). As shown in Table 4.11-24, the following 23 roadway segments would operate at unacceptable LOS under Opening Year (2020) traffic conditions:

- Cactus Avenue, I-215 southbound ramps to I-215 northbound ramps (Roadway #1);
- Cactus Avenue, east of I-215 ramps (Roadway #2);
- Cactus Avenue, west of Elsworth Street (Roadway #3);
- Cactus Avenue, east of Elsworth Street (Roadway #4);
- Cactus Avenue, west of Frederick Street (Roadway #5);
- Cactus Avenue, east of Frederick Street (Roadway #6);
- Cactus Avenue, west of Graham Street (Roadway #7);
- Cactus Avenue, east of Graham Street (Roadway #8);
- Cactus Avenue, west of Heacock Street (Roadway #9);
- San Michele Road, east of Heacock Street (Roadway #20);
- San Michele Road, west of Indian Street (Roadway #21);
- Harley Knox Boulevard, I-215 northbound ramps to Western Way (Roadway #23);
- Harley Knox Boulevard, east of Western Way (Roadway #24);
- Harley Knox Boulevard, west of Patterson Avenue (Roadway #25);

- Harley Knox Boulevard, east of Patterson Avenue (Roadway #26);
- Harley Knox Boulevard, west of Webster Avenue (Roadway #27);
- Harley Knox Boulevard, east of Webster Avenue (Roadway #28);
- Harley Knox Boulevard, west of Indian Street (Roadway #29);
- Heacock Street, north of Gentian Avenue (Roadway #33);
- Heacock Street, south of Gentian Avenue (Roadway #34);
- Heacock Street, north of Iris Avenue (Roadway #35);
- Heacock Street, Iris Avenue to Krameria Avenue (Roadway #36); and
- Indian Street, south of Nandina Avenue (Roadway #47).

The Project would contribute substantial traffic to the projected cumulative LOS deficiencies at the roadway segments listed above. Therefore, the Project's contribution to the significant impacts at the above-listed intersections would be cumulatively considerable under Opening Year (2020) conditions and mitigation is required.

D. General Plan Buildout (Post-2035) Traffic Impact Analysis

Projected roadway segment ADT volumes and peak hour intersection turning movement volumes under General Plan Buildout (Post-2035) traffic conditions are illustrated on Figure 4.11-26, *General Plan Buildout (Post-2035) Average Daily Traffic*, and Figure 4.11-27, *General Plan Buildout (Post-2035) Peak Hour Intersection Volumes*.

❑ Intersection Operations Analysis

Table 4.11-25, *General Plan Buildout (Post-2035) Intersection Analysis*, summarizes the LOS at Project study area intersections during the AM and PM peak hours under General Plan Buildout (Post-2035) traffic conditions. As shown in Table 4.11-25, all intersections in the Project study area would operate at acceptable LOS with the exception of the 17 intersections that would operate at deficient LOS under Opening Year (2020) conditions, as previously described, and the additional intersections listed below:

- Webster Avenue / Harley Knox Boulevard (Intersection #20) in the PM peak hour; and
- Indian Street / Krameria Avenue (Intersection #26) in the AM and PM peak hours.

The Project would contribute substantial traffic to the projected cumulative LOS deficiencies at the intersections listed above. Therefore, the Project's contribution to the significant impacts at the above-listed intersections would be cumulatively considerable under General Plan Buildout (Post-2035) conditions and mitigation is required.

❑ Traffic Signal Warrant Analysis

Under General Plan Buildout (Post-2035) conditions, the Webster Avenue / Harley Knox Boulevard intersection (Intersection #20) warrants consideration for a traffic signal (Urban Crossroads, 2016e, p. 181). As shown in Table 4.11-25, Intersection #20 is projected to operate at deficient LOS under

General Plan Buildout (Post-2035) condition; therefore, *Technical Appendix I1* recommends traffic signals at this Intersection to improve traffic flow (Urban Crossroads, 2016e, p. 188). The Project would contribute substantial traffic to the significant traffic signal warrant at Intersection #20; therefore, the Project's contribution to the signal warrants at this Intersection would be cumulatively considerable under General Plan Buildout (Post-2035) conditions.

❑ Roadway Segment Operations Analysis

Table 4.11-26, *General Plan Buildout (Post-2035) Roadway Segment Analysis*, summarizes the LOS along Project study area roadway segments under General Plan Buildout (Post-2035) traffic conditions. As shown in Table 4.11-26, all roadway segments in the Project study area would operate at acceptable LOS with the exception of the 23 segments that would operate at deficient LOS under Opening Year (2020) conditions, as previously described, and the additional segments listed below:

- Cactus Avenue, east of Heacock Street (Roadway #10);
- Krameria Street, Heacock Street to Cosmos Street (Roadway #12);
- Cactus Avenue, west of Perris Boulevard (Roadway #18);
- Heacock Street, Cardinal Avenue to San Michele Road (Roadway #40);
- Indian Street, San Michele Road to Nandina Avenue (Roadway #46); and
- Indian Street, north of Harley Knox Boulevard (Roadway #48).

The Project would contribute substantial traffic to the projected cumulative LOS deficiencies along the roadways listed above. Therefore, the Project's contribution to the significant impacts at the above-listed roadway segments would be cumulatively considerable under General Plan Buildout (Post-2035) conditions and mitigation is required.

Threshold b)	***Would the Project 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?***

The Riverside County CMP prepared by RCTC is applicable to the Project because of the subject property's proximity to freeway mainline segments and major intersections that are designated as part of the CMP roadway system. The CMP facilities located within the Project study area were previously described in Subsection 4.11.2H.

As described above under Threshold (a), the Project would result in cumulatively considerable traffic impacts to the following CMP intersections that are projected to operate at deficient LOS during the Opening Year (2020) and General Plan Buildout (Post-2035) traffic scenarios:

- I-215 southbound ramps / Cactus Avenue (Intersection #1);
- I-215 southbound ramps / Harley Knox Boulevard (Intersection #2);

- I-215 northbound ramps / Cactus Avenue (Intersection #3); and
- I-215 northbound ramps / Harley Knox Boulevard (Intersection #4).

Accordingly, the Project's contribution to the projected, significant conflict with the Riverside County CMP LOS standards for the CMP arterial roadway network at the above-listed intersections would be cumulatively considerable and mitigation is required.

The remainder of the analysis under this Threshold will focus on the Project's potential effects to regional freeway facilities that are part of the Riverside County CMP freeway network, including I-215, SR-60, and SR-91. For purposes of analysis, freeway segments located near the Project site are broken into smaller segments defined by the freeway-to-arterial interchange locations. The findings of the freeway impact analysis are presented below and in *Technical Appendices I1, I2,* and *I3*.

A. Short-Term Construction CMP Impact Analysis

As previously described under the analysis for Threshold (a), above, the Project's peak construction period would generate less daily and peak hour traffic volumes than would occur during Project operation. Accordingly, the Project's construction-related traffic would be less impactful to the CMP freeway network than the Project's operational traffic. As shown in Table 4.11-7, Table 4.11-28, Table 4.11-27, and described in detail below, all freeway mainline segments, ramp merge/diverge junctions, and off-ramps would operate at acceptable LOS under Existing plus Project (operational) conditions. Because the Project study area CMP freeway mainline segments, ramp merge/diverge junctions, and off-ramps would operate at acceptable LOS with the addition of the Project's operational traffic and because the Project's peak construction traffic would be less impactful than the Project's operational traffic, the Project would result in less-than-significant impacts to CMP freeway facilities under short-term construction conditions.

B. Existing plus Project CMP Impact Analysis

❑ Freeway Mainline Segment Operations Analysis

Under Existing plus Project conditions, freeway mainline segments in the Project study area are projected to operate at the LOS summarized in Table 4.11-7. As shown in Table 4.11-7, all freeway mainline segments in the Project study area would operate at acceptable LOS under Existing plus Project conditions. Accordingly, the Project's contribution of traffic to CMP freeway mainline segments would not cause or contribute to a projected LOS deficiency under Existing plus Project conditions and the Project's impact to CMP freeway mainline segments is determined to be less than significant on a direct and cumulative basis.

The freeway mainline segments listed in Table 4.11-7 include the segments that would receive the highest concentration of traffic from the Project. However, Project-related traffic does not stop at the limits of the freeway mainline segments listed in Table 4.11-7. Rather, Project-related traffic continues to travel throughout the southern California region along the State highway system, dissipating as distance from the Project site increases. As such, Project-related traffic has the potential to travel along freeway mainline segments that experience unacceptable levels of service, including but not limited to Riverside County CMP segments of SR-60, SR-91, I-15, I-215, and I-10, as well as freeway segments located outside of Riverside County, such as I-5, I-15, I-110, I-405, and I-710, among others. All State highway system facilities that operate at an unacceptable LOS are considered to be cumulatively impacted; however, because the Project would not contribute substantial traffic to congested freeway segment beyond the Project's study area, the Project's effect to Riverside County CMP freeway facilities and other freeway facilities located outside of Riverside County would be less than significant under Existing plus Project conditions.

❑ Freeway Ramp Junction Merge/Diverge Operations Analysis

Table 4.11-27, *Existing plus Project Freeway Ramp Junction Merge/Diverge Analysis*, summarizes freeway ramp junction merge/diverge operations within the Project study area during the AM and PM peak hours under Existing plus Project traffic conditions. As shown on Table 4.11-27, all freeway ramp merge/diverge junctions in the Project study area are projected to operate at acceptable LOS during the AM and PM peak hours under Existing plus Project traffic conditions. Accordingly, the Project would not cause or contribute to deficient operations at Project study area freeway ramp merge/diverge junctions under Existing plus Project conditions and the Project's impact to CMP freeway ramp merge/diverge junctions is determined to be less than significant on a direct and cumulative basis.

❑ Freeway Ramp Operations Analysis

Table 4.11-28, *Existing plus Project Off-Ramp Queuing Analysis*, summarizes freeway ramp queuing within the Project study area during the AM and PM peak hours under Existing plus Project traffic conditions. As shown on Table 4.11-28, all freeway ramps in the Project study area are projected to experience acceptable stacking lengths during the AM and PM peak hours under Existing plus Project traffic conditions, which would preclude "spill back" of traffic from this interchange onto adjacent freeway mainline segments. Accordingly, the Project would not cause or contribute to deficient operations at Project study area freeway off-ramps under Existing plus Project conditions and the Project's impact to CMP freeway off-ramps is determined to be less than significant on a direct and cumulative basis.

C. Opening Year (2020) CMP Impact Analysis

❑ Freeway Mainline Segment Operations Analysis

Table 4.11-29, *Opening Year (2020) Freeway Mainline Segment Analysis*, summarizes the LOS along freeway mainline segments within the Project study area under Opening Year (2020) conditions. As shown in Table 4.11-29, all freeway mainline segments within the Project study area would operate at acceptable LOS under Opening Year (2020) conditions, with the exception of the following seven segments:

- I-215 southbound, Eucalyptus Avenue to Alessandro Boulevard (Freeway Segment #24) in the PM peak hour;

- I-215 southbound, Ramona Expressway to Nuevo Road (Freeway Segment #29) in the PM peak hour;
- SR-91 westbound, Riverwalk Parkway to Magnolia Avenue (Freeway Segment #32) in the PM peak hour;
- I-215 northbound, University Avenue to Martin Luther King Boulevard (Freeway Segment #48) in the AM peak hour;
- I-215 northbound, Box Springs Road to SR-60/I-215 (Freeway Segment #51) in the PM peak hour;
- I-215 northbound, Eucalyptus Avenue to Alessandro Boulevard (Freeway Segment #53) in the AM and PM peak hours; and
- I-215 northbound, Ramona Expressway to Nuevo Road (Freeway Segment #58) in the AM and PM peak hours.

The Project would contribute substantial traffic to the projected cumulative LOS deficiencies along the freeway mainline segments listed above. Therefore, the Project's contribution to the significant impacts at the above-listed CMP freeway mainline segments would be cumulatively considerable under Opening Year (2020) conditions and mitigation is required.

The freeway mainline segments listed in Table 4.11-29 include the segments that would receive the highest concentration of traffic from the Project. However, Project-related traffic does not stop at the limits of the freeway mainline segments listed in Table 4.11-29. Rather, Project-related traffic continues to travel throughout the southern California region along the State highway system, dissipating as distance from the Project site increases. As such, Project-related traffic has the potential to travel along freeway mainline segments that experience unacceptable levels of service, including but not limited to Riverside County CMP segments of SR-60, SR-91, I-15, I-215, and I-10, as well as freeway segments located outside of Riverside County, such as I-5, I-15, I-110, I-405, and I-710, among others. All State highway system facilities that operate at an unacceptable LOS are considered to be cumulatively impacted; however, because the Project would not contribute substantial traffic to congested freeway segment beyond the Project's study area, the Project's effect to Riverside County CMP freeway facilities and other freeway facilities located outside of Riverside County would be less than significant under Opening Year (2020) conditions.

❑ Freeway Ramp Junction Merge/Diverge Operations Analysis

Table 4.11-30, *Opening Year (2020) Freeway Ramp Junction Merge/Diverge Analysis*, summarizes freeway ramp junction merge/diverge operations within the Project study area during the AM and PM peak hours under Opening Year (2020) conditions. As shown in Table 4.11-30, all freeway ramp merge/diverge junction in the Project study area are projected to operate at acceptable LOS under Opening Year (2020) conditions with the exception of the following ramp junctions:

- I-215 southbound, loop off-ramp (upstream) at Cactus Avenue (Ramp Junction #1) in the AM and PM peak hours;

- I-215 southbound, loop off-ramp (downstream) at Cactus Avenue (Ramp Junction #2) in the AM and PM peak hours; and
- I-25 southbound, off-ramp at Harley Knox Boulevard (Ramp Junction #3) in the AM peak hour.

The Project would contribute substantial traffic to the projected cumulative LOS deficiencies at the freeway ramp merge/diverge junctions listed above. Therefore, the Project's contribution to the significant impacts at the above-listed CMP freeway ramp merge/diverge junctions would be cumulatively considerable under Opening Year (2020) conditions and mitigation is required.

❑ **Freeway Ramp Operations Analysis**

Table 4.11-31, *Opening Year (2020) Off-Ramp Queuing Analysis*, summarizes queuing at freeway ramps in the Project study area during the AM and PM peak hours under Opening Year (2020) conditions. As shown in Table 4.11-31, all freeway ramps experience acceptable stacking lengths under Opening Year (2020) conditions with the exception of the following ramp:

- I-215 southbound ramps / Harley Knox Boulevard (Ramp #2), southbound shared left-through lane in the AM peak hour.

The Project would contribute substantial traffic to the projected cumulative LOS deficiency at the freeway ramp listed above. Therefore, the Project's contribution to the significant impacts at the above-listed CMP freeway ramp would be cumulatively considerable under Opening Year (2020) conditions and mitigation is required.

D. General Plan Buildout (Post-2035) CMP Impact Analysis

❑ **Freeway Mainline Segment Operations Analysis**

Table 4.11-32, *General Plan Buildout (Post-2035) Freeway Mainline Segment Analysis*, summarizes the LOS along freeway mainline segments within the Project study area under General Plan Buildout (Post-2035) conditions. As shown in Table 4.11-32, all freeway mainline segments within the Project study area would operate at acceptable LOS, with the exception of the seven segments that would operate at deficient LOS under Opening Year (2020) conditions, as previously described, and the additional segments listed below:

- SR-91 eastbound, McKinley Street to Riverwalk Parkway (Freeway Segment #2) in the AM and PM peak hours;
- SR-91 eastbound, Riverwalk Parkway to Magnolia Avenue (Freeway Segment #3) in the AM and PM peak hours;
- SR-91 eastbound, Adams Street to Madison Street (Freeway Segment #8) in the AM and PM peak hours;
- I-215 southbound, Van Buren Boulevard to Harley Knox Boulevard (Freeway Segment #27) in the AM and PM peak hours;

- SR-91 westbound, I-15 to McKinley Street (Freeway Segment #30) in the AM and PM peak hours;
- SR-91 westbound, McKinley Street to Riverwalk Parkway (Freeway Segment #31) in the AM and PM peak hours;
- SR-91 westbound, Magnolia Avenue to La Sierra Avenue (Freeway Segment #33) in the AM and PM peak hours;
- SR-91 westbound, La Sierra Avenue to Tyler Avenue (Freeway Segment #34) in the AM and PM peak hours;
- I-215 northbound, Martin Luther King Boulevard to Central Avenue (Freeway Segment #49) in the AM and PM peak hours;
- I-215 northbound, SR-60 to Eucalyptus Avenue (Freeway Segment #52) in the AM and PM peak hours; and
- I-215 northbound, Van Buren Boulevard to Harley Knox Boulevard (Freeway Segment #56) in the AM and PM peak hours.

The Project would contribute substantial traffic to the projected cumulative LOS deficiencies along the freeway mainline segments listed above. Therefore, the Project's contribution to the significant impacts at the above-listed CMP freeway mainline segments would be cumulatively considerable under General Plan Buildout (Post-2035) conditions and mitigation is required.

The freeway mainline segments listed in Table 4.11-32 include the segments that would receive the highest concentration of traffic from the Project. However, Project-related traffic does not stop at the limits of the freeway mainline segments listed in Table 4.11-32. Rather, Project-related traffic continues to travel throughout the southern California region along the State highway system, dissipating as distance from the Project site increases. As such, Project-related traffic has the potential to travel along freeway mainline segments that experience unacceptable levels of service, including but not limited to Riverside County CMP segments of SR-60, SR-91, I-15, I-215, and I-10, as well as freeway segments located outside of Riverside County, such as I-5, I-15, I-110, I-405, and I-710, among others. All State highway system facilities that operate at an unacceptable LOS are considered to be cumulatively impacted; however, because the Project would not contribute substantial traffic to congested freeway segment beyond the Project's study area, the Project's effect to Riverside County CMP freeway facilities and other freeway facilities located outside of Riverside County would be less than significant under General Plan Buildout (Post-2035) conditions.

❑ Freeway Ramp Junction Merge/Diverge Operations Analysis

Table 4.11-33, *General Plan Buildout (Post-2035) Freeway Ramp Junction Merge/Diverge Analysis*, summarizes freeway ramp junction merge/diverge operations within the Project study area during the AM and PM peak hours under General Plan Buildout (Post-2035) conditions. As shown in Table 4.11-33, all freeway ramp merge/diverge junction in the Project study area are projected to operate at acceptable LOS with the exception of the ramp junctions that would operate at deficient LOS under Opening Year (2020) conditions, as previously described, and the additional ramp junctions listed below:

- I-215 southbound, on-ramp at Harley Knox Boulevard (Ramp Junction #4) in the PM peak hour;
- I-215 northbound, on-ramp at Cactus Avenue (Ramp Junction #5) in the AM and PM peak hours;
- I-215 northbound, on-ramp at Harley Knox Boulevard (Ramp Junction #6) in the AM and Peak hours; and
- I-215 northbound, off-ramp at Harley Knox Boulevard (Ramp Junction #7) in the AM peak hour.

The Project would contribute substantial traffic to the projected cumulative LOS deficiencies at the freeway ramp merge/diverge junctions listed above. Therefore, the Project's contribution to the significant impacts at the above-listed CMP freeway ramp merge/diverge junctions would be cumulatively considerable under General Plan Buildout (Post-2035) conditions and mitigation is required.

❑ Freeway Ramp Operations Analysis

Table 4.11-34, *General Plan Buildout (Post-2035) Off-Ramp Queuing Analysis*, summarizes queuing at freeway ramps in the Project study area during the AM and PM peak hours under General Plan Buildout (Post-2035) conditions. As shown in Table 4.11-34, all freeway ramps would experience acceptable stacking lengths with the exception of the ramp that would operate at deficient LOS under Opening Year (2020) conditions, as previously described, and the additional ramps listed below:

- I-215 southbound ramps / Cactus Avenue (Ramp Junction #1), southbound right turn lane in the AM peak hour; and
- I-215 northbound ramps / Cactus Avenue (Ramp Junction #3), northbound left turn lane in the AM peak hour.

The Project would contribute substantial traffic to the projected cumulative LOS deficiency at the freeway ramps listed above. Therefore, the Project's contribution to the significant impacts at the above-listed CMP freeway ramps would be cumulatively considerable under General Plan Buildout (Post-2035) conditions and mitigation is required.

Threshold c) ***Would the Project 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 proposed Project does not contain an air travel component (e.g., runways, helipads); thus, air traffic levels in the vicinity of the March Air Reserve Base would not be changed as a result of the Project.

As previously described in EIR Section 3.0, *Project Description*, the Project would develop the subject property with four warehouse distribution/light industrial buildings and related improvements, including parking areas, loading bays, detention basins, and landscaping. The tallest features on the Project site would be the proposed buildings, which would not exceed a height of 52 feet above finished grade, and would not include any component that would obstruct the flight path or change air traffic patterns at the March Air Reserve Base. Furthermore, the Project was subject to review by the Riverside County ALUC, which found that the Project would be fully consistent with the March Air Reserve Base ALUCP and would not contain design features that would alter air traffic patterns and/or result in a substantial safety risk to flight. A copy of the ALUC staff report that contains the conditions of approval imposed on the Project by the ALUC are included in Project's Administrative Record for this EIR on file with the City of Moreno Valley.

Based on the foregoing information, the Project would not have the potential to affect air traffic patterns, including an increase in traffic levels or a change in flight path location that results in substantial safety risks. No impact would occur.

Threshold d)	***Would the Project substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?***

The Project would be compatible with existing and planned warehouse distribution and light industrial uses to the north, south, and west of the Project site. The Project also would prohibit Project-related truck traffic on Indian Street and would be located in close proximity to several City-designated truck routes, which would eliminate potential incompatibilities with residentially-zoned properties and primary bicycle and pedestrian travel ways. As such, there would be no transportation hazards created as a result of an incompatible land use.

All proposed improvements within the public right-of-ways would be installed in conformance with City design standards. The City of Moreno Valley Public Works Department reviewed the Project's application materials (refer to EIR Section 3.0, *Project Description*) and determined that no hazardous transportation design features would be introduced by the Project. Additionally, a construction traffic control plan is recommended by this EIR (refer to Subsection 4.11.8) to safely route traffic along abutting roadways during temporary construction activities and to maintain adequate emergency access.

Accordingly, the proposed Project would not create or substantially increase safety hazards due to a design feature or incompatible use. The Project would result in a less-than-significant impact.

Threshold e)	***Would the Project result in inadequate emergency access?***

During the course of the City of Moreno Valley's review of the proposed Project, the City evaluated the Project's design, including but not limited to proposed driveway locations and parking lot/drive aisle configuration, to ensure that adequate access would be provided for emergency vehicles at Project build out. Furthermore, as described above under the response to Threshold (d), the Project would provide adequate emergency access along abutting roadways during temporary construction activities within the roadways (i.e., the installation of utility infrastructure). Therefore, the Project would not result in inadequate emergency access and a less-than-significant impact would occur.

Threshold f)	***Would the Project conflict with adopted policies or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?***

The Project is designed to accommodate pedestrians via sidewalks provided along adjacent public roadways. Landscaping is designed to be installed along the Project's perimeter, which would separate the adjacent public roadway rights-of-way (and their associated streetscapes and sidewalks) from the proposed Project's interior, eliminating any conflict between Project operations and the sidewalks along perimeter roadways. Furthermore, all Project driveways would be stop-sign controlled and sight distances at each Project driveway would be reviewed by the City of Moreno Valley at the time improvement plans are submitted to ensure that sight distance meets minimum City safety standards.

According to City of Moreno Valley General Plan, the Project site abuts Class III bikeways on Heacock Street, Krameria Avenue, and Indian Street. Class III bikeways are designated bikeways, not striped, and are shared with vehicles. In January 2015, the City of Moreno Valley adopted a Bicycle Master Plan, which updates and supersedes the recommendations of the General Plan. The Bicycle Master Plan identifies a planned Class I, multi-use bike path along the segment of the Perris Valley Storm Drain Channel that traverses the Project site (within property owned by the Riverside County Flood Control and Water Conservation District) as well as Class II (striped) bike lanes along the segments of Heacock Street and Indian Street that abut the Project site. The Project does not include any element that would prevent the implementation of or preclude the use of the planned Class I and Class II bicycle facilities adjacent to the Project site.

Two bus routes, Route 19 and Route 20, operate in close proximity to the Project site; however, neither bus route operates along roads that abut the Project site. There are no other public transit services in the vicinity of the Project site under existing conditions. Accordingly, the Project could not conflict with local public transit service.

Off site, trucks accessing the Project are required to use approved truck routes designated by the Cities of Moreno Valley and Perris. Mandatory use of designated truck routes would minimize potential real and perceived conflicts between trucks and passenger vehicles, bicyclists, and pedestrians and would maximize the safety of the multi-model circulation system.

As demonstrated by the foregoing analysis, the Project would not conflict with adopted policies, plans or programs related to alternative transportation, or otherwise substantially decrease the performance or safety of such facilities, and a less-than-significant impact would occur.

4.11.6 Cumulative Impact Analysis

The analysis under Threshold (a) disclosed the Project's potential to affect the transportation network on a direct and cumulative basis. As concluded under Threshold (a), the Project would contribute considerable traffic volumes at intersections and roadway segments within the Project study area that are projected to experience significant, cumulative impacts under short-term construction, Existing plus Project, Opening Year (2020) and/or General Plan Buildout (Post-2035) traffic conditions. The intersections and roadway segments that would receive cumulatively considerable impacts from the Project are listed below:

Cumulatively Impacted Intersections

- I-215 southbound ramps / Cactus Avenue (Intersection #1);
- I-215 southbound ramps / Harley Knox Boulevard (Intersection #2);
- I-215 northbound ramps / Cactus Avenue (Intersection #3);
- I-215 northbound ramps / Harley Knox Boulevard (Intersection #4);
- Elsworth Street / Cactus Avenue (Intersection #5);
- Western Way / Harley Knox Boulevard (Intersection #7);
- Graham Street / Cactus Avenue (Intersection #8);
- Patterson Avenue / Harley Knox Boulevard (Intersection #9);
- Heacock Street / Cactus Avenue (Intersection #10);
- Heacock Street / Gentian Avenue (Intersection #12);
- Heacock Street / Iris Avenue (Intersection #13);
- Heacock Street / San Michele Road (Intersection #18);
- Webster Avenue / Harley Knox Boulevard (Intersection #20);
- Indian Street / Krameria Avenue (Intersection #26);
- Indian Street / San Michele Road (Intersection #28);
- Indian Street / Nandina Avenue (Intersection #29);
- Indian Street / Harley Knox Boulevard (Intersection #30);
- Perris Boulevard / Cactus Avenue (Intersection #31); and
- Perris Boulevard / Krameria Avenue (Intersection #32).

Cumulatively Impacted Roadway Segments

- Cactus Avenue, I-215 southbound ramps to I-215 northbound ramps (Roadway #1);
- Cactus Avenue, east of I-215 ramps (Roadway #2);
- Cactus Avenue, west of Elsworth Street (Roadway #3);
- Cactus Avenue, east of Elsworth Street (Roadway #4);
- Cactus Avenue, west of Frederick Street (Roadway #5);
- Cactus Avenue, east of Frederick Street (Roadway #6);
- Cactus Avenue, west of Graham Street (Roadway #7);
- Cactus Avenue, east of Graham Street (Roadway #8);
- Cactus Avenue, west of Heacock Street (Roadway #9);

- Cactus Avenue, east of Heacock Street (Roadway #10);
- Krameria Street, Heacock Street to Cosmos Street (Roadway #12);
- Cactus Avenue, west of Perris Boulevard (Roadway #18);
- San Michele Road, east of Heacock Street (Roadway #20);
- San Michele Road, west of Indian Street (Roadway #21);
- Harley Knox Boulevard, I-215 northbound ramps to Western Way (Roadway #23);
- Harley Knox Boulevard, east of Western Way (Roadway #24);
- Harley Knox Boulevard, west of Patterson Avenue (Roadway #25);
- Harley Knox Boulevard, east of Patterson Avenue (Roadway #26);
- Harley Knox Boulevard, west of Webster Avenue (Roadway #27);
- Harley Knox Boulevard, east of Webster Avenue (Roadway #28);
- Harley Knox Boulevard, west of Indian Street (Roadway #29);
- Heacock Street, north of Gentian Avenue (Roadway #33);
- Heacock Street, south of Gentian Avenue (Roadway #34);
- Heacock Street, Iris Avenue to Krameria Avenue (Roadway #36);
- Heacock Street, Cardinal Avenue to San Michele Road (Roadway #40);
- Indian Street, San Michele Road to Nandina Avenue (Roadway #46);
- Indian Street, south of Nandina Avenue (Roadway #47); and
- Indian Street, north of Harley Knox Boulevard (Roadway #48).

The analysis under Threshold (b) evaluated the Project's potential to result in substantial adverse effects to the Riverside County CMP roadway network, including CMP arterial roadways and freeway facilities. As concluded under Threshold (b), the addition of Project traffic to the existing and planned CMP roadway network would result in cumulatively considerable impacts to the following CMP intersections (all of which were previously identified under the cumulative analysis for Threshold One, above):

Cumulatively Impacted CMP Intersections

- I-215 southbound ramps / Cactus Avenue (Intersection #1);
- I-215 southbound ramps / Harley Knox Boulevard (Intersection #2);
- I-215 northbound ramps / Cactus Avenue (Intersection #3); and
- I-215 northbound ramps / Harley Knox Boulevard (Intersection #4).

In addition to the CMP intersections listed above, Project would contribute considerable traffic volumes to CMP freeway mainline segments, merge/diverge ramp junctions, and ramps within the Project study area that are projected to experience significant, cumulative impacts under Opening Year (2020) and/or General Plan Buildout (Post-2035) traffic conditions. The CMP freeway facilities that would receive cumulatively considerable impacts from the Project are listed below:

Cumulatively Impacted CMP Freeway Mainline Segments

- SR-91 eastbound, McKinley Street to Riverwalk Parkway (Freeway Segment #2);

- SR-91 eastbound, Riverwalk Parkway to Magnolia Avenue (Freeway Segment #3);
- SR-91 eastbound, Adams Street to Madison Street (Freeway Segment #8);
- I-215 southbound, Eucalyptus Avenue to Alessandro Boulevard (Freeway Segment #24);
- I-215 southbound, Van Buren Boulevard to Harley Knox Boulevard (Freeway Segment #27);
- I-215 southbound, Ramona Expressway to Nuevo Road (Freeway Segment #29);
- SR-91 westbound, I-15 to McKinley Street (Freeway Segment #30);
- SR-91 westbound, McKinley Street to Riverwalk Parkway (Freeway Segment #31);
- SR-91 westbound, Riverwalk Parkway to Magnolia Avenue (Freeway Segment #32);
- SR-91 westbound, Magnolia Avenue to La Sierra Avenue (Freeway Segment #33);
- SR-91 westbound, La Sierra Avenue to Tyler Avenue (Freeway Segment #34);
- I-215 northbound, University Avenue to Martin Luther King Boulevard (Freeway Segment #48);
- I-215 northbound, Martin Luther King Boulevard to Central Avenue (Freeway Segment #49);
- I-215 northbound, Box Springs Road to SR-60/I-215 (Freeway Segment #51);
- I-215 northbound, SR-60 to Eucalyptus Avenue (Freeway Segment #52);
- I-215 northbound, Eucalyptus Avenue to Alessandro Boulevard (Freeway Segment #53);
- I-215 northbound, Van Buren Boulevard to Harley Knox Boulevard (Freeway Segment #56); and
- I-215 northbound, Ramona Expressway to Nuevo Road (Freeway Segment #58).

Cumulatively Impacted CMP Freeway Ramp Merge/Diverge Junctions

- I-215 southbound, loop off-ramp (upstream) at Cactus Avenue (Ramp Junction #1);
- I-215 southbound, loop off-ramp (downstream) at Cactus Avenue (Ramp Junction #2);
- I-215 southbound, off-ramp at Harley Knox Boulevard (Ramp Junction #3);
- I-215 southbound, on-ramp at Harley Knox Boulevard (Ramp Junction #4);
- I-215 northbound, on-ramp at Cactus Avenue (Ramp Junction #5);
- I-215 northbound, on-ramp at Harley Knox Boulevard (Ramp Junction #6); and
- I-215 northbound, off-ramp at Harley Knox Boulevard (Ramp Junction #7).

Cumulatively Impacted CMP Freeway Ramps

- I-215 southbound ramps / Cactus Avenue (Ramp Junction #1), southbound right turn lane;
- I-215 southbound ramps / Harley Knox Boulevard (Ramp #2), southbound shared left-through lane; and
- I-215 northbound ramps / Cactus Avenue (Ramp Junction #3), northbound left turn lane.

The proposed Project has no potential to contribute to a significant cumulative impact under the topics discussed under Thresholds 3, 4, and 5, because the Project has no potential to result in changes to air traffic patterns, to result in transportation design safety concerns, or to adversely affect emergency access on a direct or cumulative basis.

As presented under Threshold (f), the proposed Project would not conflict with adopted policies or programs regarding public transit, bicycle, or pedestrian facilities and thus has no potential to contribute to a cumulative impact. The Project would have a less-than-significant cumulatively considerable impact to adopted policies and programs regarding public transit, bicycle, and pedestrian facilities, as well as a less-than-significant cumulatively considerable impact to the performance of such facilities.

4.11.7 Significance of Impacts before Mitigation

Threshold a): Significant Direct and Cumulatively Considerable Impact. The Project would be directly responsible for LOS deficiencies at Project study area intersections and roadway segments under short-term construction and Existing plus Project traffic conditions (without and with the Indian Street Bridge). In addition, the Project would contribute to LOS deficiencies at numerous Project study area intersections and roadway segments under short-term construction, Existing plus Project, Opening Year (2020) and General Plan Buildout (Post-2035) traffic conditions.

Threshold b): Cumulatively Considerable Impact. The Project would contribute cumulatively considerable traffic volumes at numerous intersections and freeway facilities included within the Riverside County CMP roadway networks under Opening Year (2020) and General Plan Buildout (Post-2035) traffic conditions.

Threshold c): Less-than-Significant Impact. The proposed Project does not include an air travel component and would not affect local air traffic levels. In addition, the Project would not introduce any feature into the local area that would alter or obstruct air traffic patterns.

Threshold d): Less-than-Significant Impact. Implementation of the proposed Project would not substantially increase transportation safety hazards due to incompatible uses or design features.

Threshold e): Less-than-Significant Impact. Adequate emergency access would be provided to the Project site during both short-term construction and long-term operation. The Project would not result in inadequate emergency access to the site or surrounding properties.

Threshold f): Less-than-Significant Impact. The proposed Project is consistent with adopted policies and programs regarding public transit, bicycle, and pedestrian facilities, and is designed to minimize potential conflicts with non-vehicular means of transportation. Potential impacts to the performance or safety of transit, bicycle, and pedestrian systems would be less than significant.

4.11.8 Mitigation

The following mitigation measures would minimize the Project's direct impact to the intersection of Heacock Street / San Michele Road (Intersection #18) under near-term construction activities and Existing plus Project conditions:

MM 4.11-1 Prior to the issuance of the first grading permit, the traffic signal at the Heacock Street / San Michele Road intersection shall be modified to provide overlap phasing on the westbound right turn lane.

The following mitigation measure would minimize the Project's direct impact to the Heacock Street segment north of Iris (Roadway #35) and the Project's cumulatively considerable impact to the Heacock Street segment south of Gentian (Roadway #34) under near-term construction activities.

MM 4.11-2 Prior to the issuance of grading or building permits, the Project Applicant shall prepare and submit a temporary traffic control plan to the City of Moreno Valley for approval. The temporary traffic control plan shall comply with the applicable requirements of the *California Manual on Uniform Traffic Control Devices*. A requirement to comply with the temporary traffic control plan shall be noted on all grading and building plans and also shall be specified in bid documents issued to prospective construction contractors. The temporary traffic control plan shall require the following:

a) The construction contractor shall assure that construction-related trips, including employee trips and delivery trucks, shall utilize the most direct route between the Project site and the I-215 freeway via Harley Knox Boulevard.

The following mitigation measure would minimize the Project's direct impact under Existing plus Project conditions to the intersection of Heacock Street / Cactus Avenue (Intersection #10):

MM 4.11-3 Prior to building final for Project's the first building, the Project Applicant shall assure the Heacock Street / Cactus Avenue intersection is improved with the following geometrics:

a) Re-stripe the two northbound left turn lanes to provide 315 feet of lane storage for each lane.

The following mitigation measure would minimize the Project's direct impacts under Existing plus Project conditions to the intersection of Heacock Street / Gentian Avenue (Intersection #12) and the Heacock Street roadway segment north of Iris Avenue (Roadway #35):

MM 4.11-4 Prior to building final for the Project's first building, a traffic signal (as programmed under the City of Moreno Valley Development Impact Fee program) shall be installed at the Heacock Street / Gentian Avenue intersection.

The following mitigation measure would to minimize the Project's direct impacts under Existing plus Project conditions to the intersection of Heacock Street / Iris Avenue (Intersection #13), the Heacock Street roadway segment north of Iris Avenue (Roadway #35), and the Heacock Street roadway segment between Iris Avenue and Krameria Avenue (Roadway #36):

MM 4.11-5 Prior to building final for the Project's first building the issuance of the Project's first occupancy permit, a traffic signal (as programmed under the City of Moreno Valley Development Impact Fee program) shall be installed at the Heacock Street / Iris Avenue intersection.

The following mitigation measure would minimize the Project's direct impact to the intersection of Indian Street / Harley Knox Boulevard (Intersection #30) under the theoretical Existing plus Project with Indian Street Bridge traffic scenario:

MM 4.11-6 In the event a bridge has been constructed over the Perris Valley Storm Drain Channel to connect Indian Street on the north/south sides of the Channel prior to building final for the Project's first building, then the Project Applicant shall use reasonable efforts to make a fee payment to the City of Perris that shall be used to modify the traffic signal at the Indian Street / Harley Knox Boulevard intersection to provide overlap phasing on the southbound right turn lane.

The following mitigation measures would minimize the Project's cumulative impacts to the local roadway network under short-term construction, Existing plus Project (without and with Indian Street Bridge), Opening Year (2020), and General Plan Buildout (Post-2035) conditions:

MM 4.11-7 Prior to issuance of building permits, the Project shall comply with the City of Moreno Valley Development Impact Fee (DIF) program, which requires the payment of a fee to the City (less fee credits), a portion of which is applied to reduce traffic congestion by funding the installation of roadway improvements.

MM 4.11-8 Prior to issuance of building permits, the Project shall comply with the Transportation Uniform Mitigation Fee (TUMF) program, which funds off-site regional transportation improvements.

MM 4.11-9 Prior to issuance of building final for Buildings 1, 2, 3, and 4, the Project Applicant shall make a fair share fee payment to the City of Moreno Valley for the roadway improvements listed in Table 6-6 and Table 7-6 of the "Moreno Valley Logistics Center Traffic Impact Analysis," prepared by Urban Crossroads (dated February 26, 2016), that are located within the geographical limits of the City of Moreno Valley. These roadway improvements are not included within the City of Moreno Valley's Development Impact Fee (DIF) program. The fair share fee attributable to Buildings 1, 2, 3, and 4 shall be calculated according to the percentages specified in EIR Table 4.11-35, *Project Fair Share Calculations*.

MM 4.11-10 Prior to issuance of the building final for Buildings 1, 2, 3, and 4, the Project Applicant shall use reasonable efforts to make a fair share fee payment to the March Joint Powers Authority for the roadway improvements listed in Table 6-6 and Table 7-6 of the "Moreno Valley Logistics Center Traffic Impact Analysis," prepared by Urban Crossroads (dated February 26, 2016), that are located within the March Joint Powers Authority's jurisdiction. The needed roadway improvements are not included within an existing mitigation program where the Project can participate. The fair share fee attributable to Buildings 1, 2, 3, and 4 shall be calculated according to the percentages specified in EIR Table 4.11-35, *Project Fair Share Calculations*.

MM 4.11-11 Prior to issuance of the building final for Buildings 1, 2, 3, and 4, the Project Applicant shall use reasonable efforts to make a fair share fee payment to the City of Perris for the improvements listed in Table 6-6 and Table 7-6 of the "Moreno Valley Logistics Center Traffic Impact Analysis," prepared by Urban Crossroads (dated November 18, 2015), that are located within the City of Perris' jurisdiction. The needed roadway improvements are not included within an existing mitigation program where the Project can participate. The fair share fee attributable to Buildings 1, 2, 3, and 4 shall be calculated according to the percentages specified in EIR Table 4.11-35, *Project Fair Share Calculations*.

The following mitigation measures would minimize the Project's cumulative impacts to freeway mainline segments, ramp merge/diverge junctions, and off-ramps under Opening Year (2020) and General Plan Buildout (Post-2035) conditions:

MM 4.11-12 In the event that Caltrans prepares a valid study, as defined below, that identifies fair share contribution funding sources attributable to and paid from private and public development to supplement other regional and State funding sources necessary undertake improvements to I-215 and SR-91 in the Project study area, then the Project Applicant shall use reasonable efforts to pay the applicable fair share amount to Caltrans.

The study shall include fair share contributions related to private and or public development based on nexus requirements contained in the Mitigation Fee Act (Govt. Code § 66000 et seq.) and 14 Cal. Code of Regs. § 15126.4(a)(4) and, to this end, the study shall recognize that impacts to Caltrans I-215 and SR-91 facilities that are not attributable to development located within the City of Moreno Valley are not required to pay in excess of such developments' fair share obligations. The fee study shall also be compliant with Government Code § 66001(g) and any other applicable provisions of law. The study shall set forth a timeline and other relevant criteria for implementation of the recommendations contained within the study to the extent the other agencies agree to participate in the fee study program.

In the event the study has been prepared, the Project Applicant shall use reasonable efforts to pay the fair share amount to Caltrans. If Caltrans chooses to accept the Project Applicant's fair share payment, Caltrans shall apply the payment to the fee program adopted by Caltrans or agreed upon by the Project Applicant and Caltrans as a result of the fair share fee study. Caltrans shall only accept the fair share payment if the fair share fee study has been completed. If, within five years from the date that the first building permit is issued for the Project, Caltrans has not completed the fair share fee study, then the Project Applicant shall have no further obligation to comply with this mitigation measure.

4.11.9 Significance of Impacts after Mitigation

Threshold a): Significant and Unavoidable Direct and Cumulatively Considerable Impact. Implementation of mitigation measures (MM) MM 4.11-2 through MM 4.11-1 would require the Project to construct roadway improvements, pay development impact fees, and participate in fair share funding programs to address the Project's direct and cumulative impacts to the local roadway network. The ability of MM 4.11-2 through MM 4.11-1 to alleviate the Project's impacts under each analysis scenario is discussed below.

Short-Term Construction Conditions

As shown in Table 4.11-36, *Short-Term Construction Intersection Analysis – With Mitigation*, Intersection #16 would operate at acceptable LOS under short-term construction conditions with implementation of MM 4.11-1. Therefore, the Project's direct impact to Intersection #16 during the PM peak hour under short-term construction traffic conditions would be less than significant with mitigation.

With implementation of MM 4.11-2, the Project would not contribute traffic to Roadway #35 during short-term construction activities and, therefore, would not cause the LOS deficiency along this Roadway. Accordingly, MM 4.11-2 would reduce the Project's direct impact to Roadway #35 under short-term construction traffic conditions to less than significant.

Implementation of MM 4.11-2 would avoid the Project's cumulatively considerable impact to Roadway #34 under short-term construction conditions. MM 4.11-7 would require the Project to make DIF contributions to fund the DIF-programmed improvements needed to improve Intersections #12 and #13 to acceptable LOS (refer to Table 4.11-36 for operating conditions at these Intersections after recommended improvements). The payment of mitigation fees toward a planned improvement with reasonable assurance of implementation is adequate mitigation under CEQA. Therefore, because the Project would make a DIF fee payment, from which a portion would be allocated toward the programmed improvements at Intersections #12 and #13, fee payment is appropriate mitigation for the Project's impact at this intersection. However, there is no guarantee that the physical improvements required to alleviate the LOS deficiency will be in place at the time the Project begins to contribute traffic at this location during construction. Therefore, although MM 4.11-7 would fully mitigate the Project's cumulatively considerable impacts to Intersections #12 and #13, there will likely be a period of time when the intersection is receiving Project traffic and still operating at a deficient LOS. This is a cumulatively considerable, and unavoidable impact of the Project.

Existing plus Project Conditions

As shown in Table 4.11-37, *Existing Plus Project Intersection Analysis – With Mitigation*, Intersections #12, #13, and #18 would operate at acceptable LOS under Existing plus Project conditions (without and with the Indian Street Bridge) with implementation of MM 4.11-1 through MM 4.11-5. Accordingly, the Project's impacts to Intersections #12 and #13 during the AM peak hour (direct) and PM peak hour (cumulative) and direct impact to Intersection #18 during the PM peak hour would be less than significant with mitigation.

Additionally, as shown in Table 4.11-37, Intersection #30 would operate at acceptable LOS with recommended improvements under the theoretical Existing plus Project with Indian Street Bridge traffic scenario. Most of the recommended improvements at Intersection #30 have been constructed since the release of the Project's NOP and are fully operational as of the writing of this EIR (i.e., two eastbound through lanes and two westbound through lanes). One of the improvements recommended to resolve the Project's direct impact at Intersection #30 under the theoretical Existing plus Project with Indian Street Bridge traffic scenario – traffic signal for the southbound right turn lane with overlap phasing – has not been constructed as of the writing of this EIR and is still recommended for the Project. However, Intersection #30 is located outside of the geographic limits of the City of Moreno Valley, meaning the City of Moreno Valley cannot assure that the recommended improvement would be implemented, and are not included in any existing mitigation funding program that is applicable to the Project. Under the theoretical scenario where the Indian Street Bridge is constructed and operational prior to occupancy of the Project, MM 4.11-6 would require the Project Applicant to contribute fees to fund the needed improvement; however, there is no assurance that the transfer of the funds and/or the required improvement would be operational at the time of need. Under the theoretical Existing plus Project scenario where the Indian Street Bridge is constructed and operational prior to occupancy of the Project, the Project's direct impact to Intersection #30 would be significant and unavoidable.

The intersections that abut Roadways #34, #35, and #36 (i.e., Intersections #12, #13, and #14) are projected to operate at an acceptable LOS under Existing plus Project conditions with the improvements MM 4.11-1 through MM 4.11-5 (both without and with the Indian Street Bridge, refer to Table 4.11-37). (*Note:* Intersection #14 would operate at acceptable LOS under Existing plus Project conditions and would not require any improvements, refer to Table 4.11-21.) Intersection operations are an indicator of roadway segment performance, as small delays indicate that traffic flows smoothly along the roadway segment while large delays indicate unstable movement along the roadway segment. Because the intersections adjacent to Roadways #34, #35, and #36 would experience acceptable traffic flow with the improvements identified in MM 4.11-1 through MM 4.11-5, traffic operations along the Roadways would be considered acceptable. (Urban Crossroads, 2016e, p. 139) Accordingly, the Project's cumulative impacts to Roadway #34 and direct impacts to Roadways #35 and #36 would be less than significant after mitigation.

Opening Year (2020) Conditions

As shown in Table 4.11-38, *Opening Year (2020) Intersection Analysis – With Mitigation*, all intersections in the Project study area would operate at acceptable LOS with recommended improvements. However, Intersections #1, #2, #3, #4, #5, #7, #8, #9, #10, #13, #18, #28, #29, #30, #31, and #32 would require improvements that are: 1) located outside the geographic limits of the City of Moreno Valley (meaning the City of Moreno Valley cannot assure that the recommended improvements would be implemented); 2) funded by existing mitigation funding programs, for which a timetable for construction is not yet available (meaning the necessary improvements may not be in place when the Project becomes operational and starts to contribute traffic to the facilities); and/or 3) not included in any existing mitigation funding program (meaning there is no mechanism available for development projects to contribute toward the construction of needed improvements). Because the Lead Agency (City of Moreno Valley) cannot assure the recommended improvements would be implemented and/or in place at the time of need, the Project's cumulative impacts to Intersections #1, #2, #3, #4, #5, #7, #8, #9, #10, #13, #18, #28, #29, #30, #31, and #32 under the Opening Year (2020) scenario are recognized as significant and unavoidable. No other feasible mitigation measures for these cumulatively considerable impacts are available to the Project that would have a proportional nexus to the Project's traffic impact to these facilities.

As shown in Table 4.11-39, *Opening Year (2020) Roadway Segment Analysis – With Mitigation*, all intersections in the Project study area would operate at acceptable LOS with recommended improvements with the exception of Roadways #1, #2, #3, #4, #5, #6, #7, #8, #9, #20, #21, #23, #24, #33, and #47. Although these Roadways would operate at unacceptable LOS based on volume-based metrics, the intersections that abut these Roadways would operate at acceptable LOS with implementation of recommended improvements (refer to Table 4.11-38). As described previously, in instances where intersections at both legs of a roadway segment operate at acceptable LOS, then the roadway segment is considered to experience acceptable traffic flow. Thus, with implementation of recommended improvements all intersections and roadway segments in the Project study area would operate at acceptable levels under Opening Year (2020) conditions (refer to Table 4.11-38 and Table 4.11-39). However, the improvements required to Project study area intersections and roadway segments are: 1) located outside the geographic limits of the City of Moreno Valley; 2) funded by existing mitigation funding programs, for which a timetable for construction is not yet available; and/or 3) not included in any existing mitigation funding program; therefore, there is no mechanism available for development projects to contribute toward the construction of needed improvements. Because the Lead Agency (City of Moreno Valley) cannot assure the recommended improvements would be implemented and/or in place at the time of need, the Project's cumulative impacts to Roadways #1, #2, #3, #4, #5, #6, #7, #8, #9, #20, #21, #23, #24, #33, and #47 under the Opening Year (2020) scenario are recognized as significant and unavoidable. No other feasible mitigation measures for these cumulatively considerable impacts are available to the Project that would have a proportional nexus to the Project's traffic impact to these facilities.

<u>*General Plan Buildout (Post-2035) Conditions*</u>

As shown in Table 4.11-40, *General Plan Buildout (Post-2035) Intersection Analysis – With Mitigation*, all intersections in the Project study area would operate at acceptable LOS with recommended improvements. However, Intersections #1, #2, #3, #4, #5, #7, #8, #9, #10, #13, #18, #28, #29, #30, #31, and #32 would require improvements that are: 1) located outside the geographic limits of the City of Moreno Valley; 2) funded by existing mitigation funding programs, for which a timetable for construction is not yet available; and/or 3) not included in any existing mitigation funding program. Because the Lead Agency (City of Moreno Valley) cannot assure the recommended improvements would be implemented and/or in place at the time of need, the Project's cumulative impacts to Intersections #1, #2, #3, #4, #5, #7, #8, #9, #10, #13, #18, #28, #29, #30, #31, and #32 under the General Plan Buildout (Post-2035) scenario are recognized as significant and unavoidable. No other feasible mitigation measures for these cumulatively considerable impacts are available to the Project that would have a proportional nexus to the Project's traffic impact to these facilities.

As shown in Table 4.11-41, *General Plan Buildout (Post-2035) Roadway Segment Analysis – With Mitigation*, all intersections in the Project study area would operate at acceptable LOS with recommended improvements with the exception of Roadways #1, #2, #5, #6, #7, #8, and #9. Although these Roadways would operate at unacceptable LOS based on volume-based metrics, the intersections that abut these Roadways would operate at acceptable LOS with implementation of recommended improvements (refer to Table 4.11-40). As described previously, in instances where intersections at both legs of a roadway segment operate at acceptable LOS, then the roadway segment is considered to experience acceptable traffic flow. Thus, with implementation of recommended improvements all intersections and roadway segments in the Project study area would operate at acceptable levels under General Plan Buildout (Post-2035) conditions (refer to Table 4.11-40 and Table 4.11-39). However, the improvements required to Project study area intersections and roadway segments are: 1) located outside the geographic limits of the City of Moreno Valley; 2) funded by existing mitigation funding programs, for which a timetable for construction is not yet available; and/or 3) not included in any existing mitigation funding program. Because the Lead Agency (City of Moreno Valley) cannot assure the recommended improvements would be implemented and/or in place at the time of need, the Project's cumulative impacts to #1, #2, #5, #6, #7, #8, and #9 under the General Plan Buildout (Post-2035) conditions scenario are recognized as significant and unavoidable. No other feasible mitigation measures for these cumulatively considerable impacts are available to the Project that would have a proportional nexus to the Project's traffic impact to these facilities.

<u>Threshold b): Significant and Unavoidable Cumulatively Considerable Impact.</u> All freeway facilities in the Project study area, including I-215, SR-60, and SR-91 and associated merge/diverge ramp junctions areas and ramps, are under the jurisdiction of Caltrans. As such, the City of Moreno Valley cannot assure the construction of improvements to freeway facilities that may be needed to improve traffic flow. Furthermore, Caltrans does not have any funding mechanism in place to allow development projects to contribute a fair-share payment to contribute to future improvements and

off-set cumulatively considerable traffic impacts. Thus, although MM 4.11-12 requires the Project Applicant to make fair share fee contributions to Caltrans to fund improvements to freeway facilities in the Project study area – in the event that Caltrans establishes a fair share funding program that is applicable to the Project – there is no assurance that planned improvements will be in place prior to the time that the Project begins to contribute traffic to the facilities. Accordingly, the Project's contribution of traffic to previously identified, congested freeway facilities under Opening Year (2020) and/or General Plan Buildout (Post-2035) conditions would represent a significant and unavoidable cumulative impact.

As shown in Table 4.11-37 and Table 4.11-39, Intersections #1, #2, #3, and #4, would operate at acceptable LOS under Opening Year (2020) and General Plan Buildout (Post-2035) conditions with the addition of recommended improvements. The improvements recommended for Intersections #1, #2, #3, and #4 are programmed – but not yet fully funded – by TUMF. The Project would contribute to the TUMF program via MM 4.11-8. Furthermore, Intersections #1, #2, #3, and #4 are located outside of the geographic limits of the City of Moreno Valley, meaning the City cannot assure would not be in place when the Project becomes operational and starts to contribute traffic to the facilities. Because there is no timetable for constructing the TUMF-programmed improvements Intersections #1, #2, #3, and #4 and because the City cannot assure the construction of the recommended improvements by their time of need, the Project's cumulative impact at these Intersections is determined to be significant and unavoidable under Opening Year (2020) and General Plan Buildout (Post-2035) conditions.

