South Moreno Valley Walmart Project

Draft Environmental Impact Report

Prepared for:
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April 2015

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DRAFT ENVIRONMENTAL IMPACT REPORT

for the

South Moreno Valley Walmart Project

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April 2015

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1.0 EXECUTIVE SUMMARY

1.0 EXECUTIVE SUMMARY

1.1 INTRODUCTION

Pursuant to the requirements of the California Environmental Quality Act (CEQA), this Environmental Impact Report (EIR) evaluates and discloses the potential environmental effects resulting from construction and operation of the proposed South Moreno Valley Walmart Project (the Project). The Project would result in up to 193,000 square feet of new retail/commercial uses on the 22.28-acre (gross) site[1], located within the City of Moreno Valley, in Riverside County. Specifically, the site is a triangular-shaped parcel located at the intersection of Perris Boulevard and Gentian Avenue. Gentian Avenue forms the site's northern boundary. The site is bordered to the east by Perris Boulevard and the California Aqueduct forms the site's westerly boundary. Santiago Drive borders the site to the south. Please refer also to EIR Section 3.0, *Project Description*, and Figure 3.2-1, *Project Location*.

This EIR Section summarizes relevant Project background issues, provides a brief description of the Project and its Objectives, and summarizes the potential environmental impacts of the proposal. Table 1.10-1, *Summary of Impacts and Mitigation*, presented at the conclusion of this Section, lists these impacts and presents the mitigation measures recommended to eliminate or reduce the effects of those impacts which have been determined to be potentially significant. Alternatives to the Project which could reduce the extent or severity of the Project's identified environmental impacts are also briefly described within this Section. For a full description of the Project, its impacts, recommended mitigation measures, and considered Alternatives, please refer to EIR Sections 3.0, 4.0, and 5.0, respectively.

[1] Rights-of-way and parks dedications would total approximately 2.03 acres, yielding approximately 20.25 net acres.

1.2 PROJECT ELEMENTS

Primary elements comprising the Project are summarized below. Please refer also to the expanded characterization of Project facilities and operations presented at EIR Section 3.0, *Project Description*.

1.2.1 Site Preparation

The Project area would be grubbed, rough-graded, and fine-graded in preparation of building construction. Debris generated during site preparation activities would be disposed of and/or recycled consistent with the City's Source Reduction and Recycling Element (SRRE). Existing grades within the Project site would be modified to establish suitable building pads and to facilitate site drainage. Approximately 521 cubic yards of soil export would be required over the course of Project site preparation and construction.

1.2.2 Project Development Concept

As one of the Project's requested discretionary actions, the Project site would be subdivided into two commercial parcels (Parcels 1 and 2). Parcel 1 and Parcel 2 land uses and development concepts proposed by the Project are described below and summarized at Table 1.2-1. The Project Site Plan Concept is presented at Figure 1.2-1.

Parcel 1, Walmart Store. Parcel 1, approximately 19.25 acres, would be developed with the proposed Walmart Store (Store) totaling approximately 185,761 square feet, and would incorporate all appurtenant structures and facilities for the sale of general merchandise, groceries and liquor, including without limitation, a garden center, truck docks and loading facilities, outdoor sale facilities, outside container storage facilities, rooftop proprietary satellite communication facilities and parking facilities. The Store may contain without limitation, a drive thru pharmacy, a medical clinic, a vision and hearing care center, a food service center, a photo studio, a photo finishing center, a banking center and other similar accessory uses. The Store may, among other things, carry pool chemicals, petroleum products, pesticides, paint products, and ammunition. The Store would operate 24 hours a day.

Truck doors, loading facilities, and areas dedicated to trash compaction, organic waste, recycling, and bale and pallet storage will also be provided at the rear of the building, along Gentian Avenue.

A stormwater detention basin would be located at the southwesterly corner of Parcel 1, westerly adjacent to Parcel 2. Under post-development conditions, onsite stormwater runoff would be directed to this detention basin via a system of underground pipes and catch basins. Detention capacity and controlled release of storm waters from the Project stormwater detention basin would ensure that post-development stormwater discharges do not exceed pre-development conditions. The detention basin would also functionally ensure that carrying capacities of upstream and downstream stormwater management systems would not be adversely affected. The proposed detention basin would also serve as a stormwater treatment component of the Project Water Quality Management Plan (WQMP), acting to preclude or substantively reduce the potential for discharge of stormwater pollutants from the Project site.