Table 4.11-1 Project Study Area Intersections

ID	Intersection Location	Jurisdiction	CMP?
1	I-215 Southbound Ramps / Cactus Avenue	Caltrans, March JPA	Yes
2	I-215 Southbound Ramps / Harley Knox Boulevard	Caltrans, Riverside Co.	Yes
3	I-215 Northbound Ramps / Cactus Avenue	Caltrans, March JPA, Moreno Valley	Yes
4	I-215 Northbound Ramps / Harley Knox Boulevard	Caltrans, Perris	Yes
5	Elsworth Street / Cactus Avenue	Moreno Valley, March JPA	No
6	Frederick Street / Cactus Avenue	Moreno Valley, March JPA	No
7	Western Way / Harley Knox Boulevard	Perris	No
8	Graham Street / Cactus Avenue	Moreno Valley, March JPA	No
9	Patterson Avenue / Harley Knox Boulevard	Perris	No
10	Heacock Street / Cactus Avenue	Moreno Valley, March JPA	No
11	Heacock Street / Meyer Drive/John F. Kennedy Drive	Moreno Valley, March JPA	No
12	Heacock Street / Gentian Avenue	Moreno Valley, March JPA	No
13	Heacock Street / Iris Avenue	Moreno Valley, March JPA	No
14	Heacock Street / Krameria Avenue (North)	Moreno Valley, March JPA	No
15	Heacock Street / Driveway 1 – Future Intersection	Moreno Valley, March JPA	No
16	Heacock Street / Driveway 2 – Future Intersection	Moreno Valley, March JPA	No
17	Heacock Street / Cardinal Avenue	Moreno Valley, March JPA	No
18	Heacock Street / San Michele Road	Moreno Valley, March JPA	No
19	Heacock Street / Nandina Avenue	Moreno Valley, March JPA	No
20	Heacock Street/Webster Avenue / Harley Knox Boulevard	Perris	No
21	Cosmos Street / Krameria Avenue (North)	Moreno Valley	No
22	Cosmos Street / Krameria Avenue	Moreno Valley	No
23	Driveway 3 / Krameria Avenue – Future Intersection	Moreno Valley	No
24	Driveway 4 / Krameria Avenue – Future Intersection	Moreno Valley	No
25	Driveway 5 / Krameria Avenue – Future Intersection	Moreno Valley	No
26	Indian Street / Krameria Avenue	Moreno Valley	No
27	Indian Street / Driveway 6 – Future Intersection	Moreno Valley	No
28	Indian Street / San Michele Road	Moreno Valley	No
29	Indian Street / Nandina Avenue	Moreno Valley	No
30	Indian Street / Harley Knox Boulevard	Perris	No
31	Perris Boulevard / Cactus Avenue	Moreno Valley	No
32	Perris Boulevard / Krameria Avenue	Moreno Valley	No

Source: (Urban Crossroads, 2016e, Table 1-1)

Table 4.11-2 Project Study Area Roadway Segments

ID	Street	Segment	Jurisdiction
1	Cactus Avenue	I-215 SB Ramps to I-215 NB Ramps	Moreno Valley
2		East of I-215 NB Ramps	Moreno Valley
3		West of Elsworth Street	Moreno Valley
4		East of Elsworth Street	Moreno Valley
5		West of Frederick Street	Moreno Valley
6		East of Frederick Street	Moreno Valley
7		West of Graham Street	Moreno Valley
8		East of Graham Street	Moreno Valley
9		West of Heacock Street	Moreno Valley
10		East of Heacock Street	Moreno Valley
11		West of Perris Boulevard	Moreno Valley
12	Krameria Avenue	Heacock Street to Cosmos Street	Moreno Valley
13		Cosmos Street to Driveway 3	Moreno Valley
14		Driveway 3 to Driveway 4	Moreno Valley
15		Driveway 4 to Driveway 5	Moreno Valley
16		Driveway 5 to Indian Street	Moreno Valley
17		East of Indian Street	Moreno Valley
18		West of Perris Boulevard	Moreno Valley
19	Cardinal Avenue	East of Heacock Street	Moreno Valley
20	San Michele Road	East of Heacock Street	Moreno Valley
21		West of Indian Street	Moreno Valley
22	Harley Knox Boulevard	I-215 SB Ramps to I-215 NB Ramps	Perris
23		I-215 NB Ramps to Western Way	Perris
24		East of Western Way	Perris
25		West of Patterson Avenue	Perris
26		East of Patterson Avenue	Perris
27		West of Webster Avenue	Perris
28		East of Webster Avenue	Perris
29		West of Indian Street	Perris

Table 4.11-2 Project Study Area Roadway Segments

ID	Street	Segment	Jurisdiction
30	Heacock Street	South of Cactus Avenue	Moreno Valley
31		North of John F. Kennedy Drive	Moreno Valley
32		South of John F. Kennedy Drive	Moreno Valley
33		North of Gentian Avenue	Moreno Valley
34		South of Gentian Avenue	Moreno Valley
35		North of Iris Avenue	Moreno Valley
36		Iris Avenue to Krameria Avenue (N)	Moreno Valley
37		Krameria Avenue (N) to Driveway 1	Moreno Valley
38		Driveway 1 to Driveway 2	Moreno Valley
39		Driveway 2 to Cardinal Avenue	Moreno Valley
40		Cardinal Avenue to San Michele Road	Moreno Valley
41		San Michele Road to Nandina Avenue	Moreno Valley
42		South of Nandina Avenue	Moreno Valley
43		North of Harley Knox Boulevard	Perris
44	Cosmos Street	Krameria Avenue (N) to Krameria Avenue	Moreno Valley
45	Indian Street	Driveway 6 to San Michele Road	Moreno Valley
46		San Michele Road to Nandina Avenue	Moreno Valley
47		South of Nandina Avenue	Moreno Valley
48		North of Harley Knox Boulevard	Perris

Source: (Urban Crossroads, 2016e, Table 1-2)

Table 4.11-3 Project Study Area Freeway Mainline Segments

ID	Freeway	Direction	Segment
1	SR-91	Eastbound	I-15 Freeway to McKinley St.
2	SR-91	Eastbound	McKinley St. to Riverwalk Pkwy.
3	SR-91	Eastbound	Riverwalk Pkwy. To Magnolia Av.
4	SR-91	Eastbound	Magnolia Av. to La Sierra Av.
5	SR-91	Eastbound	La Sierra Av. to Tyler Av.
6	SR-91	Eastbound	Tyler Av. to Van Buren Bl.
7	SR-91	Eastbound	Van Buren Bl. to Adams St.
8	SR-91	Eastbound	Adams St. to Madison St.
9	SR-91	Eastbound	Madison St. to Arlington Av.
10	SR-91	Eastbound	Arlington Av. to Central Av.
11	SR-91	Eastbound	Central Av. to 14th St.
12	SR-91	Eastbound	14th St. to University Av.
13	SR-91	Eastbound	University Av. to Spruce St.
14	SR-91	Eastbound	Spruce St. to I-215 Freeway
15	SR-60	Westbound	I-215 Freeway to Day St.
16	SR-60	Westbound	Day St. to Frederick St.
17	I-215	Southbound	SR-60/SR-91 Freeway to Blaine St.
18	I-215	Southbound	Blaine St. to University Av.
19	I-215	Southbound	University Av. to Martin Luther King Bl.
20	I-215	Southbound	Martin Luther King Bl. to Central Av.
21	I-215	Southbound	Central Av. to Box Springs Rd.
22	I-215	Southbound	Box Springs Rd. to SR-60/I-215 Freeway
23	I-215	Southbound	SR-60 Freeway to Eucalyptus Av.
24	I-215	Southbound	Eucalyptus Av. to Alessandro Bl.
25	I-215	Southbound	Alessandro Bl. to Cactus Av.
26	I-215	Southbound	Cactus Av. to Van Buren Bl.
27	I-215	Southbound	Van Buren Bl. to Harley Knox Bl.
28	I-215	Southbound	Harley Knox Bl. to Ramona Exwy.
29	I-215	Southbound	Ramona Exwy. to Nuevo Rd.
30	SR-91	Westbound	I-15 Freeway to McKinley St.
31	SR-91	Westbound	McKinley St. to Riverwalk Pkwy.
32	SR-91	Westbound	Riverwalk Pkwy. To Magnolia Av.
33	SR-91	Westbound	Magnolia Av. to La Sierra Av.
34	SR-91	Westbound	La Sierra Av. to Tyler Av.
35	SR-91	Westbound	Tyler Av. to Van Buren Bl.
36	SR-91	Westbound	Van Buren Bl. to Adams St.
37	SR-91	Westbound	Adams St. to Madison St.
38	SR-91	Westbound	Madison St. to Arlington Av.
39	SR-91	Westbound	Arlington Av. to Central Av.
40	SR-91	Westbound	Central Av. to 14th St.
41	SR-91	Westbound	14th St. to University Av.

Table 4.11-3 Project Study Area Freeway Mainline Segments

ID	Freeway	Direction	Segment
42	SR-91	Westbound	University Av. to Spruce St.
43	SR-91	Westbound	Spruce St. to I-215 Freeway
44	SR-60	Eastbound	I-215 Freeway to Day St.
45	SR-60	Eastbound	Day St. to Frederick St.
46	I-215	Northbound	SR-60/SR-91 Freeway to Blaine St.
47	I-215	Northbound	Blaine St. to University Av.
48	I-215	Northbound	University Av. to Martin Luther King Bl.
49	I-215	Northbound	Martin Luther King Bl. to Central Av.
50	I-215	Northbound	Central Av. to Box Springs Rd.
51	I-215	Northbound	Box Springs Rd. to SR-60/I-215 Freeway
52	I-215	Northbound	SR-60 Freeway to Eucalyptus Av.
53	I-215	Northbound	Eucalyptus Av. to Alessandro Bl.
54	I-215	Northbound	Alessandro Bl. to Cactus Av.
55	I-215	Northbound	Cactus Av. to Van Buren Bl.
56	I-215	Northbound	Van Buren Bl. to Harley Knox Bl.
57	I-215	Northbound	Harley Knox Bl. to Ramona Exwy.
58	I-215	Northbound	Ramona Exwy. to Nuevo Rd.

Source: (Urban Crossroads, 2015a, Table 1)

Table 4.11-4 Project Study Area Freeway Ramp Merge/Diverge Junctions

ID	Freeway Merge/Diverge Ramp Junctions
1	I-215 Freeway – Southbound, Loop Off-Ramp at Cactus Avenue(Diverge) – Upstream
2	I-215 Freeway – Southbound, Loop Off-Ramp at Cactus Avenue(Diverge) – Downstream
3	I-215 Freeway – Southbound, Off-Ramp at Harley Knox Boulevard (Diverge)
4	I-215 Freeway – Southbound, On-Ramp at Harley Knox Boulevard (Merge)
5	I-215 Freeway – Northbound, On-Ramp at Cactus Avenue (Merge)
6	I-215 Freeway – Northbound, On-Ramp at Harley Knox Boulevard (Merge)
7	I-215 Freeway – Northbound, Off-Ramp at Harley Knox Boulevard (Diverge)

Source: (Urban Crossroads, 2016e, Table 1-4)

Table 4.11-5 Existing Intersection Levels of Service

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1] Northbound L	T	R	Southbound L	T	R	Eastbound L	T	R	Westbound L	T	R	Delay[2] (secs.) AM	PM	Level of Service AM	PM
1	I-215 SB Ramps / Cactus Av	TS	0	0	1>>	0	0	1	0	2	1	1	2	0	14.4	39.0	B	D
2	I-215 SB Ramps / Harley Knox Bl	TS	0	0	0	0	1	1	0	2	d	1	2	0	33.8	31.2	C	C
3	I-215 NB Ramps / Cactus Av	TS	1	1	0	1	1	0	1	2	0	0	2	0	19.1	13.7	B	B
4	I-215 NB Ramps / Harley Knox Bl	TS	0	1	1	0	0	0	1	2	0	0	2	d	13.6	17.0	B	B
5	Elsworth St / Cactus Av	TS	1	1	0	1	1	1>	1	3	1>>	1	3	1	38.9	30.2	D	C
6	Frederick St / Cactus Av	TS	0	0	0	2	0	1>	1	2	0	0	3	1>	24.9	21.9	C	C
7	Western Wy / Harley Knox Bl	CSS	0	0	0	0	1	0	0	2	0	0	2	d	12.0	12.1	B	B
8	Graham St / Cactus Av	TS	2	2	0	1	2	1>	1	2	1>>	1	3	0	21.3	24.5	C	C
9	Patterson Av / Harley Knox Bl	TS	0	1	0	0	1	d	1	1	1	1	1	0	27.6	26.3	C	C
10	Heacock St / Cactus Av	TS	2	2	0	1	2	0	1	2	1>	1	2	0	34.3	18.6	C	B
11	Heacock St / John F. Kennedy Dr	TS	1	2	d	1	2	d	1	1	1	1	2	0	23.3	21.8	C	C
12	Heacock St / Gentian Av	CSS	0	1	1	1	1	0	0	0	0	0	1	d	22.8	**58.0**	C	**F**
13	Heacock St / Iris Av	AWS	0	1	0	1	1	0	0	0	0	1	0	d	15.2	**37.5**	C	**E**
14	Heacock St / Krameria Av (North)	TS	0	1	1	1	1	0	0	0	0	1	0	1	11.1	9.0	B	A
15	Heacock St / Driveway 1		Future Intersection															
16	Heacock St / Driveway 2		Future Intersection															
17	Heacock St / Cardinal Av	CSS	0	2	d	1	1	0	0	0	0	1	0	1	9.0	13.4	A	B
18	Heacock St / San Michele Rd	TS	1	1	1	1	1	1	1	1	1	1	1	1	25.6	39.5	C	D
19	Heacock St / Nandina Av	CSS	0	1	0	1	1	0	0	0	0	1	0	1	8.4	8.6	A	A
20	Webster Av / Harley Knox Bl	CSS	0	0	1	0	0	0	0	1	0	0	1	0	10.0	10.1	B	B
21	Cosmos St / Krameria Av (North)	CSS	1	1	d	1	1	0	0	1	0	0	1	0	9.8	9.3	A	A
22	Cosmos St / Krameria Av		Future Intersection															
23	Driveway 3 / Krameria Av		Future Intersection															
24	Driveway 4 / Krameria Av		Future Intersection															
25	Driveway 5 / Krameria Av		Future Intersection															
26	Indian St / Krameria Av	AWS	1	1	1	1	1	1	1	1	0	1	1	1	10.7	9.2	B	A
27	Indian St / Driveway 6		Future Intersection															
28	Indian St / San Michele Rd	TS	2	1	1	1	2	0	1	1	1>	1	2	d	29.3	35.8	C	D
29	Indian St / Nandina Av	TS	1	2	0	1	2	0	1	1	1	1	1	d	18.4	19.9	B	B
30	Indian St / Harley Knox Bl	TS	2	2	1	1	2	0	1	1	1	2	2	0	17.0	24.2	B	C
31	Perris Bl / Cactus Av	TS	1	3	0	1	2	1	1	2	0	1	2	0	24.8	32.4	C	C
32	Perris Bl / Krameria Av	TS	1	3	0	1	3	0	0	1	1	0	2	1	31.2	22.9	C	C

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

1 When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free-Right Turn Lane; d= Defacto Right Turn Lane

2 Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

3 CSS = Cross-street Stop; TS = Traffic Signal; AWS= All ways stop

Source: (Urban Crossroads, 2016e, Table 3-1)

Table 4.11-6 Existing Roadway Segment Levels of Service

#	Roadway	Segment Limits	Roadway Section	LOS Capacity[1]	Existing 2015	V/C[2]	LOS[3]	Acceptable LOS
1	Cactus Avenue	I-215 SB Ramps to I-215 NB Ramps	4D	37,500	25,080	0.67	B	D
2		East of I-215 NB Ramps	4D	37,500	31,154	0.83	D	D
3		West of Elsworth Street	6D	56,300	34,154	0.61	B	D
4		East of Elsworth Street	6D	56,300	31,029	0.55	A	D
5		West of Frederick Street	5D	46,900	32,583	0.69	B	D
6		East of Frederick Street	5D	46,900	35,981	0.77	C	D
7		West of Graham Street	5D	46,900	36,044	0.77	C	D
8		East of Graham Street	5D	46,900	31,120	0.66	B	D
9		West of Heacock Street	5D	46,900	35,778	0.76	C	D
10		East of Heacock Street	4D	37,500	19,360	0.52	A	C
11		West of Perris Boulevard	4D	37,500	15,973	0.43	A	C
12	Krameria Avenue	Heacock Street to Cosmos Street	2U	12,500	1,076	0.09	A	D
13		Cosmos Street to Driveway 3	2U	12,500	620	0.05	A	D
14		Driveway 3 to Driveway 4	2U	12,500	620	0.05	A	D
15		Driveway 4 to Driveway 5	2U	12,500	620	0.05	A	D
16		Driveway 5 to Indian Street	2D	18,750	620	0.03	A	D
17		East of Indian Street	2D	18,750	3,716	0.20	A	D
18		West of Perris Boulevard	2U	12,500	3,040	0.24	A	D
19	Cardinal Avenue	East of Heacock Street	2U	12,500	46	0.00	A	C
20	San Michele Road	East of Heacock Street	2D	18,750	4,269	0.23	A	D
21		West of Indian Street	2D	18,750	10,411	0.56	A	D
22	Harley Knox Boulevard	I-215 SB Ramps to I-215 NB Ramps	4D	35,900	11,390	0.32	A	D
23		I-215 NB Ramps to Western Way	4D	35,900	17,815	0.50	A	D
24		East of Western Way	4U	25,900	13,901	0.54	A	D
25		West of Patterson Avenue	4U	25,900	11,444	0.44	A	D
26		East of Patterson Avenue	2D	18,000	10,492	0.58	A	D
27		West of Webster Avenue	2D	18,000	9,144	0.51	A	D
28		East of Webster Avenue	2D	18,000	9,156	0.51	A	D
29		West of Indian Street	3D	26,925	11,624	0.43	A	D
30	Heacock Street	South of Cactus Avenue	4D	37,500	24,824	0.66	B	D
31		North of John F. Kennedy Drive	4D	37,500	22,764	0.61	B	D
32		South of John F. Kennedy Drive	4D	37,500	21,272	0.57	A	D
33		North of Gentian Avenue	3D	28,150	19,047	0.68	B	D
34		South of Gentian Avenue	2U	12,500	**17,054**	**1.36**	**F**	D
35		North of Iris Avenue	2D	18,750	16,730	0.89	D	D
36		Iris Avenue to Krameria Avenue (N)	2U	12,500	9,113	0.73	C	D
37		Krameria Avenue (N) to Driveway 1	2U	12,500	8,516	0.68	B	D
38		Driveway 1 to Driveway 2	2U	12,500	8,516	0.68	B	D
39		Driveway 2 to Cardinal Avenue	4D	37,500	8,874	0.24	A	D
40		Cardinal Avenue to San Michele Road	3D	28,150	7,400	0.26	A	D
41		San Michele Road to Nandina Avenue	2D	18,750	3,427	0.18	A	D
42		South of Nandina Avenue	2U	12,500	228	0.02	A	D
43		North of Harley Knox Boulevard	2U	13,000	0	0.00	A	D
44	Cosmos Street	Krameria Avenue (N) to Krameria Avenue	2U	12,500	620	0.05	A	D
45	Indian Street	Driveway 6 to San Michele Road	4D	37,500	0	0.00	A	D
46		San Michele Road to Nandina Avenue	4D	37,500	10,793	0.29	A	D
47		South of Nandina Avenue	2D	18,750	12,523	0.67	B	D
48		North of Harley Knox Boulevard	4D	35,900	13,201	0.37	A	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] These maximum roadway capacities have been obtained from the City of Moreno Valley's Transportation Division's Traffic Impact Analysis Preparation Guidelines (August 2007), Table CE-9 of the City of Perris General Plan Circulation Element, or Figure C-2 of the County of Riverside General Plan Circulation Element.

[2] V/C = Volume to Capacity Ratio

[3] LOS = Level of Service

Source: (Urban Crossroads, 2016e, Table 3-2)

Table 4.11-7 Existing and Existing plus Project Freeway Mainline Levels of Service

Freeway	Directio	Mainline Segment	Lanes[1]	Time Period	Existing (2015)			E+P		
					Volume	Density[2]	LOS	Volume	Density[2]	LOS
SR-91 Freeway	Eastbound	I-15 Freeway to McKinley St.	4	AM	5,085	20.1	C	5,117	20.2	C
				PM	3,209	12.8	B	3,217	12.9	B
		McKinley St. to Riverwalk Pkwy.	3	AM	4,463	24.5	C	4,497	24.8	C
				PM	4,472	24.6	C	4,480	24.7	C
		Riverwalk Pkwy. to Magnolia Av.	3	AM	4,783	26.7	D	4,816	26.9	D
				PM	4,886	26.9	D	4,894	27.2	D
		Magnolia Av. to La Sierra Av.	4	AM	4,725	18.6	C	4,762	18.7	C
				PM	4,790	18.8	C	4,799	18.9	C
		La Sierra Av. to Tyler Av.	4	AM	4,021	16.0	B	4,066	16.3	B
				PM	4,049	16.1	B	4,060	16.2	B
		Tyler Av. to Van Buren Bl.	4	AM	4,009	16.0	B	4,054	16.3	B
				PM	3,833	15.3	B	3,844	15.3	B
		Van Buren Bl. to Adams St.	4	AM	4,104	16.0	B	4,149	16.3	B
				PM	4,092	16.0	B	4,103	16.0	B
		Adams St. to Madison St.	3	AM	3,610	18.8	C	3,666	19.2	C
				PM	3,711	19.4	C	3,725	19.4	C
		Madison St. to Arlington Av.	4	AM	5,988	24.6	C	6,044	25.0	C
				PM	6,211	25.8	C	6,225	25.8	C
		Arlington Av. to Central Av.	4	AM	4,886	19.2	C	4,942	19.6	C
				PM	5,573	22.3	C	5,587	22.3	C
		Central Av. to 14th St.	3	AM	3,777	20.0	C	3,844	20.5	C
				PM	3,236	17.0	B	3,253	17.1	B
		14th St. to University Av.	4	AM	5,490	22.0	C	5,557	22.4	C
				PM	4,573	18.0	C	4,590	18.1	C
		University Av. to Spruce St.	5	AM	5,756	18.3	C	5,828	18.6	C
				PM	4,939	15.7	B	4,957	15.8	B
		Spruce St. to I-215 Freeway	4	AM	4,135	16.5	B	4,207	16.7	B
				PM	3,436	13.7	B	3,454	13.7	B
SR-60 Fwy	Westbound	I-215 Freeway to Day St.	3	AM	2,957	15.4	B	2,989	15.5	B
				PM	2,937	15.3	B	2,944	15.3	B
		Day St. to Frederick St.	3	AM	2,772	15.2	B	2,798	15.4	B
				PM	4,660	26.3	D	4,666	26.3	D
I-215 Freeway	Southbound	SR-60/SR-91 Freeway to Blaine St.	5	AM	4,287	13.6	B	4,393	14.1	B
				PM	5,907	18.8	C	5,934	18.9	C
		Blaine St. to University Av.	4	AM	4,344	17.4	B	4,450	17.9	B
				PM	4,209	16.5	B	4,236	16.7	B
		University Av. to Martin Luther King Bl.	4	AM	4,640	19.0	C	4,746	19.5	C
				PM	5,182	20.8	C	5,209	20.9	C
		Martin Luther King Bl. to Central Av.	5	AM	3,460	11.0	A	3,573	11.4	B
				PM	4,518	14.2	B	4,546	14.3	B
		Central Av. to Box Springs Rd.	5	AM	5,093	16.3	B	5,208	16.7	B
				PM	6,720	21.2	C	6,749	21.3	C
		Box Springs Rd. to SR-60/I-215 Freeway	4	AM	4,643	18.2	C	4,778	18.9	C
				PM	5,966	23.9	C	6,000	24.0	C
		SR-60 Freeway to Eucalyptus Av.	5	AM	6,260	19.9	C	6,427	20.6	C
				PM	6,485	20.7	C	6,526	21.0	C
		Eucalyptus Av. to Alessandro Bl.	3	AM	3,456	18.7	C	3,623	19.8	C
				PM	5,159	30.6	D	5,200	31.2	D
		Alessandro Bl. to Cactus Av.	4	AM	4,985	19.9	C	5,152	20.8	C
				PM	5,540	22.5	C	5,581	22.7	C
		Cactus Av. to Van Buren Bl.	4	AM	4,693	18.6	C	4,739	18.8	C
				PM	5,354	21.5	C	5,365	21.5	C
		Van Buren Bl. to Harley Knox Bl.	3	AM	2,544	13.4	B	2,590	13.7	B
				PM	3,855	20.5	C	3,866	20.7	C
		Harley Knox Bl. to Ramona Exwy.	3	AM	2,186	11.4	B	2,202	11.6	B
				PM	3,445	18.1	C	3,519	18.6	C
		Ramona Exwy. to Nuevo Rd.	3	AM	4,578	25.2	C	4,613	25.4	C
				PM	5,313	31.0	D	5,321	31.1	D

Table 4.11-7 Existing and Existing plus Project Freeway Mainline Levels of Service

Freeway	Direction	Mainline Segment	Lanes[1]	Time Period	Existing (2015) Volume	Existing (2015) Density[2]	Existing (2015) LOS	E+P Volume	E+P Density[2]	E+P LOS
SR-91 Freeway	Westbound	I-15 Freeway to McKinley St.	4	AM	5,139	20.3	C	5,146	20.3	C
				PM	5,872	23.4	C	5,906	23.6	C
		McKinley St. to Riverwalk Pkwy.	3	AM	3,525	18.6	C	3,532	18.7	C
				PM	3,780	20.1	C	3,816	20.3	C
		Riverwalk Pkwy. to Magnolia Av.	3	AM	4,410	25.1	C	4,417	25.1	C
				PM	4,755	27.5	D	4,791	28.0	D
		Magnolia Av. to La Sierra Av.	3	AM	4,207	22.9	C	4,215	23.0	C
				PM	4,566	24.9	C	4,605	25.2	C
		La Sierra Av. to Tyler Av.	3	AM	3,556	18.9	C	3,566	19.0	C
				PM	3,719	19.8	C	3,767	20.1	C
		Tyler Av. to Van Buren Bl.	4	AM	3,465	13.7	B	3,475	13.8	B
				PM	3,896	15.5	B	3,944	15.7	B
		Van Buren Bl. to Adams St.	4	AM	4,554	18.1	C	4,564	18.2	C
				PM	4,602	18.3	C	4,650	18.5	C
		Adams St. to Madison St.	4	AM	4,595	18.0	C	4,607	18.1	C
				PM	5,028	19.6	C	5,088	20.0	C
		Madison St. to Arlington Av.	3	AM	3,699	19.6	C	3,711	19.7	C
				PM	4,072	21.8	C	4,132	22.3	C
		Arlington Av. to Central Av.	4	AM	4,708	18.7	C	4,720	18.7	C
				PM	4,840	19.2	C	4,900	19.6	C
		Central Av. to 14th St.	3	AM	4,270	23.1	C	4,285	23.2	C
				PM	4,794	26.8	D	4,866	27.5	D
		14th St. to University Av.	4	AM	2,745	10.9	A	2,760	11.0	A
				PM	2,234	8.8	A	2,306	9.2	A
		University Av. to Spruce St.	6	AM	4,520	11.9	B	4,536	11.9	B
				PM	3,786	9.8	A	3,863	10.1	A
		Spruce St. to I-215 Freeway	4	AM	4,246	16.9	B	4,262	17.0	B
				PM	4,513	18.0	B	4,590	18.4	C
SR-60 Fwy	Eastbound	I-215 Freeway to Day St.	5	AM	3,030	9.8	A	3,037	9.8	A
				PM	3,159	10.0	A	3,192	10.1	A
		Day St. to Frederick St.	4	AM	1,607	6.5	A	1,612	6.5	A
				PM	2,809	11.0	A	2,836	11.1	A
I-215 Freeway	Northbound	SR-60/SR-91 Freeway to Blaine St.	5	AM	3,532	11.2	B	3,555	11.3	B
				PM	3,453	11.0	A	3,568	11.5	B
		Blaine St. to University Av.	5	AM	4,615	14.8	B	4,638	15.0	B
				PM	3,913	12.8	B	4,028	13.3	B
		University Av. to Martin Luther King Bl.	4	AM	6,526	27.7	D	6,549	27.9	D
				PM	5,849	24.3	C	5,964	25.0	C
		Martin Luther King Bl. to Central Av.	4	AM	5,255	21.4	C	5,280	21.5	C
				PM	5,332	21.9	C	5,454	22.6	C
		Central Av. to Box Springs Rd.	5	AM	5,098	16.5	B	5,123	16.6	B
				PM	5,614	18.7	C	5,738	19.1	C
		Box Springs Rd. to SR-60/I-215 Freeway	4	AM	6,028	24.3.	C	6,058	24.5	C
				PM	6,305	25.6	C	6,452	26.7	D
		SR-60 Freeway to Eucalyptus Av.	3	AM	3,567	18.8	C	3,604	19.0	C
				PM	3,832	20.4	C	4,012	21.6	C
		Eucalyptus Av. to Alessandro Bl.	3	AM	4,693	26.0	D	4,730	26.3	D
				PM	5,354	31.4	D	5,534	33.4	D
		Alessandro Bl. to Cactus Av.	4	AM	2,724	10.9	A	2,761	11.1	A
				PM	2,523	10.0	A	2,703	10.9	A
		Cactus Av. to Van Buren Bl.	4	AM	3,679	14.6	B	3,689	14.7	B
				PM	2,678	10.6	A	2,727	10.8	A
		Van Buren Bl. to Harley Knox Bl.	3	AM	4,092	22.0	C	4,102	22.0	C
				PM	3,247	17.1	B	3,296	17.4	B
		Harley Knox Bl. to Ramona Exwy.	3	AM	3,721	19.6	C	3,783	20.1	C
				PM	2,779	14.6	B	2,794	14.7	B
		Ramona Exwy. to Nuevo Rd.	3	AM	4,693	26.0	D	4,701	26.1	D
				PM	5,354	31.4	D	5,391	31.8	D

BOLD = Unacceptable Level of Service

[1] Number of lanes are in the specified direction and is based on existing conditions.

[2] Density is measured by passenger cars per mile per lane (pc/mi/ln).

Source: (Urban Crossroads, 2016e, Table 3)

Table 4.11-8 Existing Freeway Ramp Junction Merge/Diverge Levels of Service

Freeway	Direction	Ramp or Segment	Lanes on Freeway[1]	AM Peak Hour		PM Peak Hour	
				Density[2]	LOS	Density[2]	LOS
I-215 Freeway	SB	Loop Off-Ramp at Cactus Avenue - Upstream	4	26.9	C	30.2	D
		Loop Off-Ramp at Cactus Avenue - Downstream	4	26.9	C	30.2	D
		Off-Ramp at Harley Knox Boulevard	3	20.2	C	27.5	C
		On-Ramp at Harley Knox Boulevard	3	15.1	B	21.6	C
	NB	On-Ramp at Cactus Avenue	3	20.2	C	19.8	B
		On-Ramp at Harley Knox Boulevard	3	25.8	C	21.9	C
		Off-Ramp at Harley Knox Boulevard	3	25.1	C	20.0	B

* **BOLD** = Unacceptable Level of Service

[1] Number of lanes are in the specified direction and is based on existing conditions.

[2] Density is measured by passenger cars per mile per lane (pc/mi/ln).

Source: (Urban Crossroads, 2016e, Table 3-5)

Table 4.11-9 Existing Freeway Off-Ramp Levels of Service

Intersection	Movement	Stacking Distance (Feet)	95th Percentile Stacking Distance Required (Feet)		Acceptable?[1]	
			AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Ramps / Cactus Av.	NBR	1,850	51	285 [2]	Yes	Yes
	SBR	1,115	87	0	Yes	Yes
I-215 SB Ramps / Harley Knox Bl.	SBL/T	1,330	382	336	Yes	Yes
	SBR	270	44	59	Yes	Yes
I-215 NB Ramps / Cactus Av.	NBL	145	321 [2]	26	Yes[3]	Yes
	NBT	1,650	164	26	Yes	Yes
I-215 NB Ramps / Harley Knox Bl.	NBL/T	1,120	13	22	Yes	Yes
	NBR	265	47	51	Yes	Yes

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

[2] 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

[3] Adjacent through lane has sufficient storage to accommodate any spillover from the northbound left turn lane without spilling back and affecting the I-215 Freeway mainline.

Source: (Urban Crossroads, 2016e, Table 3-3)

Table 4.11-10 Signalized Intersection LOS Thresholds

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A	F
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B	F
Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00	C	F
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	D	F
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	E	F
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths	80.01 and up	F	F

Source: (Urban Crossroads, 2016e, Table 2-1)

Table 4.11-11 Unsignalized Intersection LOS Thresholds

Description	Average Control Delay Per Vehicle (Seconds)	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Little or no delays.	0 to 10.00	A	F
Short traffic delays.	10.01 to 15.00	B	F
Average traffic delays.	15.01 to 25.00	C	F
Long traffic delays.	25.01 to 35.00	D	F
Very long traffic delays.	35.01 to 50.00	E	F
Extreme traffic delays with intersection capacity exceeded.	> 50.00	F	F

Source: (Urban Crossroads, 2016e , Table 2-2)

Table 4.11-12 Freeway Mainline Segment LOS Thresholds

Level of Service	Description	Density Range (pc/mi/ln)[1]
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 expected to create queuing as the traffic stream has little space to absorb disruptions.	26.1 – 35.0
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

[1] pc/mi/ln = passenger cars per mile per lane. Source: HCM

Source: (Urban Crossroads, 2016e, Table 2-5)

Table 4.11-13 Freeway Ramp Junction Merge/Diverge LOS Thresholds

Level of Service	Density Range (pc/mi/ln)[1]
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

[1] pc/mi/ln = passenger cars per mile per lane. Source: HCM

Source: (Urban Crossroads, 2016e, Table 2-6)

Table 4.11-14 Traffic Signal Warrant Analysis Intersections

ID	Intersection Location	Jurisdiction
7	Western Way / Harley Knox Boulevard	Perris
12	Heacock Street / Gentian Avenue	Moreno Valley, March JPA
13	Heacock Street / Iris Avenue	Moreno Valley, March JPA
15	Heacock Street / Driveway 1 – Future Intersection	Moreno Valley, March JPA
16	Heacock Street / Driveway 2 – Future Intersection	Moreno Valley, March JPA
17	Heacock Street / Cardinal Avenue	Moreno Valley, March JPA
19	Heacock Street / Nandina Avenue	Moreno Valley, March JPA
20	Heacock Street/Webster Avenue / Harley Knox Boulevard	Perris
21	Cosmos Street / Krameria Avenue (North)	Moreno Valley
22	Cosmos Street / Krameria Avenue	Moreno Valley
23	Driveway 3 / Krameria Avenue – Future Intersection	Moreno Valley
24	Driveway 4 / Krameria Avenue – Future Intersection	Moreno Valley
25	Driveway 5 / Krameria Avenue – Future Intersection	Moreno Valley
26	Indian Street / Krameria Avenue	Moreno Valley
27	Indian Street / Driveway 6	Moreno Valley

Source: (Urban Crossroads, 2016e, Table 2-4)

Table 4.11-15 Roadway Segment Capacity LOS Thresholds

City of Moreno Valley:

Facility Type	Level of Service Capacity[1]				
	A	B	C	D	E
Six Lane Divided Arterial	33,900	39,400	45,000	50,600	56,300
Four Lane Divided Arterial	22,500	26,300	30,000	33,800	37,500
Four Lane Undivided Arterial	15,000	17,500	20,000	22,500	25,000
Two Lane Industrial Collector	7,500	8,800	10,000	11,300	12,500
Two Lane Undivided Residential	N/A	N/A	N/A	N/A	2,000

[1] These maximum roadway capacities have been extracted from the City of Moreno Valley's Transportation Division's TIA Preparation Guidelines (August 2007). These roadway capacities are "rule of thumb" estimates for planning purposes. The LOS "E" service volumes are estimated maximum daily capacity for respective roadway classifications. Capacity is affected by such factors as intersections (spacing, configuration and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic) and pedestrian and bicycle traffic.

City of Perris:

Facility Type	Level of Service Capacity[1]				
	A	B	C	D	E
Six Lane Urban Arterial	32,340	37,730	43,100	48,500	53,900
Four Lane Urban Arterial	21,540	25,130	28,700	32,300	35,900
Two Lane Arterial	10,800	12,600	14,400	16,200	18,000
Four Lane Secondary Arterial	15,540	18,130	20,700	23,300	25,900
Two Lane Collector	7,800	9,100	10,400	11,700	13,000

[1] Source: Table CE-9 of the City of Perris General Plan Circulation Element and Figure C-2 of the County of Riverside General Plan Circulation Element.

All capacity exhibits are based on optimum conditions and are intended as guidelines for planning purposes only.

Source: (Urban Crossroads, 2016e, Table 2-3)

Table 4.11-16 Project Construction Trip Generation Summary (Passenger Car Equivalent)

Construction Activity[2]	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
Roof/Overhead 1							
Employee Trips:	6	1	6	6	57	63	125
Vendor Truck Trips (3-Axle):	19	19	38	19	19	38	832
Vendor Truck Trips (4+-Axle):[1]	0	0	0	0	0	0	0
Architectural Coatings 1							
Employee Trips:	10	1	11	11	96	107	213
Vendor Truck Trips (3-Axle):	0	0	0	0	0	0	0
Vendor Truck Trips (4+-Axle):[1]	0	0	0	0	0	0	0
Paving 1							
Employee Trips:	0	0	1	1	5	5	10
Vendor Truck Trips (3-Axle):	0	0	0	0	0	0	0
Vendor Truck Trips (4+-Axle):[1]	0	0	0	0	0	0	138
Miscellaneous Finishes 2							
Employee Trips:	2	0	2	2	18	20	40
Vendor Truck Trips (3-Axle):	19	19	38	19	19	38	832
Vendor Truck Trips (4+-Axle):[1]	0	0	0	0	0	0	0
Architectural Coatings 3							
Employee Trips:	10	1	11	11	96	107	213
Vendor Truck Trips (3-Axle):	0	0	0	0	0	0	0
Vendor Truck Trips (4+-Axle):[1]	0	0	0	0	0	0	0
Micellaneous Finishes 3							
Employee Trips:	2	0	2	2	18	20	40
Vendor Truck Trips (3-Axle):	19	19	38	19	19	38	832
Vendor Truck Trips (4+-Axle):[1]	0	0	0	0	0	0	0
Paving 3							
Employee Trips:	0	0	0	0	4	4	8
Vendor Truck Trips (3-Axle):	0	0	0	0	0	0	0
Vendor Truck Trips (4+-Axle):[1]	0	0	0	0	0	0	84
Roof/Overhead 4							
Employee Trips:	2	0	2	2	18	20	40
Vendor Truck Trips (3-Axle):	19	19	38	19	19	38	832
Vendor Truck Trips (4+-Axle):[1]	0	0	0	0	0	0	0
TOTAL (in PCE)	**107**	**79**	**186**	**111**	**388**	**498**	**4,239**

[1] Heavy heavy duty (4+-Axle) vendor truck trips are related to night-time pours and are anticipated to occur after 6 PM.

[2] PCE factors of 2.0 utilized for 3-Axle and 3.0 utlized for 4+-Axle heavy trucks.

Source: (Urban Crossroads, 2015b, Table 3)

Table 4.11-17 Project Trip Generation (Passenger Car Equivalent)

Land Use[1]	Units[2]	ITE LU Code	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
General Light Industrial[3]	TSF	110	0.810	0.110	0.920	0.120	0.850	0.970	6.970
Passenger Cars			0.637	0.086	0.723	0.094	0.668	0.762	5.478
2-Axle Trucks (PCE = 1.5)			0.097	0.013	0.110	0.014	0.102	0.116	0.836
3-Axle Trucks (PCE = 2.0)			0.063	0.009	0.072	0.009	0.066	0.076	0.544
4-Axle+ Trucks (PCE = 3.0)			0.231	0.031	0.262	0.034	0.242	0.276	1.986
High-Cube Warehouse/Distribution Center[4]	TSF	152	0.076	0.034	0.110	0.037	0.083	0.120	1.680
Passenger Cars			0.055	0.025	0.080	0.025	0.055	0.080	1.040
2-Axle Trucks (PCE = 1.5)			0.007	0.003	0.010	0.004	0.009	0.013	0.211
3-Axle Trucks (PCE = 2.0)			0.007	0.003	0.011	0.004	0.010	0.014	0.226
4-Axle+ Trucks (PCE = 3.0)			0.037	0.017	0.054	0.022	0.050	0.072	1.158

[1] Trip Generation Source: Institute of Transportation Engineers (ITE),Trip Generation Manual, Ninth Edition (2012).

[2] TSF = thousand square feet

[3] Light Industrial Vehicle Mix Source: City of Fontana Truck Trip Generation Study for LU 150, August 2003. PCE rates are per SANBAG.

[4] High Cube Warehouse Vehicle Mix Source: Total truck percentage source from ITE Trip Generation manual.
Truck mix (by axle type) source from SCAQMD. PCE rates are per SANBAG.
AM peak hour = 72.7% passenger cars, 6.01% 2-Axle trucks, 4.83% 3-Axle trucks, 16.46% 4-Axle trucks
PM peak hour = 66.7% passenger cars, 7.33% 2-Axle trucks, 5.89% 3-Axle trucks, 20.08% 4-Axle trucks
ADT = 61.9% passenger cars, 8.38% 2-Axle trucks, 6.74% 3-Axle trucks, 22.98% 4-Axle trucks

Source: (Urban Crossroads, 2016e, Table 4-1)

Table 4.11-18 Project Trip Generation Summary (Passenger Car Equivalent)

Land Use	Quantity	Units[1]	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
Building 1 (High-Cube Warehouse)	1,351.770	TSF							
Passenger Cars:			75	34	108	34	75	108	1,406
Truck Trips:									
2-axle:			*9*	*4*	*13*	*6*	*12*	*18*	*285*
3-axle:			*10*	*4*	*14*	*6*	*13*	*19*	*306*
4+-axle:			*51*	*23*	*73*	*30*	*67*	*98*	*1,566*
- Net Truck Trips (PCE) [2]			*70*	*31*	*101*	*42*	*93*	*135*	*2,157*
BUILDING 1 TOTAL NET TRIPS (PCE) [3]			***144***	***65***	***209***	***75***	***168***	***243***	***3,563***
Building 2 (Light Industrial)	122.516	TSF							
Passenger Cars:			78	11	89	12	82	93	671
Truck Trips:									
2-axle:			*12*	*2*	*14*	*2*	*12*	*14*	*102*
3-axle:			*8*	*1*	*9*	*1*	*8*	*9*	*67*
4+-axle:			*28*	*4*	*32*	*4*	*30*	*34*	*243*
- Net Truck Trips (PCE) [2]			*48*	*7*	*54*	*7*	*50*	*57*	*412*
BUILDING 2 TOTAL NET TRIPS (PCE) [3]			***126***	***17***	***143***	***19***	***132***	***151***	***1,084***
Building 3 (Light Industrial)	97.222	TSF							
Passenger Cars:			62	8	70	9	65	74	533
Truck Trips:									
2-axle:			*9*	*1*	*11*	*1*	*10*	*11*	*81*
3-axle:			*6*	*1*	*7*	*1*	*6*	*7*	*53*
4+-axle:			*22*	*3*	*25*	*3*	*24*	*27*	*193*
- Net Truck Trips (PCE) [2]			*38*	*5*	*43*	*6*	*40*	*46*	*327*
BUILDING 3 TOTAL NET TRIPS (PCE) [3]			***100***	***14***	***114***	***15***	***105***	***120***	***860***
Building 4 (Light Industrial)	166.010	TSF							
Passenger Cars:			106	14	120	16	111	127	909
Truck Trips:									
2-axle:			*16*	*2*	*18*	*2*	*17*	*19*	*139*
3-axle:			*10*	*1*	*12*	*2*	*11*	*13*	*90*
4+-axle:			*38*	*5*	*44*	*6*	*40*	*46*	*330*
- Net Truck Trips (PCE) [2]			*65*	*9*	*74*	*10*	*68*	*78*	*559*
BUILDING 4 TOTAL NET TRIPS (PCE) [3]			***171***	***23***	***194***	***25***	***179***	***204***	***1,468***
TOTAL (PCE)			**541**	**119**	**660**	**134**	**584**	**718**	**6,975**

[1] TSF = thousand square feet

[2] Light Industrial Vehicle Mix Source: City of Fontana Truck Trip Generation Study for LU 110, August 2003. PCE rates are per SANBAG.
High Cube Warehouse Vehicle Mix Source: Total truck percentage source from ITE Trip Generation manual.
Truck mix (by axle type) source from SCAQMD.

[3] TOTAL NET TRIPS (PCE) = Passenger Cars + Net Truck Trips (PCE).

Source: (Urban Crossroads, 2016e, Table 4-2)

Table 4.11-19 Short-Term Construction Intersection Analysis

#	Intersection	Traffic Control [3]	Existing (2015)[1] Delay [2] (secs.) AM	Existing (2015)[1] Delay [2] (secs.) PM	Existing (2015)[1] Level of Service AM	Existing (2015)[1] Level of Service PM	E+P (Construction Traffic) Delay [2] (secs.) AM	E+P (Construction Traffic) Delay [2] (secs.) PM	E+P (Construction Traffic) Level of Service AM	E+P (Construction Traffic) Level of Service PM
1	I-215 SB Ramps / Cactus Av	TS	14.4	39.0	B	D	14.6	51.7	B	D
2	I-215 SB Ramps / Harley Knox Bl	TS	33.8	31.2	C	C	33.9	37.8	C	D
3	I-215 NB Ramps / Cactus Av	TS	19.1	13.7	B	B	19.4	14.9	B	B
4	I-215 NB Ramps / Harley Knox Bl	TS	13.6	17.0	B	B	14.1	18.0	B	B
5	Elsworth St / Cactus Av	TS	38.9	30.2	D	C	38.9	30.2	D	C
6	Frederick St / Cactus Av	TS	24.9	21.9	C	C	25.2	22.9	C	C
7	Western Wy / Harley Knox Bl	CSS	12.0	12.1	B	B	12.3	14.1	B	B
8	Graham St / Cactus Av	TS	21.3	24.5	C	C	22.6	25.2	C	C
9	Patterson Av / Harley Knox Bl	TS	27.6	26.3	C	C	35.8	51.1	D	D
10	Heacock St / Cactus Av	TS	34.3	18.6	C	B	38.0	32.1	D	C
11	Heacock St / John F. Kennedy Dr	TS	23.3	21.8	C	C	25.5	23.3	C	C
12	Heacock St / Gentian Av	CSS	22.8	**58.0**	C	**F**	25.4	**78.6**	D	**F**
13	Heacock St / Iris Av	AWS	15.2	**37.5**	C	**E**	16.7	**53.4**	C	**F**
14	Heacock St / Krameria Av (North)	TS	11.1	9.0	B	A	14.7	20.2	B	C
15	Heacock St / Cardinal Av	CSS	9.0	13.4	A	B	9.2	18.0	A	C
16	Heacock St / San Michele Rd	TS	25.6	39.5	C	D	28.2	**65.7**	C	**E**
17	Heacock St / Nandina Av	CSS	8.4	8.6	A	A	8.4	8.6	A	A
18	Webster Av / Harley Knox Bl	CSS	10.0	10.1	B	B	10.4	10.3	B	B
19	Cosmos St / Krameria Av (North)	CSS	9.8	9.3	A	A	9.8	12.7	A	B
20	Cosmos St / Krameria Av	AWS	Future Intersection				8.1	11.5	A	B
21	Indian St / Krameria Av	AWS	10.7	9.2	B	A	10.8	9.8	B	A
22	Indian St / San Michele Rd	TS	29.3	35.8	C	D	31.3	36.4	C	D
23	Indian St / Nandina Av	TS	18.4	19.9	B	B	20.2	20.1	C	C
24	Indian St / Harley Knox Bl	TS	17.0	24.2	B	C	19.1	51.5	B	D
25	Perris Bl / Cactus Av	TS	24.8	32.4	C	C	24.8	32.6	C	C
26	Perris Bl / Krameria Av	TS	31.2	22.9	C	C	31.2	30.6	C	C

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] Delay and LOS results are from the Moreno Valley Logistics Traffic Impact Analysis

[2] Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross-street Stop; TS = Traffic Signal: AWS= All-way stop

Source: (Urban Crossroads, 2015b , Table 4)

Table 4.11-20 Short-Term Construction Roadway Segment Analysis

#	Roadway	Segment Limits	Roadway Section	LOS Capacity[1]	Existing 2015[4]	V/C[2]	LOS[3]	E+P (Construction Traffic)	V/C[2]	LOS[3]	Acceptable LOS
1	Cactus Avenue	I-215 SB Ramps to I-215 NB Ramps	4D	37,500	25,080	0.67	B	25,903	0.69	B	D
2		East of I-215 NB Ramps	4D	37,500	31,154	0.83	D	32,801	0.87	D	D
3		West of Elsworth Street	6D	56,300	34,154	0.61	B	35,801	0.64	B	D
4		East of Elsworth Street	6D	56,300	31,029	0.55	A	32,676	0.58	A	D
5		West of Frederick Street	5D	46,900	32,583	0.69	B	34,230	0.73	C	D
6		East of Frederick Street	5D	46,900	35,981	0.77	C	37,628	0.80	C	D
7		West of Graham Street	5D	46,900	36,044	0.77	C	37,691	0.80	C	D
8		East of Graham Street	5D	46,900	31,120	0.66	B	32,767	0.70	B	D
9		West of Heacock Street	5D	46,900	35,778	0.76	C	37,425	0.80	C	D
10		East of Heacock Street	4D	37,500	19,360	0.52	A	19,360	0.52	A	C
11		West of Perris Boulevard	4D	37,500	15,973	0.43	A	15,973	0.43	A	C
12	Krameria Avenue	Heacock Street to Cosmos Street	2U	12,500	1,076	0.09	A	5,177	0.41	A	D
13		Cosmos Street to Indian Street	2U	12,500	620	0.05	A	2,719	0.22	A	D
17		East of Indian Street	2D	18,750	3,716	0.20	A	3,854	0.21	A	D
18		West of Perris Boulevard	2U	12,500	3,040	0.24	A	3,178	0.25	A	D
19	Cardinal Avenue	East of Heacock Street	2U	12,500	46	0.00	A	46	0.00	A	C
20	San Michele Road	East of Heacock Street	2D	18,750	4,269	0.23	A	6,368	0.34	A	D
21		West of Indian Street	2D	18,750	10,411	0.56	A	12,510	0.67	B	D
22	Harley Knox Boulevard	I-215 SB Ramps to I-215 NB Ramps	4D	35,900	11,390	0.32	A	12,440	0.35	A	D
23		I-215 NB Ramps to Western Way	4D	35,900	17,815	0.50	A	19,915	0.55	A	D
24		East of Western Way	4U	25,900	13,901	0.54	A	16,000	0.62	B	D
25		West of Patterson Avenue	4U	25,900	11,444	0.44	A	13,543	0.52	A	D
26		East of Patterson Avenue	2D	18,000	10,492	0.58	A	12,591	0.70	B	D
27		West of Webster Avenue	2D	18,000	9,144	0.51	A	11,243	0.62	B	D
28		East of Webster Avenue	2D	18,000	9,156	0.51	A	11,255	0.63	B	D
29		West of Indian Street	3D	26,925	11,624	0.43	A	13,723	0.51	A	D

Table 4.11-20 Short-Term Construction Roadway Segment Analysis

#	Roadway	Segment Limits	Roadway Section	LOS Capacity[1]	Existing 2015[4]	V/C[2]	LOS[3]	E+P (Construction Traffic)	V/C[2]	LOS[3]	Acceptable LOS
30	Heacock Street	South of Cactus Avenue	4D	37,500	24,824	0.66	B	26,827	0.72	C	D
31		North of John F. Kennedy Drive	4D	37,500	22,764	0.61	B	24,766	0.66	B	D
32		South of John F. Kennedy Drive	4D	37,500	21,272	0.57	A	23,274	0.62	B	D
33		North of Gentian Avenue	3D	28,150	19,047	0.68	B	21,049	0.75	C	D
34		South of Gentian Avenue	2U	12,500	**17,054**	**1.36**	**F**	**19,056**	**1.52**	**F**	D
35		North of Iris Avenue	2D	18,750	16,730	0.89	D	**18,732**	**1.00**	**E**	D
36		Iris Avenue to Krameria Avenue (N)	2U	12,500	9,113	0.73	C	11,115	0.89	D	D
37		Krameria Avenue (N) to Cardinal Avenue	3D	28,150	8,516	0.30	A	10,615	0.38	A	D
40		Cardinal Avenue to San Michele Road	3D	28,150	7,400	0.26	A	9,499	0.34	A	D
41		San Michele Road to Nandina Avenue	2D	18,750	3,427	0.18	A	3,427	0.18	A	D
42		South of Nandina Avenue	2U	12,500	228	0.02	A	228	0.02	A	D
43		North of Harley Knox Boulevard	2U	13,000	0	0.00	A	0	0.00	A	D
44	Cosmos Street	Krameria Avenue (N) to Krameria Avenue	2U	12,500	620	0.05	A	4,721	0.38	A	D
45	Indian Street	San Michele Road to Nandina Avenue	4D	37,500	10,793	0.29	A	12,892	0.34	A	D
46		South of Nandina Avenue	2D	18,750	12,523	0.67	B	14,622	0.78	C	D
47		North of Harley Knox Boulevard	4D	35,900	13,201	0.37	A	15,300	0.43	A	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] These maximum roadway capacities have been obtained from the City of Moreno Valley's Transportation Division's Traffic Impact Analysis Preparation Guidelines (August 2007), Table CE-9 of the City of Perris General Plan Circulation Element, or Figure C-2 of the County of Riverside General Plan Circulation Element.

[2] V/C = Volume to Capacity Ratio

[3] LOS = Level of Service

[4] V/C and LOS results are from the Moreno Valley Logistics Traffic Impact Analysis.

Source: (Urban Crossroads, 2015b, Table 5)

Table 4.11-21 Existing plus Project Intersection Analysis

#	Intersection	Traffic Control [2]	Existing (2015)				E+P w/o Indian				E+P With Indian			
			Delay [1] (secs.)		Level of Service		Delay [1] (secs.)		Level of Service		Delay [1] (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	I-215 SB Ramps / Cactus Av	TS	14.4	39.0	B	D	19.4	39.0	B	D	16.4	39.0	B	D
2	I-215 SB Ramps / Harley Knox Bl	TS	33.8	31.2	C	C	34.5	36.0	C	D	35.5	36.0	D	D
3	I-215 NB Ramps / Cactus Av	TS	19.1	13.7	B	B	19.5	15.7	B	B	19.3	14.9	B	B
4	I-215 NB Ramps / Harley Knox Bl	TS	13.6	17.0	B	B	14.8	18.0	B	B	14.3	19.0	B	B
5	Elsworth St / Cactus Av	TS	38.9	30.2	D	C	38.9	30.2	D	C	38.9	30.2	D	C
6	Frederick St / Cactus Av	TS	24.9	21.9	C	C	25.5	23.2	C	C	25.3	22.7	C	C
7	Western Wy / Harley Knox Bl	CSS	12.0	12.1	B	B	12.1	14.1	B	B	12.3	14.8	B	B
8	Graham St / Cactus Av	TS	21.3	24.5	C	C	21.9	25.1	C	C	22.1	25.3	C	C
9	Patterson Av / Harley Knox Bl	TS	27.6	26.3	C	C	32.2	45.7	C	D	28.7	28.7	C	C
10	Heacock St / Cactus Av	TS	34.3	18.6	C	B	39.9	44.5	D	D	38.3	33.7	D	C
11	Heacock St / John F. Kennedy Dr	TS	23.3	21.8	C	C	24.4	27.9	C	C	27.8	25.3	C	C
12	Heacock St / Gentian Av	CSS	22.8	**58.0**	C	**F**	**35.0**	**>100.0**	**E**	**F**	31.7	**93.0**	D	**F**
13	Heacock St / Iris Av	AWS	15.2	**37.5**	C	**E**	**36.1**	**56.1**	**E**	**F**	25.7	**53.9**	D	**F**
14	Heacock St / Krameria Av (North)	TS	11.1	9.0	B	A	14.3	30.6	B	C	13.7	21.7	B	C
15	Heacock St / Driveway 1	**CSS**	Future Intersection				10.9	12.4	B	B	10.8	12.8	B	B
16	Heacock St / Driveway 2	**CSS**	Future Intersection				10.7	12.4	B	B	10.9	13.1	B	B
17	Heacock St / Cardinal Av	CSS	9.0	13.4	A	B	12.9	18.1	B	C	12.8	17.5	B	C
18	Heacock St / San Michele Rd	TS	25.6	39.5	C	D	37.0	**70.9**	D	**E**	35.7	**59.9**	D	**E**
19	Heacock St / Nandina Av	CSS	8.4	8.6	A	A	8.4	8.6	A	A	8.4	8.6	A	A
20	Webster Av / Harley Knox Bl	CSS	10.0	10.1	B	B	11.4	10.2	B	B	12.1	10.4	B	B
21	Cosmos St / Krameria Av (North)	CSS	9.8	9.3	A	A	10.2	11.5	B	B	9.6	10.4	A	B
22	Cosmos St / Krameria Av	**AWS**	Future Intersection				8.5	8.5	A	A	8.0	8.1	A	A
23	Driveway 3 / Krameria Av	**CSS**	Future Intersection				9.5	9.6	A	A	9.2	9.3	A	A
24	Driveway 4 / Krameria Av	**CSS**	Future Intersection				9.1	9.2	A	A	8.7	8.9	A	A
25	Driveway 5 / Krameria Av	**CSS**	Future Intersection				9.3	9.4	A	A	9.2	9.3	A	A
26	Indian St / Krameria Av	AWS	10.7	9.2	B	A	11.1	9.9	B	A	11.2	9.9	B	A
27	Indian St / Driveway 6	**CSS**	Future Intersection				8.7	8.8	A	A	8.4	8.7	A	A
28	Indian St / San Michele Rd	TS	29.3	35.8	C	D	31.0	36.4	C	D	29.9	36.6	C	D
29	Indian St / Nandina Av	TS	18.4	19.9	B	B	18.5	20.0	B	C	23.2	20.1	C	C
30	Indian St / Harley Knox Bl	TS	17.0	24.2	B	C	17.7	50.8	B	D	22.4	**72.3**	C	**E**
31	Perris Bl / Cactus Av	TS	24.8	32.4	C	C	25.1	32.9	C	C	25.1	32.9	C	C
32	Perris Bl / Krameria Av	TS	31.2	22.9	C	C	32.3	30.1	C	C	32.3	30.1	C	C

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[2] CSS = Cross-street Stop; TS = Traffic Signal: AWS= All-way stop

Source: (Urban Crossroads, 2016e, Table 5-1)

Table 4.11-22 Existing plus Project Roadway Segment Analysis

#	Roadway	Segment Limits	Roadway Section	LOS Capacity[1]	Existing 2015	V/C[2]	LOS[3]	E+P w/o Indian	V/C[2]	LOS[3]	E+P w/ Indian	V/C[2]	LOS[3]	Acceptable LOS
1		I-215 SB Ramps to I-215 NB Ramps	4D	37,500	25,080	0.67	B	26,470	0.71	C	26,031	0.69	B	D
2		East of I-215 NB Ramps	4D	37,500	31,154	0.83	D	33,935	0.90	D	33,056	0.88	D	D
3		West of Elsworth Street	6D	56,300	34,154	0.61	B	36,935	0.66	B	36,056	0.64	B	D
4		East of Elsworth Street	6D	56,300	31,029	0.55	A	33,810	0.60	A	32,931	0.58	A	D
5		West of Frederick Street	5D	46,900	32,583	0.69	B	35,364	0.75	C	34,485	0.74	C	D
6	Cactus Avenue	East of Frederick Street	5D	46,900	35,981	0.77	C	38,762	0.83	D	37,883	0.81	D	D
7		West of Graham Street	5D	46,900	36,044	0.77	C	38,825	0.83	D	37,946	0.81	D	D
8		East of Graham Street	5D	46,900	31,120	0.66	B	33,901	0.72	C	33,022	0.70	B	D
9		West of Heacock Street	5D	46,900	35,778	0.76	C	38,559	0.82	D	37,680	0.80	C	D
10		East of Heacock Street	4D	37,500	19,360	0.52	A	19,818	0.53	A	19,818	0.53	A	C
11		West of Perris Boulevard	4D	37,500	15,973	0.43	A	16,431	0.44	A	16,431	0.44	A	C
12		Heacock Street to Cosmos Street	2U	12,500	1,076	0.09	A	4,022	0.32	A	2,864	0.23	A	D
13		Cosmos Street to Driveway 3	2U	12,500	620	0.05	A	2,602	0.21	A	1,866	0.15	A	D
14		Driveway 3 to Driveway 4	2U	12,500	620	0.05	A	1,902	0.15	A	1,634	0.13	A	D
15	Krameria Avenue	Driveway 4 to Driveway 5	2U	12,500	620	0.05	A	1,866	0.15	A	1,811	0.14	A	D
16		Driveway 5 to Indian Street	2D	18,750	620	0.03	A	1,324	0.07	A	1,606	0.09	A	D
17		East of Indian Street	2D	18,750	3,716	0.20	A	4,244	0.23	A	4,244	0.23	A	D
18		West of Perris Boulevard	2U	12,500	3,040	0.24	A	3,568	0.29	A	3,568	0.29	A	D
19	Cardinal Avenue	East of Heacock Street	2U	12,500	46	0.00	A	1,198	0.10	A	1,198	0.10	A	C
20	San Michele Road	East of Heacock Street	2D	18,750	4,269	0.23	A	6,534	0.35	A	6,256	0.33	A	D
21		West of Indian Street	2D	18,750	10,411	0.56	A	12,676	0.68	B	12,398	0.66	B	D
22		I-215 SB Ramps to I-215 NB Ramps	4D	35,900	11,390	0.32	A	12,346	0.34	A	12,786	0.36	A	D
23		I-215 NB Ramps to Western Way	4D	35,900	17,815	0.50	A	19,727	0.55	A	20,607	0.57	A	D
24		East of Western Way	4U	25,900	13,901	0.54	A	15,814	0.61	B	16,693	0.64	B	D
25	Harley Knox Boulevard	West of Patterson Avenue	4U	25,900	11,444	0.44	A	13,357	0.52	A	14,236	0.55	A	D
26		East of Patterson Avenue	2D	18,000	10,492	0.58	A	12,581	0.70	B	13,460	0.75	C	D
27		West of Webster Avenue	2D	18,000	9,144	0.51	A	11,233	0.62	B	12,112	0.67	B	D
28		East of Webster Avenue	2D	18,000	9,156	0.51	A	11,245	0.62	B	12,124	0.67	B	D
29		West of Indian Street	3D	26,925	11,624	0.43	A	13,713	0.51	A	14,592	0.54	A	D

Table 4.11-22 Existing plus Project Roadway Segment Analysis

#	Roadway	Segment Limits	Roadway Section	LOS Capacity[1]	Existing 2015	V/C[2]	LOS[3]	E+P w/o Indian	V/C[2]	LOS[3]	E+P w/ Indian	V/C[2]	LOS[3]	Acceptable LOS
30	Heacock Street	South of Cactus Avenue	4D	37,500	24,824	0.66	B	28,549	0.76	C	27,670	0.74	C	D
31		North of John F. Kennedy Drive	4D	37,500	22,764	0.61	B	26,489	0.71	C	25,610	0.68	B	D
32		South of John F. Kennedy Drive	4D	37,500	21,272	0.57	A	25,103	0.67	B	24,224	0.65	B	D
33		North of Gentian Avenue	3D	28,150	19,047	0.68	B	22,877	0.81	D	21,998	0.78	C	D
34		South of Gentian Avenue	2U	12,500	**17,054**	**1.36**	**F**	**20,884**	**1.67**	**F**	**20,005**	**1.60**	**F**	D
35		North of Iris Avenue	2D	18,750	16,730	0.89	D	**20,560**	**1.10**	**F**	**19,681**	**1.05**	**F**	D
36		Iris Avenue to Krameria Avenue (N)	2U	12,500	9,113	0.73	C	**12,943**	**1.04**	**F**	**12,064**	**0.97**	**E**	D
37		Krameria Avenue (N) to Driveway 1	3D	28,150	8,516	0.30	A	10,668	0.38	A	9,679	0.34	A	D
38		Driveway 1 to Driveway 2	3D	28,150	8,516	0.30	A	10,386	0.37	A	9,748	0.35	A	D
39		Driveway 2 to Cardinal Avenue	4D	37,500	8,874	0.24	A	10,984	0.29	A	10,768	0.29	A	D
40		Cardinal Avenue to San Michele Road	3D	28,150	7,400	0.26	A	9,666	0.34	A	9,387	0.33	A	D
41		San Michele Road to Nandina Avenue	2D	18,750	3,427	0.18	A	3,427	0.18	A	3,427	0.18	A	D
42		South of Nandina Avenue	2U	12,500	228	0.02	A	228	0.02	A	228	0.02	A	D
43		North of Harley Knox Boulevard	2U	13,000	0	0.00	A	0	0.00	A	0	0.00	A	D
44	Cosmos Street	Krameria Avenue (N) to Krameria Avenue	2U	12,500	620	0.05	A	3,566	0.29	A	2,408	0.19	A	D
45	Indian Street	Driveway 6 to San Michele Road	4D	37,500	0	0.00	A	0	0.00	A	1,158	0.03	A	D
46		San Michele Road to Nandina Avenue	4D	37,500	10,793	0.29	A	13,058	0.35	A	13,938	0.37	A	D
47		South of Nandina Avenue	2D	18,750	12,523	0.67	B	14,788	0.79	C	15,667	0.84	D	D
48		North of Harley Knox Boulevard	4D	35,900	13,201	0.37	A	15,466	0.43	A	16,345	0.46	A	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] These maximum roadway capacities have been obtained from the City of Moreno Valley's Transportation Division's Traffic Impact Analysis Preparation Guidelines (August 2007), Table CE-9 of the City of Perris General Plan Circulation Element, or Figure C-2 of the County of Riverside General Plan Circulation Element.

[2] V/C = Volume to Capacity Ratio

[3] LOS = Level of Service

Source: (Urban Crossroads, 2016e, Table 5-2)

Table 4.11-23 Opening Year (2020) Intersection Analysis

#	Intersection	Traffic Control [2]	2020 Without Project Delay [1] (secs.) AM	2020 Without Project Delay [1] (secs.) PM	2020 Without Project Level of Service AM	2020 Without Project Level of Service PM	2020 With Project Delay [1] (secs.) AM	2020 With Project Delay [1] (secs.) PM	2020 With Project Level of Service AM	2020 With Project Level of Service PM
1	I-215 SB Ramps / Cactus Av	TS	**117.6**	**172.3**	**F**	**F**	**183.6**	**172.3**	**F**	**F**
2	I-215 SB Ramps / Harley Knox Bl	TS	**>200.0**	**118.6**	**F**	**F**	**>200.0**	**158.4**	**F**	**F**
3	I-215 NB Ramps / Cactus Av	TS	**174.3**	**126.7**	**F**	**F**	**174.7**	**153.7**	**F**	**F**
4	I-215 NB Ramps / Harley Knox Bl	TS	19.2	**>200.0**	B	**F**	25.9	**>200.0**	C	**F**
5	Elsworth St / Cactus Av	TS	**88.7**	43.5	**F**	D	**97.0**	53.6	**F**	D
6	Frederick St / Cactus Av	TS	30.0	47.9	C	D	33.0	51.1	C	D
7	Western Wy / Harley Knox Bl	CSS	18.6	**>100.0**	C	**F**	18.1	**>100.0**	C	**F**
8	Graham St / Cactus Av	TS	**123.8**	**117.6**	**F**	**F**	**125.3**	**117.8**	**F**	**F**
9	Patterson Av / Harley Knox Bl	TS	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**
10	Heacock St / Cactus Av	TS	**59.3**	48.9	**E**	D	**64.6**	**85.6**	**E**	**F**
11	Heacock St / John F. Kennedy Dr	TS	25.9	24.1	C	C	26.9	36.7	C	D
12	Heacock St / Gentian Av	CSS	33.2	**>100.0**	D	**F**	**53.8**	**>100.0**	**F**	**F**
13	Heacock St / Iris Av	AWS	**46.2**	**58.5**	**E**	**F**	**57.2**	**59.6**	**F**	**F**
14	Heacock St / Krameria Av (North)	TS	17.1	36.4	B	D	21.2	52.0	C	D
15	Heacock St / Driveway 1	<u>CSS</u>	Future Intersection				15.0	20.8	C	C
16	Heacock St / Driveway 2	<u>CSS</u>	Future Intersection				14.9	20.9	B	C
17	Heacock St / Cardinal Av	CSS	11.3	26.6	B	D	23.8	28.4	C	D
18	Heacock St / San Michele Rd	TS	**198.9**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**
19	Heacock St / Nandina Av	CSS	8.5	8.9	A	A	8.5	8.9	A	A
20	Webster Av / Harley Knox Bl	CSS	0.0	18.4	A	C	0.0	18.4	A	C
21	Cosmos St / Krameria Av (North)	CSS	13.6	15.3	B	C	21.6	25.7	C	D
22	Cosmos St / Krameria Av	<u>AWS</u>	Future Intersection				10.1	10.2	B	B
23	Driveway 3 / Krameria Av	<u>CSS</u>	Future Intersection				10.2	10.6	B	B
24	Driveway 4 / Krameria Av	<u>CSS</u>	Future Intersection				9.8	9.9	A	A
25	Driveway 5 / Krameria Av	<u>CSS</u>	Future Intersection				9.9	10.2	A	B
26	Indian St / Krameria Av	AWS	14.0	10.7	B	B	14.9	12.0	B	B
27	Indian St / Driveway 6	<u>CSS</u>	Future Intersection				8.7	8.8	A	A
28	Indian St / San Michele Rd	TS	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**
29	Indian St / Nandina Av	TS	**125.5**	**135.1**	**F**	**F**	**137.9**	**169.4**	**F**	**F**
30	Indian St / Harley Knox Bl	TS	19.1	**181.4**	B	**F**	19.5	**>200.0**	B	**F**
31	Perris Bl / Cactus Av	TS	**77.5**	**155.6**	**E**	**F**	**79.6**	**165.4**	**E**	**F**
32	Perris Bl / Krameria Av	TS	46.8	**60.4**	D	**E**	48.4	**74.8**	D	**E**

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[2] CSS = Cross-street Stop; TS = Traffic Signal: AWS= All-way stop

Source: (Urban Crossroads, 2016e, Table 6-1)

Table 4.11-24 Opening Year (2020) Roadway Segment Analysis

#	Roadway	Segment Limits	Roadway Section	LOS Capacity[1]	2020 w/o Project	V/C[2]	LOS[3]	2020 w/ Project	V/C[2]	LOS[3]	Acceptable LOS
1		I-215 SB Ramps to I-215 NB Ramps	4D	37,500	**52,440**	**1.40**	**F**	**53,830**	**1.44**	**F**	D
2		East of I-215 NB Ramps	4D	37,500	**52,541**	**1.40**	**F**	**55,322**	**1.48**	**F**	D
3		West of Elsworth Street	6D	56,300	**57,997**	**1.03**	**F**	**60,778**	**1.08**	**F**	D
4		East of Elsworth Street	6D	56,300	**54,501**	**0.97**	**E**	**57,282**	**1.02**	**F**	D
5		West of Frederick Street	5D	46,900	**58,823**	**1.25**	**F**	**61,604**	**1.31**	**F**	D
6	Cactus Avenue	East of Frederick Street	5D	46,900	**60,223**	**1.28**	**F**	**63,004**	**1.34**	**F**	D
7		West of Graham Street	5D	46,900	**59,505**	**1.27**	**F**	**62,286**	**1.33**	**F**	D
8		East of Graham Street	5D	46,900	**48,625**	**1.04**	**F**	**51,406**	**1.10**	**F**	D
9		West of Heacock Street	5D	46,900	**49,854**	**1.06**	**F**	**52,635**	**1.12**	**F**	D
10		East of Heacock Street	4D	37,500	32,432	0.86	D	32,890	0.88	D	C
11		West of Perris Boulevard	4D	37,500	23,845	0.64	B	24,303	0.65	B	C
12		Heacock Street to Cosmos Street	2U	12,500	7,254	0.58	A	10,200	0.82	D	D
13		Cosmos Street to Driveway 3	2U	12,500	3,420	0.27	A	5,402	0.43	A	D
14		Driveway 3 to Driveway 4	2U	12,500	3,420	0.27	A	4,702	0.38	A	D
15	Krameria Avenue	Driveway 4 to Driveway 5	2U	12,500	3,420	0.27	A	4,666	0.37	A	D
16		Driveway 5 to Indian Street	2D	18,750	3,420	0.18	A	4,124	0.22	A	D
17		East of Indian Street	2D	18,750	5,173	0.28	A	5,701	0.30	A	D
18		West of Perris Boulevard	2U	12,500	4,290	0.34	A	4,818	0.39	A	D
19	Cardinal Avenue	East of Heacock Street	2U	12,500	51	0.00	A	1,203	0.10	A	C
20	San Michele Road	East of Heacock Street	2D	18,750	**18,781**	**1.00**	**E**	**21,046**	**1.12**	**F**	D
21		West of Indian Street	2D	18,750	**24,254**	**1.29**	**F**	**26,519**	**1.41**	**F**	D
22		I-215 SB Ramps to I-215 NB Ramps	4D	35,900	22,314	0.62	A	23,270	0.65	B	D
23		I-215 NB Ramps to Western Way	4D	35,900	**32,527**	**0.91**	**E**	**34,439**	**0.96**	**E**	D
24		East of Western Way	4U	25,900	**28,206**	**1.09**	**F**	**30,119**	**1.16**	**F**	D
25	Harley Knox Boulevard	West of Patterson Avenue	4U	25,900	**25,493**	**0.98**	**E**	**27,406**	**1.06**	**F**	D
26		East of Patterson Avenue	2D	18,000	**24,066**	**1.34**	**F**	**26,155**	**1.45**	**F**	D
27		West of Webster Avenue	2D	18,000	**22,578**	**1.25**	**F**	**24,667**	**1.37**	**F**	D
28		East of Webster Avenue	2D	18,000	**22,247**	**1.24**	**F**	**24,336**	**1.35**	**F**	D
29		West of Indian Street	3D	26,925	**24,971**	**0.93**	**E**	**27,060**	**1.01**	**F**	D

Table 4.11-24 Opening Year (2020) Roadway Segment Analysis

#	Roadway	Segment Limits	Roadway Section	LOS Capacity[1]	2020 w/o Project	V/C[2]	LOS[3]	2020 w/ Project	V/C[2]	LOS[3]	Acceptable LOS
30	Heacock Street	South of Cactus Avenue	4D	37,500	28,260	0.75	C	31,985	0.85	D	D
31		North of John F. Kennedy Drive	4D	37,500	27,327	0.73	C	31,052	0.83	D	D
32		South of John F. Kennedy Drive	4D	37,500	25,704	0.69	B	29,535	0.79	C	D
33		North of Gentian Avenue	3D	28,150	23,211	0.82	D	**27,041**	**0.96**	**E**	D
34		South of Gentian Avenue	2U	12,500	**20,916**	**1.67**	**F**	**24,746**	**1.98**	**F**	D
35		North of Iris Avenue	2D	18,750	**20,558**	**1.10**	**F**	**24,388**	**1.30**	**F**	D
36		Iris Avenue to Krameria Avenue (N)	2U	12,500	**17,912**	**1.43**	**F**	**21,742**	**1.74**	**F**	D
37		Krameria Avenue (N) to Driveway 1	3D	28,150	20,115	0.71	C	22,267	0.79	C	D
38		Driveway 1 to Driveway 2	3D	28,150	20,115	0.71	C	21,985	0.78	C	D
39		Driveway 2 to Cardinal Avenue	4D	37,500	20,511	0.55	A	22,621	0.60	A	D
40		Cardinal Avenue to San Michele Road	3D	28,150	18,883	0.67	B	21,149	0.75	C	D
41		San Michele Road to Nandina Avenue	2D	18,750	4,465	0.24	A	4,465	0.24	A	D
42		South of Nandina Avenue	2U	12,500	252	0.02	A	252	0.02	A	D
43		North of Harley Knox Boulevard	2U	13,000	0	0.00	A	0	0.00	A	D
44	Cosmos Street	Krameria Avenue (N) to Krameria Avenue	2U	12,500	3,420	0.27	A	6,366	0.51	A	D
45	Indian Street	Driveway 6 to San Michele Road	4D	37,500	174	0.00	A	174	0.00	A	D
46		San Michele Road to Nandina Avenue	4D	37,500	28,062	0.75	C	30,327	0.81	D	D
47		South of Nandina Avenue	2D	18,750	**31,663**	**1.69**	**F**	**33,928**	**1.81**	**F**	D
48		North of Harley Knox Boulevard	4D	35,900	22,657	0.63	B	24,922	0.69	B	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] These maximum roadway capacities have been obtained from the City of Moreno Valley's Transportation Division's Traffic Impact Analysis Preparation Guidelines (August 2007), Table CE-9 of the City of Perris General Plan Circulation Element, or Figure C-2 of the County of Riverside General Plan Circulation Element.

[2] V/C = Volume to Capacity Ratio

[3] LOS = Level of Service

Source: (Urban Crossroads, 2016e, Table 6-2)

Table 4.11-25 General Plan Buildout (Post-2035) Intersection Analysis

#	Intersection	Traffic Control[2]	Post-2035 Without Project				Post-2035 With Project			
			Delay[1] (secs.)		Level of Service		Delay[1] (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	I-215 SB Ramps / Cactus Av	TS	**144.4**	**148.0**	**F**	**F**	**166.4**	**148.0**	**F**	**F**
2	I-215 SB Ramps / Harley Knox Bl	TS	**136.9**	**122.0**	**F**	**F**	**175.6**	**141.6**	**F**	**F**
3	I-215 NB Ramps / Cactus Av	TS	>200.0	>200.0	**F**	**F**	>200.0	>200.0	**F**	**F**
4	I-215 NB Ramps / Harley Knox Bl	TS	**67.5**	>200.0	**E**	**F**	**85.9**	>200.0	**F**	**F**
5	Elsworth St / Cactus Av	TS	**116.3**	**72.9**	**F**	**E**	**133.8**	**81.9**	**F**	**F**
6	Frederick St / Cactus Av	TS	32.7	49.0	C	D	34.3	51.5	C	D
7	Western Wy / Harley Knox Bl	CSS	**47.1**	**>100.0**	**E**	**F**	**70.3**	**>100.0**	**F**	**F**
8	Graham St / Cactus Av	TS	**94.3**	**82.2**	**F**	**F**	**95.5**	**82.9**	**F**	**F**
9	Patterson Av / Harley Knox Bl	TS	**169.3**	>200.0	**F**	**F**	>200.0	>200.0	**F**	**F**
10	Heacock St / Cactus Av	TS	**94.7**	**148.0**	**F**	**F**	**98.0**	**166.3**	**F**	**F**
11	Heacock St / John F. Kennedy Dr	TS	38.5	38.3	D	D	40.5	46.8	D	D
12	Heacock St / Gentian Av	CSS	**97.6**	**>100.0**	**F**	**F**	**>100.0**	**>100.0**	**F**	**F**
13	Heacock St / Iris Av	AWS	**60.8**	**60.6**	**F**	**F**	**61.7**	**61.2**	**F**	**F**
14	Heacock St / Krameria Av (North)	TS	22.6	41.4	C	D	32.5	53.0	C	D
15	Heacock St / Driveway 1	<u>CSS</u>	Future Intersection				20.3	24.9	C	C
16	Heacock St / Driveway 2	<u>CSS</u>	Future Intersection				18.1	20.3	C	C
17	Heacock St / Cardinal Av	CSS	12.1	22.2	B	C	24.9	32.2	C	D
18	Heacock St / San Michele Rd	TS	**102.8**	**198.5**	**F**	**F**	**103.1**	**199.6**	**F**	**F**
19	Heacock St / Nandina Av	CSS	13.7	17.9	B	C	14.7	22.6	B	C
20	Webster Av / Harley Knox Bl	CSS	17.1	**>100.0**	C	**F**	21.4	**>100.0**	C	**F**
21	Cosmos St / Krameria Av (North)	CSS	14.2	16.3	B	C	17.7	21.5	C	C
22	Cosmos St / Krameria Av	<u>AWS</u>	Future Intersection				9.5	9.6	A	A
23	Driveway 3 / Krameria Av	<u>CSS</u>	Future Intersection				9.9	10.1	A	B
24	Driveway 4 / Krameria Av	<u>CSS</u>	Future Intersection				9.4	9.5	A	A
25	Driveway 5 / Krameria Av	<u>CSS</u>	Future Intersection				9.9	10.2	A	B
26	Indian St / Krameria Av	AWS	**67.8**	**72.4**	**F**	**F**	**69.7**	**74.9**	**F**	**F**
27	Indian St / Driveway 6	<u>CSS</u>	Future Intersection				10.6	16.2	B	C
28	Indian St / San Michele Rd	TS	**73.1**	>200.0	**E**	**F**	**105.4**	>200.0	**F**	**F**
29	Indian St / Nandina Av	TS	**136.5**	>200.0	**F**	**F**	**146.3**	>200.0	**F**	**F**
30	Indian St / Harley Knox Bl	TS	**120.5**	>200.0	**F**	**F**	**125.9**	>200.0	**F**	**F**
31	Perris Bl / Cactus Av	TS	**112.6**	**185.1**	**F**	**F**	**115.4**	**188.7**	**F**	**F**
32	Perris Bl / Krameria Av	TS	**111.7**	**148.8**	**F**	**F**	**119.6**	**157.8**	**F**	**F**

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

1 Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual move movements sharing a single lane) are shown.

2 CSS = Cross-street Stop; TS = Traffic Signal; AWS= All-way stop

Source: (Urban Crossroads, 2016e, Table 7-1)

Table 4.11-26 General Plan Buildout (Post-2035) Roadway Segment Analysis

#	Roadway	Segment Limits	Roadway Section	LOS Capacity[1]	Post-2035 w/o Project	V/C[2]	LOS[3]	Post-2035 w/ Project	V/C[2]	LOS[3]	Acceptable LOS
1	Cactus Avenue	I-215 SB Ramps to I-215 NB Ramps	4D	37,500	**52,522**	**1.40**	**F**	**53,473**	**1.43**	**F**	D
2		East of I-215 NB Ramps	4D	37,500	**68,405**	**1.82**	**F**	**70,307**	**1.87**	**F**	D
3		West of Elsworth Street	6D	56,300	**63,400**	**1.13**	**F**	**65,302**	**1.16**	**F**	D
4		East of Elsworth Street	6D	56,300	**58,900**	**1.05**	**F**	**60,802**	**1.08**	**F**	D
5		West of Frederick Street	5D	46,900	**60,581**	**1.29**	**F**	**62,483**	**1.33**	**F**	D
6		East of Frederick Street	5D	46,900	**62,838**	**1.34**	**F**	**64,740**	**1.38**	**F**	D
7		West of Graham Street	5D	46,900	**59,572**	**1.27**	**F**	**61,474**	**1.31**	**F**	D
8		East of Graham Street	5D	46,900	**55,142**	**1.18**	**F**	**57,044**	**1.22**	**F**	D
9		West of Heacock Street	5D	46,900	**50,768**	**1.08**	**F**	**52,670**	**1.12**	**F**	D
10		East of Heacock Street	4D	37,500	**43,555**	**1.16**	**F**	**44,013**	**1.17**	**F**	C
11		West of Perris Boulevard	4D	37,500	**37,000**	**0.99**	**E**	**37,458**	**1.00**	**E**	C
12	Krameria Avenue	Heacock Street to Cosmos Street	2U	12,500	11,144	0.89	D	**12,862**	**1.03**	**F**	D
13		Cosmos Street to Driveway 3	2U	12,500	9,000	0.72	C	10,318	0.83	D	D
14		Driveway 3 to Driveway 4	2U	12,500	9,000	0.72	C	10,084	0.81	D	D
15		Driveway 4 to Driveway 5	2U	12,500	9,000	0.72	C	10,262	0.82	D	D
16		Driveway 5 to Indian Street	2D	18,750	9,000	0.48	A	10,056	0.54	A	D
17		East of Indian Street	2D	18,750	8,096	0.43	A	8,624	0.46	A	D
18		West of Perris Boulevard	2U	12,500	**12,689**	**1.02**	**F**	**13,217**	**1.06**	**F**	D
19	Cardinal Avenue	East of Heacock Street	2U	12,500	51	0.00	A	1,197	0.10	A	C
20	San Michele Road	East of Heacock Street	2D	18,750	**22,852**	**1.22**	**F**	**22,852**	**1.22**	**F**	D
21		West of Indian Street	2D	18,750	**27,208**	**1.45**	**F**	**27,208**	**1.45**	**F**	D
22	Harley Knox Boulevard	I-215 SB Ramps to I-215 NB Ramps	4D	35,900	29,627	0.83	D	31,023	0.86	D	D
23		I-215 NB Ramps to Western Way	4D	35,900	**36,697**	**1.02**	**F**	**39,489**	**1.10**	**F**	D
24		East of Western Way	4U	25,900	**35,500**	**1.37**	**F**	**38,292**	**1.48**	**F**	D
25		West of Patterson Avenue	4U	25,900	**35,500**	**1.37**	**F**	**38,292**	**1.48**	**F**	D
26		East of Patterson Avenue	2D	18,000	**34,800**	**1.93**	**F**	**37,768**	**2.10**	**F**	D
27		West of Webster Avenue	2D	18,000	**39,288**	**2.18**	**F**	**42,257**	**2.35**	**F**	D
28		East of Webster Avenue	2D	18,000	**39,576**	**2.20**	**F**	**40,630**	**2.26**	**F**	D
29		West of Indian Street	3D	26,925	**36,988**	**1.37**	**F**	**38,042**	**1.41**	**F**	D

Table 4.11-26 General Plan Buildout (Post-2035) Roadway Segment Analysis

#	Roadway	Segment Limits	Roadway Section	LOS Capacity[1]	Post-2035 w/o Project	V/C[2]	LOS[3]	Post-2035 w/ Project	V/C[2]	LOS[3]	Acceptable LOS
30	Heacock Street	South of Cactus Avenue	4D	37,500	28,080	0.75	C	30,926	0.82	D	D
31		North of John F. Kennedy Drive	4D	37,500	26,995	0.72	C	29,841	0.80	C	D
32		South of John F. Kennedy Drive	4D	37,500	27,192	0.73	C	30,144	0.80	C	D
33		North of Gentian Avenue	3D	28,150	25,192	0.89	D	**28,143**	**1.00**	**E**	D
34		South of Gentian Avenue	2U	12,500	**24,000**	**1.92**	**F**	**26,951**	**2.16**	**F**	D
35		North of Iris Avenue	2D	18,750	**25,655**	**1.37**	**F**	**28,606**	**1.53**	**F**	D
36		Iris Avenue to Krameria Avenue (N)	2U	12,500	**22,634**	**1.81**	**F**	**25,585**	**2.05**	**F**	D
37		Krameria Avenue (N) to Driveway 1	3D	28,150	23,898	0.85	D	25,132	0.89	D	D
38		Driveway 1 to Driveway 2	3D	28,150	23,898	0.85	D	25,201	0.90	D	D
39		Driveway 2 to Cardinal Avenue	4D	37,500	23,898	0.64	B	25,726	0.69	B	D
40		Cardinal Avenue to San Michele Road	3D	28,150	23,898	0.85	D	**25,813**	**0.92**	**E**	D
41		San Michele Road to Nandina Avenue	2D	18,750	12,472	0.67	B	14,387	0.77	C	D
42		South of Nandina Avenue	2U	12,500	8,101	0.65	B	10,016	0.80	C	D
43		North of Harley Knox Boulevard	2U	13,000	4,051	0.31	A	5,966	0.46	A	D
44	Cosmos Street	Krameria Avenue (N) to Krameria Avenue	2U	12,500	9,000	0.72	C	10,718	0.86	D	D
45	Indian Street	Driveway 6 to San Michele Road	4D	37,500	23,076	0.62	B	24,306	0.65	B	D
46		San Michele Road to Nandina Avenue	4D	37,500	**36,880**	**0.98**	**E**	**38,110**	**1.02**	**F**	D
47		South of Nandina Avenue	2D	18,750	**42,480**	**2.27**	**F**	**43,710**	**2.33**	**F**	D
48		North of Harley Knox Boulevard	4D	35,900	**43,160**	**1.20**	**F**	**44,390**	**1.24**	**F**	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] These maximum roadway capacities have been obtained from the City of Moreno Valley's Transportation Division's Traffic Impact Analysis Preparation Guidelines (August 2007), Table CE-9 of the City of Perris General Plan Circulation Element, or Figure C-2 of the County of Riverside General Plan Circulation Element.

[2] V/C = Volume to Capacity Ratio

[3] LOS = Level of Service

Source: (Urban Crossroads, 2016e , Table 7-2)

Table 4.11-27 Existing plus Project Freeway Ramp Junction Merge/Diverge Analysis

Freeway	Direction	Ramp or Segment	Lanes on Freeway[1]	Existing (2015)				E+P w/o Indian				E+P w/ Indian			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density[2]	LOS	Density[2]	LOS	Density[2]	LOS	Density[2]	LOS	Density[2]	LOS	Density[2]	LOS
I-215 Freeway	SB	Loop Off-Ramp at Cactus Avenue - Upstream	4	26.9	C	30.2	D	28.6	D	30.6	D	28.4	D	30.6	D
		Loop Off-Ramp at Cactus Avenue - Downstream	4	26.9	C	30.2	D	28.6	D	30.6	D	28.4	D	30.6	D
		Off-Ramp at Harley Knox Boulevard	3	20.2	C	27.5	C	20.6	C	27.6	C	20.9	C	27.7	C
		On-Ramp at Harley Knox Boulevard	3	15.1	B	21.6	C	15.3	B	22.3	C	15.3	B	22.3	C
	NB	On-Ramp at Cactus Avenue	3	20.2	C	19.8	B	20.5	C	21.3	C	20.5	C	21.2	C
		On-Ramp at Harley Knox Boulevard	3	25.8	C	21.9	C	25.9	C	22.3	C	26.0	C	22.7	C
		Off-Ramp at Harley Knox Boulevard	3	25.1	C	20.0	B	25.6	C	20.1	C	25.6	C	20.1	C

* **BOLD** = Unacceptable Level of Service

[1] Number of lanes are in the specified direction and is based on existing conditions.

[2] Density is measured by passenger cars per mile per lane (pc/mi/ln).

Source: (Urban Crossroads, 2016e, Table 5-5)

Table 4.11-28 Existing plus Project Off-Ramp Queuing Analysis

Intersection	Movement	Stacking Distance (Feet)	E+P Without Indian Street Bridge				E+P With Indian Street Bridge			
			95th Percentile Stacking Distance Required (Feet)		Acceptable?[1]		95th Percentile Stacking Distance Required (Feet)		Acceptable?[1]	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Ramps / Cactus Av.	NBR	1,850	249 [2]	334 [2]	Yes	Yes	192 [2]	318 [2]	Yes	Yes
	SBR	1,115	87	0	Yes	Yes	87	0	Yes	Yes
I-215 SB Ramps / Harley Knox Bl.	SBL/T	1,330	427	348	Yes	Yes	472	360	Yes	Yes
	SBR	270	41	58	Yes	Yes	39	57	Yes	Yes
I-215 NB Ramps / Cactus Av.	NBL	145	321 [2]	26	Yes[3]	Yes	321 [2]	26	Yes[3]	Yes
	NBT	1,650	164	26	Yes	Yes	164	26	Yes	Yes
I-215 NB Ramps / Harley Knox Bl.	NBL/T	1,120	13	22	Yes	Yes	13	22	Yes	Yes
	NBR	265	62	54	Yes	Yes	62	54	Yes	Yes

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

[2] 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

[3] Adjacent through lane has sufficient storage to accommodate any spillover from the northbound left turn lane without spilling back and affecting the I-215 Freeway mainline.

Source: (Urban Crossroads, 2016e, Table 5-3)

Table 4.11-29 Opening Year (2020) Freeway Mainline Segment Analysis

Freeway	Direction	Mainline Segment	Lanes[1]	Time Period	2020 Without Project			2020 With Project		
					Volume[2]	Density[3]	LOS	Volume[2]	Density[3]	LOS
SR-91 Freeway	Eastbound	I-15 Freeway to McKinley St.	5	AM	5,814	18.4	C	5,846	18.5	C
				PM	3,676	11.8	B	3,683	11.8	B
		McKinley St. to Riverwalk Pkwy.	4	AM	5,138	21.0	C	5,172	21.1	C
				PM	5,077	20.5	C	5,085	20.5	C
		Riverwalk Pkwy. to Magnolia Av.	3	AM	5,502	33.3	D	5,536	33.7	D
				PM	5,541	32.9	D	5,549	33.0	D
		Magnolia Av. to La Sierra Av.	4	AM	5,449	21.9	C	5,485	22.1	C
				PM	5,442	21.8	C	5,451	21.8	C
		La Sierra Av. to Tyler Av.	4	AM	4,682	18.9	C	4,726	19.1	C
				PM	4,631	18.6	C	4,642	18.7	C
		Tyler Av. to Van Buren Bl.	4	AM	4,679	18.8	C	4,724	19.1	C
				PM	4,399	17.6	B	4,410	17.7	B
		Van Buren Bl. to Adams St.	4	AM	4,837	19.2	C	4,881	19.4	C
				PM	4,720	18.5	C	4,731	18.6	C
		Adams St. to Madison St.	3	AM	4,302	23.3	C	4,358	23.8	C
				PM	4,306	23.1	C	4,320	23.3	C
		Madison St. to Arlington Av.	4	AM	5,967	24.9	C	6,015	25.2	C
				PM	6,083	25.4	C	6,095	25.5	C
		Arlington Av. to Central Av.	4	AM	4,929	19.7	C	4,977	20.0	C
				PM	5,484	22.1	C	5,495	22.1	C
		Central Av. to 14th St.	3	AM	3,922	21.3	C	3,979	21.6	C
				PM	3,295	17.6	B	3,309	17.6	B
		14th St. to University Av.	4	AM	5,557	22.7	C	5,615	23.1	C
				PM	4,570	18.2	C	4,584	18.3	C
		University Av. to Spruce St.	5	AM	5,819	18.8	C	5,880	19.0	C
				PM	4,924	15.8	B	4,939	15.9	B
		Spruce St. to I-215 Freeway	4	AM	4,289	17.3	B	4,350	17.6	B
				PM	3,502	14.1	B	3,518	14.2	B
SR-60 Fwy	Westboun	I-215 Freeway to Day St.	3	AM	3,330	17.4	B	3,362	17.5	B
				PM	3,286	17.1	B	3,293	17.1	B
		Day St. to Frederick St.	3	AM	3,113	17.1	B	3,138	17.2	B
				PM	5,179	30.5	D	5,185	30.6	D
I-215 Freeway	Southbound	SR-60/SR-91 Freeway to Blaine St.	5	AM	5,260	17.0	B	5,366	17.4	B
				PM	6,871	22.4	C	6,897	22.5	C
		Blaine St. to University Av.	4	AM	5,382	22.2	C	5,488	22.9	C
				PM	5,035	20.1	C	5,061	20.3	C
		University Av. to Martin Luther King Bl.	4	AM	5,767	24.6	C	5,873	25.3	C
				PM	6,148	25.7	C	6,174	25.9	C
		Martin Luther King Bl. to Central Av.	5	AM	4,523	14.6	B	4,635	15.0	B
				PM	5,453	17.3	B	5,481	17.4	B
		Central Av. to Box Springs Rd.	5	AM	6,384	20.8	C	6,499	21.4	C
				PM	7,923	26.3	D	7,952	26.4	D
		Box Springs Rd. to SR-60/I-215 Freeway	4	AM	5,946	24.5	C	6,081	25.4	C
				PM	7,129	30.9	D	7,164	31.1	D
		SR-60 Freeway to Eucalyptus Av.	5	AM	8,082	27.7	D	8,250	28.6	D
				PM	7,935	26.9	D	7,976	27.1	D
		Eucalyptus Av. to Alessandro Bl.	3	AM	5,052	30.5	D	5,219	32.3	D
				PM	6,514	**48.5**	**F**	6,555	**49.3**	**F**
		Alessandro Bl. to Cactus Av.	4	AM	6,805	30.1	C	6,972	31.5	D
				PM	6,978	30.8	D	7,019	31.1	D
		Cactus Av. to Van Buren Bl.	4	AM	6,203	26.0	D	6,250	26.3	D
				PM	7,416	33.7	D	7,427	33.8	D
		Van Buren Bl. to Harley Knox Bl.	3	AM	3,813	21.2	C	3,859	21.5	C
				PM	5,326	32.6	D	5,337	32.7	D
		Harley Knox Bl. to Ramona Exwy.	3	AM	2,842	15.2	B	2,858	15.3	B
				PM	4,882	28.4	D	4,956	29.0	D
		Ramona Exwy. to Nuevo Rd.	3	AM	5,440	32.7	D	5,475	33.1	D
				PM	6,836	**52.9**	**F**	6,844	**53.1**	**F**

Table 4.11-29 Opening Year (2020) Freeway Mainline Segment Analysis

Freeway	Direction	Mainline Segment	Lanes[1]	Time Period	2020 Without Project			2020 With Project		
					Volume[2]	Density[3]	LOS	Volume[2]	Density[3]	LOS
SR-91 Freeway	Westbound	I-15 Freeway to McKinley St.	4	AM	5,788	23.4	C	5,795	28.2	D
				PM	6,697	28.2	D	6,731	28.4	D
		McKinley St. to Riverwalk Pkwy.	3	AM	4,012	21.6	C	4,019	24.4	C
				PM	4,399	24.4	C	4,435	24.6	C
		Riverwalk Pkwy. to Magnolia Av.	3	AM	4,995	30.0	D	5,002	30.0	D
				PM	5,487	**35.1**	**E**	5,523	**35.5**	**E**
		Magnolia Av. to La Sierra Av.	3	AM	4,777	27.2	D	4,785	31.1	D
				PM	5,289	31.1	D	5,329	31.7	D
		La Sierra Av. to Tyler Av.	3	AM	4,064	22.0	C	4,074	24.3	C
				PM	4,365	24.3	C	4,413	24.6	C
		Tyler Av. to Van Buren Bl.	4	AM	3,970	15.9	B	3,979	18.4	C
				PM	4,572	18.4	C	4,620	18.7	C
		Van Buren Bl. to Adams St.	4	AM	5,202	21.0	C	5,212	22.1	C
				PM	5,408	22.1	C	5,456	22.5	C
		Adams St. to Madison St.	4	AM	5,253	20.9	C	5,266	23.9	C
				PM	5,890	23.9	C	5,950	24.2	C
		Madison St. to Arlington Av.	3	AM	3,672	19.7	C	3,683	19.7	C
				PM	4,167	22.9	C	4,219	23.4	C
		Arlington Av. to Central Av.	4	AM	4,635	18.6	C	4,646	18.6	C
				PM	4,906	19.9	C	4,957	20.1	C
		Central Av. to 14th St.	3	AM	4,245	23.2	C	4,258	23.3	C
				PM	4,911	28.4	D	4,973	29.0	D
		14th St. to University Av.	4	AM	2,803	11.3	B	2,815	11.4	B
				PM	2,490	10.2	A	2,552	10.5	A
		University Av. to Spruce St.	6	AM	4,493	11.9	B	4,507	12.0	B
				PM	3,973	10.5	A	4,039	10.8	A
		Spruce St. to I-215 Freeway	4	AM	4,238	17.0	B	4,252	17.2	B
				PM	4,673	19.0	C	4,739	19.3	C
SR-60 Fwy	Eastbound	I-215 Freeway to Day St.	5	AM	3,382	10.9	A	3,389	10.9	A
				PM	3,557	11.3	B	3,591	11.4	B
		Day St. to Frederick St.	4	AM	1,804	7.3	A	1,809	7.3	A
				PM	3,157	12.4	B	3,184	12.5	B
I-215 Freeway	Northbound	SR-60/SR-91 Freeway to Blaine St.	5	AM	4,200	13.5	B	4,223	13.6	B
				PM	4,376	14.2	B	4,491	14.6	B
		Blaine St. to University Av.	5	AM	5,429	17.6	B	5,452	17.7	B
				PM	4,947	16.4	B	5,062	16.8	B
		University Av. to Martin Luther King Bl.	4	AM	7,572	**35.2**	**E**	7,596	**35.4**	**E**
				PM	7,147	32.7	D	7,262	33.9	D
		Martin Luther King Bl. to Central Av.	4	AM	6,202	26.4	D	6,227	26.5	D
				PM	6,639	29.4	D	6,760	30.4	D
		Central Av. to Box Springs Rd.	5	AM	6,062	19.9	C	6,087	20.0	C
				PM	7,013	24.2	C	7,137	24.9	C
		Box Springs Rd. to SR-60/I-215 Freeway	4	AM	7,122	30.8	D	7,152	31.0	D
				PM	7,838	**36.5**	**E**	7,985	**38.1**	**E**
		SR-60 Freeway to Eucalyptus Av.	3	AM	4,605	23.5	C	4,642	25.8	C
				PM	5,484	32.7	D	5,663	34.9	D
		Eucalyptus Av. to Alessandro Bl.	3	AM	5,885	**37.5**	**E**	5,922	**38.0**	**E**
				PM	7,234	**63.4**	**F**	7,413	**68.9**	**F**
		Alessandro Bl. to Cactus Av.	5	AM	3,749	12.2	B	3,785	12.3	B
				PM	4,178	13.7	B	4,357	14.4	B
		Cactus Av. to Van Buren Bl.	4	AM	5,378	21.8	C	5,388	21.9	C
				PM	4,173	16.7	B	4,222	16.9	B
		Van Buren Bl. to Harley Knox Bl.	3	AM	5,505	34.2	D	5,515	34.3	D
				PM	4,610	26.4	D	4,659	26.8	D
		Harley Knox Bl. to Ramona Exwy.	3	AM	5,096	30.0	D	5,158	30.6	D
				PM	6,283	18.6	C	3,496	18.7	C
		Ramona Exwy. to Nuevo Rd.	3	AM	6,071	**40.3**	**E**	6,078	**40.3**	**E**
				PM	6,283	**42.3**	**E**	6,320	**43.3**	**E**

BOLD = Unacceptable Level of Service

[1] Number of lanes are in the specified direction and reflect new auxiliary lanes and assume the HOV lane in each direction.

[2] Where applicable, volumes shown on this table have been reduced to account for the proposed HOV lane in each direction.

[3] Density is measured by passenger cars per mile per lane (pc/mi/ln).

Source: (Urban Crossroads, 2015a, Table 4)

Table 4.11-30 Opening Year (2020) Freeway Ramp Junction Merge/Diverge Analysis

Freeway	Direction	Ramp or Segment	Lanes on Freeway[1]	2020 Without Project				2020 With Project			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density[2]	LOS	Density[2]	LOS	Density[2]	LOS	Density[2]	LOS
I-215 Freeway	SB	Loop Off-Ramp at Cactus Avenue - Upstream	4	**36.0**	**E**	**37.6**	**E**	**37.7**	**E**	**38.0**	**E**
		Loop Off-Ramp at Cactus Avenue - Downstream	4	**36.0**	**E**	**37.6**	**E**	**37.7**	**E**	**38.0**	**E**
		Off-Ramp at Harley Knox Boulevard	3	29.7	D	**35.7**	**E**	30.1	D	**35.8**	**E**
		On-Ramp at Harley Knox Boulevard	3	19.0	B	30.5	D	19.2	B	31.2	D
	NB	On-Ramp at Cactus Avenue	3	26.3	C	30.1	D	26.6	C	31.8	D
		On-Ramp at Harley Knox Boulevard	3	34.4	D	32.1	D	34.5	D	32.6	D
		Off-Ramp at Harley Knox Boulevard	3	32.7	D	34.3	C	33.1	D	24.4	C

- **BOLD** = Unacceptable Level of Service

[1] Number of lanes are in the specified direction and is based on existing conditions.

[2] Density is measured by passenger cars per mile per lane (pc/mi/ln).

Source: (Urban Crossroads, 2016e, Table 6-5)

Table 4.11-31 Opening Year (2020) Off-Ramp Queuing Analysis

Intersection	Movement	Stacking Distance (Feet)	2020 Without Project: 95th Percentile Stacking Distance Required (Feet) AM Peak Hour	2020 Without Project: 95th Percentile Stacking Distance Required (Feet) PM Peak Hour	2020 Without Project: Acceptable?[1] AM	2020 Without Project: Acceptable?[1] PM	2020 With Project: 95th Percentile Stacking Distance Required (Feet) AM Peak Hour	2020 With Project: 95th Percentile Stacking Distance Required (Feet) PM Peak Hour	2020 With Project: Acceptable?[1] AM	2020 With Project: Acceptable?[1] PM
I-215 SB Ramps / Cactus Av.	NBR	1,850	498 [2]	584 [2]	Yes	Yes	677 [2]	631 [2]	Yes	Yes
	SBR	1,115	392 [2]	66	Yes	Yes	392 [2]	66	Yes	Yes
I-215 SB Ramps / Harley Knox Bl.	SBL/T	1,330	**2,096 [2]**	891 [2]	**No**	Yes	**2,208 [2]**	920 [2]	**No**	Yes
	SBR	270	198	111	Yes	Yes	202	115	Yes	Yes
I-215 NB Ramps / Cactus Av.	NBL	145	800 [2]	93	Yes[3]	Yes	800 [2]	93	Yes[3]	Yes
	NBT	1,650	235 [2]	58	Yes	Yes	235 [2]	59	Yes	Yes
I-215 NB Ramps / Harley Knox Bl.	NBL/T	1,120	110	76	Yes	Yes	110	76	Yes	Yes
	NBR	265	375 [2]	113	Yes[3]	Yes	534 [2]	139	Yes[3]	Yes

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

[2] 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

[3] Adjacent through lane has sufficient storage to accommodate any spillover from the northbound turn lane without spilling back and affecting the I-215 Freeway mainline.

Source: (Urban Crossroads, 2016e, Table 6-3)

Table 4.11-32 General Plan Buildout (Post-2035) Freeway Mainline Segment Analysis

Freeway	Directio	Mainline Segment	Lanes[1]	Time Period	Post 2035 Without Project			Post 2035 With Project		
					Volume[2]	Density[3]	LOS	Volume[2]	Density[3]	LOS
SR-91 Freeway	Eastbound	I-15 Freeway to McKinley St.	5	AM	8,731	31.5	D	8,763	31.7	D
				PM	8,724	31.5	D	8,732	31.6	D
		McKinley St. to Riverwalk Pkwy.	4	AM	8,098	**40.7**	**E**	8,132	**41.0**	**E**
				PM	8,091	**40.6**	**E**	8,099	**40.7**	**E**
		Riverwalk Pkwy. to Magnolia Av.	3	AM	7,826	**85.4**	**F**	7,860	**87.2**	**F**
				PM	7,819	**85.1**	**F**	7,828	**85.6**	**F**
		Magnolia Av. to La Sierra Av.	4	AM	7,408	34.5	D	7,445	34.8	D
				PM	7,401	34.4	D	7,410	34.5	D
		La Sierra Av. to Tyler Av.	4	AM	6,956	31.6	D	7,001	31.9	D
				PM	6,949	31.5	D	6,960	31.6	D
		Tyler Av. to Van Buren Bl.	4	AM	6,922	30.6	D	6,967	30.9	D
				PM	6,915	30.6	D	6,926	30.7	D
		Van Buren Bl. to Adams St.	4	AM	6,491	27.3	D	6,536	27.8	D
				PM	6,484	27.3	D	6,495	27.3	D
		Adams St. to Madison St.	3	AM	6,351	**43.8**	**E**	6,407	**45.2**	**F**
				PM	6,344	**43.7**	**E**	6,358	**43.9**	**E**
		Madison St. to Arlington Av.	4	AM	6,465	27.7	D	6,513	28.0	D
				PM	6,459	27.7	D	6,471	27.8	D
		Arlington Av. to Central Av.	4	AM	5,130	20.9	C	5,178	21.3	C
				PM	5,984	25.0	C	5,996	25.1	C
		Central Av. to 14th St.	3	AM	4,976	29.4	D	5,034	30.1	D
				PM	4,970	29.3	D	4,984	29.4	D
		14th St. to University Av.	4	AM	6,389	27.3	D	6,447	27.8	D
				PM	5,523	22.8	C	5,537	22.9	C
		University Av. to Spruce St.	5	AM	6,321	20.6	C	6,383	20.8	C
				PM	5,455	17.7	B	5,471	17.8	B
		Spruce St. to I-215 Freeway	4	AM	5,224	21.2	C	5,285	21.7	C
				PM	4,358	17.7	B	4,373	17.7	B
SR-60 Fwy	Westboun	I-215 Freeway to Day St.	3	AM	4,216	24.1	C	4,248	24.3	C
				PM	4,383	25.2	C	4,390	25.2	C
		Day St. to Frederick St.	3	AM	4,106	23.2	C	4,131	23.4	C
				PM	3,505	19.6	C	3,511	19.6	C
I-215 Freeway	Southbound	SR-60/SR-91 Freeway to Blaine St.	5	AM	7,082	24.2	C	7,174	24.7	C
				PM	7,070	24.1	C	7,093	24.2	C
		Blaine St. to University Av.	4	AM	6,725	30.6	D	6,816	31.5	D
				PM	6,713	30.6	D	6,736	30.7	D
		University Av. to Martin Luther King Bl.	4	AM	6,904	32.1	D	6,996	32.8	D
				PM	6,892	32.1	D	6,915	32.2	D
		Martin Luther King Bl. to Central Av.	5	AM	7,908	27.6	D	8,005	28.3	D
				PM	7,895	27.6	D	7,920	27.7	D
		Central Av. to Box Springs Rd.	5	AM	8,788	31.6	D	8,886	32.2	D
				PM	8,775	31.6	D	8,800	31.7	D
		Box Springs Rd. to SR-60/I-215 Freeway	4	AM	6,588	29.9	D	6,704	30.7	D
				PM	6,575	29.6	D	6,605	30.0	D
		SR-60 Freeway to Eucalyptus Av.	5	AM	7,095	25.4	C	7,239	26.3	D
				PM	7,076	25.3	C	7,111	25.5	C
		Eucalyptus Av. to Alessandro Bl.	3	AM	5,219	31.8	D	5,363	33.5	D
				PM	6,490	**47.0**	**F**	6,525	**48.2**	**F**
		Alessandro Bl. to Cactus Av.	4	AM	6,662	29.2	D	6,805	30.5	D
				PM	6,641	29.0	D	6,676	29.2	D
		Cactus Av. to Van Buren Bl.	4	AM	6,381	26.9	D	6,438	27.4	D
				PM	7,396	34.1	D	7,410	34.2	D
		Van Buren Bl. to Harley Knox Bl.	3	AM	5,921	**37.6**	**E**	5,991	**38.9**	**E**
				PM	5,900	**37.4**	**E**	5,918	**37.6**	**E**
		Harley Knox Bl. to Ramona Exwy.	3	AM	4,171	22.8	C	7,146	22.9	C
				PM	5,222	30.2	D	5,294	31.1	D
		Ramona Exwy. to Nuevo Rd.	3	AM	5,332	31.2	D	5,362	31.3	D
				PM	6,202	**40.4**	**E**	6,210	**40.5**	**E**

Table 4.11-32 General Plan Buildout (Post-2035) Freeway Mainline Segment Analysis

Freeway	Direction	Mainline Segment	Lanes[1]	Time Period	Post 2035 Without Project Volume[2]	Post 2035 Without Project Density[3]	Post 2035 Without Project LOS	Post 2035 With Project Volume[2]	Post 2035 With Project Density[3]	Post 2035 With Project LOS
SR-91 Freeway	Westbound	I-15 Freeway to McKinley St.	4	AM	8,723	**48.5**	**F**	8,730	**48.6**	**F**
				PM	8,734	**48.6**	**F**	8,768	**49.1**	**F**
		McKinley St. to Riverwalk Pkwy.	3	AM	8,090	**100.3**	**F**	8,097	**100.8**	**F**
				PM	8,101	**101.2**	**F**	8,137	**103.5**	**F**
		Riverwalk Pkwy. to Magnolia Av.	3	AM	7,818	**85.1**	**F**	7,826	**85.4**	**F**
				PM	7,829	**85.6**	**F**	7,865	**87.4**	**F**
		Magnolia Av. to La Sierra Av.	3	AM	7,400	**68.4**	**F**	7,408	**68.7**	**F**
				PM	7,411	**68.9**	**F**	7,450	**70.1**	**F**
		La Sierra Av. to Tyler Av.	3	AM	6,948	**57.6**	**F**	6,958	**57.9**	**F**
				PM	6,959	**57.9**	**F**	7,007	**59.2**	**F**
		Tyler Av. to Van Buren Bl.	4	AM	6,914	30.6	D	6,924	30.6	D
				PM	6,925	30.7	D	6,973	31.0	D
		Van Buren Bl. to Adams St.	4	AM	6,483	27.3	D	6,493	27.3	D
				PM	6,494	27.3	D	6,542	27.8	D
		Adams St. to Madison St.	4	AM	6,343	26.8	D	6,355	26.9	D
				PM	6,354	26.9	D	6,414	27.4	D
		Madison St. to Arlington Av.	3	AM	4,738	27.2	D	4,748	27.3	D
				PM	4,747	27.3	D	4,799	27.9	D
		Arlington Av. to Central Av.	4	AM	5,123	20.9	C	5,134	20.9	C
				PM	5,562	22.8	C	5,614	23.2	C
		Central Av. to 14th St.	3	AM	4,969	29.3	D	4,982	29.4	D
				PM	5,409	33.2	D	5,470	34.1	D
		14th St. to University Av.	4	AM	5,092	20.9	C	5,105	20.9	C
				PM	5,102	20.9	C	5,163	21.2	C
		University Av. to Spruce St.	6	AM	5,024	13.6	B	5,038	13.7	B
				PM	5,034	13.6	B	5,100	13.9	B
		Spruce St. to I-215 Freeway	4	AM	5,217	21.2	C	5,230	21.4	C
				PM	5,226	21.3	C	5,293	21.7	C
SR-60 Fwy	Eastbound	I-215 Freeway to Day St.	5	AM	4,559	15.1	B	4,566	15.1	B
				PM	5,843	19.1	C	5,876	19.2	C
		Day St. to Frederick St.	4	AM	3,862	16.0	B	3,867	16.0	B
				PM	4,817	19.8	C	4,844	20.0	C
I-215 Freeway	Northbound	SR-60/SR-91 Freeway to Blaine St.	5	AM	7,069	24.1	C	7,089	24.2	C
				PM	7,087	24.2	C	7,186	24.8	C
		Blaine St. to University Av.	5	AM	6,711	22.7	C	6,731	22.7	C
				PM	6,729	22.7	C	6,828	23.3	C
		University Av. to Martin Luther King Bl.	4	AM	6,891	32.1	D	6,911	32.2	D
				PM	6,909	32.2	D	7,008	32.9	D
		Martin Luther King Bl. to Central Av.	4	AM	7,894	**39.8**	**E**	7,915	**40.0**	**E**
				PM	7,912	**40.0**	**E**	8,017	**41.4**	**E**
		Central Av. to Box Springs Rd.	5	AM	8,773	31.5	D	8,795	31.7	D
				PM	8,792	31.7	D	8,898	32.3	D
		Box Springs Rd. to SR-60/I-215 Freeway	4	AM	6,573	29.6	D	6,599	30.0	D
				PM	7,452	**36.0**	**E**	7,578	**37.4**	**E**
		SR-60 Freeway to Eucalyptus Av.	3	AM	5,353	**37.7**	**E**	5,385	**38.1**	**E**
				PM	5,380	**38.1**	**E**	5,535	**40.6**	**E**
		Eucalyptus Av. to Alessandro Bl.	3	AM	5,198	31.4	D	5,229	31.9	D
				PM	6,945	**56.0**	**F**	7,099	**60.7**	**F**
		Alessandro Bl. to Cactus Av.	5	AM	5,349	17.4	B	5,380	17.5	B
				PM	5,377	17.5	B	5,532	18.2	C
		Cactus Av. to Van Buren Bl.	4	AM	6,315	26.8	D	6,327	27.1	D
				PM	4,347	17.3	B	4,410	17.6	B
		Van Buren Bl. to Harley Knox Bl.	3	AM	5,898	**37.4**	**E**	5,913	**37.5**	**E**
				PM	5,926	**37.7**	**E**	6,002	**39.0**	**E**
		Harley Knox Bl. to Ramona Exwy.	3	AM	5,275	30.7	D	5,334	31.5	D
				PM	4,317	23.5	C	4,321	23.7	C
		Ramona Exwy. to Nuevo Rd.	3	AM	5,771	**35.0**	**E**	5,777	**35.1**	**E**
				PM	5,762	**35.2**	**E**	5,794	**35.8**	**E**

* **BOLD** = Unacceptable Level of Service

[1] Number of lanes are in the specified direction and reflect new auxiliary lanes and assume the HOV lane in each direction.