Parcel 2, Outer Parcel Uses. Parcel 2, approximately 1.00 acre, is located in the southernmost portion of the Project site, northwesterly of the intersection of Santiago Drive and Perris Boulevard. Parcel 2 would be developed under one of two potential Development Options. Under Development Option "A," Parcel 2 would be developed with a commercial gas station, convenience store, and car wash. Under Development Option "B," Parcel 2 would be developed with a fast food w/drive-through restaurant of approximately 3,500 square feet, plus 3,300 square feet of retail shops.

When comparing the "A" and "B" Options, all other factors being approximately equal, Option A would generate more traffic, vehicular-source air pollutant emissions, and vehicular-source noise than would Option B (please refer to related discussions presented at pages 2-6, 2-7 of the EIR Initial Study, EIR Appendix A). The Parcel 2 Development Option A is therefore considered to establish the likely maximum impact

scenario for the Project, and is the basis for the environmental analyses presented in this EIR and all supporting technical studies and analyses.[2]

Within the scope and context of the "A" and "B" Development Options described above, the specific use and development concept for Parcel 2 would ultimately be determined by market demands.

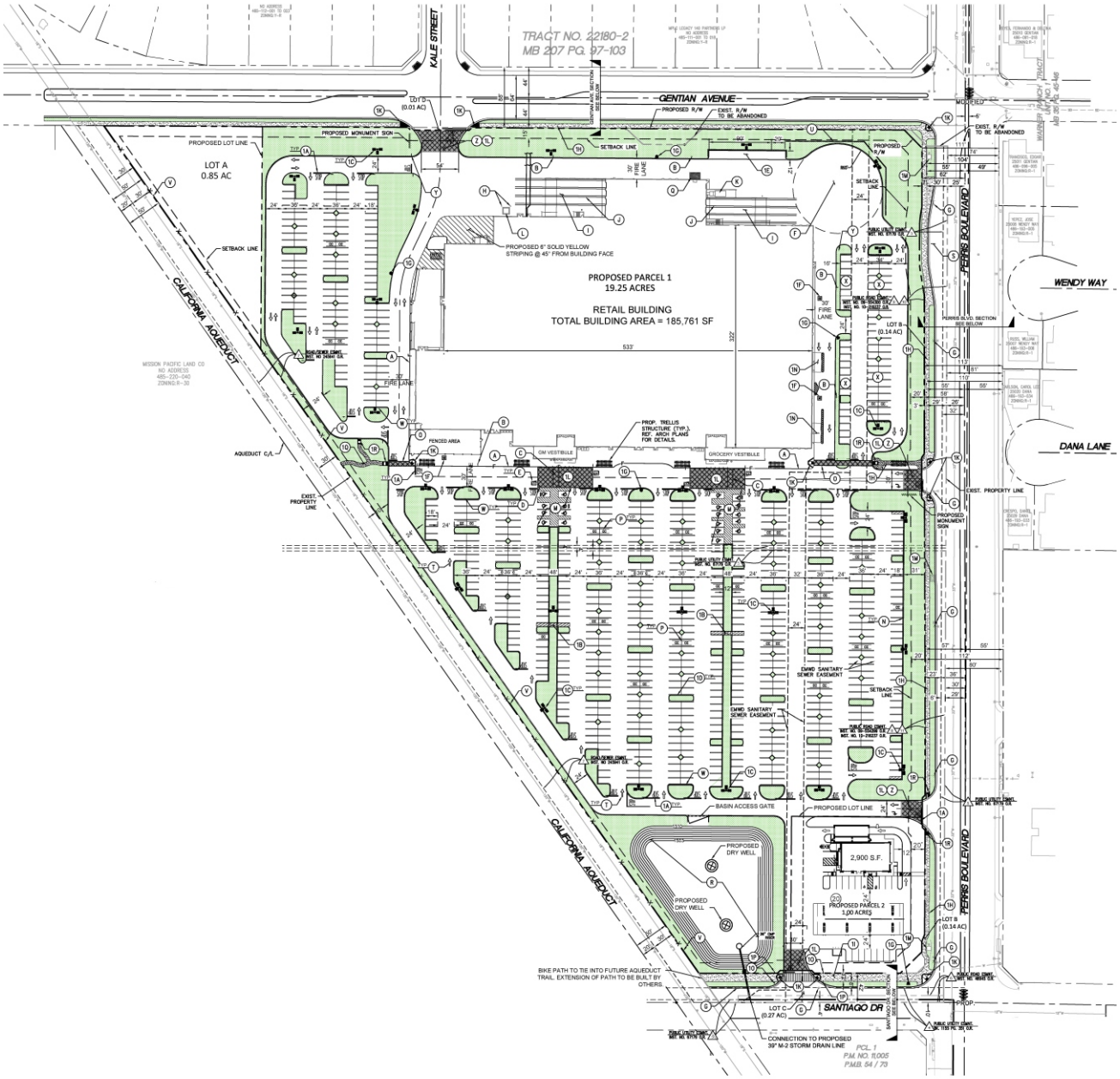
Other. Approximately 0.85 acres located in the northwesterly corner of the Project site (Lot "A") would be allocated for park dedication. The remainder of the Project site (approximately 1.18 acres) would comprise necessary right-of-way dedications.