[2] Where applicable, volumes shown on this table have been reduced to account for the proposed HOV lane in each direction.

[3] Density is measured by passenger cars per mile per lane (pc/mi/ln).

Source: (Urban Crossroads, 2015a, Table 5)

Table 4.11-33 General Plan Buildout (Post-2035) Freeway Ramp Junction Merge/Diverge Analysis

Freeway	Direction	Ramp or Segment	Lanes on Freeway[1]	Post-2035 Without Project				Post-2035 With Project			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density[2]	LOS	Density[2]	LOS	Density[2]	LOS	Density[2]	LOS
I-215 Freeway	SB	Loop Off-Ramp at Cactus Avenue - Upstream	4	**38.0**	**E**	**40.5**	**E**	**39.4**	**E**	**40.9**	**E**
		Loop Off-Ramp at Cactus Avenue - Downstream	4	**38.0**	**E**	**40.5**	**E**	**39.4**	**E**	**40.9**	**E**
		Off-Ramp at Harley Knox Boulevard	3	**44.9**	**F**	**44.7**	**F**	**46.0**	**F**	**44.9**	**F**
		On-Ramp at Harley Knox Boulevard	3	31.3	D	**37.6**	**E**	31.5	D	**38.3**	**E**
	NB	On-Ramp at Cactus Avenue	3	**40.4**	**E**	**41.9**	**E**	**40.7**	**E**	**43.4**	**F**
		On-Ramp at Harley Knox Boulevard	3	41.6	D	**44.9**	**F**	41.8	F	**45.8**	**F**
		Off-Ramp at Harley Knox Boulevard	3	**37.7**	**E**	33.5	D	**38.5**	**E**	33.7	D

- **BOLD** = Unacceptable Level of Service

[1] Number of lanes are in the specified direction and is based on existing conditions.

[2] Density is measured by passenger cars per mile per lane (pc/mi/ln).

Source: (Urban Crossroads, 2016e, Table 7-5)

Table 4.11-34 General Plan Buildout (Post-2035) Off-Ramp Queuing Analysis

Intersection	Movement	Stacking Distance (Feet)	Post-2035 Without Project: 95th Percentile Stacking Distance Required (Feet) AM Peak Hour	PM Peak Hour	Acceptable?[1] AM	PM	Post-2035 With Project: 95th Percentile Stacking Distance Required (Feet) AM Peak Hour	PM Peak Hour	Acceptable?[1] AM	PM
I-215 SB Ramps / Cactus Av.	NBR	1,850	579 [2]	937 [2]	Yes	Yes	879 [2]	1,015 [2]	Yes	Yes
	SBR	1,115	**1,418** [2]	655 [2]	**No**	Yes	**1,476** [2]	668 [2]	**No**	Yes
I-215 SB Ramps / Harley Knox Bl.	SBL/T	1,330	**1,909** [2]	1,078 [2]	**No**	Yes	**2,172** [2]	1,136 [2]	**No**	Yes
	SBR	270	**460**	**884** [2]	**No**	**No**	**479**	**884** [2]	**No**	**No**
I-215 NB Ramps / Cactus Av.	NBL	145	**1,047** [2]	274 [2]	**No**	Yes[3]	**957** [2]	274 [2]	**No**	Yes[3]
	NBT	1,650	1,025 [2]	598 [2]	Yes	Yes	1,109 [2]	598 [2]	Yes	Yes
I-215 NB Ramps / Harley Knox Bl.	NBL/T	1,120	146	591 [2]	Yes	Yes	128	591 [2]	Yes	Yes
	NBR	265	414 [2]	144	Yes[3]	Yes	464 [2]	174	Yes[3]	Yes

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

[2] 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

[3] Adjacent through lane has sufficient storage to accommodate any spillover from the northbound turn lane without spilling back and affecting the I-215 Freeway mainline.

Source: (Urban Crossroads, 2016e, Table 7-3)

Table 4.11-35 Project Fair Share Calculations

#	Intersection	Building 1	Building 2	Building 3	Building 4	Total Project Fair Share[1]
5	Elsworth St / Cactus Av	2.0%	1.3%	1.1%	1.8%	**6.2%**
7	Western Wy / Harley Knox Bl	3.6%	2.3%	1.8%	3.1%	**10.7%**
8	Graham St / Cactus Av	1.8%	1.2%	1.0%	1.7%	**5.7%**
9	Patterson Av / Harley Knox Bl	3.9%	2.4%	1.9%	3.3%	**11.5%**
10	Heacock St / Cactus Av	3.4%	2.1%	1.7%	2.9%	**10.0%**
13	Heacock St / Iris Av	3.1%	2.1%	1.7%	2.9%	**9.8%**
18	Heacock St / San Michele Rd	3.0%	1.8%	1.5%	2.5%	**8.8%**
20	Webster Av / Harley Knox Bl	4.5%	2.8%	2.2%	3.8%	**13.4%**
26	Indian St / Krameria Av	2.1%	1.3%	1.0%	1.8%	**6.2%**
28	Indian St / San Michele Rd	1.0%	0.6%	0.5%	0.8%	**2.9%**
29	Indian St / Nandina Av	1.1%	0.7%	0.5%	0.9%	**3.1%**
30	Indian St / Harley Knox Bl	0.8%	0.5%	0.4%	0.6%	**2.2%**
31	Perris Bl / Cactus Av	0.5%	0.3%	0.2%	0.4%	**1.4%**
32	Perris Bl / Krameria Av	0.7%	0.4%	0.3%	0.6%	**2.1%**

[1]From Table 1-9 of *EIR Technical Appendix I1.*
Source: (Urban Crossroads, 2016f, Table 1)

Table 4.11-36 Short-Term Construction Intersection Analysis – With Mitigation

			Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
		Traffic	Northbound			Southbound			Eastbound			Westbound						
#	Intersection	Control[3]	L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
12	Heacock St / Gentian Av																	
	- Existing (2015)	CSS	0	1	1	1	1	0	0	0	0	0	1	d	22.8	**58.0**	C	**F**
	With Improvements	**<u>TS</u>**	0	1	1	1	1	0	0	0	0	0	1	d	12.4	14.7	B	B
	- E+P (Construction Traffic)	CSS	0	1	1	1	1	0	0	0	0	0	1	d	25.4	**78.6**	D	**F**
	With Improvements	**<u>TS</u>**	0	1	1	1	1	0	0	0	0	0	1	d	19.9	15.8	B	B
13	Heacock St / Iris Av																	
	- Existing (2015)	AWS	0	1	0	1	1	0	0	0	0	1	0	d	15.2	**37.5**	C	**E**
	With Improvements	**<u>TS</u>**	0	1	0	1	1	0	0	0	0	1	0	d	26.7	38.5	C	D
	- E+P (Construction Traffic)	AWS	0	1	0	1	1	0	0	0	0	1	0	d	16.7	**53.4**	C	**F**
	With Improvements	**<u>TS</u>**	0	1	0	1	1	0	0	0	0	1	0	d	32.4	47.2	C	D
16	Heacock St / San Michele Rd																	
	- Existing (2015)	TS	1	1	1	1	1	1	1	1	1	1	1	1	25.6	39.5	C	D
	With Improvements					Improvements Not Necessary												
	- E+P (Construction Traffic)	TS	1	1	1	1	1	1	1	1	1	1	1	1	28.2	**65.7**	C	**E**
	With Improvements	TS	1	1	1	1	1	1	1	1	1	1	1	**<u>1></u>**	16.9	20.7	B	C

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for rigl turning vehicles to travel outside the through lanes
L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free-Right Turn Lane; d= Defacto Right Turn Lane;**<u>1</u>** = Improvement
[2] Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal c all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (o movements sharing a single lane) are shown.
[3] CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal

Source: (Urban Crossroads, 2015b, Table 9)

Table 4.11-37 Existing Plus Project Intersection Analysis – With Mitigation

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
12	Heacock St / Gentian Av																	
	- Existing (2015)	CSS	0	1	1	1	1	0	0	0	0	0	1	d	22.8	**58.0**	C	**F**
	- Without Improvements																	
	Without Indian St Bridge	CSS	0	1	1	1	1	0	0	0	0	0	1	d	**35.0**	**>100.0**	**E**	**F**
	With Indian St Bridge	CSS	0	1	1	1	1	0	0	0	0	0	1	d	31.7	**93.0**	D	**F**
	- With Improvements																	
	Existing (2015)	TS	0	1	1	1	1	0	0	0	0	0	1	d	12.4	14.7	B	B
	Without Indian St Bridge	TS	0	1	1	1	1	0	0	0	0	0	1	d	20.0	26.1	C	C
	With Indian St Bridge	TS	0	1	1	1	1	0	0	0	0	0	1	d	19.5	27.1	B	C
13	Heacock St / Iris Av																	
	- Existing (2015)	AWS	0	1	0	1	1	0	0	0	0	1	0	d	15.2	**37.5**	C	**E**
	- Without Improvements																	
	Without Indian St Bridge	AWS	0	1	0	1	1	0	0	0	0	1	0	d	**36.1**	**56.1**	**E**	**F**
	With Indian St Bridge	AWS	0	1	0	1	1	0	0	0	0	1	0	d	25.7	**53.9**	D	**F**
	- With Improvements																	
	Existing (2015)	TS	0	1	0	1	1	0	0	0	0	1	0	d	26.7	38.5	C	D
	Without Indian St Bridge	TS	0	1	0	1	1	0	0	0	0	1	0	1>	25.5	48.9	C	D
	With Indian St Bridge	TS	0	1	0	1	1	0	0	0	0	1	0	1>	21.7	43.0	C	D
18	Heacock St / San Michele Rd																	
	- Existing (2015)	TS	1	1	1	1	1	1	1	1	1	1	1	1	25.6	39.5	C	D
	- Without Improvements																	
	Without Indian St Bridge	TS	1	1	1	1	1	1	1	1	1	1	1	1	37.0	**70.9**	D	**E**
	With Indian St Bridge	TS	1	1	1	1	1	1	1	1	1	1	1	1	35.7	**59.9**	D	**E**
	- With Improvements																	
	Existing (2015)						Improvements Not Necessary											
	Without Indian St Bridge	TS	1	1	1	1	1	1	1	1	1	1	1	1>	17.9	20.9	B	C
	With Indian St Bridge	TS	1	1	1	1	1	1	1	1	1	1	1	1>	17.7	20.5	B	C
30	Indian St / Harley Knox Bl																	
	- Existing (2015)	TS	2	2	1	1	2	0	1	1	1	2	2	0	17.0	24.2	B	C
	- Without Improvements																	
	Without Indian St Bridge	TS	2	2	1	1	2	0	1	1	1	2	2	0	17.7	50.8	B	D
	With Indian St Bridge	TS	2	2	1	1	2	0	1	1	1	2	2	0	22.4	**72.3**	C	**E**
	- With Improvements																	
	Existing (2015)						Improvements Not Necessary											
	Without Indian St Bridge						Improvements Not Necessary											
	With Indian St Bridge[4]	TS	2	2	1	1	2	1>	1	3	0	1	3	0	20.8	17.8	C	B

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for rig turning vehicles to travel outside the through lanes
L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free-Right Turn Lane; d= Defacto Right Turn Lane; 1 = Improvement

[2] Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal c all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (o movements sharing a single lane) are shown.

[3] CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal

[4] The City of Perris is currently improving Harley Knox Boulevard between the I-215 Freeway and Perris Boulevard. Based on discussion with City staff, the improvements are anticipated to be completed by Fall 2015

Source: (Urban Crossroads, 2016e, Table 5-6)

Table 4.11-38 Opening Year (2020) Intersection Analysis – With Mitigation

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
1	I-215 SB Ramps / Cactus Av																	
	- Without Project	TS	0	0	0	0	0	2	0	2	1	2	2	0	30.0	27.9	C	C
	- With Project	TS	0	0	0	0	0	2	0	2	1	2	2	0	30.1	27.9	C	C
2	I-215 SB Ramps / Harley Knox Bl																	
	- Without Project	TS	0	0	0	2	1	0	0	2	d	2	2	0	27.6	30.3	C	C
	- With Project	TS	0	0	0	2	1	0	0	2	d	2	2	0	28.1	30.9	C	C
3	I-215 NB Ramps / Cactus Av																	
	- Without Project[4]	TS	2	1	0	1	1	0	1	3	0	0	3	0	37.2	20.3	D	C
	- With Project[4]	TS	2	1	0	1	1	0	1	3	0	0	3	0	37.6	27.2	D	C
4	I-215 NB Ramps / Harley Knox Bl																	
	- Without Project	TS	0	1	1	0	0	0	2	2	0	0	2	1>>	22.4	27.1	C	C
	- With Project	TS	0	1	1	0	0	0	2	2	0	0	2	1>>	23.8	42.1	C	D
5	Elsworth St / Cactus Av																	
	- Without Project[4]	TS	1	1	0	1	1	1>	1	3	1>>	1	3	1	35.0	44.0	C	D
	- With Project[4]	TS	1	1	0	1	1	1>	1	3	1>>	1	3	1	37.2	52.9	D	D
7	Western Wy / Harley Knox Bl																	
	- Without Project	TS	0	0	0	0	1	0	1	2	0	0	2	d	25.9	23.2	C	C
	- With Project	TS	0	0	0	0	1	0	1	2	0	0	2	d	39.1	34.9	D	C
8	Graham St / Cactus Av																	
	- Without Project	TS	2	2	0	1	2	1>	1	3	1>>	1	3	0	26.7	24.6	C	C
	- With Project	TS	2	2	0	1	2	1>	1	3	1>>	1	3	0	26.7	24.8	C	C
9	Patterson Av / Harley Knox Bl																	
	- Without Project[5]	TS	0	1	0	0	1	d	1	2	1	1	2	1	25.6	24.0	C	C
	- With Project[5]	TS	0	1	0	0	1	d	1	2	1	1	2	1	34.3	30.0	C	C
10	Heacock St / Cactus Av																	
	- Without Project[6]	TS	2	2	0	1	2	0	1	2	1>	1	2	0	50.7	44.8	D	D
	- With Project[6]	TS	2	2	0	1	2	0	1	2	1>	1	2	0	54.6	52.0	D	D
12	Heacock St / Gentian Av																	
	- Without Project	TS	0	1	1	1	1	0	0	0	0	0	1	d	12.5	17.8	B	B
	- With Project	TS	0	1	1	1	1	0	0	0	0	0	1	d	19.2	19.6	B	B
13	Heacock St / Iris Av																	
	- Without Project	TS	0	2	0	2	2	0	0	0	0	1	0	1>	20.9	31.1	C	C
	- With Project	TS	0	2	0	2	2	0	0	0	0	1	0	1>	21.0	33.4	B	C
18	Heacock St / San Michele Rd																	
	- Without Project	TS	1	1	1	2	1	1	1	1	1	1	1	1>	29.1	49.6	C	D
	- With Project	TS	1	1	1	2	1	1	1	1	1	1	1	1>	38.7	49.8	D	D

Table 4.11-38 Opening Year (2020) Intersection Analysis – With Mitigation

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
28	Indian St / San Michele Rd																	
	- Without Project	TS	2	1	1	1	2	0	1	2	1>	1	2	d	35.4	52.4	D	D
	- With Project	TS	2	1	1	1	2	0	1	2	1>	1	2	d	54.0	53.6	D	D
29	Indian St / Nandina Av																	
	- Without Project	TS	1	2	0	1	2	0	1	1	1>	1	1	d	21.1	32.2	C	C
	- With Project	TS	1	2	0	1	2	0	1	1	1>	1	1	d	22.3	53.8	C	D
30	Indian St / Harley Knox Bl																	
	- Without Project	TS	2	2	1	1	2	1>	1	3	0	1	3	0	15.0	29.8	B	C
	- With Project	TS	2	2	1	1	2	1>	1	3	0	1	3	0	22.2	32.2	C	C
31	Perris Bl / Cactus Av																	
	- Without Project	TS	1	3	0	1	2	1	1	2	1>	1	2	0	52.0	52.9	D	D
	- With Project	TS	1	3	0	1	2	1	1	2	1>	1	2	0	54.1	54.5	D	D
32	Perris Bl / Krameria Av																	
	- Without Project[7]	TS	1	3	0	1	3	0	1	1	0	1	1	1	52.4	49.3	D	D
	- With Project[7]	TS	1	3	0	1	3	0	1	1	0	1	1	1	54.7	52.0	D	D

* Note: The recommended improvements shown in this table are based on conservative traffic forecasts for Opening Year Cumulative traffic conditions and are driven by the amount of cumulative developments as opposed to the Project. These improvements may not be necessary, depending on the amount of growth that actually occurs over the next 5 years.

1 When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.
L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free-Right Turn Lane; d= Defacto Right Turn Lane; 1 = Improvement

2 Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

3 CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal

4 Improvements also include implementing protected left-turn phasing for the northbound and southbound approaches.

5 The City of Perris is currently improving Harley Knox Boulevard between the I-215 Freeway and Perris Boulevard. Based on discussions with City staff, the improvements are anticipated to be completed by Fall 2015.

6 Improvement includes removing the southbound crosswalk (on the west leg) to accommodate additional green time along Cactus Avenue.

7 Improvements also include implementing protected left-turn phasing for the eastbound and westbound approaches.

Source: (Urban Crossroads, 2016e, Table 6-6)

Table 4.11-39 Opening Year (2020) Roadway Segment Analysis – With Mitigation

#	Roadway	Segment Limits	Roadway Section[1]	LOS Capacity[2]	2020 w/o Project	V/C[3]	LOS[4]	2020 w/ Project	V/C[3]	LOS[4]	Acceptable LOS
1	Cactus Avenue	I-215 SB Ramps to I-215 NB Ramps	6D	56,300	**52,440**	**0.93**	**E**	**53,830**	**0.96**	**E**	D
2		East of I-215 NB Ramps	6D	56,300	**52,541**	**0.93**	**E**	**55,322**	**0.98**	**E**	D
3		West of Elsworth Street[5]	6D	56,300	**57,997**	**1.03**	**F**	**60,778**	**1.08**	**F**	D
4		East of Elsworth Street[5]	6D	56,300	**54,501**	**0.97**	**E**	**57,282**	**1.02**	**F**	D
5		West of Frederick Street[5]	5D	46,900	**58,823**	**1.25**	**F**	**61,604**	**1.31**	**F**	D
6		East of Frederick Street[5]	5D	46,900	**60,223**	**1.28**	**F**	**63,004**	**1.34**	**F**	D
7		West of Graham Street	6D	56,300	**59,505**	**1.06**	**F**	**62,286**	**1.11**	**F**	D
8		East of Graham Street	6D	56,300	48,625	0.86	D	**51,406**	**0.91**	**E**	D
9		West of Heacock Street	6D	56,300	49,854	0.89	D	**52,635**	**0.93**	**E**	D
10		East of Heacock Street	6D	56,300	32,432	0.58	A	32,890	0.58	A	C
20	San Michele Road	East of Heacock Street	4D	35,900	18,781	0.52	A	21,046	0.59	A	D
21		West of Indian Street	4D	35,900	24,254	0.68	B	26,519	0.74	C	D
23	Harley Knox Boulevard	I-215 NB Ramps to Western Way[5]	4D	35,900	**32,527**	**0.91**	**E**	**34,439**	**0.96**	**E**	D
24		East of Western Way[5]	4U	25,900	**28,206**	**1.09**	**F**	**30,119**	**1.16**	**F**	D
25		West of Patterson Avenue	4D	35,900	25,493	0.71	C	27,406	0.76	C	D
26		East of Patterson Avenue	4D	35,900	24,066	0.67	B	26,155	0.73	C	D
27		West of Webster Avenue	6D	53,900	22,578	0.42	A	24,667	0.46	A	D
28		East of Webster Avenue	6D	53,900	22,247	0.41	A	24,336	0.45	A	D
29		West of Indian Street	6D	53,900	24,971	0.46	A	27,060	0.50	A	D
33	Heacock Street	North of Gentian Avenue[5]	3D	28,150	23,211	0.82	D	**27,041**	**0.96**	**E**	D
34		South of Gentian Avenue[5]	2U	12,500	**20,916**	**1.67**	**F**	**24,746**	**1.98**	**F**	D
35		North of Iris Avenue	4D	37,500	20,558	0.55	A	24,388	0.65	B	D
36		Iris Avenue to Krameria Avenue (N)	4D	37,500	17,912	0.48	A	21,742	0.58	A	D
47	Indian Street	South of Nandina Avenue[5]	2D	18,750	**31,663**	**1.69**	**F**	**33,928**	**1.81**	**F**	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

1 Roadway section improvements are consistent with the through lanes recommended as part of the intersection improvements shown on Table 6-6.

2 These maximum roadway capacities have been obtained from the City of Moreno Valley's Transportation Division's Traffic Impact Analysis Preparation Guidelines (August 2007), Table CE-9 of the City of Perris General Plan Circulation Element, or Figure C-2 of the County of Riverside General Plan Circulation Element.

3 V/C = Volume to Capacity Ratio

4 LOS = Level of Service

5 Additional roadway widening has not been recommended for these deficient roadway segments as the adjacent study area intersections are anticipated to operate at acceptable LOS during the peak hours.

Source: (Urban Crossroads, 2016e, Table 6-7)

Table 4.11-40 General Plan Buildout (Post-2035) Intersection Analysis – With Mitigation

			Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
		Traffic	Northbound			Southbound			Eastbound			Westbound						
#	Intersection	Control[3]	L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
1	I-215 SB Ramps / Cactus Av																	
	- Without Project	TS	0	0	0	0	0	2	0	2	1	2	2	0	40.2	54.1	D	D
	- With Project	TS	0	0	0	0	0	2	0	2	1	2	2	0	40.2	54.1	D	D
2	I-215 SB Ramps / Harley Knox Bl																	
	- Without Project	TS	0	0	0	2	1	0	0	2	d	2	2	0	34.5	52.2	C	D
	- With Project	TS	0	0	0	2	1	0	0	2	d	2	2	0	35.6	52.5	D	D
3	I-215 NB Ramps / Cactus Av																	
	- Without Project[4]	TS	2	2	0	2	1	2>	2	3	1>>	0	3	0	40.4	42.3	D	D
	- With Project[4]	TS	2	2	0	2	1	2>	2	3	1>>	0	3	0	40.6	47.1	D	D
4	I-215 NB Ramps / Harley Knox Bl																	
	- Without Project	TS	0	1	1	0	0	0	2	2	0	0	2	1>>	51.4	53.6	D	D
	- With Project	TS	0	1	1	0	0	0	2	2	0	0	2	1>>	53.9	54.0	D	D
5	Elsworth St / Cactus Av																	
	- Without Project[4]	TS	2	1	0	1	1	1>	1	4	1>>	1	4	1	33.1	50.2	C	D
	- With Project[4]	TS	2	1	0	1	1	1>	1	4	1>>	1	4	1	33.1	50.3	C	D
7	Western Wy / Harley Knox Bl																	
	- Without Project	TS	0	0	0	0	1	0	1	3	0	0	3	d	16.3	16.3	B	B
	- With Project	TS	0	0	0	0	1	0	1	3	0	0	3	d	16.9	19.3	B	B
8	Graham St / Cactus Av																	
	- Without Project	TS	2	2	0	1	2	1>	2	3	1>>	1	3	0	48.5	48.1	D	D
	- With Project	TS	2	2	0	1	2	1>	2	3	1>>	1	3	0	54.2	52.4	D	D
9	Patterson Av / Harley Knox Bl																	
	- Without Project	TS	0	1	0	0	1	d	1	3	1	1	3	1	19.5	20.1	B	C
	- With Project	TS	0	1	0	0	1	d	1	3	1	1	3	1	22.5	21.4	C	C
10	Heacock St / Cactus Av																	
	- Without Project	TS	2	2	0	1	2	0	1	3	1>	1	3	0	51.6	29.3	D	C
	- With Project	TS	2	2	0	1	2	0	1	3	1>	1	3	0	54.7	37.6	D	D
12	Heacock St / Gentian Av																	
	- Without Project	TS	0	2	1	1	2	0	0	0	0	0	1	d	15.2	12.7	B	B
	- With Project	TS	0	2	1	1	2	0	0	0	0	0	1	d	16.2	14.8	B	B
13	Heacock St / Iris Av																	
	- Without Project	TS	0	2	0	2	2	0	0	0	0	1	0	1>	23.6	40.5	C	D
	- With Project	TS	0	2	0	2	2	0	0	0	0	1	0	1>	26.9	54.2	C	D

Table 4.11-40 General Plan Buildout (Post-2035) Intersection Analysis – With Mitigation

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1] Northbound L	T	R	Southbound L	T	R	Eastbound L	T	R	Westbound L	T	R	Delay[2] (secs.) AM	PM	Level of Service AM	PM
18	Heacock St / San Michele Rd																	
	- Without Project	TS	1	**2**	1	**2**	**2**	1	1	1	1	1	1	**1>**	31.1	38.7	C	D
	- With Project	TS	1	**2**	1	**2**	**2**	1	1	1	1	1	1	**1>**	31.3	39.8	C	D
20	Webster Av / Harley Knox Bl																	
	- Without Project	**TS**	0	**1**	0	0	**1**	0	**1**	**3**	0	**1**	**3**	0	27.8	26.0	C	C
	- With Project	**TS**	0	**1**	0	0	**1**	0	**1**	**3**	0	**1**	**3**	0	32.4	26.8	C	C
26	Indian St / Krameria Av																	
	- Without Project	**TS**	1	**2**	1	1	**2**	1	1	1	**1>**	1	1	1	35.7	41.9	D	D
	- With Project	**TS**	1	**2**	1	1	**2**	1	1	1	**1>**	1	1	1	37.9	42.2	D	D
28	Indian St / San Michele Rd																	
	- Without Project	TS	2	**2**	**1>**	1	2	0	**2**	**2**	**2>**	**2**	2	**1>**	24.8	26.7	C	C
	- With Project	TS	2	**2**	**1>**	1	2	0	**2**	**2**	**2>**	**2**	2	**1>**	25.4	26.8	C	C
29	Indian St / Nandina Av																	
	- Without Project	TS	**2**	2	**1>**	1	**3**	0	1	1	**1>**	1	1	d	34.5	28.3	C	C
	- With Project	TS	**2**	2	**1>**	1	**3**	0	1	1	**1>**	1	1	d	35.6	32.7	D	C
30	Indian St / Harley Knox Bl																	
	- Without Project	TS	2	2	1	**2**	2	**1>**	**2**	**3**	**1>**	**2**	**3**	**1>**	40.4	44.7	D	D
	- With Project	TS	2	2	1	**2**	2	**1>**	**2**	**3**	**1>**	**2**	**3**	**1>**	40.2	50.5	D	D
31	Perris Bl / Cactus Av																	
	- Without Project	TS	**2**	3	**1**	1	**3**	1	**2**	**3**	**1>**	1	2	0	53.8	43.1	D	D
	- With Project	TS	**2**	3	**1**	1	**3**	1	**2**	**3**	**1>**	1	2	0	54.4	43.4	D	D
32	Perris Bl / Krameria Av																	
	- Without Project[6]	TS	**2**	3	**1**	**2**	3	0	**1**	**2**	0	**1**	**2**	1	44.0	49.2	D	D
	- With Project[6]	TS	**2**	3	**1**	**2**	3	0	**1**	**2**	0	**1**	**2**	1	45.7	51.2	D	D

1 When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for righ turning vehicles to travel outside the through lanes
L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free-Right Turn Lane; d= Defacto Right Turn Lane; **1** = Improvement
2 Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal c all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (o movements sharing a single lane) are shown.
3 CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal
4 Improvements also include implementing protected left-turn phasing for the northbound and southbound approaches
5 The City of Perris is currently improving Harley Knox Boulevard between the I-215 Freeway and Perris Boulevard. Based on discussion with City staff, the improvements are anticipated to be completed by Fall 2015
6 Improvements also include implementing protected left-turn phasing for the eastbound and westbound approaches

Source: (Urban Crossroads, 2016e, Table 7-6)

Table 4.11-41 General Plan Buildout (Post-2035) Roadway Segment Analysis – With Mitigation

#	Roadway	Segment Limits	Roadway Section[1]	LOS Capacity[2]	Post-2035 w/o Project	V/C[3]	LOS[4]	Post-2035 w/ Project	V/C[3]	LOS[4]	Acceptable LOS
1	Cactus Avenue	I-215 SB Ramps to I-215 NB Ramps	6D	56,300	**52,522**	**0.93**	**E**	**53,473**	**0.95**	**E**	D
2		East of I-215 NB Ramps	6D	56,300	**68,405**	**1.22**	**F**	**70,307**	**1.25**	**F**	D
3		West of Elsworth Street	8D	75,100	63,400	0.84	D	65,302	0.87	D	D
4		East of Elsworth Street	8D	75,100	58,900	0.78	C	60,802	0.81	D	D
5		West of Frederick Street	6D	56,300	**60,581**	**1.08**	**F**	**62,483**	**1.11**	**F**	D
6		East of Frederick Street	6D	56,300	**62,838**	**1.12**	**F**	**64,740**	**1.15**	**F**	D
7		West of Graham Street	6D	56,300	**59,572**	**1.06**	**F**	**61,474**	**1.09**	**F**	D
8		East of Graham Street	6D	56,300	**55,142**	**0.98**	**E**	**57,044**	**1.01**	**F**	D
9		West of Heacock Street	6D	56,300	**50,768**	**0.90**	**E**	**52,670**	**0.94**	**E**	D
10		East of Heacock Street	6D	56,300	43,555	0.77	C	44,013	0.78	C	C
11		West of Perris Boulevard	6D	56,300	37,000	0.66	B	37,458	0.67	B	C
12	Krameria Avenue	Heacock Street to Cosmos Street	2D	18,750	11,144	0.59	A	12,862	0.69	B	D
18		West of Perris Boulevard	4D	37,500	12,689	0.34	A	13,217	0.35	A	D
20	San Michele Road	East of Heacock Street	4D	37,500	22,852	0.61	B	22,852	0.61	B	D
21		West of Indian Street	4D	37,500	27,208	0.73	C	27,208	0.73	C	D
23	Harley Knox Boulevard	I-215 NB Ramps to Western Way	6D	53,900	36,697	0.68	B	39,489	0.73	C	D
24		East of Western Way	6D	53,900	35,500	0.66	B	38,292	0.71	C	D
25		West of Patterson Avenue	6D	53,900	35,500	0.66	B	38,292	0.71	C	D
26		East of Patterson Avenue	6D	53,900	34,800	0.65	B	37,768	0.70	B	D
27		West of Webster Avenue	6D	53,900	39,288	0.73	C	42,257	0.78	C	D
28		East of Webster Avenue	6D	53,900	39,576	0.73	C	40,630	0.75	C	D
29		West of Indian Street	6D	53,900	36,988	0.69	B	38,042	0.71	C	D
33	Heacock Street	North of Gentian Avenue	4D	37,500	25,192	0.67	B	28,143	0.75	C	D
34		South of Gentian Avenue	4D	37,500	24,000	0.64	B	26,951	0.72	C	D
35		North of Iris Avenue	4D	37,500	25,655	0.68	B	28,606	0.76	C	D
36		Iris Avenue to Krameria Avenue (N)	4D	37,500	22,634	0.60	A	25,585	0.68	C	D
37		Krameria Avenue (N) to Driveway 1	4D	37,500	23,898	0.64	B	25,132	0.67	B	D
38		Driveway 1 to Driveway 2	4D	37,500	23,898	0.64	B	25,201	0.67	B	D
39		Driveway 2 to Cardinal Avenue	4D	37,500	23,898	0.64	B	25,726	0.69	B	D
40		Cardinal Avenue to San Michele Road	4D	37,500	23,898	0.64	B	25,813	0.69	B	D
41		San Michele Road to Nandina Avenue	4D	37,500	12,472	0.33	A	14,387	0.38	C	D
46	Indian Street	San Michele Road to Nandina Avenue	5D	46,900	36,880	0.79	C	38,110	0.81	D	D
47		South of Nandina Avenue	5D	46,900	**42,480**	**0.91**	**E**	**43,710**	**0.93**	**E**	D
48		North of Harley Knox Boulevard[5]	4D	37,500	**43,160**	**1.15**	**F**	**44,390**	**1.18**	**F**	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

1 Roadway section improvements are consistent with the through lanes recommended as part of the intersection improvements shown on Table 7-6.

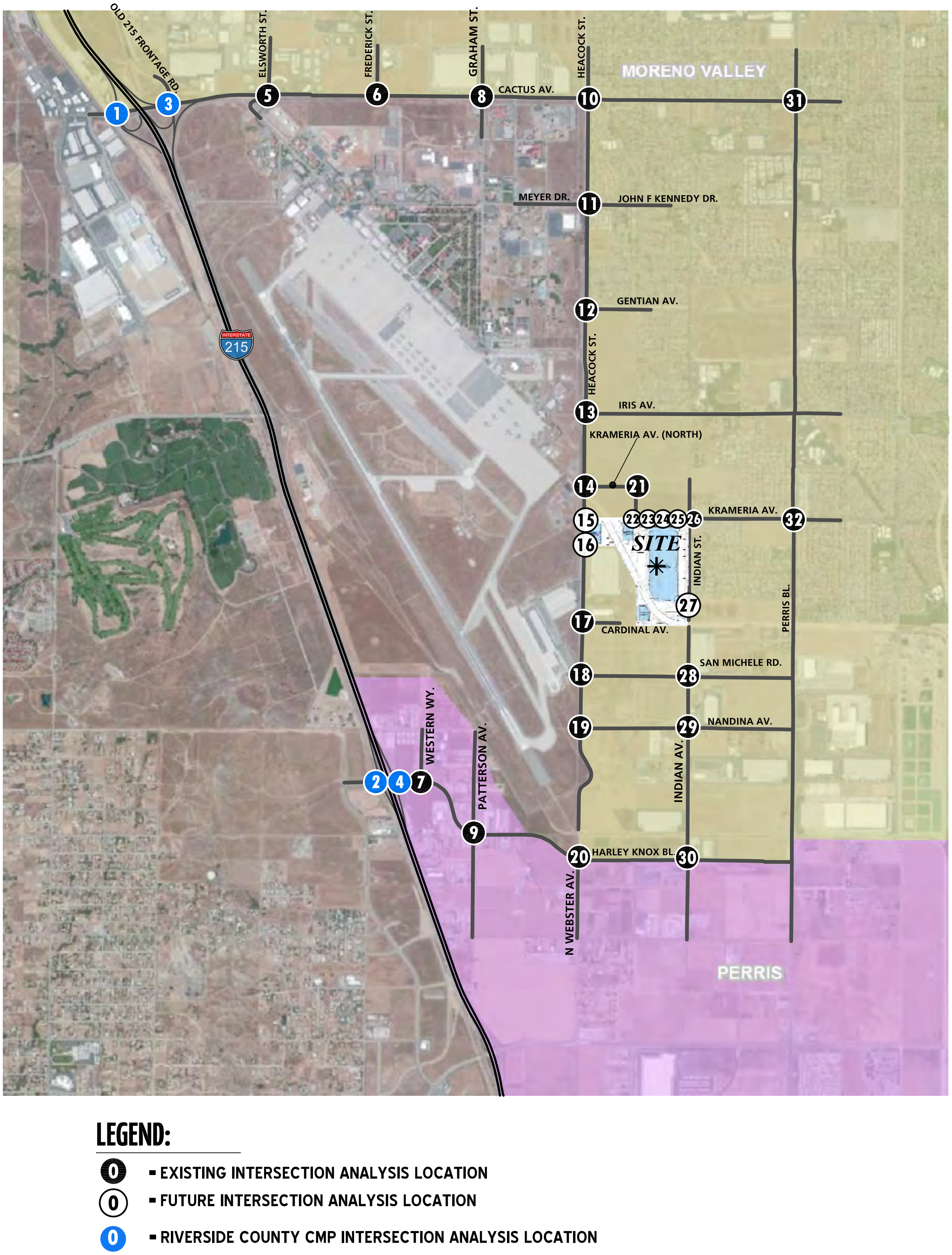
2 These maximum roadway capacities have been obtained from the City of Moreno Valley's Transportation Division's Traffic Impact Analysis Preparation Guidelines (August 2007), Table CE-9 of the City of Perris General Plan Circulation Element, or Figure C-2 of the County of Riverside General Plan Circulation Element.

3 V/C = Volume to Capacity Ratio

4 LOS = Level of Service

5 Additional roadway widening has not been recommended for these deficient roadway segments as the adjacent study area intersections are anticipated to operate at acceptable LOS during the peak hours.

Source: (Urban Crossroads, 2016e, Table 7-7)

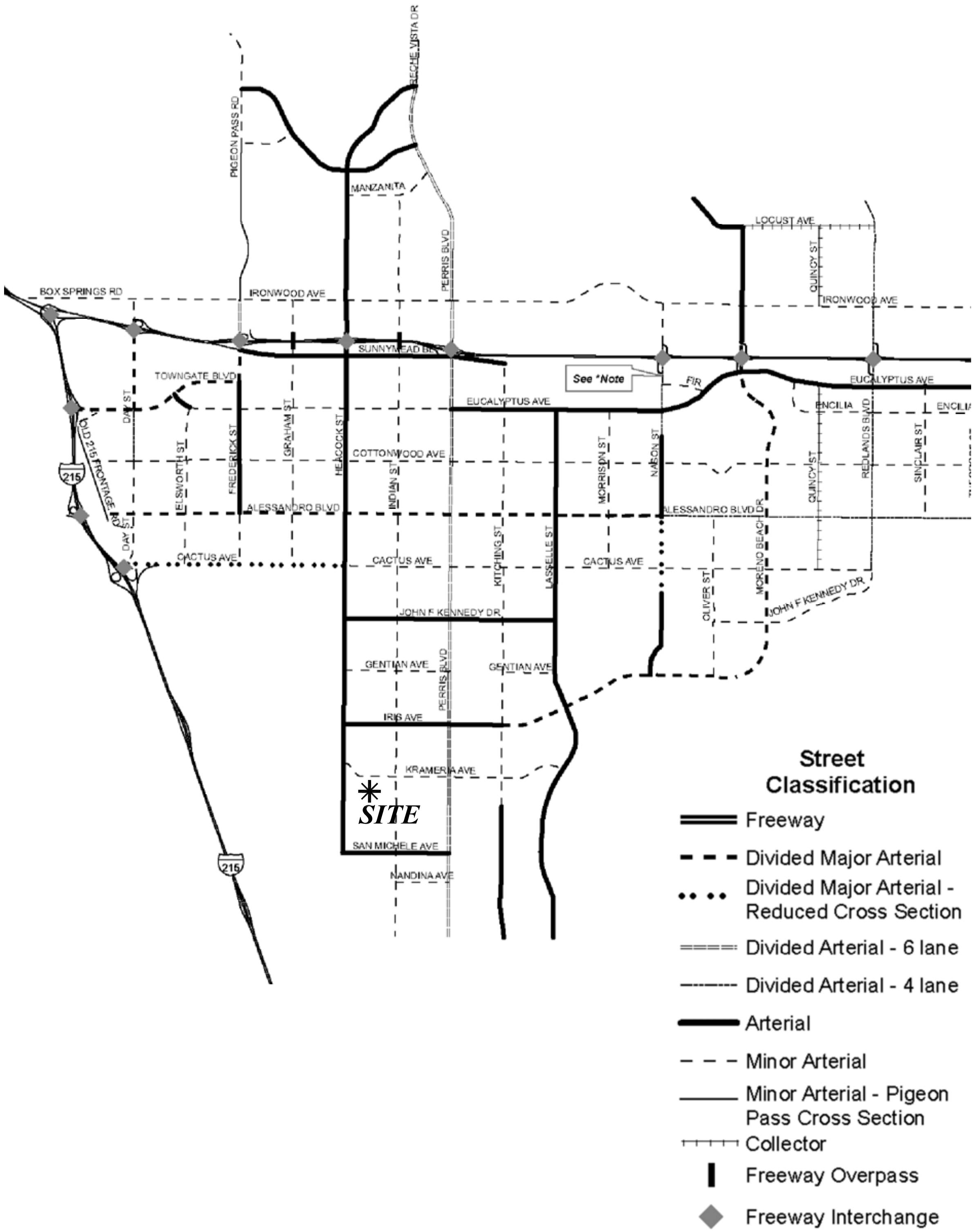


Source: Urban Crossroads (11-18-15)

Figure 4.11-1

NOT TO SCALE

PROJECT STUDY AREA INTERSECTION LOCATIONS



Source: Urban Crossroads (11-18-15)

NOT TO SCALE

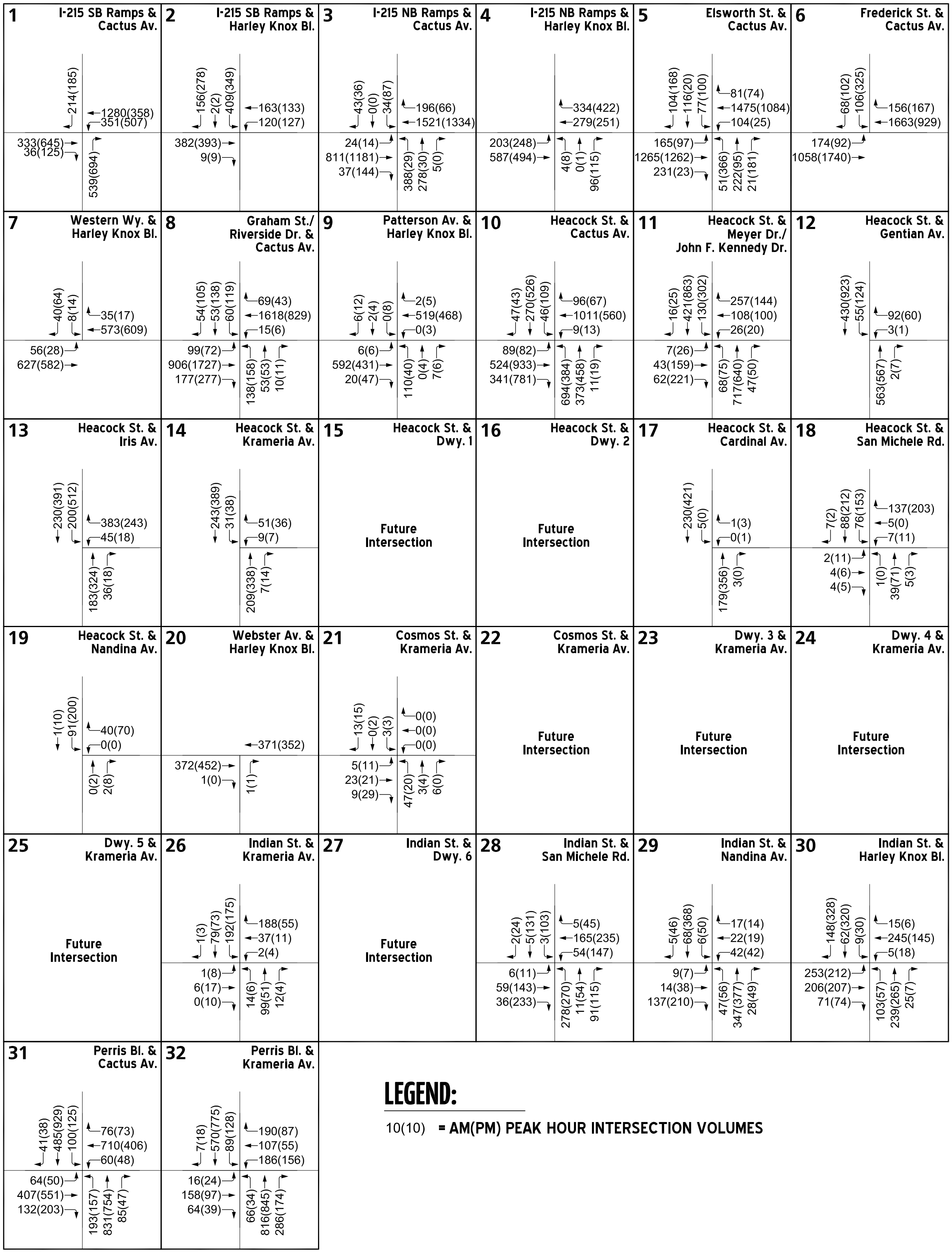
Figure 4.11-2

CITY OF MORENO VALLEY
GENERAL PLAN CIRCULATION PLAN

Source: Urban Crossroads (11-18-15)

NOT TO SCALE

Figure 4.11-3
CITY OF PERRIS GENERAL PLAN
CIRCULATION PLAN

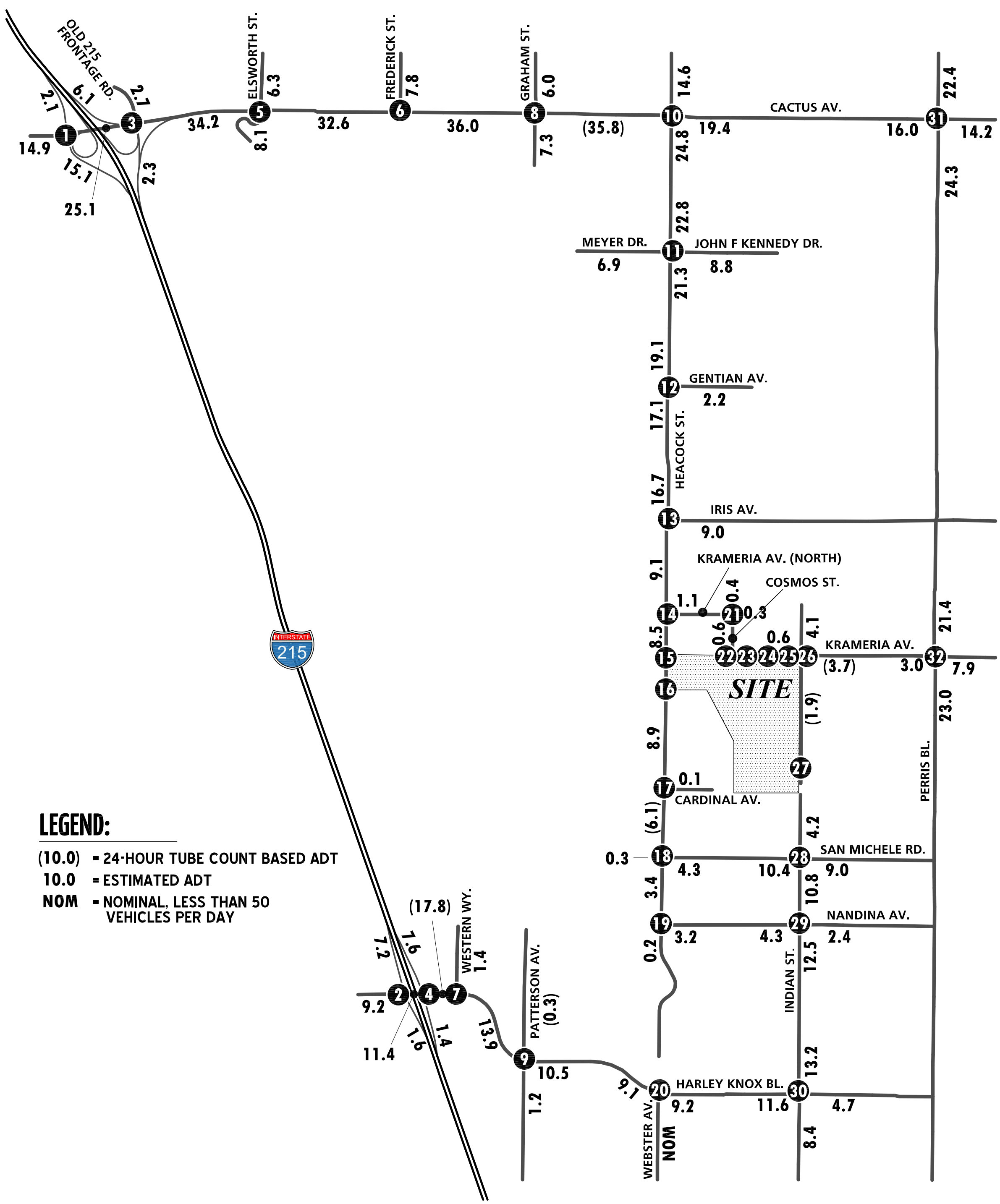


Source: Urban Crossroads (11-18-15)

Figure 4.11-4

NOT TO SCALE

EXISTING PEAK HOUR INTERSECTION TRAFFIC VOLUMES



Source: Urban Crossroads (11-18-15)

NOT TO SCALE

Figure 4.11-5

EXISTING AVERAGE DAILY TRAFFIC

Source: Urban Crossroads (11-17-15)

Figure 4.11-6

NOT TO SCALE

PROJECT CONSTRUCTION EMPLOYEE TRIP DISTRIBUTION

Source: Urban Crossroads (11-17-15)

NOT TO SCALE

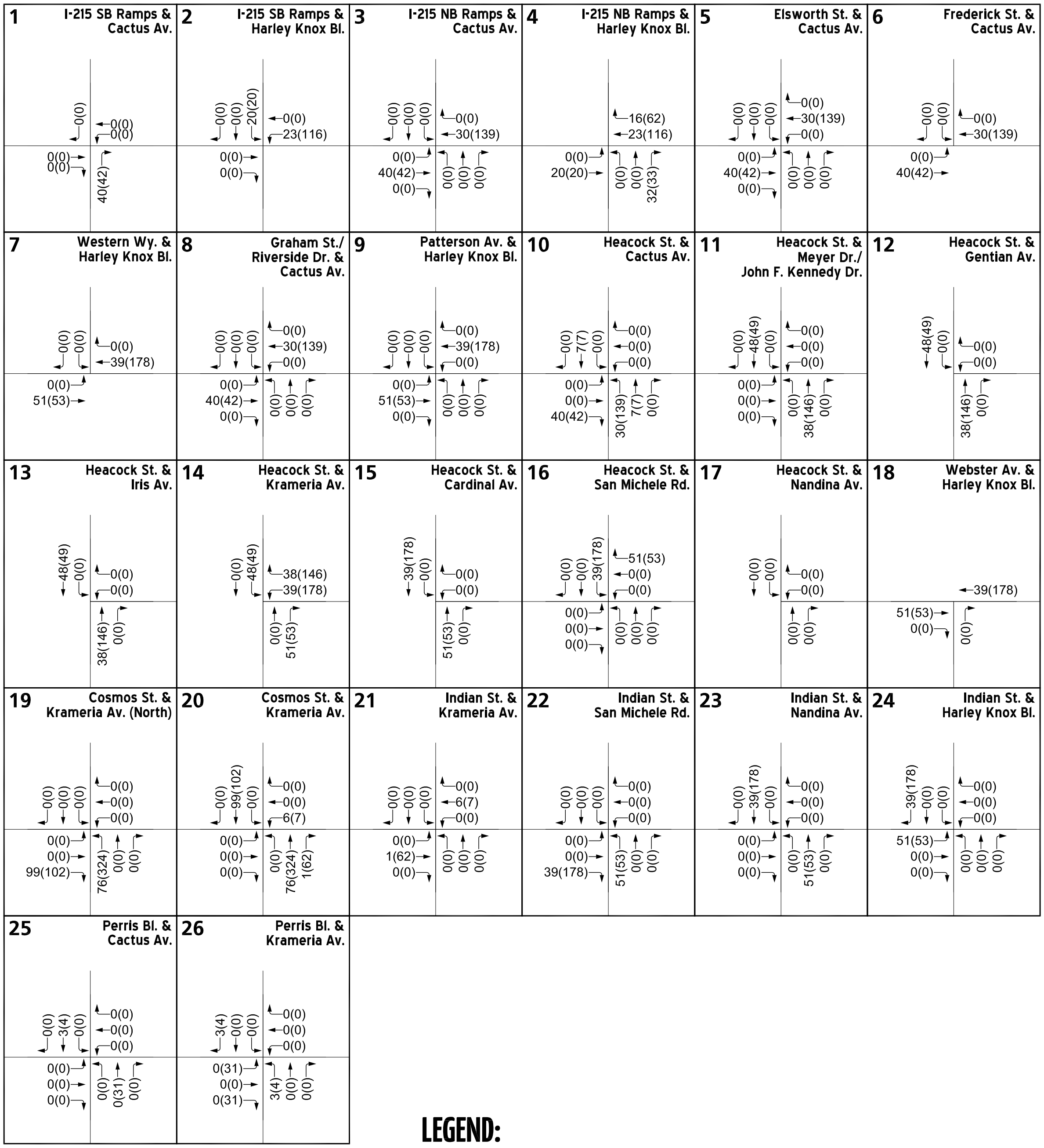
Figure 4.11-7
PROJECT CONSTRUCTION
TRUCK TRIP DISTRIBUTION