Table 1.2-1
Summary of Project Development

Parcel	Use	Parcel Area (approximate)	Building Area (approximate)
1	Walmart Supercenter	19.25 Acres	185,761 s.f.
2	Development Option A: * Gas Station w/Convenience Store and Car Wash*	1.00 Acre	2,900 s.f. (16 fueling points)
	Development Option B: Fast-food restaurant with drive-through; retail shops	1.00 Acre	6,800 s.f. (Fast food restaurant w/drive through @ approx. 3,500 s.f.; retail shops @ approx. 3,300 s.f.)
Subtotal		*20.25 Acres*	*188,661 s.f. (Option A)* *192,561 s.f. (Option B)*
	R/W Dedication	1.18	n/a
	Parks Dedication	0.85	n/a
Subtotal		*2.03 acres*	
Site Total		**22.28 acres**	

Source: Project Site Plan Concept (Kimley-Horn and Associates) January 29, 2015.
Notes: * The EIR analysis reflects a likely maximum impact scenario which assumes development of Parcel 2 with a commercial gas station (16 fueling points), convenience store, and commercial car wash (Parcel 2, Development Option "A"). Alternatively, Parcel 2 may be developed with an approximately 3,500 s.f. fast food restaurant w/ drive-through; plus 3,300 s.f. of retail shops (Parcel 2, Development Option "B").

[2] Unless otherwise specified in this EIR and supporting technical studies, potential development of Parcel 2 under the Option "B" development concept would not result in substantively greater impacts or substantively different impacts than would otherwise result from the Parcel 2 Option "A" development concept.



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Source: Kimley-Horn and Associates, Inc.

applied planning inc

Figure 1.2-1
Site Plan Concept

1.2.3 Access and Circulation

Primary access to the Project would be provided via two (2) driveways off of westerly adjacent Perris Boulevard. A driveway connecting to Gentian Avenue along the Project site northerly boundary would provide secondary access to the Project site as well as truck and delivery access to the Walmart Store. A driveway accessing Santiago Drive along the southerly Project boundary would provide access to the Parcel 2 uses as well as access to the proposed Walmart Store via a reciprocal access agreement. Final designs and specifications for all Project driveways, traffic controls, and internal circulation improvements would conform to requirements of the City's Engineering Department.

The Project Site Plan Concept identifies a total of 826 parking spaces in support of the proposed Walmart; and 20 spaces in support of the gas station/convenience store/carwash proposed under the Parcel 2 Development Option "A." Should the Parcel 2 Development Option "B" be implemented (fast-food restaurant w/drive-through and retail shops), approximately 51 total parking spaces would be provided. All parking areas and their configurations would be designed and implemented consistent with City of Moreno Valley Municipal Code Chapter 9.11, Parking, Pedestrian, and Loading Requirements. Project implementation would also involve the construction of a number of roadway and intersection improvements occurring on or adjacent to the Project site. Please refer to EIR Section 3.4.5, *Access/Circulation/Parking* for descriptions of these improvements.

1.2.4 Other Site Improvements and Amenities

Supporting site improvements to be implemented by the Project would include, but would not be limited to: landscaping/hardscape improvements; walls/screening; decorative and security lighting; and directional and informational signage. Figure 3.4-6 (please refer to EIR Section 3.0, *Project Description*) presents the Project landscape/hardscape concept. As indicated at Figure 3.4-6, the Project would incorporate perimeter and interior landscaping and streetscape elements, acting to generally enhance the Project's visual qualities and views of the Project site as seen from off-site vantages.