Source: Urban Crossroads (11-17-15)

Figure 4.11-8

NOT TO SCALE

PROJECT CONSTRUCTION TRAFFIC VOLUMES (1 OF 2)



LEGEND:

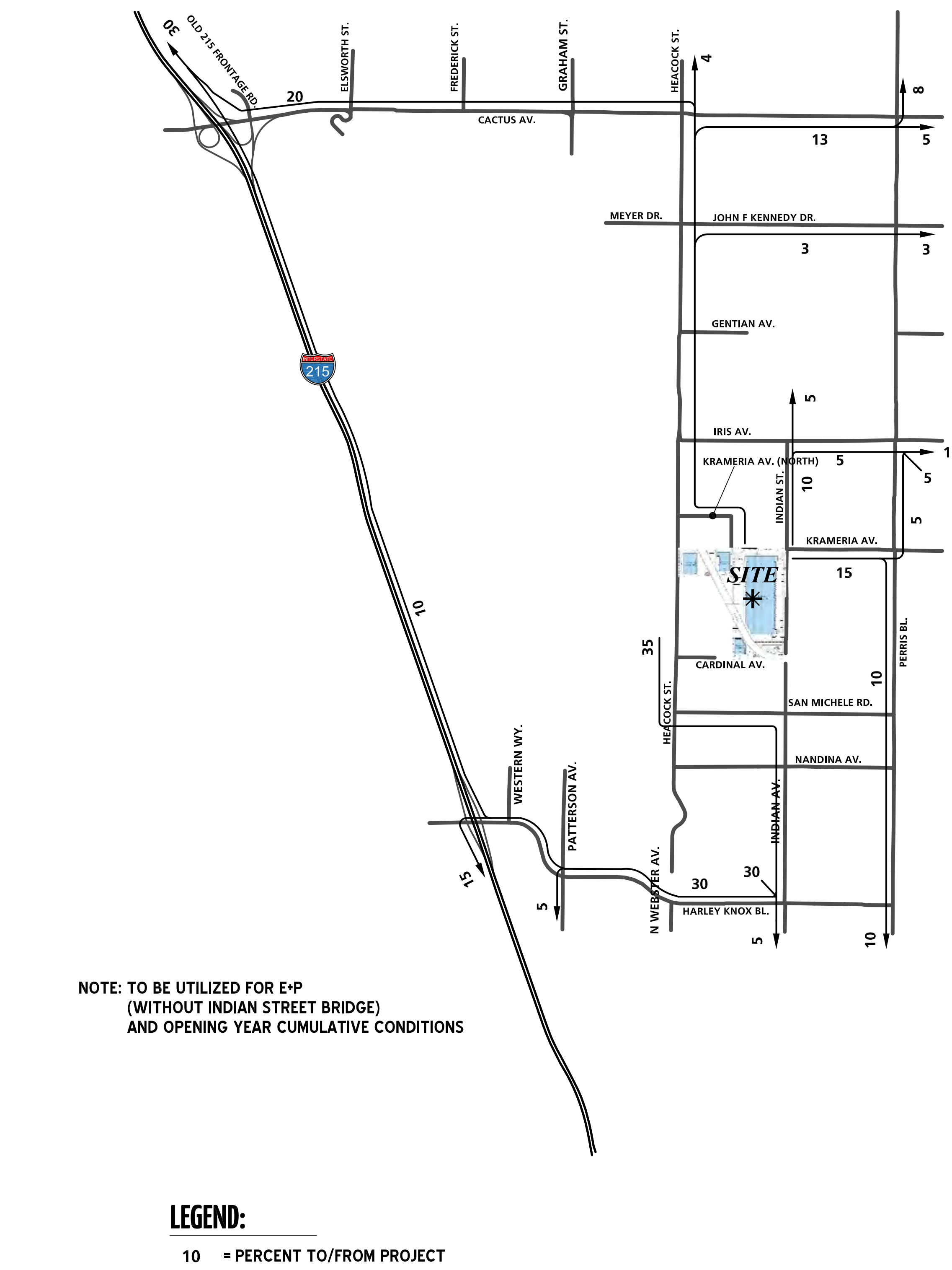
10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES

Source: Urban Crossroads (11-17-15)

Figure 4.11-8

NOT TO SCALE

PROJECT CONSTRUCTION TRAFFIC VOLUMES (2 OF 2)

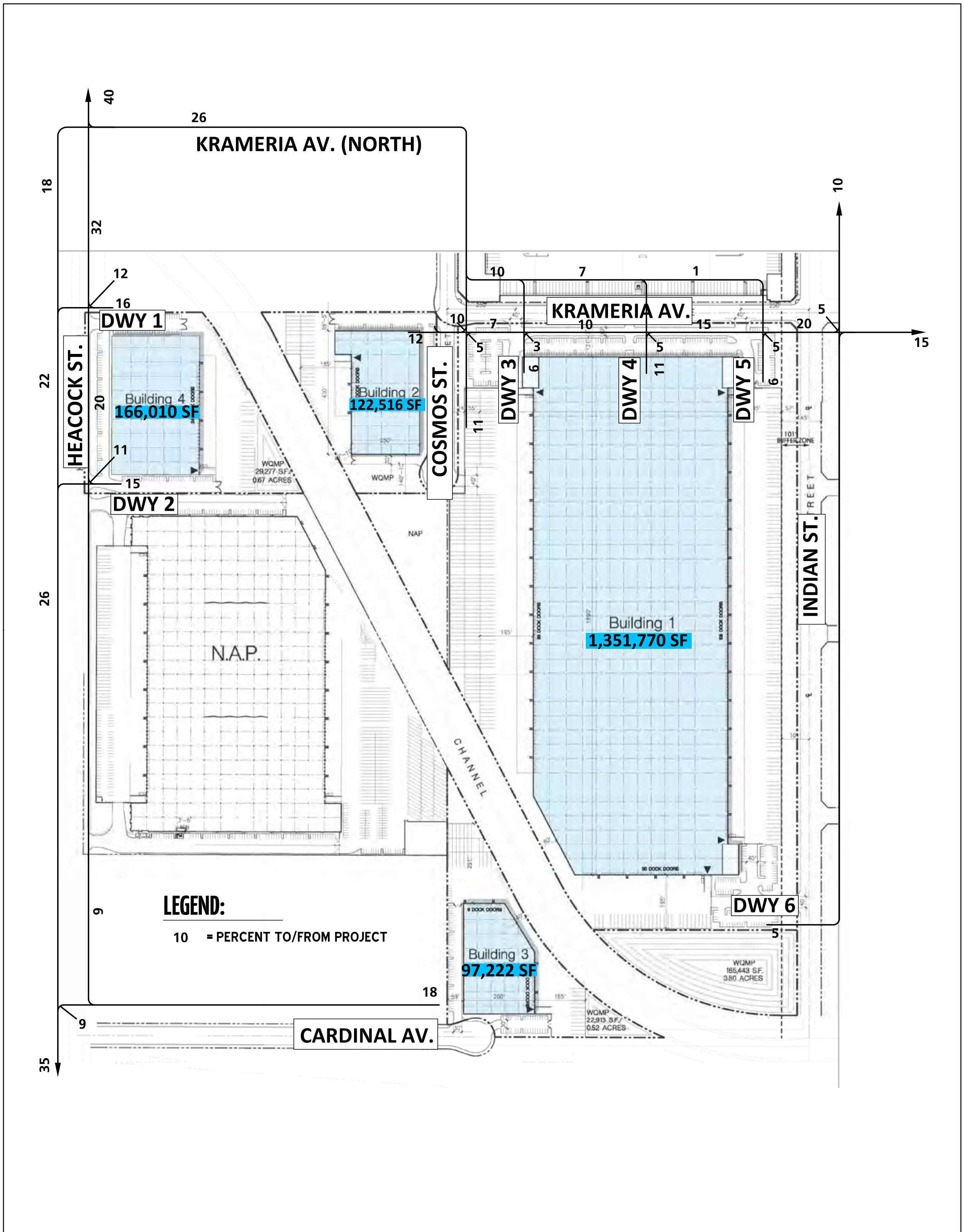


Source: Urban Crossroads (11-18-15)

NOT TO SCALE

Figure 4.11-9

PROJECT PASSENGER CAR TRIP DISTRIBUTION (WITHOUT INDIAN STREET BRIDGE) (1 OF 2)



Source: Urban Crossroads (11-18-15)

NOT TO SCALE

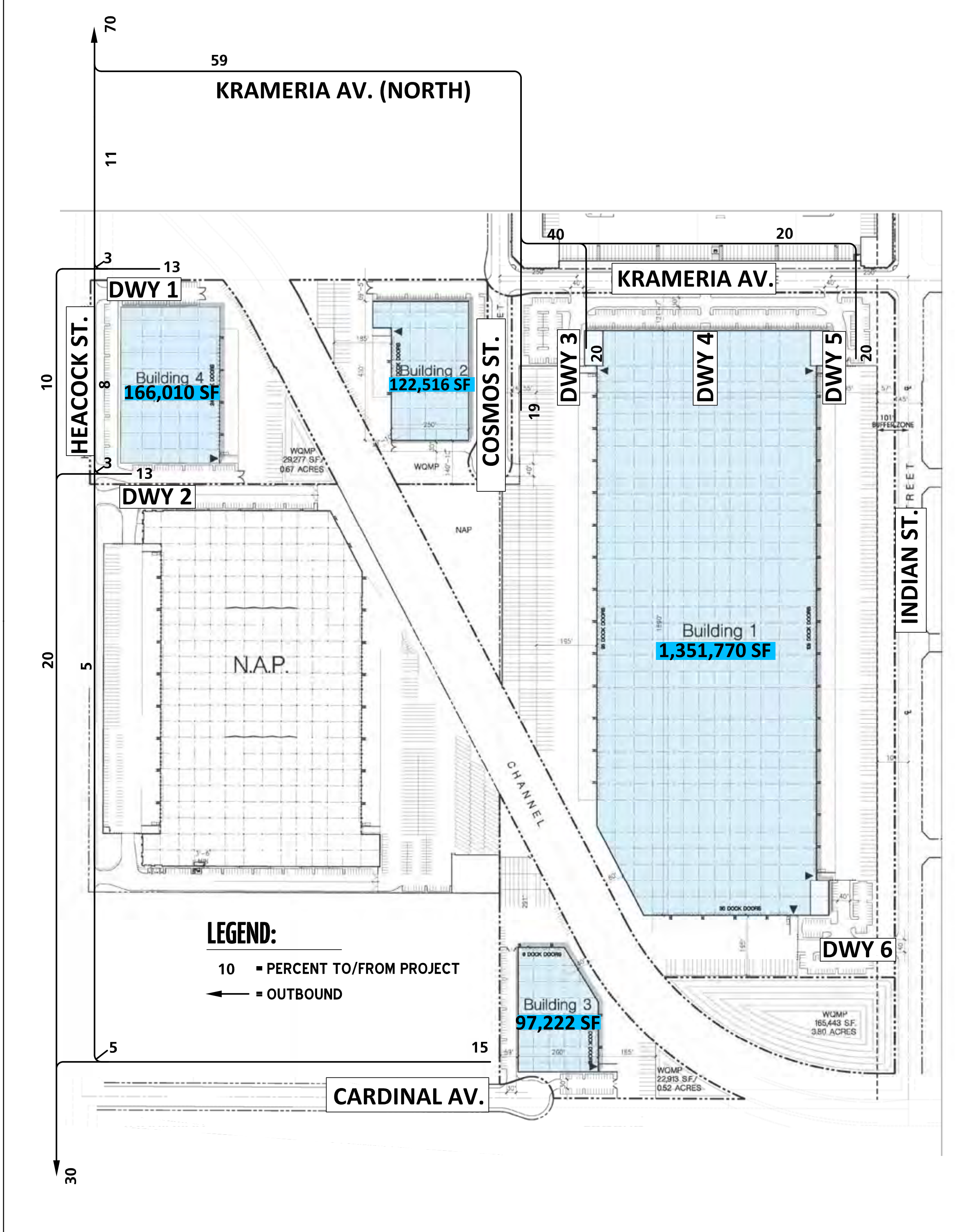
Figure 4.11-9
PROJECT PASSENGER CAR TRIP DISTRIBUTION
(WITHOUT INDIAN STREET BRIDGE) (2 OF 2)

Source: Urban Crossroads (11-18-15)

NOT TO SCALE

Figure 4.11-10

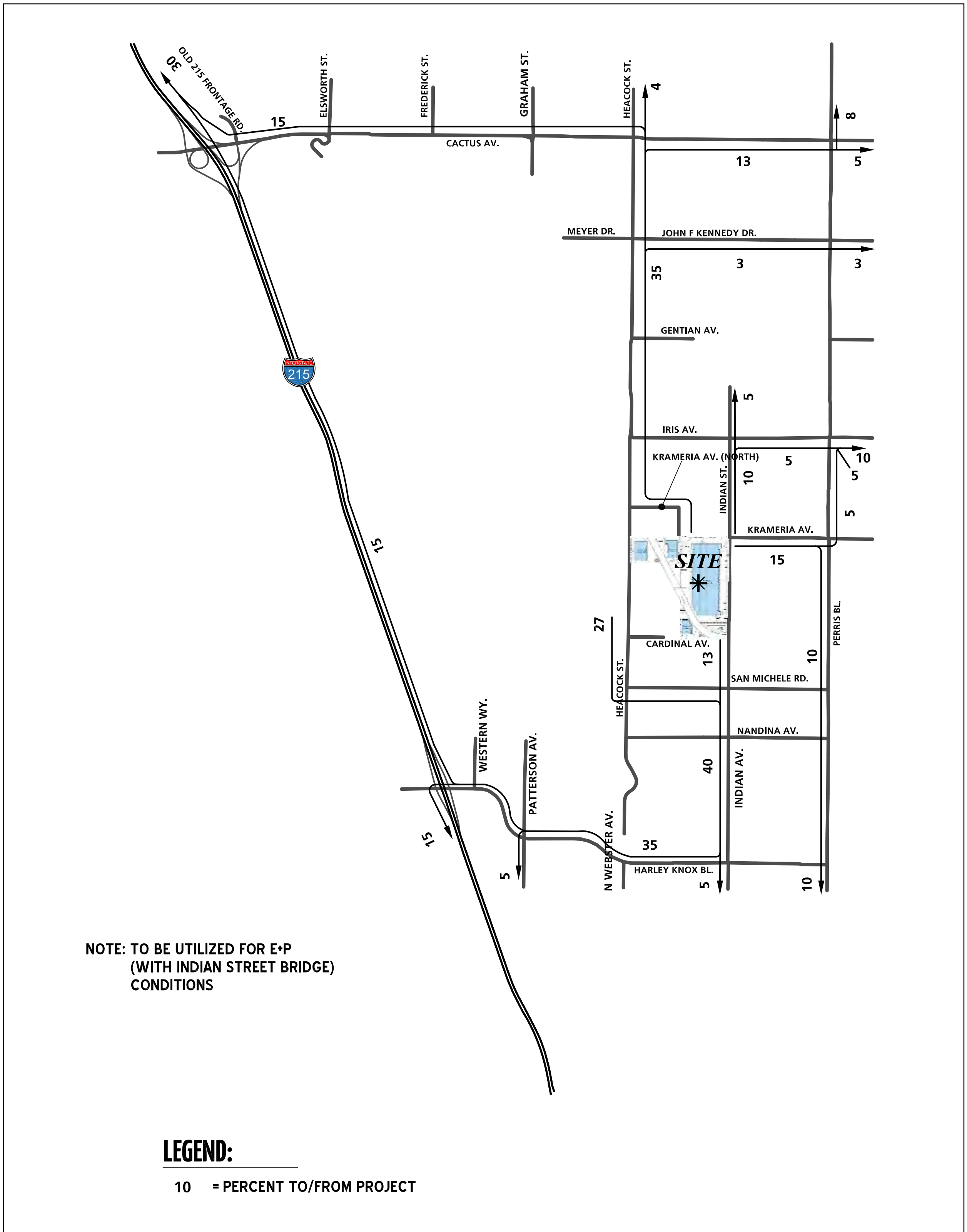
PROJECT TRUCK TRIP DISTRIBUTION
(WITHOUT INDIAN STREET BRIDGE) (1 OF 2)



Source: Urban Crossroads (11-18-15)

NOT TO SCALE

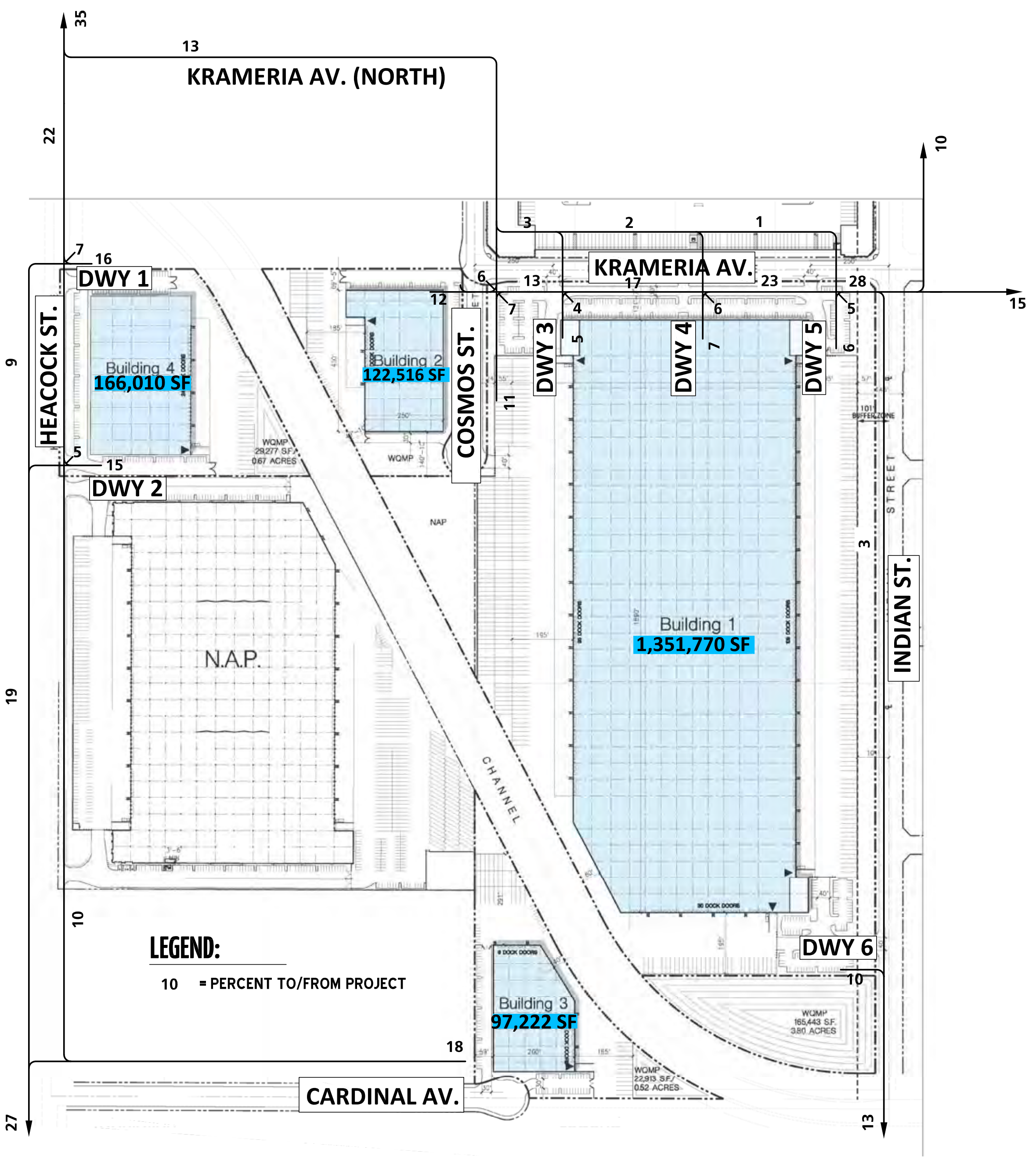
Figure 4.11-10
PROJECT TRUCK TRIP DISTRIBUTION
(WITHOUT INDIAN STREET BRIDGE) (2 OF 2)



Source: Urban Crossroads (11-18-15)

NOT TO SCALE

Figure 4.11-11
PROJECT PASSENGER CAR TRIP DISTRIBUTION
(WITH INDIAN STREET BRIDGE) (1 OF 2)



Source: Urban Crossroads (11-18-15)

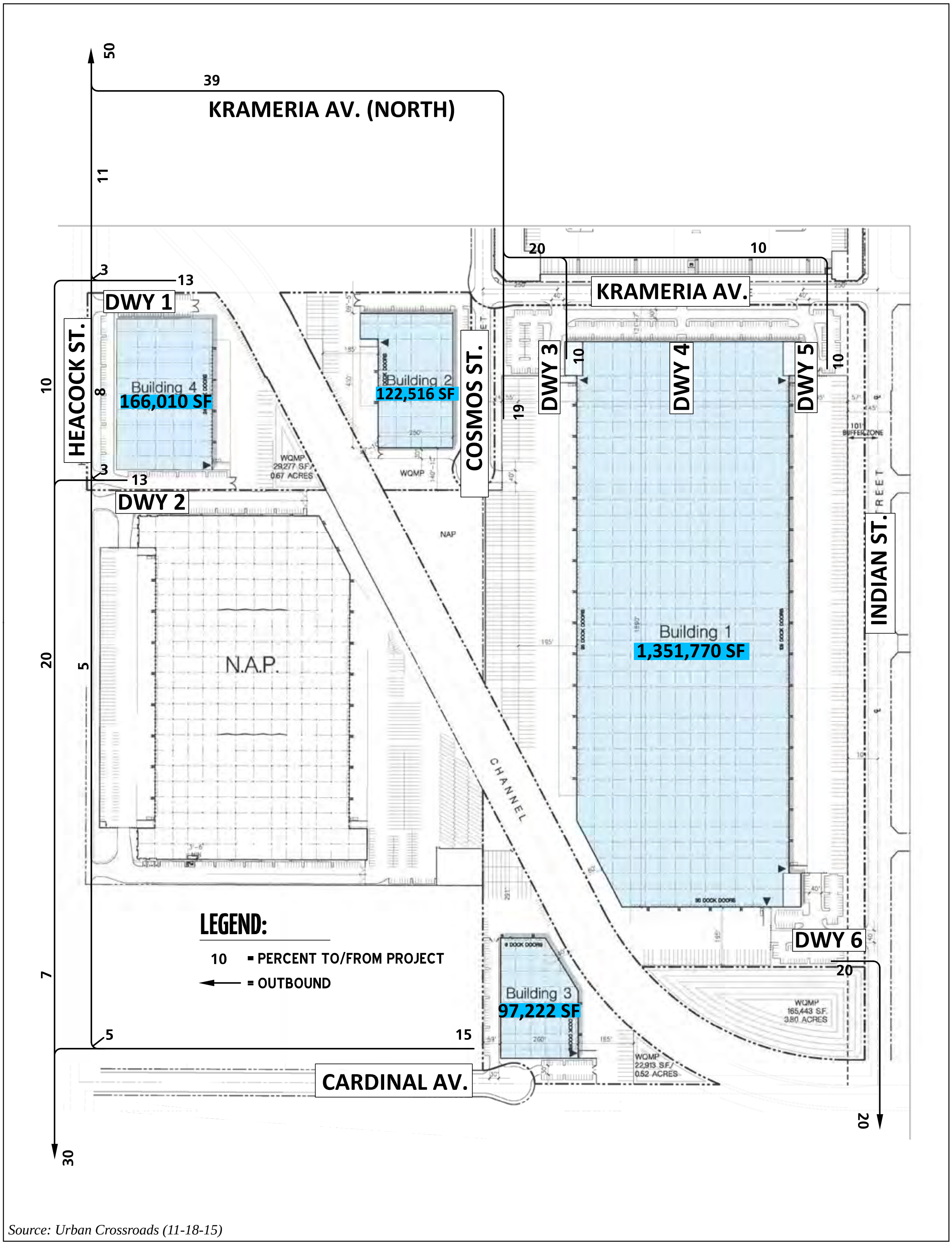
NOT TO SCALE

Figure 4.11-11
PROJECT PASSENGER CAR TRIP DISTRIBUTION
(WITH INDIAN STREET BRIDGE) (2 OF 2)

Source: Urban Crossroads (11-18-15)

NOT TO SCALE

Figure 4.11-12
PROJECT TRUCK TRIP DISTRIBUTION
(WITH INDIAN STREET BRIDGE) (1 OF 2)



Source: Urban Crossroads (11-18-15)

NOT TO SCALE

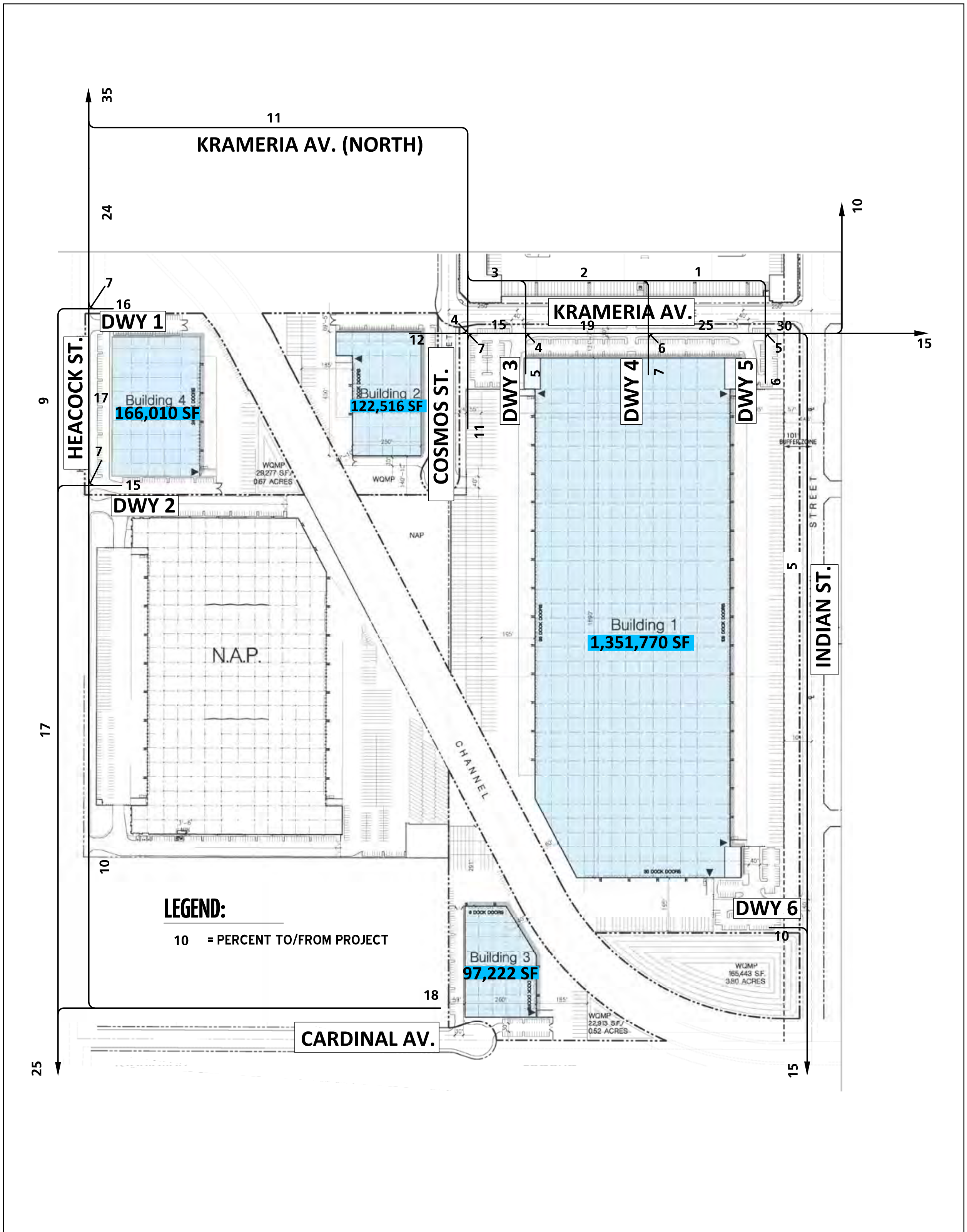
Figure 4.11-12
PROJECT TRUCK TRIP DISTRIBUTION
(WITH INDIAN STREET BRIDGE) (2 OF 2)

Source: Urban Crossroads (11-18-15)

NOT TO SCALE

Figure 4.11-13

PROJECT PASSENGER CAR TRIP DISTRIBUTION (GENERAL PLAN BUILDOUT) (1 OF 2)



Source: Urban Crossroads (11-18-15)

Figure 4.11-13
PROJECT PASSENGER CAR TRIP DISTRIBUTION
(GENERAL PLAN BUILDOUT) (2 OF 2)

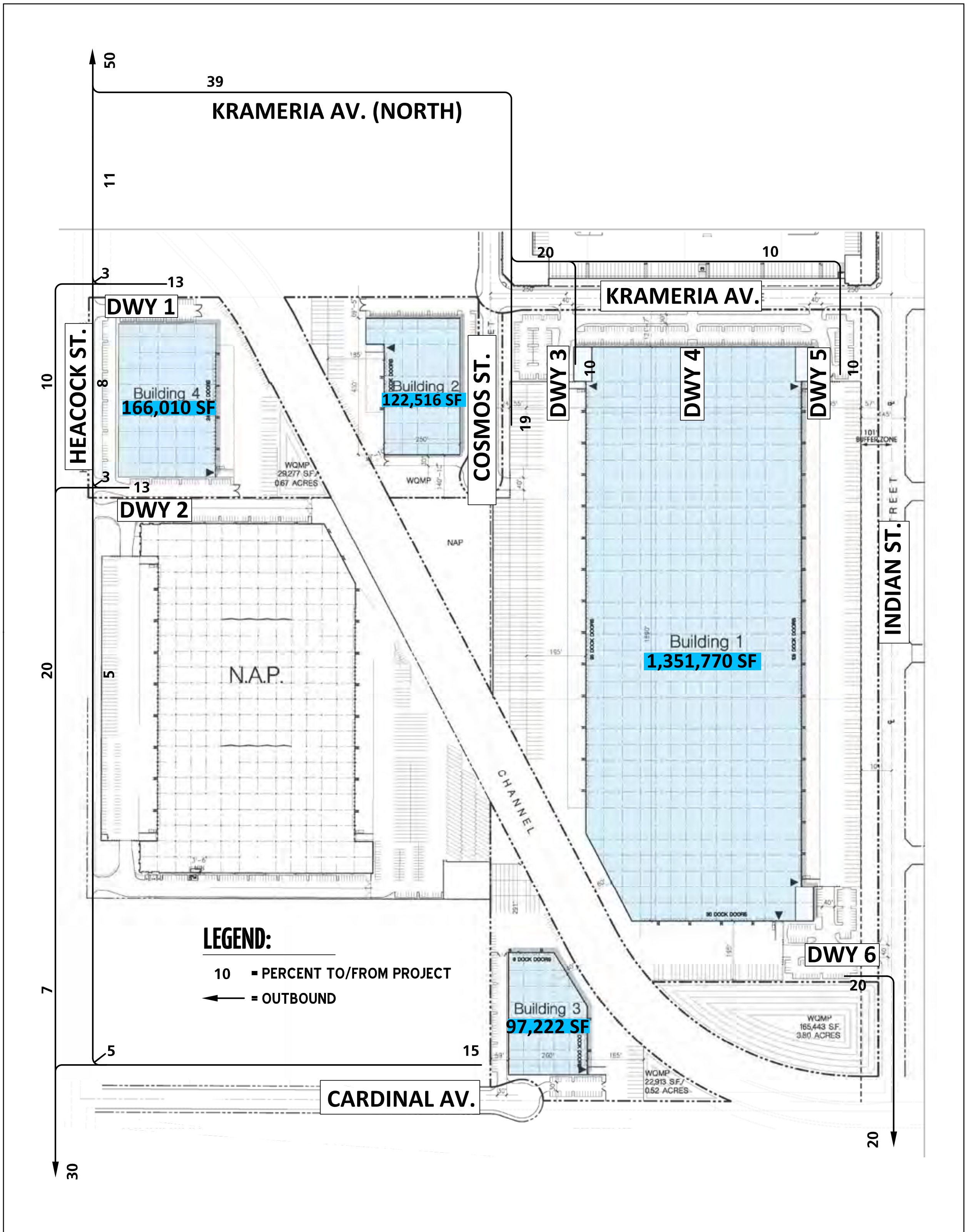
NOT TO SCALE

Source: Urban Crossroads (11-18-15)

NOT TO SCALE

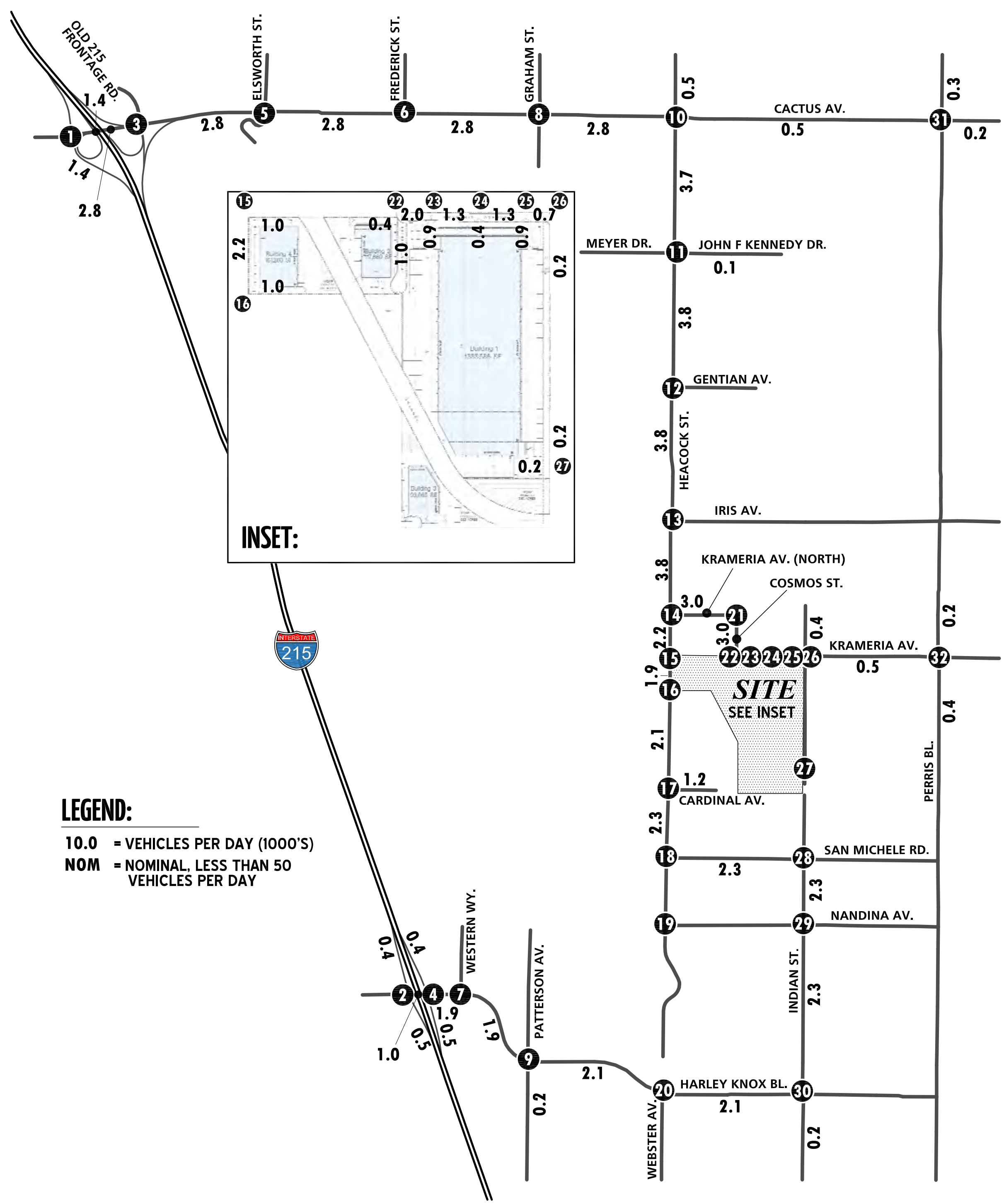
Figure 4.11-14

PROJECT TRUCK TRIP DISTRIBUTION (GENERAL PLAN BUILDOUT) (1 OF 2)



Source: Urban Crossroads (11-18-15)

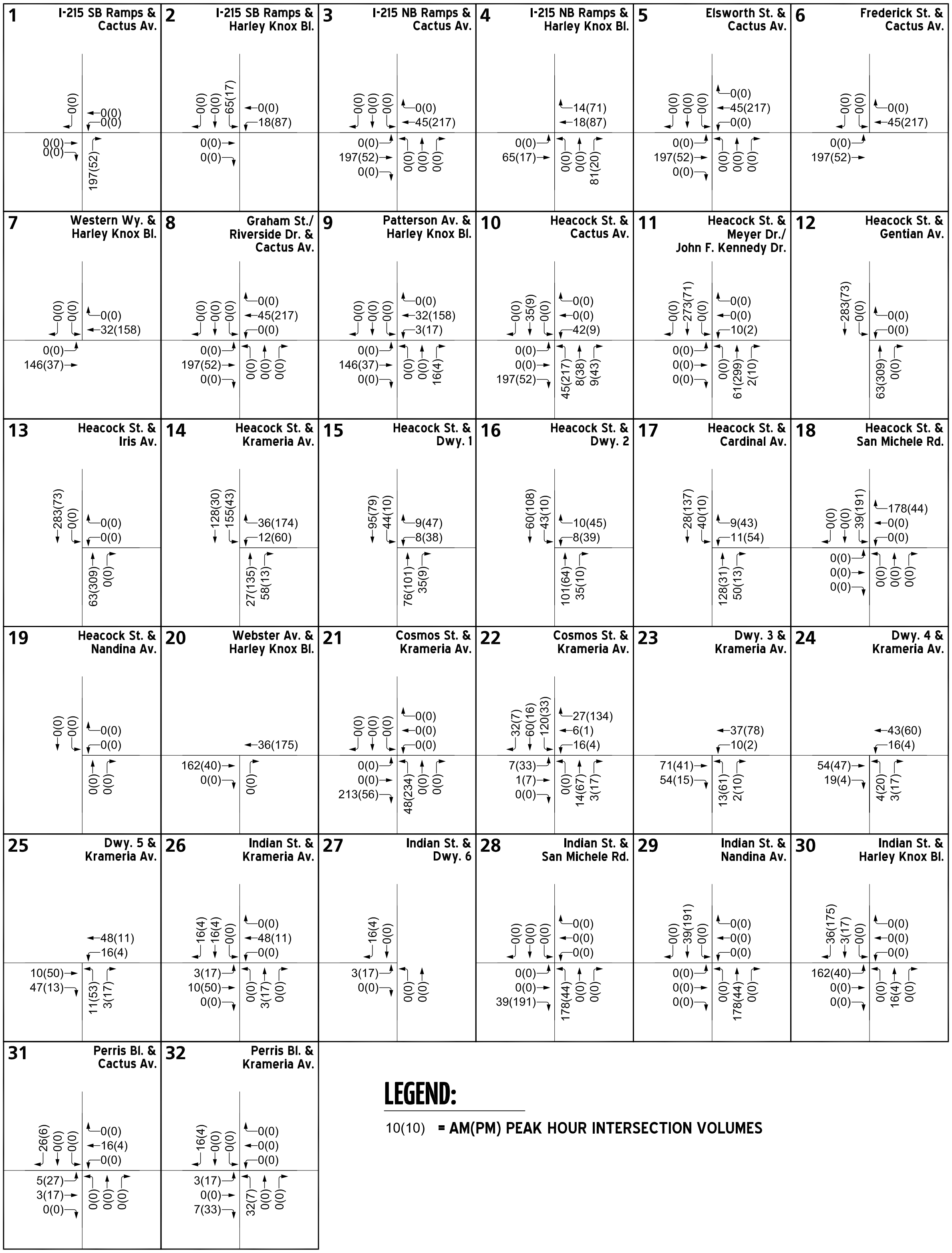
Figure 4.11-14
PROJECT TRUCK TRIP DISTRIBUTION
(GENERAL PLAN BUILDOUT) (2 OF 2)



Source: Urban Crossroads (11-18-15)

NOT TO SCALE

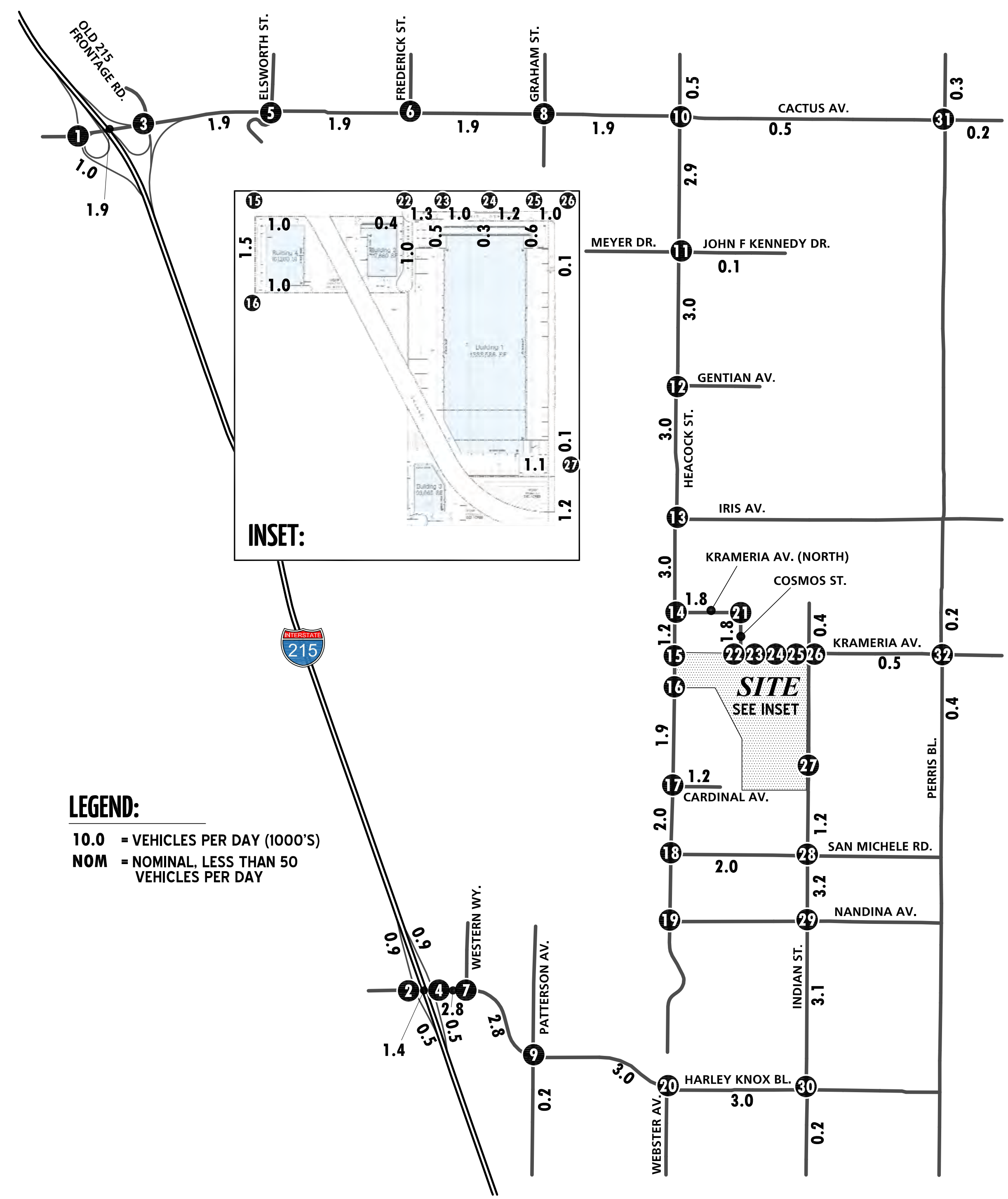
Figure 4.11-15
PROJECT TRAFFIC VOLUMES
(WITHOUT INDIAN STREET BRIDGE) (1 OF 2)



Source: Urban Crossroads (11-18-15)

NOT TO SCALE

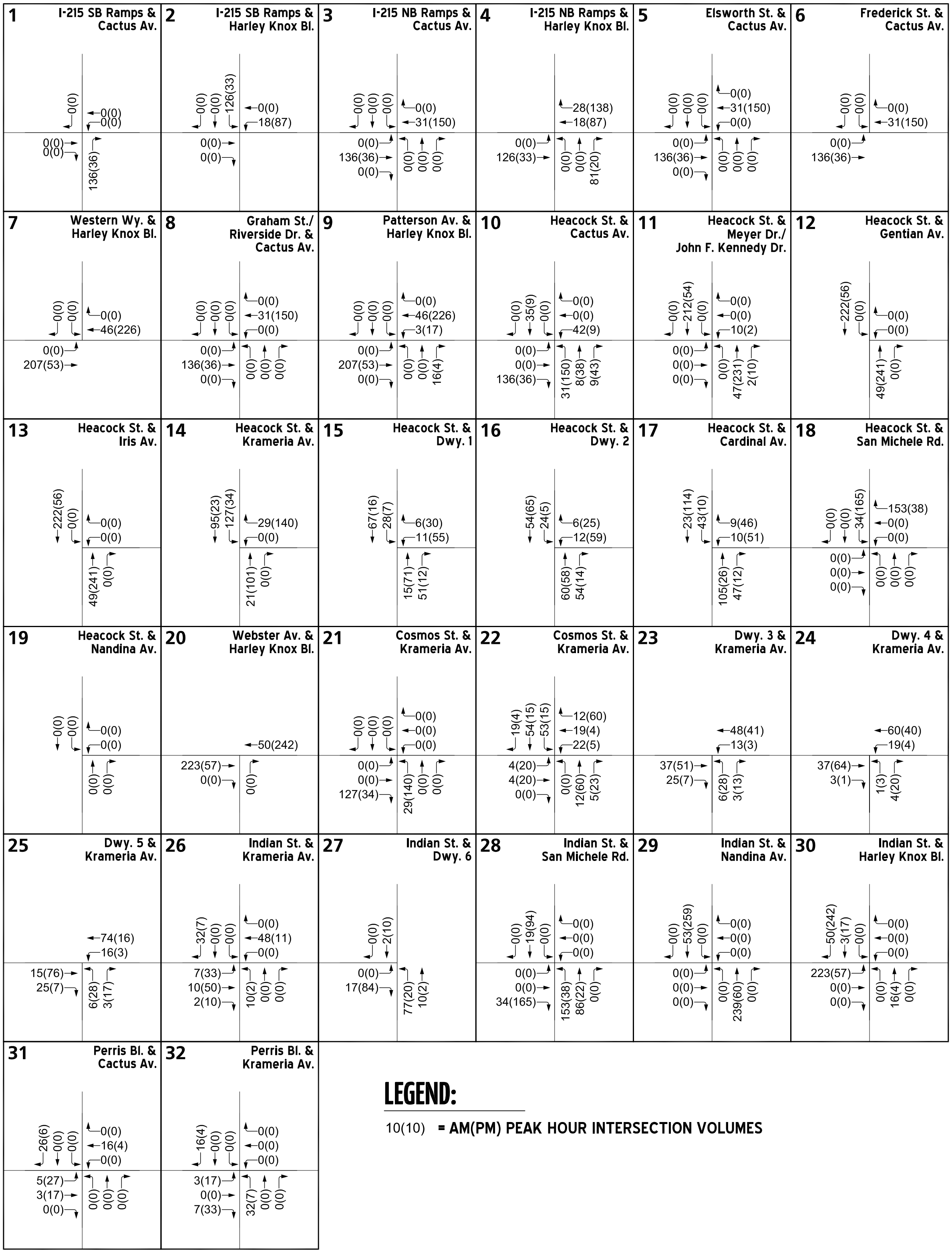
Figure 4.11-15
PROJECT TRAFFIC VOLUMES
(WITHOUT INDIAN STREET BRIDGE) (2 OF 2)



Source: Urban Crossroads (11-18-15)

NOT TO SCALE

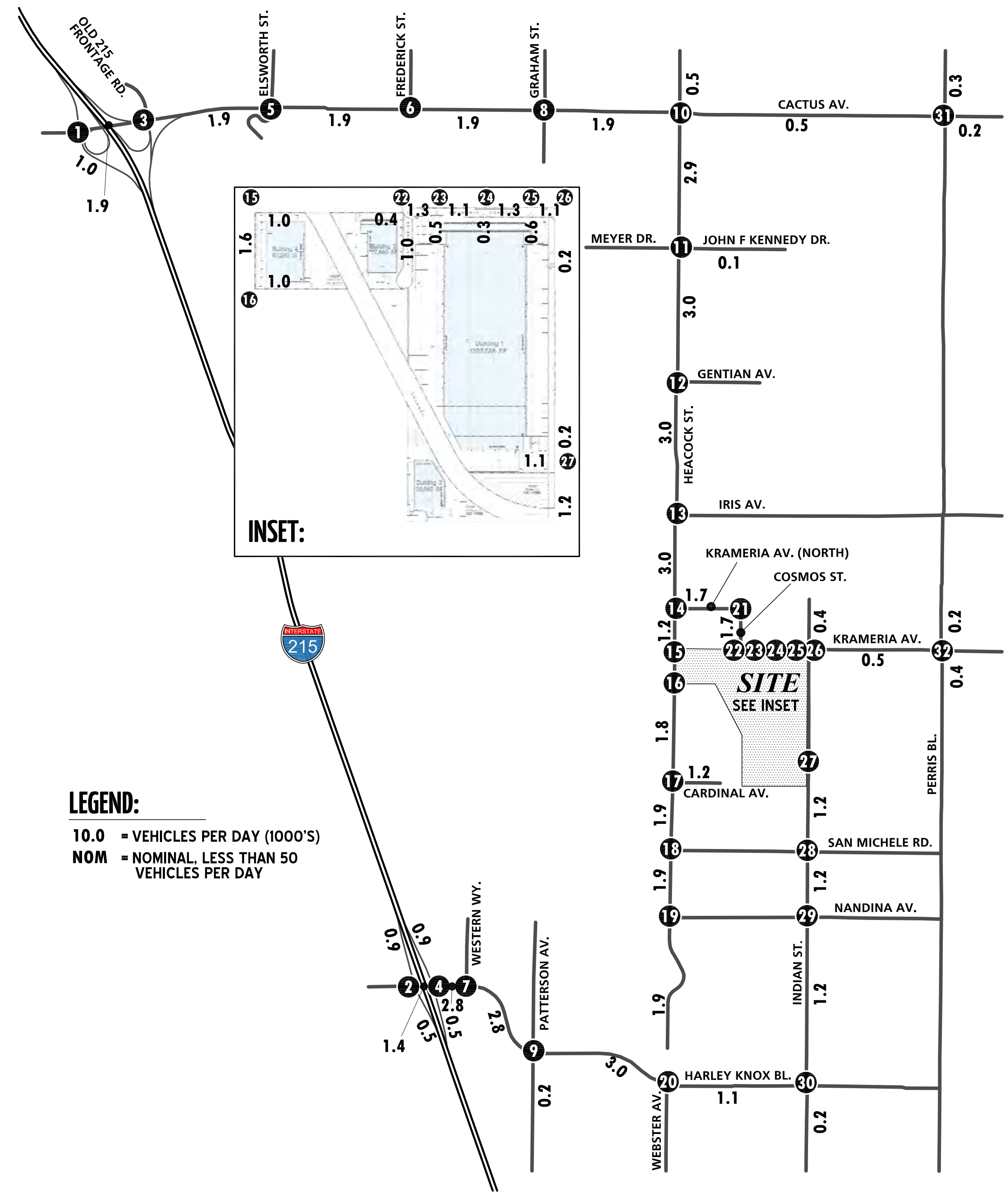
Figure 4.11-16
PROJECT TRAFFIC VOLUMES
(WITH INDIAN STREET BRIDGE) (1 OF 2)



Source: Urban Crossroads (11-18-15)

Figure 4.11-16
PROJECT TRAFFIC VOLUMES
(WITH INDIAN STREET BRIDGE) (2 OF 2)

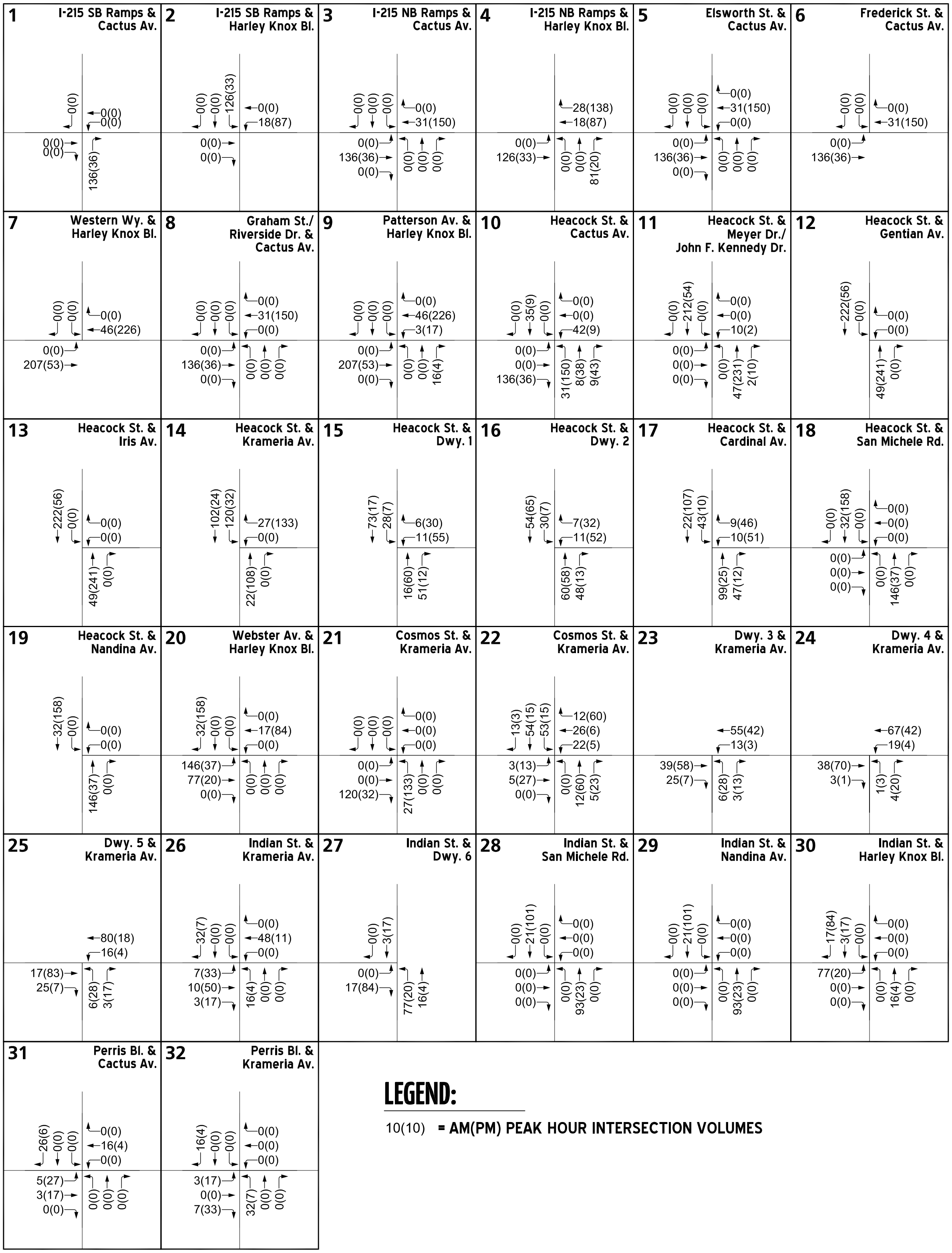
NOT TO SCALE



Source: Urban Crossroads (11-18-15)

NOT TO SCALE

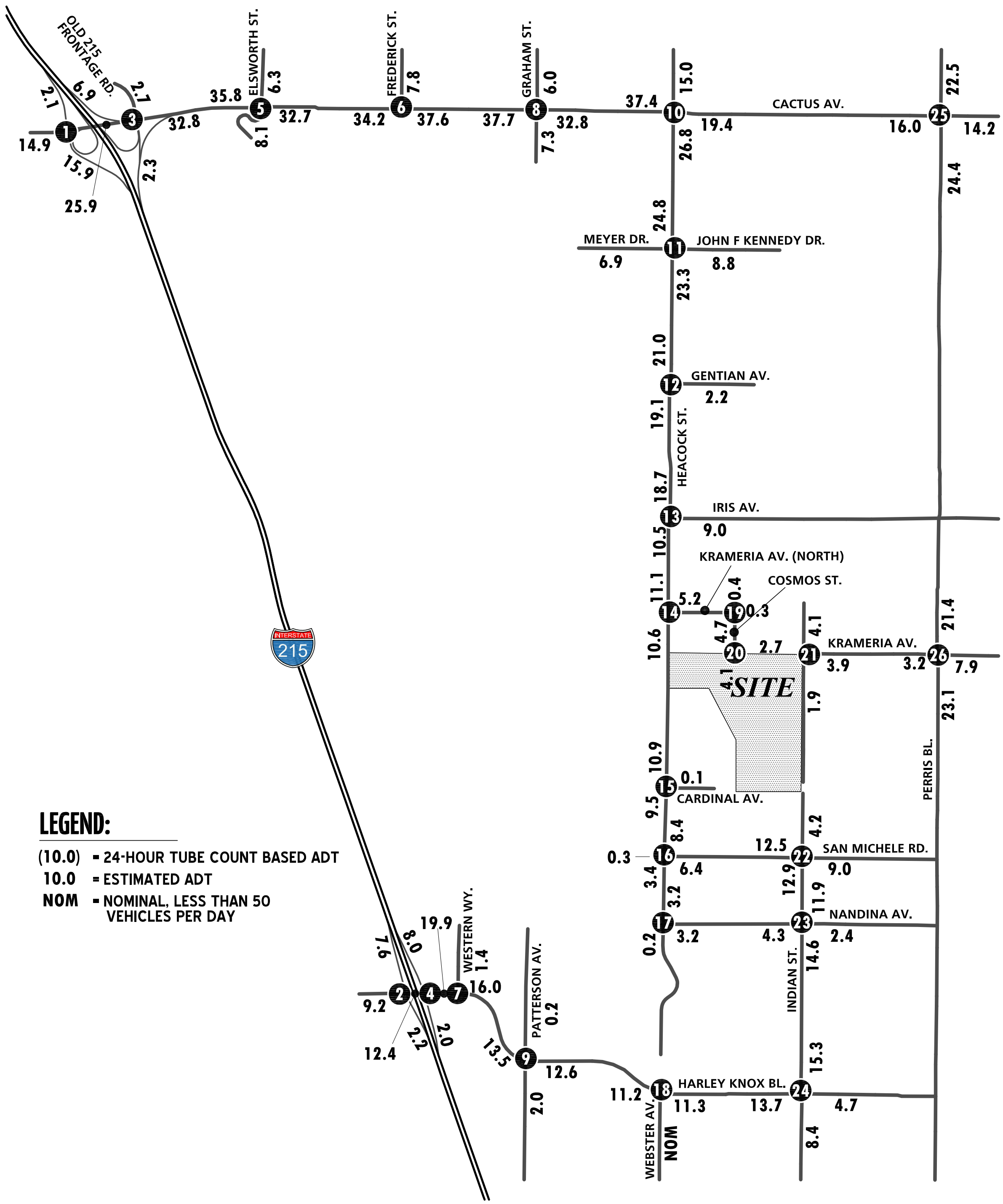
Figure 4.11-17
PROJECT TRAFFIC VOLUMES
(GENERAL PLAN BUILDOUT) (1 OF 2)



Source: Urban Crossroads (11-18-15)

Figure 4.11-17
PROJECT TRAFFIC VOLUMES
(GENERAL PLAN BUILDOUT) (2 OF 2)

NOT TO SCALE

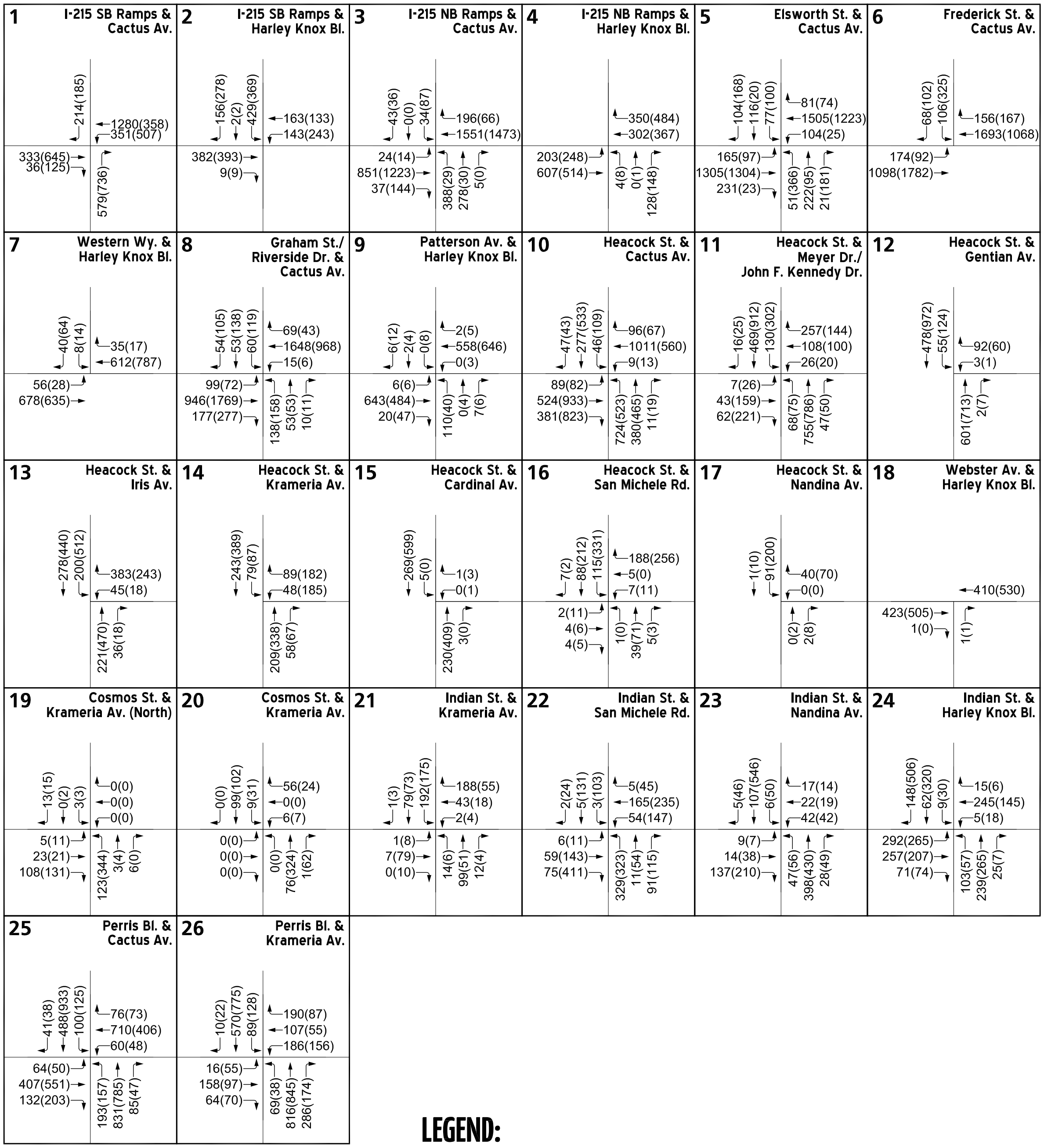


Source: Urban Crossroads (11-17-15)

Figure 4.11-18

NOT TO SCALE

SHORT-TERM CONSTRUCTION AVERAGE DAILY TRAFFIC



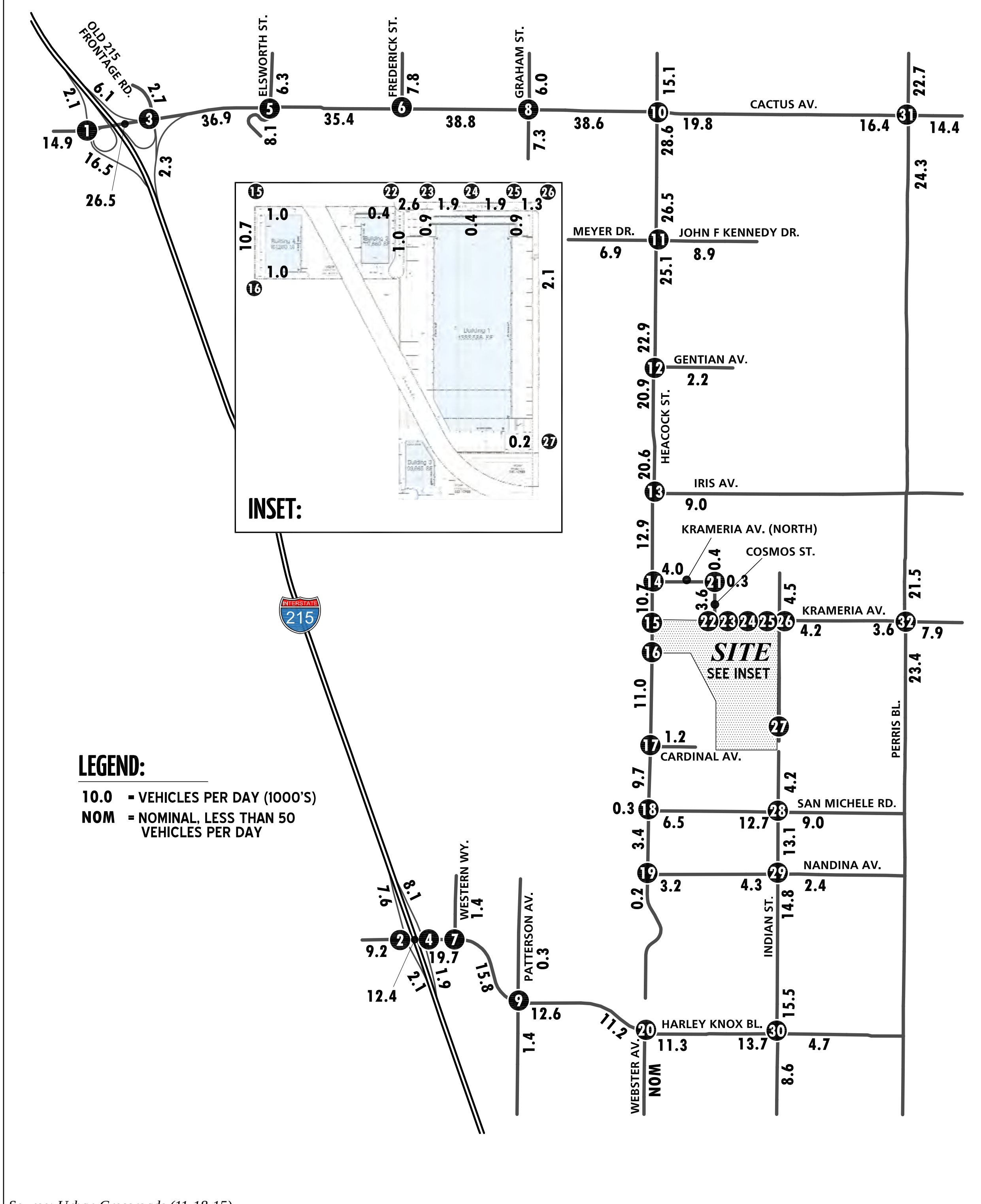
LEGEND:

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES

Source: Urban Crossroads (11-17-15)

NOT TO SCALE

Figure 4.11-19
SHORT-TERM CONSTRUCTION
PEAK HOUR INTERSECTION VOLUMES

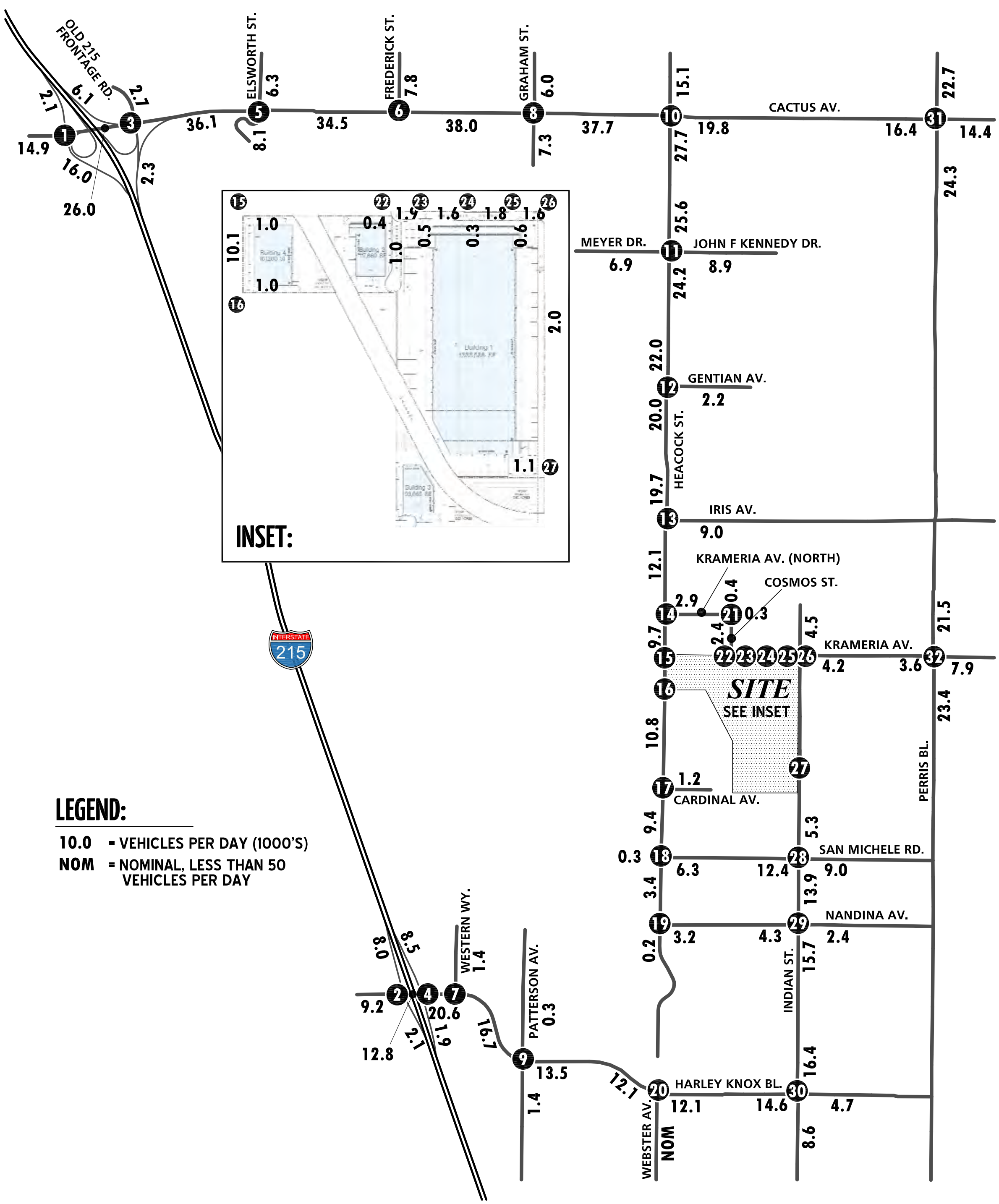


Source: Urban Crossroads (11-18-15)

NOT TO SCALE

Figure 4.11-20

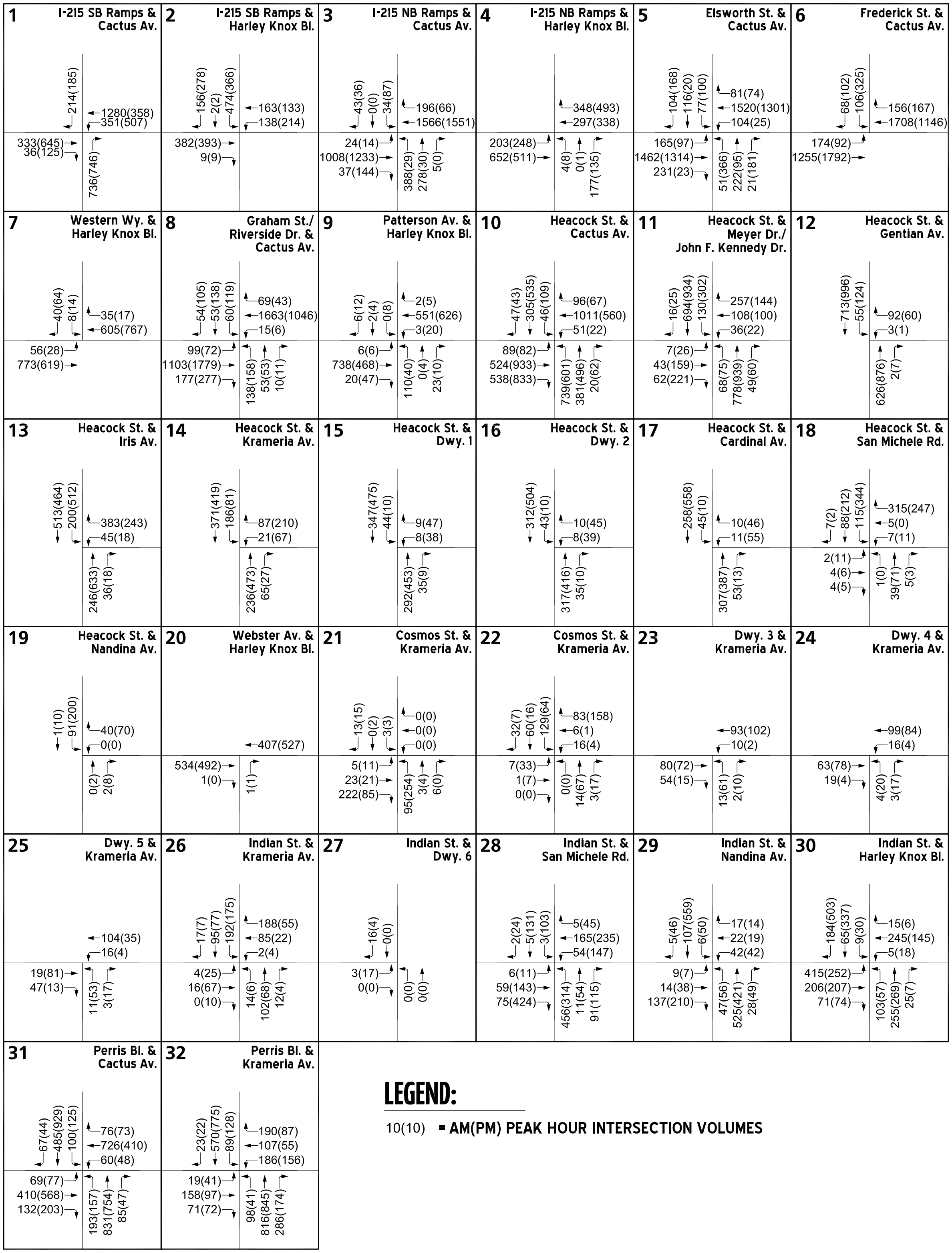
EXISTING PLUS PROJECT AVERAGE DAILY TRAFFIC (WITHOUT INDIAN STREET BRIDGE)



Source: Urban Crossroads (11-18-15)

Figure 4.11-21
EXISTING PLUS PROJECT AVERAGE DAILY TRAFFIC (WITH INDIAN STREET BRIDGE)

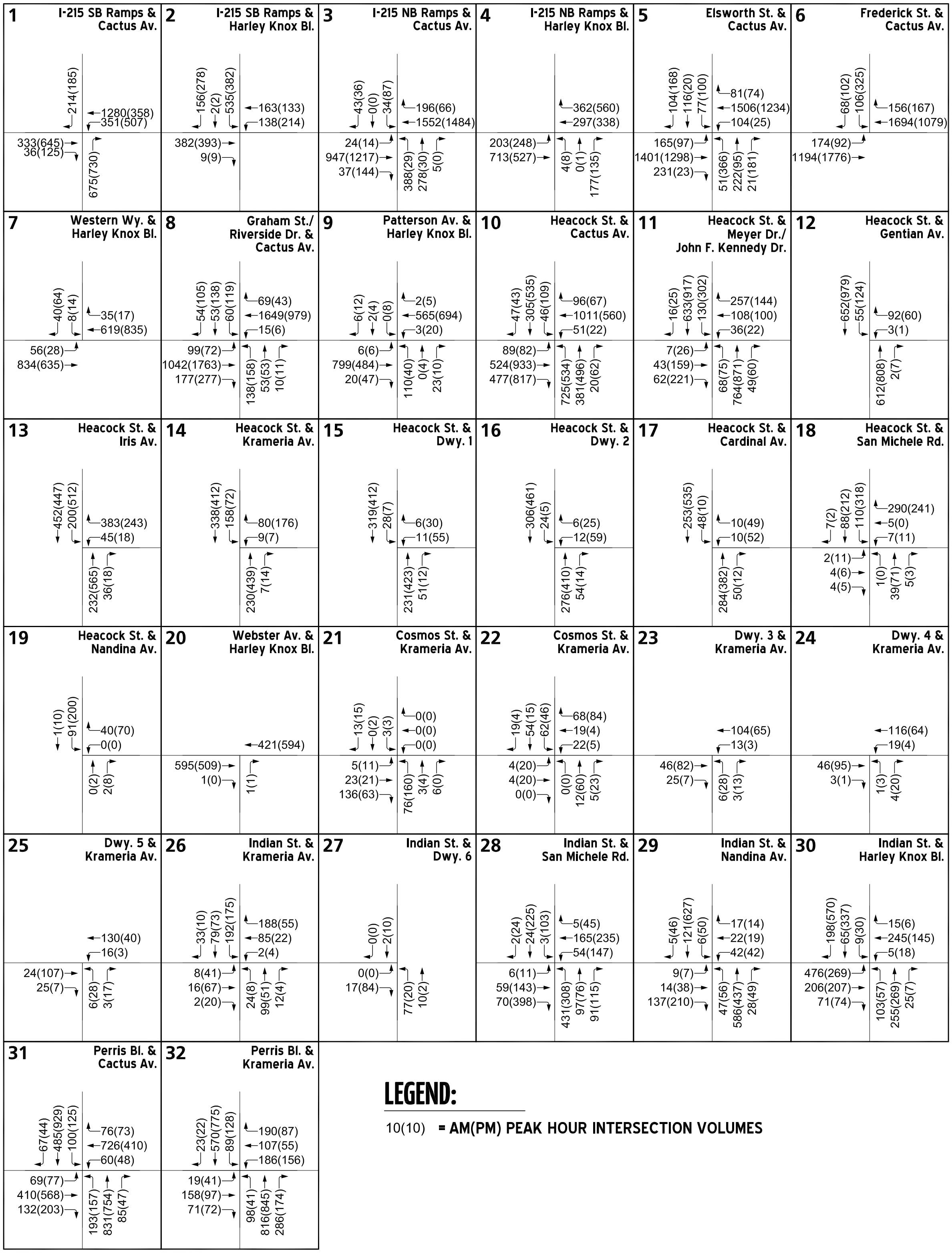
NOT TO SCALE



Source: Urban Crossroads (11-18-15)

NOT TO SCALE

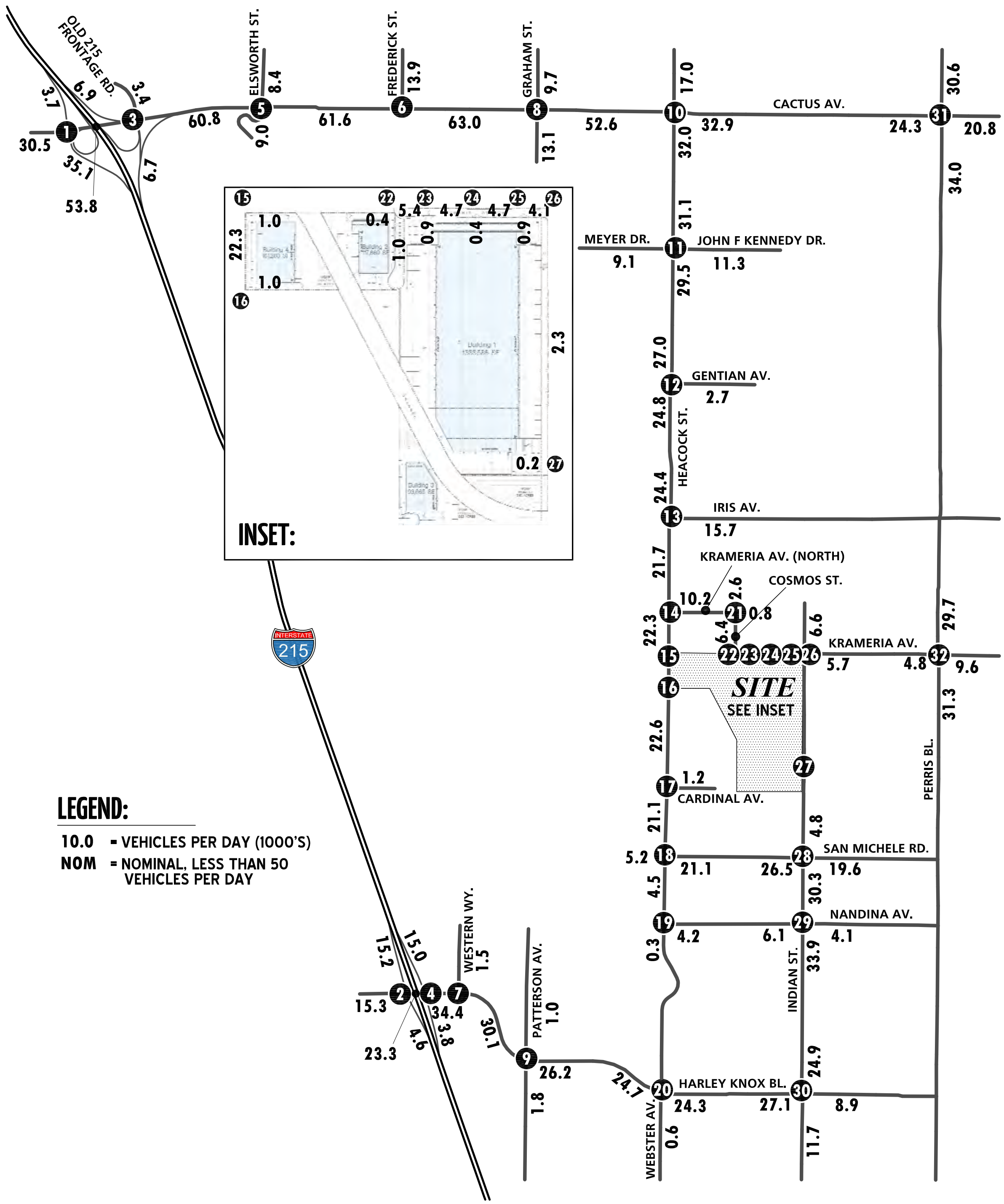
Figure 4.11-22
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION VOLUMES (WITHOUT INDIAN STREET BRIDGE)



Source: Urban Crossroads (11-18-15)

NOT TO SCALE

Figure 4.11-23
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION VOLUMES (WITH INDIAN STREET BRIDGE)

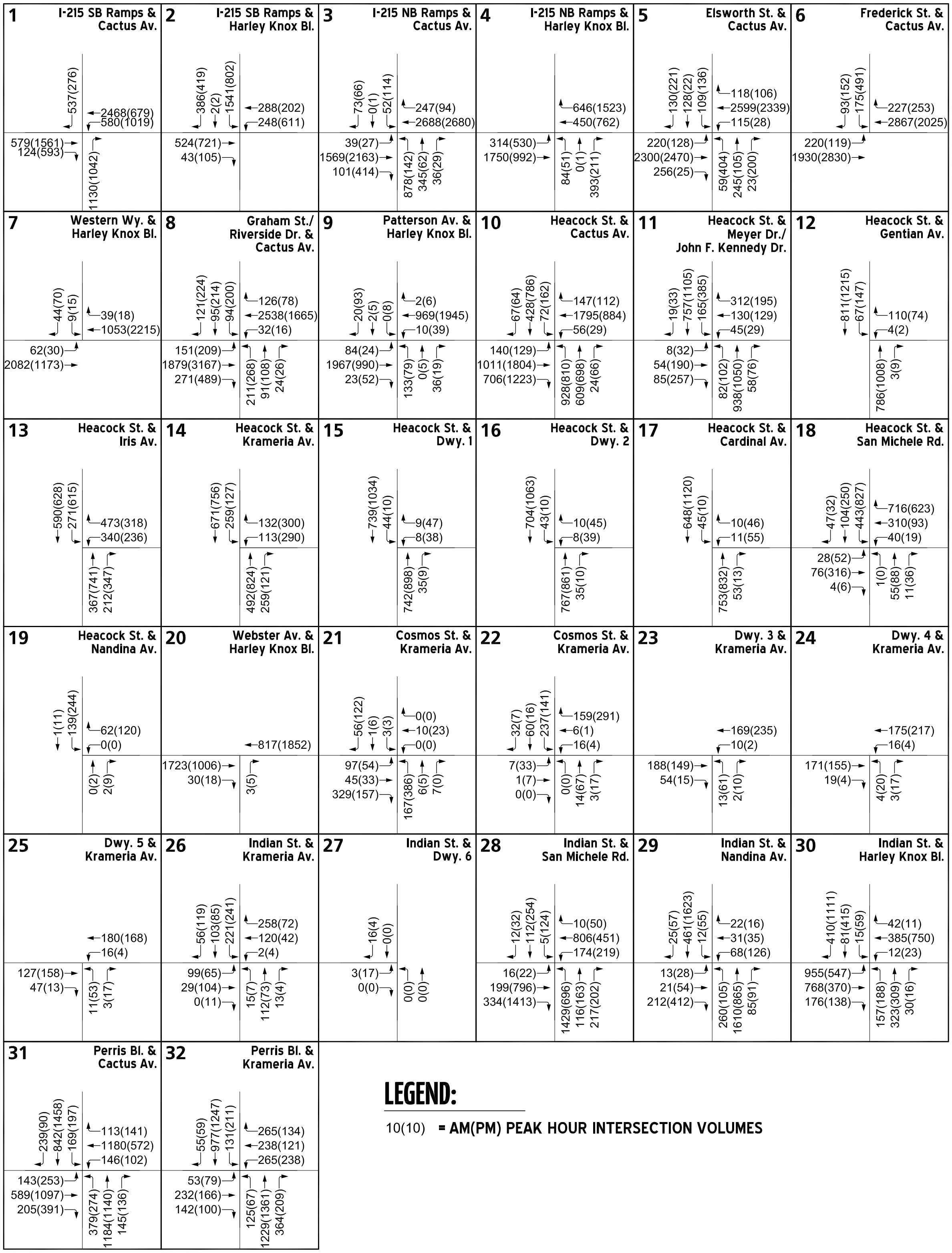


Source: Urban Crossroads (11-18-15)

Figure 4.11-24

NOT TO SCALE

OPENING YEAR (2020) AVERAGE DAILY TRAFFIC

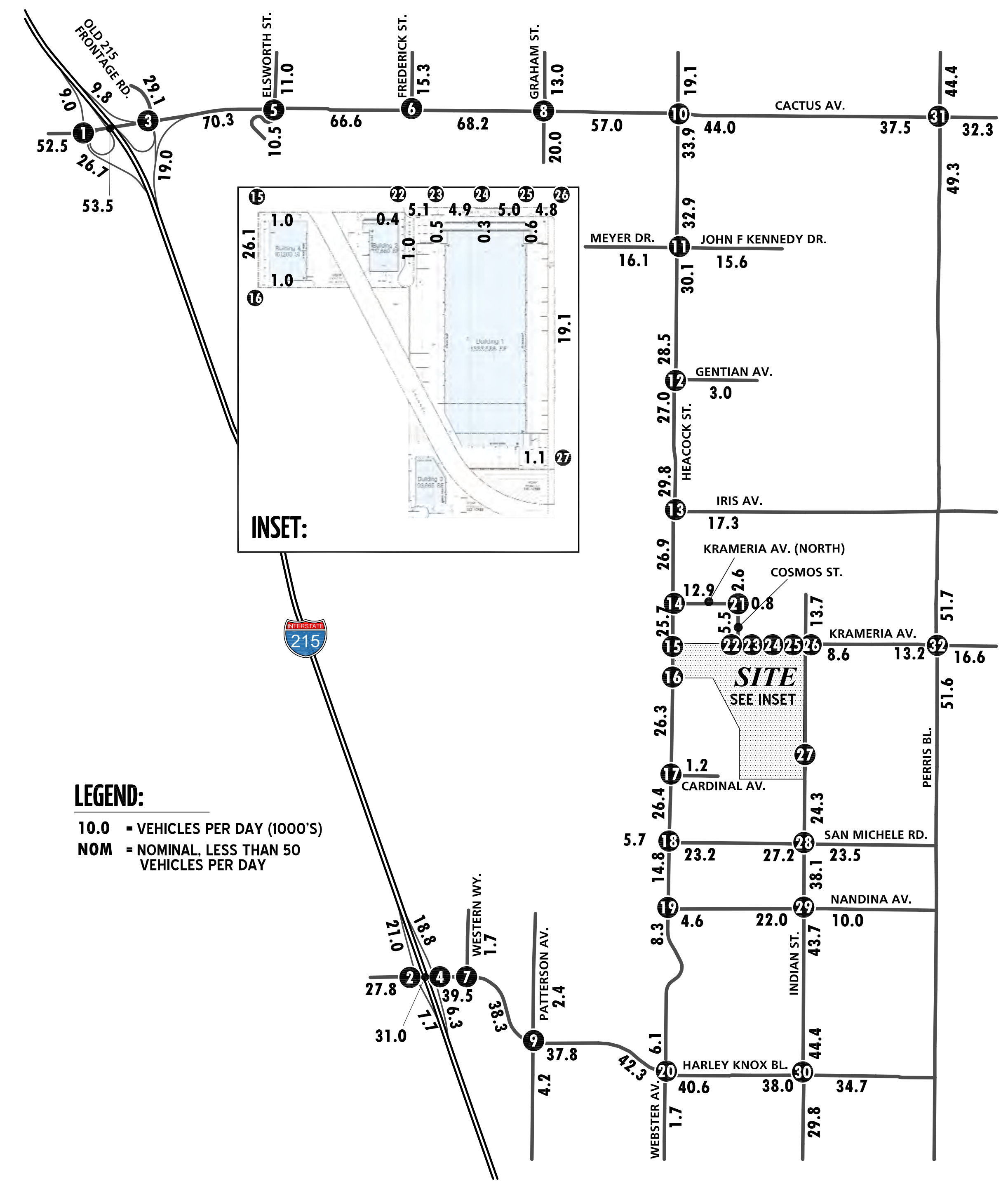


Source: Urban Crossroads (11-18-15)

Figure 4.11-25

NOT TO SCALE

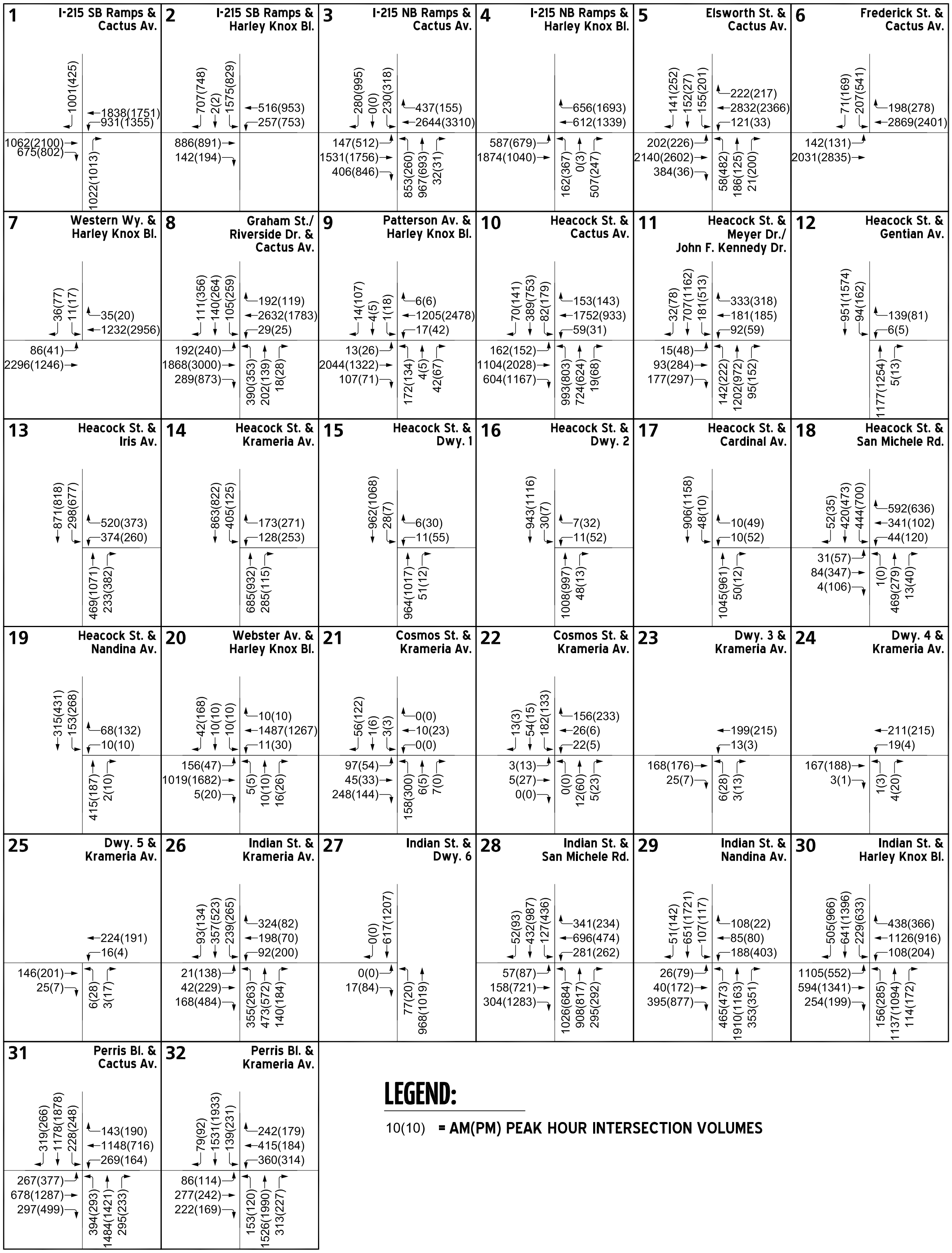
OPENING YEAR (2020) PEAK HOUR INTERSECTION VOLUMES



Source: Urban Crossroads (11-18-15)

NOT TO SCALE

Figure 4.11-26
GENERAL PLAN BUILDOUT
(POST-2035) AVERAGE DAILY TRAFFIC



Source: Urban Crossroads (11-18-15)

NOT TO SCALE

Figure 4.11-27
GENERAL PLAN BUILDOUT
(POST-2035) PEAK HOUR INTERSECTION VOLUMES

5.0 OTHER CEQA CONSIDERATIONS

5.1 Significant Environmental Effects Which Cannot be Avoided if the Proposed Project is Implemented

The CEQA Guidelines require that an EIR disclose the significant environmental effects of a project which cannot be avoided if the proposed project is implemented (CEQA Guidelines § 15126(b)). As described in detail in Section 4.0 of this EIR, the proposed Project is anticipated to result in impacts to the environment that cannot be reduced to below a level of significance after implementation of relevant standard conditions of approval, compliance with applicable regulations, and application of feasible mitigation measures. The significant impacts that cannot be mitigated to a level below significant consist of the following:

- Air Quality Threshold a): Significant Cumulatively Considerable Impact. Because air emissions from Project construction and operation would exceed the SCAQMD's daily significance thresholds even after the implementation of feasible mitigation measures, the Project would not fully mitigate its cumulatively considerable potential to obstruct the SCAQMD's ability to attain the air quality goals presented in the 2012 AQMP.

- Air Quality Thresholds b) and c): Significant and Unavoidable Direct and Cumulatively Considerable Impacts. After the application of Project design features, mandatory regulatory requirements, and feasible mitigation measures, short-term construction-related NO_X emissions and long-term operational-related VOC and NO_X emissions would still exceed the SCAQMD numerical thresholds for daily emissions. These construction-related emissions are unavoidable, significant direct and cumulatively considerable air quality impacts. In the event that short-term construction activity and long-term operational activities overlap, the Project's short-term overlapping emissions of VOC, NO_X, CO, PM_{10} and $PM_{2.5}$ would exceed the SCAQMD numerical thresholds for daily emissions, which also are considered unavoidable, significant direct and cumulatively considerable air quality impacts. In addition, the Project's VOC and NO_X emissions would cumulatively contribute to an existing air quality violation in the SCAB (i.e., NO_X and O_3 concentrations, which do not meet regional attainment status).

- Greenhouse Gas Emissions Threshold a): Significant and Unavoidable Cumulatively Considerable Impact. A majority of the Project's GHG emissions would be produced by mobile sources (i.e., construction equipment, trucks and cars). The application of Project design features, mandatory regulatory requirements, and mitigation measures would reduce Project-related GHG emissions; however, these measures would not substantially reduce Project-related mobile source (e.g., equipment and vehicle tailpipe) GHG emissions, which comprise 86.6 percent of the Project's total GHG emissions. Mobile source emissions are regulated by state and federal emissions and fuel use standards, and are outside of the control of the Project Applicant, future Project tenants, and the City of Moreno Valley.

- Land Use/Planning Threshold b): Significant and Unavoidable Cumulatively Considerable Impact. Although mitigation measures are presented in EIR Subsections 4.3 and 4.11 to reduce the Project's significant air quality impacts and significant traffic impacts to I-215, these impacts would not be reduced to below levels of significance. The Project's air emissions would cumulatively contribute to inconsistency with the SCAQMD's *2012 AQMP* and the SCAG's *RTP/SCS* Goal G6 related to regional air quality, and the Project's contribution of traffic to I-215 would cumulatively contribute to inconsistency with the Riverside County Congestion Management Plan (CMP).

- Transportation/Traffic Threshold a): Significant and Unavoidable Direct and Cumulatively Considerable Impact. The addition of Project-related traffic to the existing and planned circulation network would make a cumulatively considerable contribution to deficient operating conditions at two (2) intersections during Project construction and up to 16 intersections during Project operation that would operate at deficient LOS. The Project also would result in a direct impact to one (1) intersection during Project operation. The Project would mitigate its direct and cumulatively considerable impacts through payment of fees pursuant to the Moreno Valley DIF and TUMF and other fair share fee programs that may be established; however, because improvements to the affected facilities may not be in place before the Project becomes operational, and because several of the impacted intersections are not located in the City of Moreno Valley and the City cannot compel other agencies to make roadway segment and intersection improvements, this EIR recognizes the impacts as significant and unavoidable, until planned improvements are implemented.

- Traffic/Transportation Threshold b): Significant and Unavoidable Cumulatively Considerable Impact. The Project would contribute cumulatively considerable impacts to LOS deficiencies along the Riverside County CMP roadway network, including mainline segments of I-215, SR-60, and SR-91. In addition, the Project would have a cumulatively considerable impact to unacceptable LOS at the Harley Knox Boulevard/I-215 interchange and Cactus Avenue/I-215 interchange. Caltrans has not established a mitigation fee program for freeway mainline segments. The Harley Knox/I-215 interchange and the Cactus Avenue/I-215 interchange are scheduled for improvements funded by the TUMF program, but the interchanges are not scheduled to be improved before the proposed Project is expected to become operational. Because these facilities are under the jurisdiction of Caltrans, the City of Moreno Valley cannot assure that the improvements needed to relieve the LOS deficiencies will be in place before the Project begins to contribute traffic to the State Highway System.

5.2 Significant Irreversible Environmental Changes which would be caused by the Proposed Project Should it be Implemented

The CEQA Guidelines require EIRs to address any significant irreversible environmental changes that would be involved in the proposed action should it be implemented (CEQA Guidelines § 15126.2(c)). An environmental change would fall into this category if: a) the project would involve a large commitment of non-renewable resources; b) the primary and secondary impacts of the project would generally commit future generations to similar uses; c) the project involves uses in which irreversible damage could result from any potential environmental accidents; or d) the proposed consumption of resources are not justified (e.g., the project results in the wasteful use of energy).

Determining whether the proposed Project may result in significant irreversible environmental changes requires a determination of whether key non-renewable resources would be degraded or destroyed in such a way that there would be little possibility of restoring them. Natural resources, in the form of construction materials and energy resources, would be used in the construction of the proposed Project. The consumption of these natural resources would represent an irreversible change to the environment. However, development of the Project site as proposed would have no measurable adverse effect on the availability of such resources, including resources that may be non-renewable (e.g., fossil fuels). Additionally, the Project is required by law to comply with the California Building Standards Code (CALGreen), which will minimize the Project's demand for energy, including energy produced from non-renewable sources. A more detailed discussion of energy consumption is provided below in Subsection 5.4.

As demonstrated in the analysis presented throughout EIR Section 4.0, *Environmental Analysis*, implementation of the proposed Project would result in significant and unavoidable environmental effects under three environmental subject areas that cannot be feasibly reduced to below levels of significance. These are: 1) air quality; 2) land use and planning related to inconsistencies with the SCAG's RTP/SCS Goal G6 concerning regional air quality and with the Riverside County CMP related to traffic on I-215; and 3) traffic/transportation.

Although the Project would cause or contribute to significant unavoidable impacts associated with air quality, land use/planning, and transportation, these effects would not commit surrounding properties to land uses other than the uses currently planned for those properties by the City of Moreno Valley. As discussed in Section 2.0, *Environmental Setting,* the Project site is located within the geographical limits of the MVIAP, which covers approximately 1,500 acres in southern Moreno Valley which over the past decade has been transitioning into an important industrial and economic center for the City of Moreno Valley. The pace of industrial development in the MVIAP area was very slow until about 2007 when the warehouse distribution industry began to locate distribution warehouse facilities in the MVIAP area. Since that time, development has occurred swiftly, with more than 15 large warehouse buildings located in the MVIAP as of June 2016. To the west of the Project site and the MVIAP area is the March Air Reserve Base (MARB), that is designed for military and airport related uses. The Riverside County Airport Land Use Commission (ALUC) conducted a review of the proposed Project and found the Project compatible with the *March Air Reserve Base/Inland Port Land Use (March ARB/IPA) Compatibility Plan.* Therefore, use of the subject property with a logistics center is compatible in character with the surrounding development. Thus, the Project would not create any primary or secondary effects that would preclude the use of surrounding properties for their existing and intended industrial uses.

EIR Subsection 4.7, *Hazards and Hazardous Materials*, provides an analysis of the proposed Project's potential to transport or handle hazardous materials which, if released into the environment, could result in irreversible damage to the environment. As concluded in the analysis, compliance with federal, state, and local regulations related to hazardous materials would be required of all contractors working on the property during the Project's construction and of all users that occupy the Project's buildings. As such, construction and long-term operation of the proposed Project would not have the potential to cause significant irreversible damage to the environment, including damage that may result from upset or accident conditions.

As discussed under Subsection 5.4, the Project would not result in a wasteful consumption of energy. Accordingly, the Project would not result in a significant, irreversible change to the environment related to energy use.

5.3 Growth-Inducing Impacts of the Proposed Project

CEQA requires a discussion of the ways in which the proposed Project could be growth inducing. The CEQA Guidelines identify a project as growth inducing if it would foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment (CEQA Guidelines § 15126.2(d)). New employees and new residential populations 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.

Because users of the Project's building are not yet known, the number of jobs that the Project would generate cannot be precisely determined. According to economic and fiscal projections compiled by Andrew Chang & Co (Andrew Chang), the Project would create and sustain between 340 and 620 new direct and indirect jobs in the City of Moreno Valley (Andrew Chang, 2016, p. 22). It is expected that the majority of the new jobs would be filled by members of the existing labor force that would be available in the City of Moreno Valley and the surrounding local area, as the City – and Riverside County as a whole – has a shortage of jobs (Moreno Valley, 2014, p. 41; Riverside County, 2015, p. H-57).

A project could indirectly induce growth at the local level by increasing the demand for additional goods and services associated with an increase in population or employment and thus reducing or removing the barriers to growth. This typically occurs in suburban or rural environs where population growth results in increased demand for service and commodity markets responding to the new population of residents or employees. Economic growth would result from construction and operation of the proposed Project. In its first 10 years of operations, the Project is estimated to generate between $915 million and $1.1 billion in operations revenue; between approximately $8.0 million and $9.2 million in net revenue for the City of Moreno Valley (after accounting for City expenditures related to the Project); and between $238 million and $288 million in new household earnings (Andrew Chang, 2016, pp. 15-16, 18, 20, 24). However, because the Project is consistent with the existing City of Moreno Valley General Plan and the MVIAP, the intensity of projected economic growth would be consistent with economic growth anticipated by the General Plan EIR.

The Project's construction-related and operational-related employees would purchase goods and services in the region, but any secondary increase in employment associated with meeting these goods and services needs is expected to be marginal, accommodated by existing goods and service providers, and highly unlikely to result in any new physical impacts to the environment based on the amount of existing commercial and retail services available in the Project area. Therefore, while the Project would create economic opportunities caused by use of the property as a logistics center, it would not induce substantial – or unanticipated – new growth in the region.

In addition, the proposed Project is consistent with the *SCAG 2012-2035 RTP/SCS*'s chapter entitled "Goods Movement" that is applicable to the proposed Project. The *RTP/SCS* states that the SCAG region hosts one of the largest clusters of distribution warehouse logistics activity in North America (SCAG, 2012a, p. 65). Logistics activities, and the jobs that go with them, depend on a network of warehousing and distribution facilities, highway and rail connections, and intermodal rail yards. The "Goods Movement" Appendix of the *RTP/SCS* states that goods movement and freight transportation are essential to supporting the SCAG regional economy and quality of life (SCAG, 2013, p. 1) Thus, the proposed Project helps to fill a regional need for warehouse space and accommodates projected growth and the Southern California economy, rather than inducing growth.

Under CEQA, growth inducement is not considered necessarily detrimental, beneficial, or of little significance to the environment. Typically, growth-inducing potential of a project would be considered significant if it fosters growth or a concentration of population in excess of what is assumed in pertinent master plans, land use plans, or in projections made by regional planning agencies such as SCAG. Significant growth impacts also could occur if a project provides infrastructure or service capacity to accommodate 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.

The Project site is bordered by land on the northwest that is under construction as a warehouse distribution center (March Business Center) and a large warehouse building occupied by Proctor & Gamble abuts the Project site on the north (north of Krameria Avenue). The Project site is bordered on the south by partially developed Cardinal Avenue, a large warehouse building occupied by Amazon, and the Perris Valley Storm Drain Channel. Located farther south are a collection of warehouse distribution buildings (including but not limited to buildings currently occupied by Harbor Freight Tools and O'Reilly Auto Parts), undeveloped lands that are designated for future industrial development, and small parcels that contain small commercial, industrial, or manufacturing structures. To the west is a large warehouse building occupied by Lowe's, an industrial building occupied by Cardinal Glass Industries, and Heacock Street. West of Heacock Street is the MARB, which contains an airfield, active military uses, aviation-related uses, and areas designated for civilian development called the March Inland Port Airport (IPA). Immediately to the east of the Project site is Indian Street and east of Indian Street is land developed primarily with single-family residential land uses, with pockets of undeveloped land designated for future residential development. Thus, the Project site is nearly completely surrounded by developed property and property undergoing development. Implementation of the proposed Project would, thus, have no potential to directly promote growth on these adjacent and surrounding properties.

Furthermore, the proposed Project's improvements to the public infrastructure, including roads, drainage infrastructure, and other utility improvements are consistent with the City of Moreno Valley General Plan and the MVIAP and would not indirectly induce substantial population growth in the local area.

5.4 Energy Conservation

This Subsection is based in part on a technical report prepared by Urban Crossroads, Inc. titled, "Moreno Valley Logistics Center Energy Analysis, City of Moreno Valley, dated March 17, 2016 and appended to this EIR as *Technical Appendix K.*

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation (DOT), the United States Department of Energy (DOE), and the United States Environmental Protection Agency (EPA) are three federal agencies with substantial influence over energy policies and programs. On the state level, the Public Utilities Commission (PUC) and the California Energy Commissions (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 presented below each regulation.