The proposed Project landscape palette includes varied trees, shrubs, and ground cover. The Project landscape palette, site design accents, including all landscape/hardscape designs and features would be subject to City review and approval.

1.2.5 Infrastructure, Utilities, and Public Services

All public services, infrastructure systems, and utilities are currently available to the Project site. The Project would implement necessary utilities improvements to include connections to existing services, and/or necessary realignment or modification of existing service lines. This Project would also obtain all required permits from the Riverside County Flood Control and Water Conservation District (RCFCWCD, District) in order to implement necessary portions of the District's area-serving Master Drainage Plan (MDP) "M-2" Line. All connections to, and modification of, utilities necessary to serve the Project would be accomplished consistent with City and purveyor requirements. Public services and utilities/infrastructure available to the Project are summarized in the following paragraphs.

1.2.5.1 Fire and Police Protection Services

Fire and police protection services are currently provided to the Project site and surrounding areas. Fire Protection Services are provided by the City of Moreno Valley Fire Department. Police Protection Services are provided by the Moreno Valley Police Department (under contract with the Riverside County Sheriff's Department).

1.2.5.2 Utilities/Infrastructure

The following utilities/infrastructure systems and services are available to the Project:

- Water/Sewer (Eastern Municipal Water District);
- Storm Drain/Storm Water Management (Moreno Valley Public Works Department);
- Storm Drain Infrastructure (Riverside County Flood Control and Water Conservation District);
- Electricity (Moreno Valley Electric Utility; Southern California Edison);
- Natural Gas (Southern California Gas Company); and

- Telephone/Communications (Verizon; AT&T; or other contract services).

1.3 DISCRETIONARY APPROVALS AND PERMITS

The following discretionary approvals and decisions are required for the Project:

- **Certification of the EIR**. Certification of the Project EIR is requested, to include the adoption of Facts, Findings and a Statement of Overriding Considerations; and adoption of the EIR Mitigation Monitoring Program.

- **Approval of a Tentative Parcel Map** to divide the single parcel into two parcels;

- **Plot Plan Review and Approval** to include Project design and architectural reviews; and review and approval of the Walmart pharmacy and alcohol sales as ancillary uses;

- **Approval of Conditional Use Permits** as follows:
  - Parcel 2 Development Option A would implement a fueling station, alcohol sales for offsite consumption, and a drive-through car wash; all of which would require a CUP.
  - Parcel 2 Development Option B includes a fast food with drive-through restaurant, and retail shops. The proposed fast food with drive-through restaurant would require a CUP.

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

1.3.1 Other Permits and Approvals

CEQA Guidelines Section 15124 also provides that requirements or potential requirements for "Other Permits and Approvals" should, to the extent known, be identified. Based on the current Project design concept, other permits necessary to realize the proposal will likely include, but are not limited to, the following.

- Permitting may be required by/through the South Coast Air Quality Management District (SCAQMD) for certain aspects of the Project operations and its associated equipment.

- Permitting (i.e., utility connection permits) may be required from utility providers.

- Permits from the Riverside County Flood Control and Water Conservation District in order to implement necessary portions of the District's area-serving RCFCWCD MDP "M-2" Line.

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

1.4 INITIAL STUDY

The City of Moreno Valley, through the Initial Study process, has determined that the Project has the potential to cause or result in significant environmental impacts, and warranted further analysis, public review, and disclosure through the preparation of an EIR. The Initial Study (IS) and associated EIR Notice of Preparation (NOP), dated March 2014, were forwarded to the California Office of Planning and Research, State Clearinghouse (SCH), and circulated for public review and comment. The State Clearinghouse established the public comment period for the NOP/IS as April 18 through May 19, 2014. The assigned State Clearinghouse reference for the Project is SCH No. 2014031078. The Initial Study, NOP, and NOP responses are presented at Appendix A of this EIR.

1.5 IMPACTS NOT FOUND TO BE POTENTIALLY SIGNIFICANT

The following discussions summarize those environmental issues that have been determined pursuant to the IS/NOP preparation and public review processes to pose no potentially significant impacts. Specific issues considered to pose no potentially significant impacts are not substantively discussed within the body of this EIR. Please

refer also to related discussions and analyses presented within the Initial Study, EIR Appendix A, and EIR Table 1.10-1, *Summary of Impacts and Mitigation*.