5.4.1 Applicable Federal and State Policies and Requirements

A. Federal Regulations

1. Intermodal Surface Transportation Efficiency

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. (Urban Crossroads, Inc., 2016g, p. 17)

<u>Project Consistency:</u> Transportation and access to the Project site is provided primarily by the local and regional roadway systems. The Project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be realized pursuant to the ISTEA because SCAG is not planning for intermodal facilities on or through the Project site. (Urban Crossroads, Inc., 2016g, p. 17)

2. 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 wise 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. (Urban Crossroads, Inc., 2016g, p. 17)

Project Consistency: The Project site is located near major transportation corridors with proximate access to the interstate freeway system. The site selected for the Project facilitates access, acts to reduce vehicle miles traveled, takes advantage of existing infrastructure systems, and promotes land use compatibilities through collocation of similar uses. 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. (Urban Crossroads, Inc., 2016g, p. 17)

B. California Regulations

1. Integrated Energy Policy Report

Senate Bill 1389 (Bowen, Chapter 568, Statutes of 2002) requires the CEC to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing California's electricity, natural gas, and transportation fuel sectors and provides policy recommendations. The *2014 Integrated Energy Policy Report Update (2014 IEPR Update)*, focuses on next steps for transforming transportation energy use in California. The *2014 IEPR Update* addresses the role of transportation in meeting state climate, air quality, and energy goals; the Alternative and Renewable Fuel and Vehicle Technology Program; current and potential funding mechanisms to advance transportation policy; the status of statewide plug-in electric vehicle infrastructure; challenges and opportunities for electric vehicle infrastructure deployment; measuring success and defining metrics within the Alternative and Renewable Fuel and Vehicle Technology Program; market transformation benefits resulting from Alternative and Renewable Fuel and Vehicle Technology Program investments; the state of hydrogen, zero-emission vehicle, biofuels, and natural gas technologies over the next ten years; transportation linkages with natural gas infrastructure; evaluation of methane emissions from the natural gas system and implications for the transportation system; changing trends in California's sources of crude oil; the increasing use of crude-by-rail in California; the integration of environmental information in renewable energy planning processes; an update on electricity reliability planning for Southern California energy infrastructure; and an update to the electricity demand forecast. (Urban Crossroads, Inc., 2016g, pp. 18-19)

Project Consistency: 2014 IEPR Update is a State Policy report. An individual development project such as the proposed Project has no ability to comply with or conflict with this report.

2. 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. (Urban Crossroads, Inc., 2016g, p. 19)

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, acts to reduce vehicle miles traveled, takes advantage of existing infrastructure systems, and promotes land use compatibilities through the development of industrial uses on a site designated for industrial uses by the City of Moreno Valley General Plan and the MVIAP. The Project therefore supports urban design and planning processes identified under 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. (Urban Crossroads, Inc., 2016g, p. 19)

3. 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. California's building efficiency standards are updated on an approximately three-year cycle. The 2013 Standards for building construction, which went into effect on July 1, 2014, improved upon the former 2008 Standards for residential and nonresidential buildings. (Urban Crossroads, Inc., 2016g, pp. 19-20)

Project Consistency: The Project is required by State law to be designed, constructed, and operated to meet or exceed 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. (Urban Crossroads, Inc., 2016g, p. 20)

4. Pavley Fuel Efficiency Standards (AB 1493)

In California, AB 1493 establishes fuel efficiency ratings for model year 2009-2016 passenger cars and light trucks.

Project Consistency: AB 1493 is applicable to the Project because model year 2009-2016 passenger cars and light duty truck vehicles traveling to and from the Project site are required by law to comply with the legislation's fuel efficiency requirements. On this basis, the Project is determined to be consistent, with, and would not interfere with, nor otherwise obstruct implementation of AB 1493.

5. California Renewable Portfolio Standards (SB 1078)

SB 1078 requires electric corporations to increase the amount of energy obtained from eligible renewable energy resources to 20 percent by 2010 and 33 percent by 2020.

Project Consistency: Energy directly or indirectly supplied to the Project by electric corporations is required by law to comply with SB 1078.

5.4.2 Energy Consumption Analysis

In compliance with CEQA Guidelines Appendix F, below is an analysis of the proposed Project's anticipated energy use to determine if the Project would result in the wasteful, inefficient or unnecessary consumption of energy, or result in a substantial increase in demand or transmission service, resulting in the need for new or expanded sources of energy supply or new or expanded energy delivery systems or infrastructure.

In addition, CEQA Guidelines Appendix F states that the means of achieving the goal of energy conservation includes the following:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas and oil; and
- Increasing reliance on renewable energy sources.

A. Introduction

As discussed in EIR Section 3.0, *Project Description*, the Project includes an alternate site plan that would omit Building 2 and construct a 166-space truck trailer parking lot in its place. In the event that the alternate site plan is implemented, the truck trailer parking lot would be utilized as overflow parking for Building 1. In the event that the alternate site plan is implemented, no changes would occur to the intensity of use, size, location, configuration, or design of proposed Buildings 1, 3, or 4 and the total building area would be reduced. Accordingly, should the alternative site plan be implemented, energy consumption would not exceed the level of energy consumption analyzed for the proposed Project herein, which includes four buildings. As such, the analysis in *Technical Appendix K* and herein represents a "worst-case" energy consumption scenario.

B. Construction Equipment Electricity Usage Estimates

Based on the *2015 National Constructor Estimator*, the typical power cost per 1,000 s.f. of building construction per month is estimated to be $2.28. The Project plans to develop approximately 1,737,520 s.f. of building space over the course of 12 months. Based on these numbers, the total power cost of on-site electricity usage during the construction of the proposed Project is estimated to be approximately $47,538.55. As of February 2015, SCE's general service rate for an industrial land use is $.07 per kilowatt hours (kWh) of electricity. Accordingly, the total electricity usage from on-site Project construction-related activities is calculated by Urban Crossroads, Inc. to be approximately 679,122 kWh. (Urban Crossroads, Inc., 2016g, p. 21)

C. Energy and Fuel Use for Project Construction

The Project's construction process would consume electrical energy and fuel. Project construction would represent a "single-event" electric energy and fuel demand and would not require on-going or permanent commitment of energy or diesel fuel resources for this purpose. In summary, the Project's construction process is estimated to consume approximately 679,122 kWh of electricity and an estimated 334,992 gallons of diesel fuel (see detailed discussion below). (Urban Crossroads, Inc., 2016g, pp. 20-21)

Diesel fuel would be supplied by city and regional commercial vendors. Indirectly, construction energy efficiencies and energy conservation would be achieved through the use of bulk purchases, transport, and use of construction materials. The 2014 IEPR published by the CEC shows that fuel efficiencies are improving for on and off-road vehicle engines due to more stringent government requirements. This amount of energy and fuel use anticipated by the Project's construction activities are typical for the type of construction proposed because there are no aspects of the Project's proposed construction process that are unusual or energy-intensive, and Project construction equipment would conform to the applicable 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 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Applicable Mitigation Measures contained in EIR Section 4.3, *Air Quality* will inform construction equipment operators of this requirement. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints. As supported by the preceding discussions, Project construction energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

1. Construction Equipment Fuel Use

Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction. The aggregate fuel consumption rate for all equipment is estimated at 18.5 horsepower hours per gallon (hp-hr-gal.), obtained from CARB 2013 Emissions Factors Tables and cited fuel consumption rate factors presented in Table D-24 of the Moyer guidelines. For the purposes of the Energy Analysis (*Technical Appendix K*) and the analysis presented herein, the calculations are based on all construction equipment being diesel-powered which is standard practice consistent with industry standards. Diesel fuel would be supplied by existing commercial fuel providers serving Riverside County and the region. Project construction activities would consume an estimated 334,992 gallons of diesel fuel. Project construction would represent a "single-event" diesel fuel demand and would not require ongoing or permanent commitment of diesel fuel resources for this purpose. (Urban Crossroads, Inc., 2016g, p. 22)

2. Construction Worker Fuel Use

Urban Crossroads, Inc. applied a reasonable assumption in their Energy Analysis (*Technical Appendix K*) that all construction worker trips to and from the Project site would be in light duty autos (LDA) along area roadways. With respect to estimated vehicle miles traveled (VMT), the construction worker trips would generate an estimated 1,084,375 VMT based on a 14.7-mile average trip length and the number of construction days reported in EIR Section 3.0, *Project Description.*

As generated by EMFAC 2014, an aggregated fuel economy of LDAs ranging from model year 1974 to model year 2017 have a fuel efficiency of 26.27 miles per gallon (MPG). Urban Crossroads, Inc. calculated that 41,278 gallons of fuel would be consumed related to construction worker trips for the proposed Project. Project construction worker trips would represent a "single-event" gasoline fuel demand and would not require on-going or permanent commitment of fuel resources for this purpose. (Urban Crossroads, Inc., 2016g, p. 28) Refer to Table 4-4 of *Technical Appendix K* for the construction worker fuel consumption calculations.

3. Construction Vendor / Hauling Fuel Use

With respect to estimated VMT, the Project's construction vendor trips would generate an estimated 1,832,316 VMT along area roadways based on a 6.9-mile average trip length and the number of construction days reported in EIR Section 3.0, Project Description. In their analysis, Urban Crossroads, Inc. applied a reasonable assumption that all hauling trips for concrete pours and site slabs (modeled in CalEEMod through Concrete Shell phases and Paving phases, respectively) would be from heavy-heavy duty trucks (HHD), and assumed that 50% of all vendor trips would be from medium-heavy duty trucks (MHD) and the other 50% from heavy-heavy duty trucks (HHD). These assumptions are consistent with the 2013.2.2 CalEEMod defaults utilized within the Project's Air Quality Impact Analysis (*Technical Appendix B1*). Vehicle fuel efficiencies for MHD and HHD trucks were based on information generated within EMFAC 2014. For purposes of the Energy Analysis (*Technical Appendix K)* and herein, EMFAC 2014 was run for the MHD and HHD vehicle class within the California sub-area for a 2017 calendar year (consistent with the opening year of the Project). As generated by EMFAC 2014, an aggregated fuel economy of MHD trucks ranging from model year 1974 to model year 2017 are calculated to have a fuel efficiency of 8.13 MPG. Additionally, HHD trucks are estimated to have a fuel efficiency of 5.70 MPG. Data from EMFAC 2014 is shown in Appendix 3.2 of *Technical Appendix K*. (Urban Crossroads, Inc., 2016g, p. 32)

Fuel consumption from construction hauling and vendor trips (medium and heavy duty trucks) would total approximately 241,866 gallons. Project construction vendor trips would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose. (Urban Crossroads, Inc., 2016g, p. 32) Refer to Table 4-5 and 4-6 of *Technical Appendix K* for the construction vendor fuel consumption calculations.

D. *Energy Use for Project Operation*

1. 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. As summarized in Table 5-1, *Annual Vehicle Fuel Consumption for Project Operation*, Urban Crossroads, Inc. calculates that the Project would result in 49,651,053 annual VMT and an estimated annual fuel consumption of 4,896,551 gallons of fuel. (Urban Crossroads, Inc., 2016g, pp. 38-39)

Table 5-1 Annual Vehicle Fuel Consumption for Project Operation

Vehicle Type	Annual Miles Traveled	Estimated Annual Fuel Consumption (gallons)
Light Duty Autos	19,836,014	762,505
LHD Trucks	8,397,486	656,510
MHD Trucks	5,333,173	655,710
HHD Trucks	16,084,379	2,821,826
Total (All Vehicles)	**49,651,053**	**4,896,551**

Source: (Urban Crossroads, Inc., 2016g, Table 4-11)

Fuel would be provided by commercial vendors. Trip generation and VMT generated by the Project are consistent with other warehouse uses of similar scale and configuration, as reflected in the Institute of Transportation Engineers (ITE) Trip Generation Manual (9th Ed., 2012); and CalEEMod v2013.2.2. That is, the Project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips and VMT, nor associated excess and wasteful vehicle energy consumption. (Urban Crossroads, Inc., 2016g, p. 40)

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of LDVs and HDVs to alternative energy sources (e.g., electricity, natural gas, bio fuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. Location of the Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands. The Project also would implement sidewalks, that would facilitate and encourage pedestrian access and at the subsequently reduce VMT and associated energy consumption. As supported by the preceding discussions, Project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary. (Urban Crossroads, Inc., 2016g, pp. 40-41) Also, depending on the nature of the building occupants' operating characteristics, VMT may actually be reduced as a result of the Project site being located closer to origins and destinations for the building occupant's goods and services. For example, QVC reported in 2015 that its occupancy of a building in the Inland Empire, similarly sized to the Project's proposed Building 1, is projected to reduce the company's national trucking VMT by more than 10 million miles annually (PR Newswire, 2015).

2. Facility Energy Demands

Energy use in buildings is divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building such as in plug-in appliances. In California, the California Building Standards Code Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting. Non-building energy use or "plug-in" energy use can be further subdivided by specific end-use (refrigeration, cooking, appliances, etc.). (Urban Crossroads, Inc., 2016g, p. 39)

Project building operations and Project site maintenance activities would result in the consumption of natural gas and electricity. As part of the Project's design, all on-site outdoor cargo handling equipment (CHE) (including yard trucks, hostlers, yard goats, pallet jacks, forklifts, and other on-site equipment) would be powered by diesel-fueled engines that comply with the CARB/USEPA Tier IV Engine standards for off-road vehicles or better (defined as less than or equal to 0.015 g/bhp-hr. for PM_{10}) and all on-site indoor forklifts would be powered by electricity, compressed natural gas, or propane. (Urban Crossroads, Inc., 2016g, pp. 1-2) Natural gas would be supplied to the Project by The Gas Company and electricity would be supplied to the Project by Southern California Edison (SCE). Annual natural gas and electricity demands of the Project are summarized in Table 5-2, *Project Annual Operational Energy Demand Summary*. As shown on Table 5-2, Project facility operational energy demands are estimated at 22,828,640 kBTU/year of natural gas; and 15,535,696 kWh/year of electricity. (Urban Crossroads, Inc., 2016g, p. 39)

Table 5-2 Project Annual Operational Energy Demand Summary

Natural Gas Demand	kBTU/year
Parking Lot	0
Refrigerated Warehouse	8,923,800
Unrefrigerated Warehouse	2,108,660
General Light Industrial	11,796,180
Total Project Natural Gas Demand	**22,828,640**

Electricity Demand	kWh/year
Parking Lot	703,296
Refrigerated Warehouse	7,113,330
Unrefrigerated Warehouse	3,676,430
General Light Industrial	4,042,640
Total Project Electricity Demand	**15,535,696**

Note: Refrigerated Warehouse Natural Gas and Electricity Demand is based on the maximum estimate of 10% cold storage building use.
Source: (Urban Crossroads, Inc., 2016g, Table 4-12)

The Project proposes conventional warehouse and industrial uses 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 warehouse projects of similar scale and configuration. Based on the preceding, Project facilities energy demands and energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

E. Energy Consumption Summary

Project design features, mandatory compliance with CalGreen, and the implementation of the mitigation measures contained in the site-specific Air Quality Impact Analysis (*Technical Appendix B1*), Mobile Source Diesel Health Risk Assessment (*Technical Appendix B2*), and the Greenhouse Gas Analysis (*Technical Appendix E*), demonstrate evidence of the Project's efficient use of energy. The Project would provide for, and promote, energy efficiencies beyond those required under other applicable federal or State of California standards and regulations; therefore, the Project would meet or exceed all CalGreen regulations. Moreover, energy consumed by the Project is calculated by Urban Crossroads, Inc. to be comparable to, or less than, energy consumed by other individual warehouse and industrial uses of similar scale and intensity than are currently constructed and operating in California. On this basis, the Project would not result in the inefficient, wasteful, or unnecessary consumption of energy. Furthermore, the Project would not cause or result in the need for additional energy facilities or energy delivery systems. (Urban Crossroads, Inc., 2016g, p. 2) The Project's air quality impact analysis (*Technical Appendix B1*) establishes mitigation measures for the Project's construction activities that would reduce air pollutant air emissions generated by subsequent development proposals within the Project site. Although such mitigation measures could act to reduce energy consumption, there is insufficient data to support any reductions associated with the mitigation measures identified in EIR Section 4.3, *Air Quality*. Thus, as a conservative measure no reductions in energy consumption are taken for the construction-activity mitigation measures contained in EIR Section 4.3, *Air Quality*. (Urban Crossroads, Inc., 2016g, p. 2)

As supported by the preceding analyses, Project construction and operations would not result in the inefficient, wasteful or unnecessary consumption of energy. Further, the demand 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 transmission facilities. The Project would not engage in the wasteful or inefficient uses of energy and the Project aims to achieve energy conservation goals within the State of California. Thus, the Project would not have any long-term effects on an energy providers' future energy development or energy conservation strategies. (Urban Crossroads, Inc., 2016g, p. 41)

5.5 Effects Found not to be Significant as Part of the Initial Study Process

CEQA Guidelines § 15128 requires that an EIR:

> *"…contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR."*

An Initial Study was prepared for the proposed Project, which is included as *Technical Appendix A* to this EIR. Through the Initial Study process, the City of Moreno Valley determined that the proposed Project could potentially cause adverse effects, and an EIR is required. Six (6) environmental issues were found not to have the potential to cause significant adverse effects: Geology and Soils, Mineral Resources, Population and Housing, Public Services, Recreation, and Utilities and Service Systems. Therefore, these issue areas are not required to be discussed in Section 4.0, *Environmental Analysis*, of this EIR. A brief summary of issues found not to be significant is presented below, with a more detailed analysis provided in the Project's Initial Study contained in *Technical Appendix A*.

5.5.1 Geology and Soils

No known earthquake faults are located on the Project site (United States Geological Survey 2010, California Department of Conservation 2010), and the nearest mapped fault is located approximately 10.0 miles east of the Project site as mapped on City Moreno Valley General Plan FEIR Figure 5.6-2, *Seismic Hazards*. Because there are no faults located on the Project site, there is no potential that the proposed Project could expose people or structures to substantial adverse effects, including the risk of loss, injury or death involving ground rupture. Thus, no impact would occur.

The Project site is located in a seismically active area of southern California and is expected to experience moderate to severe ground shaking during the lifetime of the proposed Project. As a mandatory condition of Project approval, the Project would be required to construct the proposed buildings in accordance with the California Building Standards Code (CBSC), also known as California Code of Regulations (CCR), Title 24 (Part 2), and the City of Moreno Valley Building Code, which is based on the CBSC with local amendments. In addition, the Project would comply with the site-specific ground preparation and construction recommendations contained in the Project's geotechnical investigation report (*Technical Appendix L*). Thus, with mandatory compliance with these standard and site-specific design and construction measures, potential impacts related to seismic ground shaking would be less than significant. As such, the Project would not expose people or structures to substantial adverse effects, including loss, injury or death, involving seismic ground shaking. Thus, impacts would be less-than-significant.

According to General Plan FEIR Figure 5.6-2 *Seismic Hazards*, the Project site is not located in an area with the potential for liquefaction. Also, according to Riverside County Land Information System (RCLIS), the property is located within a zone of low liquefaction susceptibility. Additionally, the geotechnical investigation prepared for the property concludes that based on observed subsurface conditions, liquefaction is not considered a design concern for the proposed

Project (SoCalGeo, 2015, p. 11). As a condition of Project approval, the Project site would be developed in accordance with the latest applicable seismic safety guidelines, including the standard requirements of the CBSC and the City of Moreno Valley Building Code. Furthermore, the Project would be required to comply with the site-specific grading and construction recommendations contained within the Project's geotechnical investigation (*Technical Appendix L*), which the City would impose as conditions of Project approval, to further reduce the risk of seismic-related ground failure due to liquefaction. Thus, the Project's impacts to expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving seismic-related ground failure, including liquefaction, would be less than significant.

The Project site is relatively flat with an elevation range from 1,497 above mean sea level (AMSL) at its northern boundary and 1,468 AMSL at the property's lowest point at the southeast corner of the property. Also, there are no hillside or steep slopes on or in the immediate vicinity of the Project site. Accordingly, the Project site is located in an area with a low potential for landslides. When grading is complete, the Project site would have a slight, northwest-to-southeast slope; the highest point of the site would be approximately 1,493 AMSL at the northwest corner of the site and would slope downward to an elevation of approximately 1,476 AMSL in the southeast portion of the Project site. Proposed grading would not create manufactured slopes except around the proposed water/quality detention basins in the eastern portion of the site, where proposed slopes would measure up to five feet in height with a maximum incline of 4:1. Thus, development of the proposed Project would not expose people or structures to potential substantial adverse effects from landslides and a less than significant impact would occur.

Development of the Project site as proposed by the Project would disturb the site during grading and construction and expose the underlying soils, which would temporarily increase erosion susceptibility. Based on the granular content of the existing on-site soils, some of the on-site soils may be susceptible to erosion during construction (SoCalGeo, 2015, p. 16). In the long-term, development of the subject property would increase the extent of impervious surface cover and landscaping on the Project site, thereby reducing the potential for erosion and the loss of topsoil. The Project would be required to adhere to standard regulatory requirements, including, but not limited to, requirements imposed by the City of Moreno Valley's NPDES Municipal Stormwater Permit (State Water Resources Control Board Order No. 99-08-DWQ) and a Project-specific Water Quality Management Plan (WQMP) that includes Best Management Practices (BMPs) to minimize water pollutants including sedimentation in stormwater runoff. With mandatory compliance with the City of Moreno Valley's NPDES Municipal Stormwater Permit and the Project's WQMP contained as *Technical Appendix G2* of this EIR, the Project's potential to result in substantial soil erosion or the loss of topsoil would be less than significant.

Under existing conditions, the alluvial soils that underlie the subject property generally consist of very stiff to hard sandy clays, clayey silts and silty clays as well as medium dense to very dense sands, silty sands and clayey sands extending to 30± feet (SoCalGeo, 2015, p. 6). The native alluvial soils at depths of 2 to 4 feet possess generally lower strengths and higher collapse potential than the native alluvial soils at greater depths. The near surface clayey soils also are dry and possess a moderate potential for swelling and soil heave when exposed to cyclical wetting and drying (SoCalGeo, 2015, pp. 11-12). However, the Project's geotechnical investigation report (*Technical Appendix L*) indicates that the site's shrinkage/swelling, subsidence and settlement potential would be fully attenuated through the proposed removal of near surface soils down to competent materials and replacement with properly compacted fill, which is included as a recommendation in the Project's geotechnical report (*Technical Appendix L*) (SoCalGeo, 2015, pp. 10-24). Through standard conditions of approval, the proposed Project would be required by the City to incorporate the recommendations contained within the Project geotechnical report into the grading plan for the Project. As such, implementation of the Project would result in less-than-significant impacts associated with soil shrinkage/subsidence and collapse. Therefore, as discussed above, development of the subject property would result in a less-than-significant impact involving unstable geologic conditions including ground failure and subsidence.

Regarding the potential for soil expansion, because the near surface soils on the property generally consist of sandy clays, silty clays, and clayey sands, Southern California Geotechnical concluded that the near surface on-site soils a possess a low-to-medium expansion potential (Expansion Index ranging from 0 to 66) (SoCalGeo, 2015, p. 9). The Project's geotechnical investigation (*Technical Appendix L*) indicates that any potential expansive soils on the subject property would be attenuated through soil moisture conditioning during grading activities, which is included as a recommendation in *Technical Appendix L* (SoCalGeo, 2015, p. 16). Through standard conditions of approval, the proposed Project would be required by the City to incorporate the recommendations contained within the Projects geotechnical investigation into the grading plan for the Project. As such, implementation of the Project would result in less-than-significant impacts associated with expansive soils and would not create substantial risks to life or property

Wastewater service is available to the Project area under existing conditions via an existing sewer line in Heacock Street and an existing sewer line along the eastern edge of the Perris Valley Storm Drain Channel. The proposed Project would not install septic tanks or alternative wastewater disposal systems on the Project site. Accordingly, no impact related to alternative wastewater systems would occur.

5.5.2 Mineral Resources

The proposed Project is not located within and area known to be underlain by regionally-or locally important mineral resources or within an area that has the potential to be underlain by regionally or locally important mineral resources, as disclosed by the City of Moreno Valley General Plan. Accordingly, implementation of the proposed Project would not result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the State of California. Accordingly, impacts to the environmental issue of Mineral Resources would not occur.

5.5.3 Population and Housing

Under existing conditions, the subject property is vacant, undeveloped land that does not contain any residential structures. Therefore, the proposed Project would not displace substantial numbers of existing housing and would not necessitate the construction of replacement housing elsewhere.

The proposed Project would develop the subject property with a logistics center with four buildings in accordance with the "Business Park/Light Industrial" land use designation applied to the property by the City of Moreno Valley General Plan and the "Industrial" zoning designation applied to the subject property by the MVIAP. Although increased employment opportunities would occur as a result of implementation of the Project, the availability of jobs would not induce substantial population growth beyond what is planned as part of the City's General Plan buildout. Accordingly, the Project would not result in growth that was not already anticipated by the City of Moreno Valley General Plan and evaluated in the City of Moreno Valley General Plan FEIR.

The Project site is served by existing roadways and utility infrastructure is already installed beneath public rights-of-way that abut the subject property; therefore, the Project would not induce growth as a result of utility extensions. The Project's improvements to public infrastructure, including roads, drainage infrastructure, and other utility improvements are consistent with the City of Moreno Valley General Plan and the MVIAP. For these reasons, implementation of the proposed Project would not result in direct or indirect growth in the area.

Therefore, for the reasons stated above, the proposed Project would result in less-than-significant impact to Population and Housing.

5.5.4 Public Services

A. Fire Protection Services

Fire protection services to the Project site are provided by the Moreno Valley Fire Department (MVFD). The proposed Project is required to provide a minimum of fire safety and support fire suppression activities, including type of building construction, fire sprinklers, a fire hydrant system and paved access. College Park Fire Station (Station No. 91) is located at 16110 Lasselle Street, approximately 1.5 roadway miles to the northeast of the Project site. Secondary service is provided by the Kennedy Park Fire Station (Station No. 65) located at 15111 Indian Avenue, approximately 1.8 roadway miles to the northwest of the Project site. The Project site would be adequately serviced by these stations. To supplement their existing fire stations, the MVFD plans to construct a fire station within the MVIAP to provide primary service to all properties within the MVIAP and immediately adjacent areas. The MVFD has already acquired a property for the future fire station within the MVIAP area, on San Michele Road, between Perris Boulevard and Indian Avenue. Construction of the new fire station is dependent on funding collected by the City through the City of Moreno Valley's Development Impact Fee (DIF) Ordinance (Ordinance No. 695). This new fire station is already planned and the Project would not cause the need for the new station. Based on the Project site's proximity to existing fire stations and a new station that is already planned, the proposed Project would be adequately served by existing or planned fire protection services, and no new or expanded unplanned facilities would be required. The proposed Project is required to comply with the provisions of the City of Moreno Valley's DIF, which requires a fee payment that the City applies to the funding of public facilities, including fire protection facilities. Mandatory compliance with the DIF would be required prior to the issuance of a building permit.

Based on the foregoing, the proposed Project would receive adequate fire protection service and would not result in the need for new or physically altered fire protection facilities. As a condition of Project approval, the Project would be required to provide a minimum of fire safety and support fire suppression activities, including type of building construction, fire sprinklers, a fire hydrant system, and paved access to the subject property which would minimize the risk of fire on the subject property and maximize the MVFD's ability to provide fire protection services to the Project. Thus, impacts to fire protection facilities would be less than significant.

B. Police Protection Services

The development of the subject property with a logistics center would introduce new building structures and employees to the Project site which would result in an incremental increase in demand for police protection services, but which is not anticipated to require or result in the construction of new or physically altered police facilities. Prior to the issuance of building permits, the Project Applicant would be required to comply with the provisions of the City of Moreno DIF, which requires a fee payment that the City applies to the funding of public facilities, including police protection facilities. Mandatory compliance with the DIF would be required prior to the issuance of a building permit. Based on the foregoing, the proposed Project would receive adequate police protection service, and would not result in the need for new or physically altered fire protection facilities. Therefore, impacts to police protection facilities would therefore be less than significant.

C. Schools

Development of the Project site as proposed by the Project would not create a direct demand for public school services, as the subject property would contain non-residential uses that would not generate any school-aged children requiring public education. The addition of employment-generating uses on the Project site would assist the City in achieving its goal to provide a better jobs/housing balance within the City and the larger western Riverside County region. The proposed Project is not expected to draw a substantial number of new residents to the region and would therefore not indirectly generate school-aged students requiring public education. Because the proposed Project would not directly generate students and is not expected to indirectly draw students to the area, the proposed Project would not cause or contribute to a need to construct new or physically altered public school facilities. Although the Project would not create a demand for additional public school services, the Project Applicant would be required to contribute development impact fees to the Val Verde Unified School District in compliance with California Senate Bill 50 (Greene). Mandatory payment of school fees would be required prior to the issuance of building permits. Therefore, impacts to public schools would be less than significant.

D. Parks

As discussed below in Subsection 5.5.5, the proposed Project would not create a demand for public park facilities and would not result in the need to modify existing park facilities or construct new park facilities. Accordingly, implementation of the proposed Project would not adversely affect any park facility. Thus, no impact would occur.

E. Other Public Facilities

The proposed Project is not expected to result in a demand for other public facilities/services, including libraries, community recreation centers, post offices, and animal shelters. As such, implementation of the proposed Project would not adversely affect other public facilities or require the construction of new or modified public facilities. Thus, no impact would occur.

5.5.5 Recreation

The Project proposes to develop the subject property with a logistics center containing four buildings and does not propose any type of residential use or other land use that may generate a population that would increase the use of existing neighborhood or regional parks or other recreational facilities. Accordingly, implementation of the proposed Project would not result in the increased use or substantial physical deterioration of an existing neighborhood or regional park. In addition, the Project does not propose to construct any new on- or off-site recreation facilities. Therefore, adverse environmental impacts related to the construction or expansion of recreational facilities would not occur with implementation of the Project. Accordingly, no impacts would occur to the environmental issue of Recreation as a result of implementation of the Project.

5.5.6 Utilities and Service Systems

Wastewater service is provided to the Project site by Eastern Municipal Water District (EMWD). EMWD is required to operate all of its treatment facilities in accordance with the waste treatment and discharge standards and requirements set forth by the Regional Water Quality Control Board (RWQCB). The proposed Project would not install or utilize septic systems or alternative wastewater treatment systems; therefore, the Project would have no potential to exceed applicable wastewater treatment requirements established by the RWQCB.

Domestic water and wastewater services are provided to the Project site by EMWD. The proposed Project would install connections to water and wastewater conveyance lines that exist beneath abutting public roadways. With the exception of new on-site water and sewer service lines, the Project would not create the need for any new or expanded water or wastewater facility (such as treatment facilities, storage tanks, pump stations or trunk sewers). The construction of on-site water and sewer lines would result in physical impacts to the surface and subsurface of the Project site, with small encroachments into adjacent public rights-of-way of developed/paved streets to connect to existing lines; however, these impacts are inherent to the Project's construction phase and are evaluated throughout this EIR accordingly. In instances where significant impacts have been identified for the Project's construction phase, mitigation measures are recommended for each applicable Subsection of this EIR, as feasible.

The Project would involve the construction of on- and off-site stormwater drainage facilities, including water quality/detention basins, storm drain pipes, and storm drain outlet structures. The construction of stormwater drainage facilities proposed by the Project would result in physical impacts to the surface and subsurface of the Project site, as well as physical impacts within the Krameria Avenue/Indian Street intersection (to accommodate a proposed storm drain line segment), a portion of Indian Avenue (to accommodate a proposed storm drain line segment), and within the Perris Valley Storm Drain Channel (to accommodate five proposed storm drain outlets). These impacts are considered to be part of the Project's construction phase and are evaluated throughout this EIR accordingly. In instances where potentially significant impacts may occur during the Project's construction phase, such potential impacts are identified under the appropriate issue area in this EIR. The construction of storm drain infrastructure on- and off-site as necessary to serve the proposed Project would not result in any potentially significant physical effects on the environment that are not already identified and disclosed as part of this EIR.

The proposed Project would result in an increase in potable water demand from the local water purveyor, EMWD. However, the proposed Project is fully consistent with the assumptions made in EMWD's *2010 Urban Water Management Plan*. EMWD's *2010 Urban Water Management Plan* concludes that the EMWD has sufficient water supplies available to serve planned land uses within its service area through at least 2035. EMWD projections for future water demand are based on population projections of the SCAG, which rely on the adopted land use designations contained within the general plans that cover the geographic area of EMWD's service area. The proposed Project is consistent with the "Business Park/Light Industrial (BP)" land use designation applied to the subject property by the City of Moreno Valley General Plan. As such, development of the Project site with industrial uses such as those proposed by the Project was assumed by EMWD in its projections of future water supply and demand. Furthermore, EMWD prepared a water supply assessment for the proposed Project that assesses the ultimate effect of the Project's water demands and service needs. The Project's water supply assessment (*Technical Appendix J*) was prepared in accordance with Senate Bill 610 (SB 610) and Senate Bill 221 (SB 221). As documented in the Project's water supply assessment (*Technical Appendix J)*, EMWD calculated that the Project would generate a water demand of 55 acre feet a year (AFY). Based on review of existing and anticipated future water supplies and demands, EMWD determined that adequate water supplies are available to service proposed development (see *Technical Appendix J*). Accordingly, sufficient water supplies are available to service the Project and implementation of the Project would not require any new or expanded water entitlements. Accordingly, the Project's effect to EMWD's water network would be less than significant.

Wastewater flows generated by the Project would be conveyed to the Perris Valley Regional Water Reclamation Facility, which is owned and operated by EMWD. In April 2014, an expansion project was completed on the Perris Valley Regional Water Reclamation Facility to expand its daily treatment capacity from 14 million gallons per day to 22 million gallons per day to provide sufficient treatment for anticipated regional growth. The facility receives approximately 14 million gallons of wastewater flows per day and, therefore, has an excess treatment capacity of approximately eight million gallons per day. The Project is anticipated to generate approximately 67,809 gallons of wastewater per day, based on EMWD's wastewater generation factor of 1,700 gallons per day per acre of light industrial building area. This corresponds to approximately eight-tenths of one percent (0.8%) of the existing treatment capacity at the Perris Valley Regional Water Reclamation Facility. Due to the relatively small amount of wastewater that would be generated by the proposed Project and the amount of existing and planned available capacity at this facility, it is determined that the Perris Valley Regional Water Reclamation Facility would have sufficient capacity to treat wastewater generated by the Project. As such, impacts would be less than significant.

Implementation of the proposed Project would generate solid waste requiring off-site disposal during short-term construction and long-term operation. Waste generated by the construction process would primarily consist of discarded materials and packaging. Based on the Project's building square footage of 1,736,180 and the US EPA's construction waste generation factor of 4.34 pounds per square foot, approximately 4,000 tons of waste would be generated during the entire estimated 14-month construction process which amounts to approximately 10 tons per day (USEPA, 2009).

Non-recyclable construction waste generated by the Project would be disposed at the Badlands Sanitary Landfill, the El Sobrante Landfill, and/or the Lamb Canyon Landfill. The Badlands Landfill has a permitted disposal capacity of 4,000 tons per day and is estimated to reach capacity, at the earliest time, in the year 2024; however, future landfill expansion opportunities exist at this site (CalRecycle, 2015). During the 1st Quarter of 2015, which is the most recent time period for which reporting data is available, the Badlands Landfill accepted approximately 218,685.05 tons of waste (Riverside County Department of Waste Resources, 2015). The Lamb Canyon Landfill has a permitted disposal capacity of 5,000 tons per day and is estimated to reach capacity, at the earliest, in the year 2021; however, future landfill expansion opportunities exist at this site (CalRecycle, 2015). During the 1st Quarter of 2015, which is the most recent time period for which reporting data is available, the Lamb Canyon Landfill accepted approximately 153,524.67 tons of waste (Riverside County Department of Waste Resources, 2015). The El Sobrante Landfill has a permitted disposal capacity of 16,054.00 tons per day and is estimated to reach capacity, at the earliest time, in the year 2045; however, future landfill expansion opportunities exist at this site (CalRecycle, 2015). During the 1st Quarter of 2015, which is the most recent time period for which reporting data is available, the El Sobrante Landfill accepted approximately 553,854.16 tons of waste (Riverside County Department of Waste Resources, 2015).

These landfills all receive well below their maximum permitted daily disposal volume; thus, construction waste generated by the Project is not anticipated to cause these landfills to exceed their maximum permitted daily disposal volume. Furthermore, none of these regional landfill facilities are expected to reach their total maximum permitted disposal capacities during the Project's construction period. The Badlands Sanitary Landfill, the El Sobrante Landfill, and the Lamb Canyon Landfill would have sufficient daily capacity to accept solid waste generated by the Project's construction phase; therefore, impacts to landfill capacity associated with the Project's near-term construction activities would be less than significant.

Based on a daily waste generation factor of 1.42 pounds of waste per 100 square feet of building area obtained from CalRecycle, long-term, on-going operation of the proposed 1,736,180 s.f. logistics center would generate approximately 12 tons of waste per day. At least 50% is required to be recycled pursuant to State law. Solid waste generated by the proposed Project would be disposed at the El Sobrante Landfill, the Badlands Sanitary Landfill, and/or the Lamb Canyon Sanitary Landfill. Each of these landfills receive well below their maximum permitted daily disposal volume and each have the potential for future expansion, and none of these regional landfill facilities are expected to reach their total maximum permitted disposal capacities during the Project's construction or operational periods. The landfills have sufficient capacity to accept solid waste generated by the Project's construction and operational phases; therefore, impacts would be less than significant.

The Project would be required to comply with the City of Moreno Valley's waste reduction programs, including recycling and other diversion programs to divert the amount of solid waste deposited in landfills. As such, the Project's building tenants would be required to work with future refuse haulers to develop and implement feasible waste reduction programs, including source reduction, recycling, and composting. Additionally, in accordance with the California Solid Waste Reuse and Recycling Act of 1991 (Cal Pub Res. Code § 42911), the proposed Project would provide adequate areas for collecting and loading recyclable materials where solid waste is collected. The collection areas are required to be shown on construction drawings and be in place before occupancy permits are issued. The implementation of these programs would reduce the amount of solid waste generated by the proposed Project and diverted to landfills, which in turn will aid in the extension of the life of affected disposal sites. The Project would comply with all applicable solid waste statutes and regulations; as such, impacts would be less than significant.

6.0 ALTERNATIVES TO THE PROPOSED PROJECT

CEQA Guidelines § 15126.6(a) describes the scope of analysis that is required when evaluating alternatives to proposed projects, as follows:

> *"An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selection of a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason."*

As discussed in Section 4.0, *Environmental Analysis*, the proposed Project would result in significant adverse environmental effects that cannot be mitigated to below levels of significance after the implementation of Project design features, mandatory regulatory requirements, and feasible mitigation measures. The unavoidable significant impacts are:

- <u>Air Quality Threshold a): Significant and Unavoidable Cumulatively Considerable Impact.</u> Because air emissions from Project construction and operation would exceed the SCAQMD's daily significance thresholds for criteria air pollutants after the implementation of feasible mitigation measures, the Project would not fully mitigate its cumulatively considerable potential to obstruct the SCAQMD's ability to attain the air quality goals presented in the 2012 AQMP.

- <u>Air Quality Thresholds b) and c): Significant and Unavoidable Direct and Cumulatively Considerable Impacts.</u> After the application of Project design features, mandatory regulatory requirements, and feasible mitigation measures, short-term construction-related NO_X emissions and long-term operational-related VOC and NO_X emissions would exceed the SCAQMD numerical thresholds for daily emissions. Further, in the event that short-term construction activities and long-term operational activities overlap, the Project's emissions of VOC, NO_X, CO, PM_{10} and $PM_{2.5}$ would exceed the SCAQMD numerical thresholds for daily emissions during the overlapping time period. In addition, the Project's VOC and NO_X emissions would contribute to an existing air quality violation in the SCAB (i.e., NO_X and O_3 concentrations, which do not meet regional attainment status).

- <u>Greenhouse Gas Emissions Threshold a): Significant and Unavoidable Cumulatively Considerable Impact.</u> The Project is estimated to generate approximately 42,404.68 MTCO2e annually, which would exceed the SCAQMD screening threshold of 10,000 MTCO2e. As such, the Project would generate substantial, cumulatively considerable GHG emissions that may have a significant impact on the environment. The application of Project design features, mandatory regulatory requirements, and mitigation measures would reduce Project-related GHG emissions; however, these measures would not substantially reduce Project-related mobile source emissions (i.e., construction equipment, passenger cars and trucks), which comprise approximately 86.6 percent of the Project's total GHG emissions. Mobile source emissions are regulated by State and federal emissions and fuel use standards, and are outside of the control of the Project Applicant, future Project occupants, and the City of Moreno Valley.

- Land Use/ Planning Threshold b): Significant and Unavoidable Cumulatively Considerable Impact. The Project would conflict with provisions of the SCAQMD's AQMP, SCAG's *RTP/SCS*, and the Riverside County Congestion Management Plan (CMP). Although mitigation measures are presented in EIR Subsections 4.3 and 4.11 to reduce the Project's air quality impacts as well as the Project's impacts to CMP circulation facilities, the required mitigation would not reduce the Project's impacts to below a level of significance or eliminate the Project's inconsistencies with the AQMP, *RTP/SCS*, and Riverside County CMP.

- Transportation/Traffic Threshold a): Significant and Unavoidable Direct and Cumulatively Considerable Impact. The Project would be directly responsible for LOS deficiencies at Project study area intersections and roadway segments under short-term construction and Existing plus Project traffic conditions (without and with the Indian Street Bridge). In addition, the Project would contribute to LOS deficiencies at numerous Project study area intersections and roadway segments under short-term construction, Existing plus Project, Opening Year (2020) and General Plan Buildout (Post-2035) traffic conditions. A number of the affected intersections and roadways segments are located outside of the City of Moreno Valley and/or require improvements beyond those planned by existing transportation mitigation fee programs. Because there is no guarantee that improvements located outside of the City of Moreno Valley or improvements beyond the scope of existing mitigation fee programs will be in place at the time the Project contributes traffic to the affected facilities, this EIR recognizes the impacts as significant and unavoidable.

- Transportation/Traffic Threshold b): Significant and Unavoidable Cumulatively Considerable Impact. The Project would contribute cumulatively considerable traffic volumes at numerous intersections and freeway facilities, including I-215 and SR-91, included within the Riverside County CMP roadway networks under Opening Year (2020) and General Plan Buildout (Post-2035) traffic conditions. All freeway facilities are under the jurisdiction of Caltrans. As such, the City of Moreno Valley cannot assure the construction of improvements to freeway facilities that may be needed to improve traffic flow. Furthermore, Caltrans does not have any funding mechanism in place to allow development projects to contribute a fair-share payment to contribute to future improvements and off-set cumulatively considerable traffic impacts. Thus, there is no assurance that needed freeway improvements will be in place prior to the time that the Project begins to contribute traffic to the facilities. In addition, the Project's cumulatively considerable impacts to the Harley Knox/I-215 and the

Cactus Avenue/I-215 interchanges would be unavoidable because although these intersections are programmed to be improved via the TUMF program, the improvements are not expected to be in place before the Project becomes operational.

6.1 Alternatives under Consideration

CEQA Guidelines § 15126.6(e) requires that an EIR include an alternative that describes what would reasonably be expected to occur on the property in the foreseeable future if the Project were not approved, based on current plans and consistent with available infrastructure and community services (i.e., "no project" alternative). For development projects that include a revision to an existing land use plan, the "no project" alternative is considered to be the continuation of the existing land use plan into the future. For projects other than a land use plan (for example, a development project on an identifiable property), the "no project" alternative is considered to be a circumstance under which the project does not proceed (CEQA Guidelines § 15126(e)(3)(A-B). For the alternatives analysis herein, the scenario where the Project does not proceed is considered to be the "No Development Alternative," while the scenario where the existing land use plan is continued into the future is considered to be the "No Project Alternative." The following scenarios are identified by the City of Moreno Valley as potential alternatives to implementation of the proposed Project.

6.1.1 No Development Alternative

The No Development Alternative considers no development/disturbance on the Project site beyond that which occurs under existing conditions. As such, the entire 89.4-acre site would remain vacant and undeveloped. Under this Alternative, no improvements would be made to the Project site and none of the Project's on- or off-site utility and infrastructure improvements would occur. This Alternative was selected by the Lead Agency to compare the environmental effects of the proposed Project with an alternative that would leave the property in its existing condition.

6.1.2 No Project Alternative

The Project implements the land uses envisioned by the City of Moreno Valley General Plan and the MVIAP, with a proposed amendment to the MVIAP to reduce a setback requirement between industrial and residential land uses. The MVIAP requires a minimum 300-foot-wide setback between industrial and residential land uses. The Project Applicant proposes to amend the setback requirement as it pertains to the eastern boundary of the Project site from a minimum width of 300 feet to a minimum width of 100 feet and to add a requirement to install a minimum 50-foot-wide contiguous enhanced landscaping zone within the proposed 100-foot setback area. The No Project Alternative considers implementation of the MVIAP on the property with no amendment to the setback requirement between industrial and residential. Under this Alternative, the property would be developed with the same building square footage as proposed by the Project, with a setback of 300 feet along Indian Street. The 300-foot setback area would be planted with landscape materials, mostly ground covers. A screen wall, with trees and shrubs planted adjacent to the wall's exterior face, would be provided at the interface between the 300-foot setback and the truck yard on the eastern portion of the Building 1 site.

6.1.3 Reduced Project Alternative

The Reduced Project Alternative was selected by the Lead Agency to evaluate the comparative environmental benefits of constructing a project with less building square footage. Under this Alternative, the Project's building area would be reduced by 326,385 s.f., which is an approximately 19 percent reduction in building area compared to the proposed Project. Under this Alternative, 1,409,795 s.f. of building space would be provided in three (3) buildings, as compared to the Project's proposal to provide four (4) buildings with a combined total of 1,736,180 s.f. of floor space. The analysis for this Alternative assumes 1,153,550 s.f. of high cube warehouse space in one (1) building and 256,245 s.f. of light industrial space in two (2) buildings.

6.1.4 One Building Alternative

The One Building Alternative was selected by the Lead Agency to evaluate limited development on the Project site that would reduce and/or avoid all of the Project's significant and unavoidable environmental effects (air quality, greenhouse gas emissions, land use/planning, and traffic/transportation). Under this Alternative, one (1) 400,000 s.f. high cube warehouse building would be constructed on the Project site northeast of the Perris Valley Storm Drain Channel. The remainder of the site would remain vacant. Under this Alternative, the Project's building area would be reduced by 1,336,180 s.f. which is an approximately 77 percent reduction in building area compared to the proposed Project.

6.2 Alternatives Considered and Rejected

An EIR is required to identify any alternatives that were considered by the Lead Agency but were rejected as infeasible. Among the factors described by CEQA Guidelines § 15126.6 in determining whether to exclude alternatives from detailed consideration in the EIR are: a) failure to meet most of the basic project objectives, b) infeasibility, or c) inability to avoid significant environmental impacts. With respect to the feasibility of potential alternatives to the proposed Project, CEQA Guidelines § 15126.6(f) (1) notes:

> *"Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries…and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site…"*

In determining an appropriate range of alternatives to be evaluated in this EIR, two possible alternatives were initially considered and, for a variety of reasons, rejected. Alternatives were rejected because either: 1) they could not accomplish the basic objectives of the Project, 2) they would not have resulted in a reduction of significant adverse environmental impacts, or 3) they were considered infeasible to construct or operate.

A summary of the alternatives that were considered but rejected from further evaluation are described on the following pages.

6.2.1 Truck Trailer Parking Alternative

An alternative that considered using the entire Project site for truck trailer parking and storage was considered by the City of Moreno Valley but rejected from further consideration because such an alternative would not meet the Project's objectives. A truck trailer parking alternative would not result in the development of a Class A logistics center, would not maximize the buildout potential of a vacant or underutilized property in the MVIAP area that has access to available infrastructure, and would not attract new employment-generating businesses to the MVIAP area thereby providing a more equal jobs-housing balance both in the City of Moreno Valley and in the Riverside County/Inland Empire area. In addition, a truck trailer storage yard would be less economically feasible to construct and operate and bring fewer if any direct and indirect economic benefits to the City and surrounding area.

6.2.2 Alternative Sites

CEQA does not require that an EIR always include an analysis of alternative sites. However, if the surrounding circumstances make it reasonable to consider an alternative site then this alternative should be considered and analyzed in the EIR. In making the decision to include or exclude analysis of an alternative site, the "*key question and first step in analysis 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 to be considered for inclusion in the EIR*" (CEQA Guidelines § 15126.6(f)(2)).

Under existing conditions, the approximately 89.4-acre Project site is vacant and undeveloped. The entire property is disturbed, either by past agricultural activities or by on-going weed abatement (i.e., discing). The Project site does not contain any ornamental landscaping and the vegetation that exists on the property is characterized by ruderal plants and weeds. No buildings, man-made structures/facilities, or other discernable man-made features are present on the Project site, with the exception of overhead utility lines located along the eastern property boundary adjacent to Indian Street and the Perris Valley Storm Drain Channel that bisects the property in a northwest to southeast direction.

Additionally, the Project site is located within the geographical limits of the MVIAP, which over the past decade has been transitioning into an important industrial and economic center for the City of Moreno Valley. Surrounding land uses include the following:

- North. The Project site is bordered by land on the northwest that is under construction as a warehouse distribution center (March Business Center). A large warehouse building occupied by Proctor & Gamble abuts the Project site on the north (north of Krameria Avenue). Located farther north of the Project site is Iris Avenue, undeveloped land, and residential development.

- South. The Project site is bordered on the south by partially developed Cardinal Avenue, a large warehouse building occupied by Amazon, and the Perris Valley Storm Drain Channel.

Located farther south are a collection of warehouse distribution buildings (including but not limited to buildings currently occupied by Harbor Freight Tools and O'Reilly Auto Parts), undeveloped lands that are designated for future industrial development, and small parcels that contain small commercial, industrial, or manufacturing structures.

- East. Immediately to the east of the Project site is Indian Street. East of Indian Street is land developed primarily with single-family residential land uses, with pockets of undeveloped land designated for future residential development.

- West. The Project site is bordered on the west by a large warehouse building occupied by Lowe's, an industrial building occupied by Cardinal Glass Industries, and Heacock Street. West of Heacock Street is the March Air Reserve Base.

Based on review of aerial photography, the City of Moreno Valley General Plan Land Use Plan Map, and a list of approved/pending development proposals within the City of Moreno Valley (refer to Figure 4.0-1, *Cumulative Development Location Map*, and Table 4.0-1, *Cumulative Project List*), there are no other available, undeveloped properties of similar size (approximately 89 acres), similar land use (i.e., Business Park/Light Industrial), and similar zoning (i.e., Business Park or Industrial) in the City of Moreno Valley.

If alternative, undeveloped sites located within the City of Moreno Valley that are not already designated for "Business Park/Light Industrial" land uses or zoned for "Business Park" or "Industrial" land uses are considered, there is not any site in the City that would offer less developmental constraints, environmental constraints, and/or environmental impacts than the proposed Project site. Development of the Project in an alternate location would have similar impacts as would occur with implementation of the Project at its proposed location, with the potential for greater impacts. All undeveloped land within the City of Moreno Valley similar in size to the Project site (i.e., approximately 89 acres) and not part of an approved/pending development proposal is located farther from major regional transportation routes (I-215, SR-60, and local truck routes) than the Project site. Therefore, operational impacts associated with traffic and vehicular noise and air emissions would be greater as the vehicles would need to travel farther distances on local roads to reach the state highway system. Therefore, operational impacts associated with traffic and vehicular noise and air emissions would be greater as the vehicles would need to travel farther distances on local roads to reach the state highway system.

In addition, according to SCAG's *Comprehensive Regional Goods Movement Plan and Implementation Strategy*, there is great demand in the SCAG region for warehouse and industrial building space on suitably zoned vacant land (SCAG, 2013, pp. 4-39). Thus, it is likely that selection of an alternative site would merely displace the development activity proposed by the Project to another location resulting in the same or greater environmental effects, given the regional demand for logistics and warehousing space in the SCAG region.

For the foregoing reasons, an alternative sites analysis is not required for the proposed Project.

6.3 Alternative Analysis

The following discussion compares the impacts of each alternative considered by the Lead Agency with the impacts of the proposed Project, as detailed in Section 4.0, *Environmental Analysis*, of this EIR. A conclusion is provided to indicate if selection of the alternative would result in one of the following: (1) reduction or elimination of the proposed Project's impact, (2) a greater impact than would occur under the proposed Project, (3) the same impact as the proposed Project, or (4) a new impact in addition to the proposed Project's impacts. Table 6-1 at the end of this section compares the environmental hazard and resource impacts of the alternatives with those of the proposed Project and identifies the ability of each alternative to meet the basic objectives of the Project.

The Project's goal is to develop the subject property as a productive logistics center. As described in EIR Subsection 3.2, *Statement of Objectives*, the proposed Project's basic objectives are as follows:

A. Implement the Moreno Valley Industrial Area Plan (MVIAP) through the construction and operation of a Class A logistics center in conformance with the land use designations applied to the property by the City of Moreno Valley General Plan and the MVIAP, as amended.

B. To develop and maximize the buildout potential of a vacant or underutilized property in the MVIAP area that has access to available infrastructure.

C. To attract new employment-generating businesses to the MVIAP area thereby providing a more equal jobs-housing balance both in the City of Moreno Valley and in the Riverside County/Inland Empire area and reducing the need for members of the local workforce to commute outside the area for employment.

D. To develop logistics buildings with loading bays and trailer parking within close proximity of regional transportation routes and designated City of Moreno Valley truck routes in order to facilitate the efficient movement of goods.

E. To develop logistics center buildings that are physically and economically feasible to construct and operate and that are economically competitive with other geographic markets in the Inland Empire to attract building users to Moreno Valley.

F. To develop a vacant or underutilized property with structures that have architectural design and operational characteristics that complement existing and planned warehouse development in the immediate vicinity.

G. To develop the subject property with land uses that are harmonious to the adjacent March Air Reserve Base.

6.3.1 No Development Alternative

The No Development Alternative allows decision-makers to compare the environmental impacts of approving the proposed Project to the environmental impacts that would occur if the property were to be unchanged from existing conditions for the foreseeable future. Under existing conditions, the approximately 89.4-acre Project site is vacant and undeveloped. The entire property is disturbed, either by past agricultural activities or by on-going weed abatement (i.e., discing). The Project site does not contain any ornamental landscaping and the vegetation that exists on the property is characterized by ruderal plants and weeds. No buildings, permanent man-made structures/facilities or other discernable man-made features are present on the Project site, with the exception of overhead utility lines located along the eastern property boundary adjacent to Indian Street and the Perris Valley Storm Drain Channel that bisects the property in a northwest to southeast direction. The Project site is relatively flat with elevations ranging from approximately 1,497 feet above mean sea level (AMSL) at its northern boundary to approximately 1,468 AMSL at the southeast corner of the property and there are no rock outcroppings or unique topographic features on the Project site.

Under this alterative, no improvements would be made to the Project site and none of the Project's on- or off-site utility and infrastructure improvements would occur. Refer to the detailed description of the Project site's existing physical conditions in Section 2.0, *Environmental Analysis* of this EIR.

A. Aesthetics

The Project site does not contain any unique aesthetic resources, nor does it serve as a prominent scenic vista. The site is vacant and undeveloped and is transected in a northwest to southeast direction by the Perris Valley Storm Drain Channel. Under the No Development Alternative, the visual character and quality of the site would be maintained in its existing condition. No structures or landscaping would be introduced on the property beyond that which occurs under existing conditions. Buildout of the site with the proposed Project would create a cohesive development that would utilize the entire site. The Project would be landscaped including a 50-foot-wide enhanced landscape area along Indian Street, and would complete street improvements on roadway frontages. In these regards, the proposed Project would have a higher aesthetic value than this Alternative. Selection of this Alternative would result in a greater long-term aesthetic impact than the proposed Project because a large vacant lot would be less compatible with the surrounding character of the MVIAP area than would a logistics warehouse and light industrial center that provides an enhanced landscape zone along Indian Street.

B. Agricultural Resources

The property contains soils that have severe limitations for agricultural use and the site does not contain Prime Farmland, Unique Farmland or Farmland of Statewide Importance designated by the State of California's Farmland Mapping and Monitoring Program (FMMP). Similar to the proposed Project, this Alternative would not impact significant agricultural resources.

C. Air Quality

Under the No Development Alternative, no development would occur on the Project site; therefore, there would be no potential sources of short-term (construction) or long-term (operational) air pollutant emissions associated with warehouse and light industrial land uses. All of the Project's short- and long-term air quality impacts would be avoided under the Alternative. Although selection of the No Development Alternative would prevent the Project site from new development, it would not necessarily prevent the Project or another project of its nature from being developed in another location in response to the demand for warehouse and industrial land use space in western Riverside County. As such, it is possible that selection of the No Development Alternative would merely displace the Project's air pollutant emissions to another location in the South Coast Air Basin resulting in the same or greater environmental effects.