Aesthetics

The Project site is located in an urbanized area. Implementation of the Project would not involve development that would affect scenic vistas or scenic resources within the vicinity of a designated scenic highway. The closest designated scenic highways are State Route 60 and Moreno Beach Drive; each located approximately 3 miles from the Project site. The site is vacant, and therefore no historic buildings are currently located on, or adjacent to, the Project site. The General Plan contains policies that regulate development along designated and eligible scenic highways. These policies act to maintain the scenic quality of the corridor through the use of setbacks, and the regulation of landscaping, signage, and power lines. Compliance with these existing City regulations will ensure development of the site will not impact surrounding views of any scenic resources or vistas.

Transition of the site from its current state to the commercial/retail uses proposed under the Project would tend to improve the visual character and quality of the site by improving undeveloped and underutilized areas with contemporary commercial structures and landscaping, consistent with the City General Plan. Preliminary concepts for the Project reflect contemporary commercial architectural designs, which will conform to the City's zoning and design standards, and are subject to City review and approval. At a minimum, the Project's building and landscape design will conform to the General Plan goals and policies. All Project lighting will comply with City requirements to illuminate the site without causing undue light or glare, or compromising views. The Project will further comply with any enhanced landscape design and architectural solutions that may be specified by City staff and incorporated as Project Conditions of Approval (COA).

As supported by the preceding discussions, the Project would have less-than-significant impacts for the following aesthetic considerations:

- Substantial adverse effects on a scenic vista;

- Substantial damage to scenic resources, including, but not limited to, trees, rocks, outcroppings, and historic buildings within a state scenic highway;

- Substantial degradation of the existing visual character or quality of the site and its surroundings; and

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

Agriculture and Forest Resources

The Project site and vicinity do not evidence currently active or recent agricultural uses; and these areas are not designated as farmland of local, regional or statewide importance; nor are any portions of the Project site subject to, or otherwise affected by, Williamson Act contracts. Further, there are no lands within the City of Moreno Valley that qualify, or are designated, as forest land or timberland. As such, the Project will have no impact for the following considerations:

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

- Conflict with existing zoning for agricultural use, or a Williamson Act contract.

- Conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production;

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

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

Biological Resources

The Project does not propose actions or uses that would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. On this basis, the Project would have a less-than-significant impact in regard to the following considerations:

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

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

The Project's potential to impact native wildlife habitat, wetlands, or riparian areas is addressed in EIR Section 4.9, *Biological Resources*. This EIR Section also examines the Project's potential to adversely affect sensitive/special status plant and wildlife species, including potential effects on the movements of any native resident or migratory fish or wildlife species.

Cultural Resources

There are no known historic, archaeological, or paleontological resources located within the Project site, nor would the Project affect any known offsite resources of historical, archaeological, or paleontological significance. Moreover, historic and current disturbance of the subject site indicates that whatever resources may have been previously present, have likely since been disturbed and/or removed.

As required by California Health and Safety Code Section 7050.5, should human remains be found, no further disturbance shall occur until the County Coroner has made

a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are found to be prehistoric, the coroner would coordinate with the California Native American Heritage Commission as required by state law. As such, the Project would have a less-than-significant impact for the following cultural resources consideration:

- Disturbance of any human remains, including those interred outside of formal cemeteries.

The Initial Study prepared for the Project determined that historic, archaeological, or paleontological resources may be present onsite in a buried context, and could be disturbed during new development activities proposed by the Project. Potential impacts to historic, archaeological, or paleontological resources are addressed at EIR Section 4.10, *Cultural Resources*.

Geology and Soils

The Project site is located in a region known to be seismically active, and seismic ground-shaking may be expected during an earthquake. However, the subject property is not located within an Alquist-Priolo Earthquake Fault Zone, and there are no known or suspected faults or fault traces within the site.

As implemented through the City's standard review and approval processes, a site and use-specific geotechnical study has been prepared for the Project, subject to review and approval by the City Engineer. In general, the geotechnical study addresses and reflects California Building Code design, engineering and construction requirements that act to minimize the effects of earthquakes and other geologic or soils conditions on structures. The Project would comply with the approved geotechnical study pursuant to City development permit review processes.

The Project site evidences no substantive internal elevation differences and, as such, is not internally susceptible to landsliding.