D. Biological Resources

The No Development Alternative would leave the property in its existing condition; however, routine weed abatement (discing) would continue. Although disturbance of the property would occur under this Alternative due to mandatory maintenance obligations imposed by the Fire Department for weed abatement, impacts would be less than the proposed Project because the property would be disturbed temporarily and periodically as compared to permanent disturbance that would occur as the result of the Project's proposed development. Accordingly, the No Development Alternative would avoid all of the Project's potential impacts to special-status wildlife species and protected, nesting migratory birds.

Additionally, the Project site abuts the Perris Valley Storm Drain Channel, which is a man-made drainage facility that contains areas under the jurisdiction of the ACOE, CDFW, and RWQCB. Under this Alternative, there would be no physical impact to the Channel.

E. Cultural Resources

No known historic, archaeological, paleontological resources, unique geological features, or human remains are present on the Project site under existing conditions. While no grading would occur on the Project site under the No Development Alternative, periodic weed abatement activities would continue, although the depth of discing would be shallow. Therefore, this Alternative has no potential to impact subsurface archeological or paleontological resources that may exist in undisturbed soils beneath the ground surface. Therefore, selection of this Alternative would avoid all site disturbances on the property and the Project's less-than-significant impacts (after mitigation) to cultural resources would not occur.

F. Greenhouse Gas Emissions

Under the No Development Alternative, no new development would occur on the Project site; therefore, there would be no potential sources of near-term or long-term GHG emissions. Selection of this Alternative would avoid all of the proposed Project's near- and long-term effects associated with GHG emissions. Although selection of the No Development Alternative would prevent the

Project site from new development, it would not necessarily prevent the Project or another project of its nature from being developed in another location in response to the demand for warehouse and industrial land use space in western Riverside County. As such, it is possible that selection of the No Development Alternative would merely displace the Project's GHG emissions to another location in the South Coast Air Basin resulting in the same or greater environmental effects.

G. Hazards and Hazardous Materials

Because no development would occur under the No Development Alternative, no impacts related to hazards or hazardous materials would occur. Routine discing would continue to occur on the Project site to remove dry/dead vegetation that has the potential to pose a fire hazard, as required by the Moreno Valley Fire Department. Selection of this Alternative would avoid the Project's less-than-significant impacts related to hazards and hazardous materials.

H. Hydrology and Water Quality

No changes to existing hydrology and drainage conditions would occur under the No Development Alternative. No storm water improvements would be constructed and rainfall would be discharged from the site as sheet flow, as occurs under existing conditions. Although the proposed Project would alter existing ground contours of the Project site, which would result in changes to the site's existing drainage patterns, surface water runoff discharged from the Project site would follow a similar overall pattern across the Project site and would ultimately discharge into the Perris Valley Storm Drain Channel as occurs under existing conditions and would occur under the No Development Alternative. Accordingly, implementation of the proposed Project and the No Development Alternative would both result in less-than-significant impacts to existing drainage patterns.

Because buildings, roadways, and surface parking areas would not be developed on-site under this Alternative, there would be no increase in impervious surfaces or urban pollutants at the Project site. However, under this Alternative, much of the stormwater leaving the site would not be filtered via Best Management Practices (BMPs), and therefore would continue to contain sediment, as occurs under existing conditions. Selection of this Alternative would reduce the Project's impacts to water quality as compared to the proposed Project, with the exception of long-term sedimentation impacts which would continue to occur and would be greater than impacts that would occur under the proposed Project.

I. Land Use/Planning

The No Development Alternative would leave the property in its existing condition as vacant, disturbed, undeveloped land and the property would not be developed in accordance with the General Plan "Business Park/Light Industrial" land use designation and the land use plan of the MVIAP. Thus, selection of the No Development Alternative would not fulfill the City of Moreno Valley's vision for the subject property.

Because the No Development Alternative would leave the property in its existing condition as vacant, undeveloped land, the No Development Alternative would eliminate the Project's cumulatively considerable conflicts with the SCAQMD's AQMP, SCAG's *RTP/SCS*, and the Riverside County CMP.

J. Noise

Because no development would occur on the Project site, there would be no new sources of stationary noise and no new traffic trips would be generated; thus, the No Development Alternative would not contribute to an incremental increase in area-wide noise levels. Selection of this Alternative would avoid all Project-related impacts.

K. Transportation/Traffic

Under the No Development Alternative, no new development would occur on the property and no additional traffic would be generated. Because there would be no new development on the Project site under this Alternative, the significant and unavoidable traffic impacts of the proposed would be avoided through selection of the No Development Alternative. However, because there would be no new development on the Project site under this Alternative, no monetary contributions would be made by the Project Applicant to the Moreno Valley DIF program or the TUMF program to assist in the funding of needed local and regional circulation network improvements.

L. Conclusion

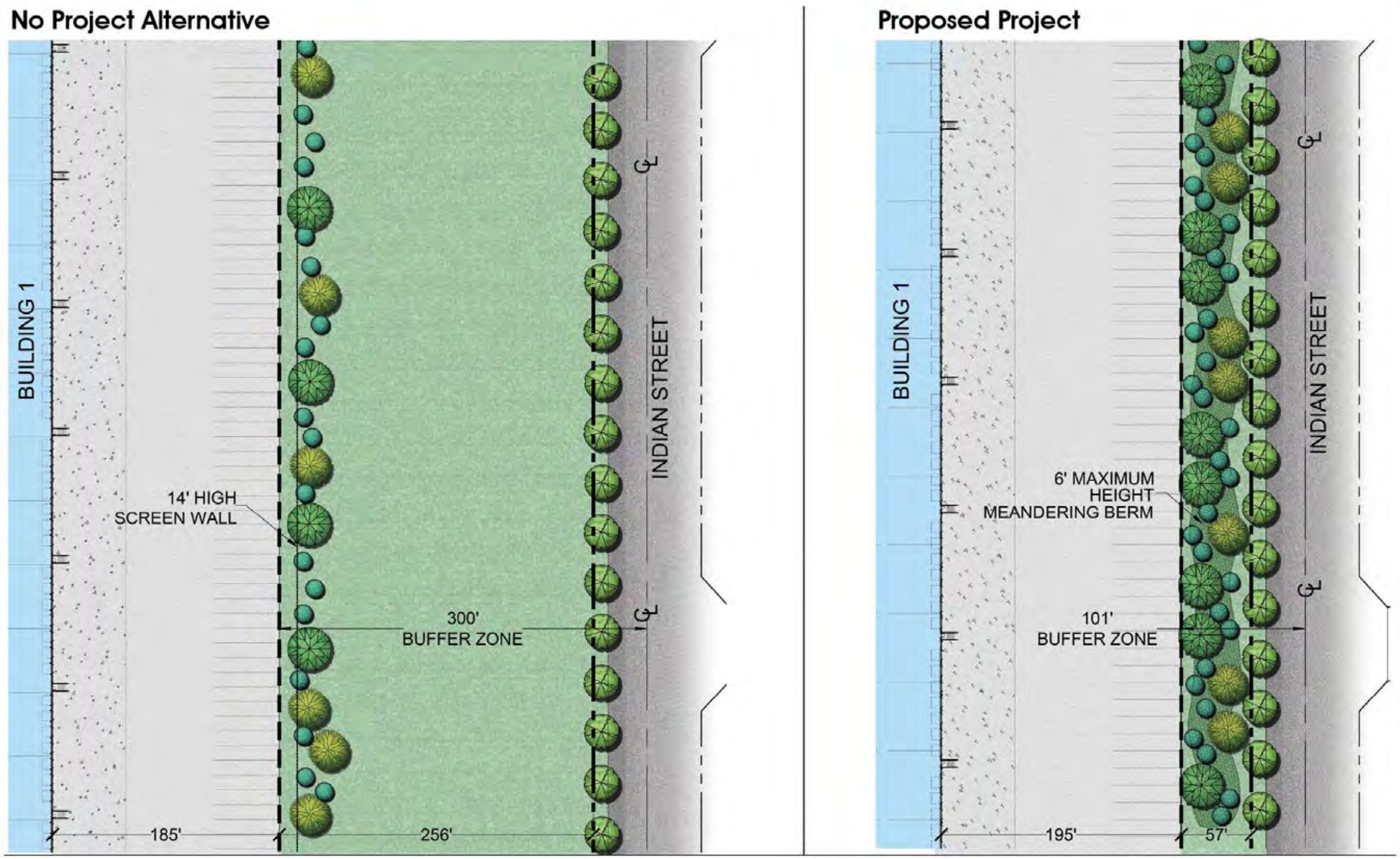
The No Development Alternative would result in no physical environmental impacts to the Project site beyond those that have already occurred on the property. All significant effects of the Project would be avoided or lessened by the selection of the No Development Alternative. Because this Alternative would avoid all of the Project's impacts, it warrants consideration as the "environmentally superior alternative." However, pursuant to CEQA Guidelines § 15126.6(e)(2), if a no project alternative is identified as the "environmentally superior alternative" then the EIR shall also identify an environmentally superior alternative among the other alternatives. The One Building Alternative, as described in Subsection 6.3.4, below, is identified as the "environmentally superior alternative." The No Development Alternative would fail to meet all of the Project's objectives, as indicated in Table 6-3, *Alternatives-Comparison of Environmental Impacts* (see the end of this EIR Section).

6.3.2 No Project Alternative

The No Project Alternative allows decision-makers to compare the environmental impacts of approving the proposed Project to the environmental impacts that would occur if the property were to be developed in accordance with the MVIAP. The proposed Project implements the City of Moreno Valley General Plan and the MVIAP, with a proposed amendment to the MVIAP to reduce a setback requirement. The MVIAP, which was adopted by the City of Moreno Valley in 1989, includes a minimum 300-foot setback requirement between industrial and residential land uses. The Project Applicant proposes to amend the minimum setback requirement as it pertains to the eastern boundary of the Project site from 300 feet to 100 feet and to add a requirement to install a minimum 50-foot-wide contiguous enhanced landscaping zone within the proposed 100-foot setback area. The building constructed to the north of the Project site and currently occupied by Proctor & Gamble has a 100-foot separation from residential uses on the east side of Indian Street; the proposed Project is proposing the same distance so that there is a consistent setback along the west side of Indian Street between Iris Avenue and the Perris Valley Storm Drain Channel. The No Project Alternative considers implementation of the MVIAP on the property with no amendment to the setback requirement. Under this Alternative, the property would be developed with the same building square footage as proposed by the Project (by adding mezzanine space to Building 1), with a setback of 300 feet along Indian Street (as measured from the centerline of Indian Street). The 300-foot setback area would be planted with landscape materials, mostly ground covers. Compared to the Project, there would be an increase of approximately 12.0 acres of landscaping in this location (approximately 200 feet over the length of approximately 0.5-mile abutting Indian Street). A screen wall, with trees and shrubs planted adjacent to the wall's exterior face, would be provided at the interface between the 300-foot setback and the truck yard on the eastern portion of the Building 1 site.

A. Aesthetics

Under the No Project Alternative, the visual character and quality of the site and the amount of artificial light that would be introduced on the property would be very similar to the proposed Project with the exception that the setback area along the west side of Indian Street would be increased from 100 feet to 300 feet and planted with less intensive landscaping than the Project. In this same location, the Project proposes a 50-foot wide enhanced landscaped zone along Indian Street densely planted with trees, shrubs, and groundcover. Figure 6-1, *Indian Street Setback – No Project Alternative vs. Proposed Project*, illustrates the differences between the Indian Street setback conditions proposed by the No Project Alternative and the Project. Figure 6-2, *Indian Street Setback Line of Sight Cross-Section – No Project Alternative*, illustrates the line of sight for pedestrians along Indian Street under the No Project Alternative scenario. As shown on Figure 6-1 and Figure 6-2, landscaping within the Indian Street setback area would not be as densely planted under the No Project Alternative as compared to the Project, resulting in clear, unobstructed views of the top of Building 1 to pedestrians along Indian Street and from residential areas east of Indian Street (whereas the Project would completely screen views of Building 1, refer to Figure 4.1-7). Because the No Project Alternative would be less successful than the Project in screening on-site land uses (as viewed from surrounding areas), the No Project Alternative would have an increased impact to local visual quality as compared to the Project. Furthermore, under the No Project Alternative, the building on Parcel 1 would be set back farther from Indian Street compared to the existing building located immediately north of Krameria Avenue that is occupied by Proctor & Gamble (for which a reduced, 100-foot setback was approved in 2008). The inconsistent setback and landscape treatment along the west side of Indian Street has the potential to look disjointed and awkward, but it would not result in a significant aesthetic impact associated with visual quality and character.

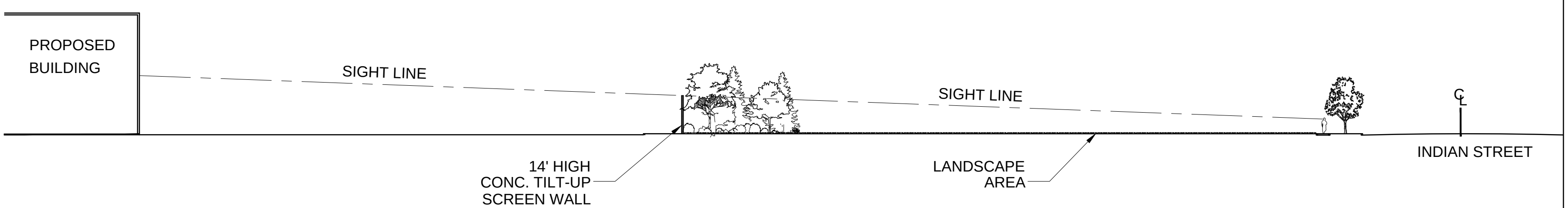


Source: Hunter Landscape (03-14-16)

NOT TO SCALE

Figure 6-1

INDIAN STREET SETBACK - NO PROJECT ALTERNATIVE VS. PROPOSED PROJECT



Source: Hunter Landscape (03-14-16)

NOT TO SCALE

Figure 6-2

INDIAN STREET SETBACK LINE-OF-SIGHT CROSS-SECTION - NO PROJECT ALTERNATIVE

B. Agricultural Resources

The No Project Alternative would have the same ground-disturbing physical impacts as the proposed Project. The property contains soils that have severe limitations for agricultural use and the site does not contain Prime Farmland, Unique Farmland, or Farmland of Statewide Importance designated by the State of California's Farmland Mapping and Monitoring Program (FMMP). Similar to the proposed Project, this Alternative would not impact significant agricultural resources.

C. Air Quality

The No Project Alternative would have the same ground-disturbing physical impacts as the proposed Project and construct the same amount of building square footage. Therefore, air quality pollutant emissions associated with short-term construction and the overlapping of construction and operational activities would be identical between the proposed Project and the No Project Alternative. After the application of the same mandatory regulatory requirements and feasible mitigation measures as the Project, the No Project Alternatives' short-term construction-related NO_X emissions would still exceed the SCAQMD numerical thresholds for daily emissions, resulting in significant and unavoidable impacts. In the event that short-term construction activity and long-term operational activities overlap under the No Project Alternative, the short-term overlapping emissions of VOC, NO_X, CO, PM_{10} and $PM_{2.5}$ would exceed the SCAQMD numerical thresholds for daily emissions, resulting in significant and unavoidable impacts.

Because the No Project Alternative would construct the same amount of building area and would be occupied by the same building users as the Project, the No Project Alternative would produce the same amount of traffic as the proposed Project and require the same amounts of energy use. As such, mobile source and energy source emissions would be nearly identical. A nominal increase in indirect energy source emissions would occur to treat and supply the water needed to irrigate the additional 12.0 acres of landscaping (primarily grass) along Indian Street. After the application of the same regulatory requirements and feasible mitigation measures as the Project, the No Project Alternative's long-term operational-related VOC and NO_X emissions would still exceed the SCAQMD numerical thresholds for daily emissions. In addition, the No Project Alternatives' VOC and NO_X emissions would cumulatively contribute to an existing air quality violation in the SCAB (i.e., NO_X and O_3 concentrations, which do not meet regional attainment status).

Under the No Project Alternative, Building 1 would be set back 200 feet farther from sensitive receptors located east of Indian Street as compared to the Project. This increased setback would allow air pollutant emissions – particularly diesel particulate matter (DPM) emitted from vehicles circulating and idling on the Project site – more opportunity to dissipate from the air before reaching sensitive receivers, as compared to the Project. However, the No Project Alternative would utilize industry-standard indoor and outdoor cargo handling equipment, which produce more diesel particulate matter (DPM) emissions than the advanced technology cargo handling equipment that would be utilized by the Project, and the use of this equipment would outweigh any potential benefit gained from the additional setback. The No Project Alternative is calculated to expose residential receptors located east of Indian Street to DPM emission concentrations that are more intense than the

Project and that also would exceed the SCAQMD carcinogenic risk threshold of 10 in one million. The No Project Alternative would require mitigation to reduce the effects of DPM emissions to nearby residential receptors to less-than-significant levels. The No Project Alternative would expose nearby worker and school child receptors to slightly greater DPM concentrations than the Project; however, as with the Project, the No Project Alternative's DPM-related impact to workers and school children would be far less than the SCAQMD significance thresholds and impacts would be less than significant. (Urban Crossroads, 2016h, pp. 1-3).

D. Biological Resources

This Alternative would have an identical physical impact footprint as the proposed Project. As such, impacts to biological resources that would occur under this Alternative are the same as those of the proposed Project. Both the proposed Project and this Alternative would be subject to the same regulatory requirements and mitigation measures that would reduce impacts to less-than-significant.

E. Cultural Resources

No known historic, archaeological, paleontological resources, unique geological features, or human remains are present on the Project site under existing conditions. This Alternative would have an identical physical impact footprint as the proposed Project. As such, potential impacts to cultural resources that would occur under this Alternative are the same as those of the proposed Project. Both the proposed Project and this Alternative would be subject to the same regulatory requirements and mitigation measures that would reduce impacts to less-than-significant.

F. Greenhouse Gas Emissions

The No Project Alternative would have the same ground-disturbing physical impacts as the proposed Project and construct the same amount of building square footage. The No Project Alternative would use the same fleet of construction equipment and generate the same volume of vehicle traffic as the proposed Project (which accounts for approximately 86.6 percent of the Project's GHG emissions). The No Project Alternative and the proposed Project would directly use the same amount of energy (which accounts for the other 13.4 percent of GHG emissions); however, the No Project Alternative would result in a nominal increase in indirect energy source GHG emissions to supply the water needed to irrigate the additional 12.0 acres of landscaping along Indian Street under the No Project Alternative. Under both the No Project Alternative and the proposed Project, GHG emissions would be a significant and unavoidable cumulatively considerable impact even after the application of the same design features, mandatory regulatory requirements, and feasible mitigation measures. A majority of the GHG emissions under both the No Project Alternative and Project would be produced by mobile sources and mobile source emissions are regulated by state and federal emissions and fuel use standards, and are outside of the control of the Project Applicant, future Project occupants, and the City of Moreno Valley.

G. Hazards and Hazardous Materials

The No Project Alternative would have the same ground-disturbing physical impacts as the proposed Project, construct the same amount of building square footage, and attract the same types of building occupants. For these reasons, this Alternative's potential hazards and hazardous materials impacts would be identical to the proposed Project. As with the proposed Project, during construction and operation, mandatory compliance to federal, state, and local regulations would ensure that the proposed development would not create a significant hazard to the environment due to routine transport, use, disposal, or upset of hazardous materials. Assuming mandatory compliance with standard ALUC conditions of approval, the buildings constructed under the No Project Alternative would have the same building heights as proposed by the Project which were determined by the Riverside County Airport Land Use Commission (ALUC) to be consistent with the restrictions and requirements of the March ARB/IPA Compatibility Plan. Impacts would be less than significant under both the proposed Project and the No Project Alternative.

H. Hydrology and Water Quality

The No Project Alternative would have the same ground-disturbing physical impacts as the proposed Project, attract the same types of building occupants, and have a near-identical storm water drainage system design. The Alternative, however, would reduce the impervious surface coverage on the site by about 12.0 acres by providing a 300-foot setback along Indian Street that would be planted with landscaping. Irrigation water and natural rainfall in this area would have the opportunity to infiltrate, and would not be directed through the Project's storm water and water quality systems. Similar to the proposed Project, this Alternative would require preparation of a Storm Water Pollution Prevention Plan (SWPPP) to address construction-related water quality issues, as well as compliance with a site-specific Water Quality Management Plan (WQMP) and its associated BMPs. Therefore, similar to the proposed Project, implementation of this Alternative would result in less-than-significant impacts with preparation of a SWPPP and compliance with a site-specific WQMP and its associated BMPs.

I. Land Use/Planning

The proposed Project implements the City of Moreno Valley General Plan and the MVIAP, with a proposed amendment to the MVIAP to reduce a setback requirement. The Project would amend the setback requirement as it pertains to the eastern boundary of the Project site from a minimum of 300 feet to a minimum of 100 feet and to add a requirement to install a minimum 50-foot-wide contiguous enhanced landscaping zone within the proposed 100-foot setback area. The MVIAP's intent for requiring a 300-foot setback between industrial and residential land uses was to ensure that residents would not be exposed to substantial effects from industrial operations. The reduced setback proposed by the Project would not result in any new or substantially more severe environmental effects at nearby residential receptors than would occur under the larger setback currently required by the MVIAP (and provided by the No Project Alternative). As such, both the Project and the No Project Alternative would result in similar, less-than-significant impacts related to the compatibility of industrial land uses that abut residential land uses.

The No Project Alternative would have the same ground-disturbing physical impacts as the proposed Project and construct the same amount of building area. Because the same volume of vehicle traffic would be generated under the No Project Alternative and the proposed Project, the same significant and unavoidable traffic impact would occur to CMP facilities, resulting in a significant and unavoidable impact associated with inconsistency with the Riverside County CMP. Similarly, because air pollutant emissions would be the same under this Alternative and the proposed Project, both would cumulatively contribute to inconsistency with the SCAQMD's 2012 AQMP and the SCAG's *RTP/SCS* related to regional air quality. Significant and unavoidable cumulatively considerable impacts would occur under both the No Project Alternative and the proposed Project, associated with their potential conflicts with the Riverside County CMP, SCAQMD AQMP, and SCAG *RTP/SCS*.

J. Noise

The No Project Alternative would have the same ground-disturbing physical impacts as the proposed Project and construct the same amount of building square footage. Therefore, noise associated with short-term construction would be identical between the proposed Project and the No Project Alternative. Although building construction activities would be located 200 feet further away from receiver locations along Indian Street as compared to the Project, site preparation, grading, and landscape installation activities would still occur in the 200 feet. Noise associated with grading would be the same under this Alternative and the proposed Project, and the grading phase of construction is the noisiest. The same mitigation measure would be required, which is the installation of a temporary sound barrier during construction to reduce construction-related noise impacts to less than significant.

Because the same amount of building area would be constructed, the No Project Alternative would produce the same amount of traffic as the proposed Project and produce the same amount of vehicular noise, which is calculated to be less than significant. Because Building 1 would be set back 200 feet farther from sensitive receptors located east of Indian Street under the No Project Alternative, noise associated with exterior building operations would have the potential to be less than the Project, as experienced by nearby receivers, but any such reduction would be nominal because both the proposed Project and this Alternative would install a perimeter wall along the property's Indian Street frontage that would act as a sound attenuating barrier. For these reasons, both the proposed Project and this Alternative would comply with the City of Moreno Valley Noise Ordinance and impacts associated with noise increases would be less than significant under both the proposed Project and the No Project Alternative.

K. Transportation/Traffic

The No Project Alternative would develop the subject property with the same building area as the Project and would be occupied by the same types of warehouse and light industrial users as the Project. Accordingly, the No Project Alternative would generate the same amount of traffic as the Project and would produce identical traffic impacts as the Project. Under both scenarios, the addition of traffic would be directly responsible for LOS deficiencies at Project study area intersections and roadway segments under short-term construction and Existing plus Project traffic conditions and would make cumulatively considerable contributions to LOS deficiencies at numerous Project study area intersections and roadway segments under short-term construction, Existing plus Project, Opening Year (2020) and General Plan Buildout (Post-2035) traffic conditions. In addition, under both scenarios the addition of traffic would result in cumulatively considerable contributions to LOS deficiencies at several intersections and freeway facilities, including I-215 and SR-91, included within the Riverside County CMP roadway network under Opening Year (2020) and General Plan Buildout (Post-2035) traffic conditions. The No Project Alternative would be required to implement the same mitigation measures as the Project; however, the required mitigation would be insufficient to reduce all direct and cumulatively considerable impacts to less-than-significant levels.

L. Conclusion

The No Project Alternative would have the same ground-disturbing physical impacts as the proposed Project, construct the same amount of building area, and attract the same types of building users as the proposed Project. None of the Project's significant and unavoidable impacts would be reduced in severity or avoided by the No Project Alternative, and the No Project Alternative would result in a significant air quality impact related to diesel particulate matter (DPM) emissions (requiring mitigation) that would not occur under the Project. Under this Alternative, the site's pervious surface area would increase by approximately 12.0 acres, which would be a landscaped area parallel to Indian Street. The streetscape along Indian Street would be wider than occurs on Indian Street north of Krameria Avenue and would likely look disjointed and awkward, but it would not result in a significant aesthetic impact associated with visual quality and character. More water would be needed for irrigation under this Alternative, which given the State of California's current drought situation, could be regarded as a wasteful and inefficient use of water and the energy needed to supply the water. The No Project Alternative would meet most of the Project's objectives, although some of them would be met to a lesser degree than the Project as indicated in Table 6-2 (see the end of this EIR Section).

6.3.3 Reduced Project Alternative

The Reduced Project Alternative was selected by the Lead Agency to evaluate the comparative environmental benefits of constructing a project with less building square footage. Under this Alternative, the Project's building area would be reduced by 326,385 s.f., which is an approximately 19 percent reduction in building area compared to the proposed Project. The reduced building coverage area would be used for parking. Under this Alternative, 1,409,800 s.f. of building space would be provided in three (3) buildings with the remainder of the property used as truck parking, as compared to the Project's proposal to provide four (4) buildings with a combined total of 1,736,180 s.f. of floor space. The analysis for this Alternative assumes 1,153,550 s.f. of high cube warehouse space in one (1) building and 256,245 s.f. of light industrial space in two (2) buildings.

A. Aesthetics

Under the Reduced Project Alternative, the visual character and quality of the site and the amount of artificial light that would be introduced on the property would be very similar to the proposed Project. As previously described in EIR Subsection 4.1, the Project site is not visible from any state- or locally-designated scenic highway. Accordingly, neither the proposed Project nor this Alternative would negatively impact a scenic highway. Also, neither this Alternative nor the proposed Project would damage scenic on-site resources, because such resources are not present on the property. The aesthetic quality and character of the property after development of this Alternative would be similar to that of the proposed Project. Although less building square footage would be constructed under this Alternative, the reduction in building intensity would occur interior to the subject property and the aesthetics of the site, as seen from off-site, would be very similar. Neither the proposed Project nor this Alternative would result in significant direct or cumulatively considerable impact to aesthetics. Impacts would be less than significant under both the proposed Project and the Reduced Project Alternative.

B. Agricultural Resources

The Reduced Project Alternative would have the same ground-disturbing physical impacts as the proposed Project. The property contains soils that have severe limitations for agricultural use and the site does not contain Prime Farmland, Unique Farmland, or Farmland of Statewide Importance designated by the State of California's Farmland Mapping and Monitoring Program (FMMP). Similar to the proposed Project, this Alternative would not impact significant agricultural resources.

C. Air Quality

Under this Alternative, the construction schedule would be slightly reduced as compared to the proposed Project, due to the approximately 19 percent reduction in building area. As such, construction-related air quality emissions would occur over a slightly shorter period of time, but total daily emissions during construction activities would be the same as the proposed Project. Therefore, air quality pollutant emissions associated with short-term construction and the overlap of construction and operational activities would be identical between the proposed Project and the Reduced Project Alternative. After the application of the same design features, mandatory regulatory requirements, and feasible mitigation measures as the Project, short-term construction-related NO_X emissions would still exceed the SCAQMD numerical thresholds for daily emissions, resulting in significant and unavoidable impacts. In the event that short-term construction activity and long-term operational activities overlap, the short-term overlapping emissions of VOC, NO_X, CO, PM_{10} and $PM_{2.5}$ would exceed the SCAQMD numerical thresholds for daily emissions, resulting in significant and unavoidable impacts.

Because the Reduced Project Alternative would construct approximately 19 percent less building area than the Project, the Alternative would produce a concomitant reduction in traffic compared to the proposed Project and require a concomitant reduction of energy use. As such, mobile source and energy source air emissions would be reduced compared to the Project. None of the Project's significant impacts would be avoided and none of the Project's significant and unavoidable impacts would be eliminated. After the application of design features, mandatory regulatory requirements, and feasible mitigation measures, the Reduced Project's long-term operational-related VOC and NO_X emissions would still exceed the SCAQMD numerical thresholds for daily emissions. In addition, the VOC and NO_X emissions would cumulatively contribute to an existing air quality violation in the SCAB (i.e., NO_X and O_3 concentrations, which do not meet regional attainment status).

The Project would expose nearby sensitive receptors to DPM emissions concentrations that fall below the SCAQMD significance threshold of 10 in one million. Thus, the Project's impacts associated with the exposure of sensitive receptors to substantial pollutant concentrations would be less than significant. Because the Reduced Project Alternative would generate less traffic than the Project, there would be a concomitant reduction in DPM emissions at the Project site, which would further reduce the Project's less-than-significant impact.

D. Biological Resources

This Alternative would have an identical physical impact footprint as the proposed Project. As such, impacts to biological resources that would occur under this Alternative are the same as those of the proposed Project. Both the proposed Project and this Alternative would be subject to the same regulatory requirements and mitigation measures that would reduce impacts to less-than-significant.

E. Cultural Resources

No known historic, archaeological, paleontological resources, unique geological features, or human remains are present on the Project site under existing conditions. This Alternative would have an identical physical impact footprint as the proposed Project. As such, potential impacts to cultural resources that would occur under this Alternative are the same as those of the proposed Project. Both the proposed Project and this Alternative would be subject to the same regulatory requirements and mitigation measures that would reduce impacts to less-than-significant.

F. Greenhouse Gas Emissions

Due to the reduction in the amount of traffic associated with Reduced Project Alternative, mobile-source GHG emissions would decrease as compared to the proposed Project. Additionally, because the Reduced Project Alternative would involve less building area than the Project, non-mobile source operational GHG emissions (fossil fuel use for building operation) also would be reduced under this Alternative. Therefore, the Project's less-than-significant GHG impacts would be reduced under this alternative in comparison to the proposed Project. Regulatory requirements and mitigation measures to reduce GHG emissions, similar to those required of the proposed Project, also would be required of this Alternative. However, even with compliance with applicable regulations and implementation of mitigation measures, GHG emissions generated by the Reduced Project Alternative would still exceed the SCAQMD significance threshold of 10,000 $MTCO_2e$. Therefore, this Alternative would reduce the severity of Project's unavoidable cumulatively considerable GHG emissions impact, but not to below a level of significance.

G. Hazards and Hazardous Materials

The Reduced Project Alternative would have the same ground-disturbing physical impacts as the proposed Project and attract the same types of building occupants. For these reasons, this Alternative's potential hazards and hazardous materials impacts would be very similar to the proposed Project. As with the proposed Project, mandatory compliance to federal, state, and local regulations during construction and long-term operation would ensure that the proposed development would not create a significant hazard to the environment due to routine transport, use, disposal, or upset of hazardous materials. Assuming mandatory compliance with standard ALUC conditions of approval, the buildings constructed under the Reduced Project Alternative would have the same building heights as proposed by the Project, which were determined by the Riverside County Airport Land Use Commission (ALUC) to be consistent with the restrictions and requirements of the March ARB/IPA Compatibility Plan. Impacts would be less than significant under both the proposed Project and the Reduced Project Alternative.

H. Hydrology and Water Quality

The Reduced Project Alternative would have the same ground-disturbing physical impacts as the proposed Project, attract the same types of building occupants, and have a near-identical drainage system design. Impervious surface coverage also would be approximately the same because the reduction in building coverage would be offset by increased vehicle parking areas. Because this Alternative would have the same drainage system design as the proposed Project, this Alternative's hydrology and water quality impacts would be nearly identical to the proposed Project. Similar to the Proposed Project, implementation of this Alternative would require preparation of a Storm Water Pollution Prevention Plan (SWPPP) to address construction-related water quality issues, as well as compliance with a site-specific Water Quality Management Plan (WQMP) and its associated BMPs. Therefore, implementation of this Alternative would result in less-than-significant impacts with preparation of a SWPPP and compliance with a site-specific WQMP and its associated BMPs. The Reduced Project Alternative would result in similar hydrology and water quality impacts as the Project.

I. Land Use/Planning

Because a fewer number of traffic trips would be generated under the Reduced Project Alternative, the Project's significant and unavoidable cumulatively considerable traffic impact to CMP circulation facilities, including I-215 and SR-91, would be reduced but not avoided. Similarly, because air pollutant emissions would be reduced under this Alternative, as compared to the proposed Project, this Alternative would reduce the Project's degree of inconsistency with the SCAQMD's 2012 AQMP and the SCAG's *RTP/SCS* related to regional air quality. Regardless, this Alternative would not avoid the Project's cumulatively considerable traffic and air quality impacts and, therefore, would not avoid the Project's significant and unavoidable cumulatively conflicts with the Riverside County CMP, SCAQMD AQMP, and SCAG *RTP/SCS*.

J. Noise

As with the proposed Project, noise associated with this Alternative would occur during near-term construction activities and under long-term operation. The Reduced Project Alternative would have the same ground-disturbing physical impacts as the proposed Project and construct the same amount of building square footage. Therefore, noise associated with short-term construction would be identical between the proposed Project and the Reduced Project Alternative. Although building construction activities would be less intense associated with the smaller building sizes, construction would be located the same distance away from receiver locations. The same mitigation measure would be required, which is the installation of a temporary sound barrier during construction to reduce construction-related noise impacts to less than significant.

Similar to the proposed Project, under long-term operations, noise generated by this Alternative would be associated with vehicles traveling to and from the site and on-site vehicle idling, maneuvering and parking. This Alternative would generate fewer vehicle trips than would be generated by the proposed Project. As a result, the implementation of this Alternative would result in a reduction of long-term noise levels as compared to the proposed Project.

As with the proposed Project, a concrete tilt-up screen wall would be constructed along the site's frontage with Indian Street. The screen wall would act as a noise barrier for operational noise emitted from the site, thus nearby sensitive receptors would not experience operational noise levels above the City of Moreno Valley's noise standard. Both the proposed Project and this Alternative would be subject to the same regulatory requirements and mitigation measures that would reduce impacts to less-than-significant levels.

K. Transportation/Traffic

The Reduced Project Alternative is estimated to generate approximately 3,726 actual vehicle trips on a daily basis (utilizing the ITE trips generation rates for high-cube and light industrial land uses, not adjusted for PCE). For comparison purposes, the proposed Project would generate approximately 4,960 actual vehicle trips on a daily basis (not adjusted for PCE).

Despite the reduction in daily traffic trips that would occur with selection of this Alternative, this Alternative is not expected to avoid any of the Project's direct or cumulatively considerable and unavoidable impacts to study area intersections or roadway segments under short-term construction, Existing plus Project, Opening Year (2020) and General Plan Buildout (Post-2035) traffic conditions. The severity of impacts to study area intersections and roadway segments would be reduced under the Reduced Project Alternative, as compared to the Project, but would not be avoided.

This Alternative is anticipated to result in cumulatively considerable impacts to the same congested CMP facilities (freeway mainline segments, freeway ramp interchanges, freeway ramp merge/diverge areas) as the proposed Project. The Reduced Project Alternative would reduce the severity of identified impacts to CMP facilities, as compared to the Project, because this Alternative would generate approximately 1,234 fewer actual daily traffic trips, but all impacts are expected to remain significant and unavoidable.

L. Conclusion

The Reduced Project Alternative would reduce the severity of, but not avoid, the Project's significant and unavoidable impacts to air quality, greenhouse gas, land use/planning, and transportation/traffic. The Reduced Project Alternative would have the same physical footprint as the Project, so all ground-disturbing impacts would be identical to the proposed Project. All other operational-related impacts of the Project would be reduced under this Alternative due to the reduction of building area on the subject property and/or the reduction in vehicle trips. The Reduced Project Alternative would meet most – but not all – of the Project's objectives, although many objectives would be met to a lesser degree than the Project as indicated in Table 6-3 (see the end of this EIR Section).

6.3.4 One Building Alternative

The One Building Alternative was selected by the Lead Agency to evaluate limited development on the Project site that would reduce all of the Project's significant and unavoidable environmental effects (air quality, greenhouse gas emissions, land use/planning, and traffic/transportation) to levels of less than significant. Under this Alternative, one (1) 400,000 s.f. high cube warehouse building would be constructed on the Project site northeast of the Perris Valley Storm Drain Channel. The remainder of the site would remain vacant. Under this Alternative, the Project's building area would be reduced by 1,336,180 s.f., which is an approximately 77 percent reduction in building area compared to the proposed Project.

A. Aesthetics

The One Building Alternative would develop a high cube warehouse building on the eastern portion of the subject property. Therefore, as viewed from existing residential land uses east of Indian Street, the One Building Alternative would look similar to the proposed Project. The remaining portions of the Project site (i.e., areas located west of the Perris Valley Storm Drain Channel and abutting Cosmos Street would be left undeveloped and maintained in its existing condition. Buildout of the site with the proposed Project would create a visually cohesive development that would utilize the entire site and improve the quality of the street scene along frontage roadways via the introduction of sidewalks and landscaping. In these regards, the proposed Project would have a higher aesthetic value than this Alternative. Selection of this Alternative would result in a greater long-term aesthetic impact than the proposed Project because small pockets of undeveloped land interspersed between larger, on- and off-site warehouse/industrial buildings would be less compatible with the surrounding character of the MVIAP area than would a logistics warehouse and light industrial center with multiple buildings.

B. Agricultural Resources

The One Building Alternative would impact a smaller area than the Project; however, the subject property contains soils that have severe limitations for agricultural use and the site does not contain

Prime Farmland, Unique Farmland or Farmland of Statewide Importance designated by the State of California's Farmland Mapping and Monitoring Program (FMMP). Therefore, as with the proposed Project, this Alternative would result in a less-than-significant impact to important agricultural resources.

C. Air Quality

The One Building Alternative would develop a smaller area than the Project and would construct a substantially less building area than the Project (an approximately 77 percent reduction); therefore, the extent and daily intensity of construction activities would be substantially reduced as compared to the Project. Regardless, the One Building Alternative is expected to require similar mitigation measures as the Project to reduce the amount of pollutant emissions. However, unlike the Project, application of the mitigation measures is expected to reduce all construction-related air pollutant emissions to below SCAQMD significant thresholds. Accordingly, the One Building Alternative is anticipated to avoid the Project's significant and unavoidable air quality impact during construction.

The One Building Alternative would generate approximately 672 actual daily vehicle trips (utilizing the ITE trip rate for high cube warehouses, without adjusting for PCE). The Project would generate approximately 4,960 actual daily vehicle trips (not adjusted for PCE). Because average daily vehicle trips associated with long-term operation of the One Building Alternative would be substantially reduced as compared to the Project, this Alternative would substantially reduce the Project's long-term criteria air pollutant emissions. However, this alternative would not avoid the Project's significant air quality effects. This Alternative would require implementation of mitigation measures similar to those imposed on the proposed Project and even with incorporation of these measures, long-term operation of this Alternative would exceed the SCAQMD's daily criteria pollutant threshold for NO_X and would contribute to an existing air quality violation (i.e., violation of ozone standards). Accordingly, this alternative would reduce but not avoid the proposed Project's significant and unavoidable impact due to operational NO_X emissions.

As with the proposed Project, impacts to nearby sensitive receptors would be less than significant under this Alternative. Like the Project, construction (short-term) and operational (long-term) criteria pollutant emissions under this Alternative would be below the SCAQMD localized thresholds of significance, and diesel particulate emissions would not expose sensitive receptors to significant cancer and non-cancer health risks. However, these less-than-significant impacts to sensitive receptors would be reduced under this Alternative in comparison to the proposed Project due to the reduction in daily vehicular trips (i.e., 672 actual daily vehicle trips, as compared to 4,960 actual daily vehicle trips under the proposed Project, not adjusted for PCE).

D. Biological Resources

The One Building Alternative would permanently impact a portion of the property to accommodate the development of a high cube logistics building while the remaining portions of the Project site would be less in its existing condition. The undeveloped portions of the Project site would continue to be subject to mandatory weed abatement (i.e., discing). Although the One Building Alternative would permanently impact a smaller portion of the subject property than the Project, this Alternative would be subject to the same regulatory requirements and mitigation measures as the Project to reduce impacts to less-than-significant levels.

E. Cultural Resources

No known historic, archaeological, paleontological resources, unique geological features, or human remains are present on the Project site under existing conditions. One Building Alternative would have a smaller physical impact footprint than the proposed Project; therefore, this Alternative would have a lower likelihood of impacting previously unknown cultural resources that may be present beneath the ground surface during construction activities. The One Building Alternative would be required to comply with the same regulatory requirements and mitigation measures as the proposed Project to reduce potential cultural resources impacts to less-than-significant levels.

F. Greenhouse Gas Emissions

The One Building Alternative would involve the construction and operation of 400,000 s.f. of high cube warehouse uses, which would generate approximately 672 actual daily vehicle trips (not adjusted for PCE). Mobile-source (i.e., vehicle-related) emissions account for approximately 86 percent of the Project's GHG emissions. Therefore, due to the substantial reduction in the amount of actual daily vehicle trips associated with this Alternative (approximately 4,288 fewer actual daily vehicle trips than the Project), the One Building Alternative is anticipated to substantially reduce the Project's mobile source GHG emissions. Additionally, because this alternative would involve less building area, non-mobile source operational GHG emissions (fossil fuel use for building operation) also would be reduced under this Alternative. Mitigation measures to reduce GHG emissions, similar to those applied to the proposed Project, would be required of this Alternative, including those imposed to address air quality impacts. With compliance to these mitigation measures to reduce near and long-term GHG emissions, combined with the substantial reduction in building intensity that would occur under this Alternative, this Alternative would reduce the cumulatively considerable impact associated with the Project's GHG emissions to less-than-significant levels.

G. Hazards and Hazardous Materials

The One Building Alternative would attract the same types of building occupants as the Project; therefore, operational impacts related to hazards and hazardous materials would be similar to the Project (although the impacts would occur over a smaller physical area). In addition, potential construction-related hazards and hazardous materials impacts would be reduced under this Alternative due to the reduction of the physical area proposed for development. As with the proposed Project, mandatory compliance to federal, state, and local regulations during construction and long-term operation would ensure that the proposed development would not create a significant hazard to the environment due to routine transport, use, disposal, or upset of hazardous materials. Assuming mandatory compliance with standard ALUC conditions of approval, the buildings constructed under the Reduced Project Alternative would have the same building heights as proposed by the Project, which were determined by the Riverside County Airport Land Use Commission

(ALUC) to be consistent with the restrictions and requirements of the March ARB/IPA Compatibility Plan. Impacts would be less than significant under both the proposed Project and the Reduced Project Alternative.

H. Hydrology and Water Quality

Although the One Building Alternative would disturb a smaller physical area than the proposed Project, neither the proposed Project nor the One Building Alternative would result in substantial alterations to the drainage pattern of the site or would result in substantial erosion effects (with mandatory compliance with a SWPPP). Accordingly, implementation of either the proposed Project or the One Building Alternative would result in less than significant impacts to existing drainage patterns. In the long-term, potential hydrology and water quality effects on the undeveloped portions of the Project site would be identical to existing conditions. On the developed, eastern portion of the property, this Alternative would introduce high cube/light industrial land uses to the subject property, which would result in the potential for urban pollutants to be carried off-site by storm water runoff. However, like the proposed Project, this Alternative would require compliance with a site-specific WQMP and its associated BMPs. Therefore, implementation of this Alternative would result in less-than-significant impacts with compliance to a SWPPP and a site-specific WQMP and its associated BMPs. The One Building Alternative would result in similar hydrology and water quality impacts as the Project.

I. Land Use/Planning

The One Building Alternative would not result in any direct or cumulative impacts to Riverside County CMP facilities; therefore, this Alternative would avoid the Project's cumulatively considerable conflict with the Riverside County CMP. Because air pollutant emissions would be reduced under this Alternative, as compared to the proposed Project, this Alternative would reduce the Project's degree of inconsistency with the SCAQMD's 2012 AQMP and the SCAG's *RTP/SCS* related to regional air quality. Regardless, this Alternative would not avoid the Project's cumulatively considerable air quality impacts and, therefore, would not avoid the Project's significant and unavoidable cumulatively conflicts with the SCAQMD AQMP and SCAG *RTP/SCS*.

J. Noise

As with the proposed Project, noise associated with this Alternative would occur during near-term construction activities and under long-term operation. The One Building Alternative would have similar ground-disturbing physical impacts as the proposed Project along the eastern portion of the Project site, which is the portion of the property nearest to sensitive receptors. Therefore, noise associated with short-term grading activities would be similar between the proposed Project and the One Building Alternative. Building construction activities would be less intense under the One Building Alternative, and would result in less noise impacts than the Project, due to the smaller building area and the reduced amount of equipment on-site. Because the most intensive noise levels occur during grading activities, and the Project and the One Building Alternative would have similar grading impacts, the same mitigation measure would be required, which is the installation of a temporary sound barrier during construction to reduce construction-related noise impacts to less than significant.

Similar to the proposed Project, under long-term operations, noise generated by this Alternative would be associated with vehicles traveling to and from the site and on-site vehicle idling, maneuvering and parking. This Alternative would generate fewer vehicle trips than would be generated by the proposed Project and therefore would generate less vehicle-related noise than the Project. As with the proposed Project, a concrete tilt-up screen wall would be constructed along the site's frontage with Indian Street. The screen wall would act as a noise barrier for operational noise emitted from the site, thus nearby sensitive receptors would not experience operational noise levels above the City of Moreno Valley's noise standard. Both the proposed Project and this Alternative would be subject to the same regulatory requirements and mitigation measures that would reduce impacts to less-than-significant levels.

K. Transportation/Traffic

The One Building Alternative is estimated to generate approximately 672 actual vehicle trips on a daily basis (utilizing the ITE trips generation rates for high-cube warehouse uses, not adjusted for PCE). For comparison purposes, the proposed Project would generate approximately 4,960 actual vehicle trips on a daily basis (not adjusted for PCE). During the AM and PM peak hours, the One Building Alternative would generate less than 50 peak hour trips; therefore, the Alternative's contribution of traffic to the local and regional circulation network is considered less than substantial and would not have the potential to cause or contribute to any direct or cumulatively considerable impacts at any intersection, roadway segment or CMP facility (including freeway facilities). The One Building Alternative would avoid all of the Project's significant and unavoidable impacts related to transportation/traffic.

L. Conclusion

The One Building Alternative is anticipated to avoid the Project's significant and unavoidable impacts to greenhouse gas and transportation traffic. In addition, the One Building Alternative is anticipated to reduce the severity of, but not avoid, the Project's significant and unavoidable impacts to air quality, and land use/planning. The One Building Alternative also would reduce the severity of all of the Project's less-than-significant impacts with the exception of aesthetics, which would be slightly increased due to a less cohesive visual character and a reduction in visual quality across the entire property. The One Building Alternative would fail to meet two of the Project's objectives and would meet four other objectives less successfully than the Project, as indicated in Table 6-2 (see the end of this EIR Section). The One Building Alternative is identified as the environmentally superior alternative.

Table 6-1 Alternatives to the Proposed Project - Comparison of Environmental Impacts

Environmental Topic	Proposed Project Significance of Impacts After Mitigation	Level of Impact Compared to the Proposed Project			
		No Development Alternative	No Project Alternative	Reduced Project Alternative	One Building Alternative
Aesthetics	Less-than-Significant Impact	No Impact	Similar to Project	Similar to the Project	Increased
Agricultural Resources	Less-than-Significant Impact	No Impact	Identical to Project	Identical to Project	Reduced
Air Quality	Significant and Unavoidable Direct and Cumulatively Considerable Impact	No Impact	Increased	Reduced, Not Avoided	Reduced, Not Avoided
Biological Resources	Less-than-Significant Impact	Temporary Impacts from Weed Abatement	Identical to Project	Identical to Project	Reduced
Cultural Resources	Less-than-Significant Impact	No Impact	Identical to Project	Identical to Project	Reduced
Greenhouse Gas Emissions	Significant and Unavoidable Direct and Cumulatively Considerable Impact	No Impact	Identical to Project	Reduced, Not Avoided	Avoided
Hazards and Hazardous Materials	Less-than-Significant Impact	No Impact	Identical to Project	Similar to Project	Reduced
Hydrology / Water Quality	Less-than-Significant Impact	Increased Sedimentation	Nominal Reduction	Similar to Project	Reduced
Land Use / Planning	Significant and Unavoidable Cumulatively Considerable Impact	No Impact	Similar to Project	Reduced, Not Avoided	Avoided
Noise	Less-then-Significant Impact	No Impact	Nominal Reduction	Reduced, Not Avoided	Reduced
Transportation / Traffic	Significant and Unavoidable Direct and Cumulatively Considerable Impact	No Impact	Identical to Project	Reduced, Not Avoided	Avoided
Ability to Meet the Basic Objectives of the Project					
Objective A: Implement the Moreno Valley Industrial Area Plan (MVIAP) through the construction and operation of a Class A logistics center in conformance with the land use designations applied to the property by the City of Moreno Valley General Plan and the MVIAP, as amended.		No	Yes	Yes, but to a lesser extent	No
Objective B: To develop and maximize the buildout potential of a vacant or underutilized property in the MVIAP area that has access to available infrastructure.		No	Yes	No	No
Objective C: To attract new employment-generating businesses to the MVIAP area thereby providing a more equal jobs-housing balance both in the City of Moreno Valley and in the Riverside County/Inland Empire area and reducing the need for members of the local workforce to commute outside the area for employment.		No	Yes	Yes, but to a lesser extent	Yes, but to a lesser extent
Objective D: To develop logistics buildings with loading bays and trailer parking within close proximity of regional transportation routes and designated City of Moreno Valley truck routes in order to facilitate the efficient movement of goods.		No	Yes	Yes, but to a lesser extent	Yes, but to a lesser extent

Table 6-1 Alternatives to the Proposed Project - Comparison of Environmental Impacts

Ability to Meet the Basic Objectives of the Project				
Objective E: To develop logistics center buildings that are physically and economically feasible to construct and operate and that are economically competitive with other geographic markets in the Inland Empire to attract building users to Moreno Valley.	No	Yes	Yes, but to a lesser extent	Yes, but to a lesser extent
Objective F: To develop a vacant or underutilized property with structures that have architectural design and operational characteristics that complement existing and planned warehouse development in the immediate vicinity.	No	No	Yes, but to a lesser extent	Yes, but to a lesser extent
Objective G: To develop the subject property with land uses that are harmonious to the adjacent March Air Reserve.	No	Yes	Yes	Yes

7.0 REFERENCES

7.1 Persons Involved in Preparation of the EIR

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7.2 Documents Appended to this EIR

The following reports, studies, and supporting documentation were used in preparing the Moreno Valley Logistics Center EIR and are bound separately as Technical Appendices. A copy of the Moreno Valley Logistics Center EIR Technical Appendices is available for review at the City of Moreno Valley Community & Economic Development Department 14177 Frederick Street, Moreno Valley, CA 92552.

Appendix A	Initial Study for Moreno Valley Logistics Center, Notice or Preparation, and Written Comments
Appendix B1	Urban Crossroads, Inc. 2016a. *Moreno Valley Logistics Center Air Quality Impact Analysis, City of Moreno Valley*. March 17, 2016.
Appendix B2	Urban Crossroads, Inc. 2016b. *Moreno Valley Logistics Center Mobile Source Diesel Health Risk Assessment, City of Moreno Valley*. June 3, 2016.
Appendix B3	Urban Crossroads, Inc. 2016h. *Moreno Valley Logistics Center 300-foot Setback Site Plan.* March 17, 2016.
Appendix C1	Glenn Lukos Associates, Inc. 2016. *Biological Technical Report for the Moreno Valley Logistics Center.* March 17, 2016.
Appendix C2	Glenn Lukos Associates, Inc, 2015. *Jurisdictional Delineation of the Moreno Valley Logistics Center Project Study Area*. May 12, 2015.
Appendix D1	Brian F. Smith and Associates, Inc. 2016a. *Phase I Cultural Resources Survey for the Moreno Valley Logistics Center Project*. March 4, 2016.
Appendix D2	Brian F. Smith and Associates, Inc. 2016b. *Paleontological Resource and Monitoring Assessment, Moreno Valley Logistics Center Project*. March 3, 2016.
Appendix E	Urban Crossroads, Inc. 2016c. *Moreno Valley Logistics Center Greenhouse Gas Analysis, City of Moreno Valley*. March 17, 2016.
Appendix F	Farallon Consulting. 2015. *Phase I Environmental Site Assessment Report.* March 23, 2015.
Appendix G1	Thienes Engineering. 2016a Preliminary *Hydrology Conditions*. March 10, 2016.
Appendix G2	Thienes Engineering. 2016b. *Project Specific Final Water Quality Management Plan (WQMP).* March 10, 2016.

Appendix H Urban Crossroads, Inc. 2016d. *Moreno Valley Logistics Center Noise Impact Analysis, City of Moreno Valley*. February 25, 2016.

Appendix I1 Urban Crossroads, Inc. 2016e. *Moreno Valley Logistics Center Traffic Impact Analysis, City of Moreno Valley*. June 17, 2016.

Appendix I2 Urban Crossroads, Inc. 2015a. *Moreno Valley Logistics Center Supplemental Basic Freeway Segment Analysis.* September 23, 2015.

Appendix I3 Urban Crossroads, Inc. 2015b. *Moreno Valley Logistics Center Construction Traffic Evaluation.* November 17, 2015.

Appendix I4 Urban Crossroads, Inc. 2016f. *Moreno Valley Logistics Center Fair Share Calculations*. June 17, 2016.

Appendix J Eastern Municipal Water District. 2015. *Water Supply Assessment Report for the Moreno Valley Logistics Center*. September 16, 2015.

Appendix K Urban Crossroads, Inc. 2016g. *Moreno Valley Logistics Center Energy Analysis, City of Moreno Valley*. March 17, 2016.

Appendix L Southern California Geotechnical. 2015. *Geotechnical Investigation Proposed Moreno Valley Logistics Center*. March 24, 2015.

Appendix M Farallon Consulting. 2016a. *Soil Testing for Organochlorine Pesticides Moreno Valley Logistics Center*. January 8, 2016.

Appendix N Farallon Consulting. 2016b. *Vapor Migration Analysis Moreno Valley Logistics Center*. May 10, 2016.

Appendix O Andrew Chang & Co. 2016. *Moreno Valley Logistics Center Economic and Fiscal Impact Report*. June 2016.

7.3 Documents Incorporated by Reference

The following reports, studies, and supporting documentation were used in the preparation of this EIR and are incorporated by reference within this EIR. A copy of the following reports, studies, and supporting documents is a matter of public record and is available to the public at the location listed.

Moreno Valley, City of. 2006a. Moreno Valley General Plan. Approved July 11, 2006. Available at the City of Moreno Valley Community & Economic Development Department, Planning Division, 14177 Frederick Street, Moreno Valley, CA 92552. Web. Available at: http://www.moreno-valley.ca.us/city_hall/general_plan.shtml

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7.4 References Used in Preparation of this EIR

The following reports, studies, and supporting documentation were used in preparation of this EIR.

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