Construction activities associated with the Project would temporarily expose underlying soils, thereby increasing their interim susceptibility to erosion, until the Project is fully implemented. Potential erosion impacts incurred during construction activities are reduced below the level of significance through preparation of, and compliance with, a Storm Water Pollution Prevention Plan (SWPPP). In this regard, the Project proponent is required to file an approved SWPPP prior to initiation of construction activities. Compliance with the SWPPP is realized through ongoing inspection and monitoring of the subject site as provided for under the City's established building permit and site inspection processes.

The Project site is currently provided sewer services. No septic tanks or other alternative wastewater disposal systems are proposed.

Based on the preceding, the Project would result in less-than-significant impacts, or have no impact, for the following geology and soils considerations:

- Exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; strong seismic ground shaking; seismic-related ground failure; or landslides;

- Substantial soil erosion or the loss of topsoil; or

- Soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

The Initial Study prepared for the Project determined that there was the potential for the Project to be adversely affected by liquefaction hazards and/or unstable underlying soils conditions. These concerns are addressed at EIR Section 4.6, *Geology and Soils*.

Hazards and Hazardous Materials

During the normal course of construction activities, there will be limited transport of potentially hazardous materials (e.g., gasoline, diesel fuel, paints, solvents, fertilizer, etc.) to and from the Project site. The Project is required to meet all City Hazardous Materials Management Plans and regulations addressing transport, use, storage and disposal of these materials.

The Project does not propose uses or activities that would require atypical transportation, use, storage, or disposal of hazardous or potentially hazardous materials not addressed under current regulations and policies. Mandated compliance with existing regulations, as identified above, also reduces the potential for risk of accidental explosion or release of hazardous substances. Impacts in this regard are considered less-than-significant.

March Middle School and Rainbow Ridge Elementary School are located less than 1,000 feet southwesterly of the Project site. However, the Project proposes conventional commercial/retail uses, and does not include elements or aspects that will create or otherwise result in hazardous emissions, and does not propose or require substantive handling of hazardous or acutely hazardous materials, substances, or waste. Pre-packaged materials such as paint, solvents, glues, fertilizers, either sold by the Project retail uses or used during construction and maintenance are subject to extensive local, State, and federal regulations, and are not considered sources of potentially significant hazardous materials or hazardous emissions.

The Project site is located approximately 1 mile easterly of March Air Reserve Base. Air crash hazards and land use compatibility associated with the airport were analyzed in the Air Installation Compatibility Use Zone Report, originally prepared in 1998 and updated in 2005. The report mapped areas of potential concerns. These areas include area on or adjacent to the runway; or areas within the mapped Clear Zone, Accident Potential Zone (APZ) I, or APZ II. As indicated on Figure 6-5, "Air Crash Hazards" of the General Plan Safety Element, the Project site is located outside any identified airport hazard areas.

Additionally, the single-story, commercial use is in compliance with all Federal Aviation Administration (FAA) regulations for land uses in the vicinity of an airport, such as height restrictions, noise abatement, and lighting restrictions. As such, the Project's potential to result in aircraft-related safety hazards for future occupants of the site is considered less-than-significant. Moreover, it is noted that the Project does not propose activities or uses that would otherwise affect airports or airport operations.

The Project does not propose or require designs or activities that would interfere with any identified emergency response or emergency evacuation plan. Emergency procedures or design features required by County, State and Federal guidelines will be implemented during construction and during operation of the Project. Temporary alterations to vehicle circulation routes associated with Project construction are addressed through City-mandated construction traffic management plans. Ongoing coordination with the local fire and police departments during construction will ensure that potential interference with emergency response and evacuation efforts are avoided.

The Project site is located in an urbanized area, with no proximate wildlands. Moreover, the Project site and surrounding areas are currently provided fire protection and emergency response services by the Moreno Valley Fire Department. Development fees and taxes paid by the Project act to offset its incremental demands for fire protection services. The potential for the Project to expose people or structures to a significant risk of loss, injury or death involving wildland fires is considered to be less-than-significant.

Based on the preceding, the Project would have no impacts or less-than-significant impacts under the following hazards/hazardous materials considerations:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;

- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment;

- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;

- 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 the people residing or working in the project area;

- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for the people residing or working in the project area;

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; and

- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

The Project site is not located on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. The Phase I Environmental Site Assessment did, however, identify the potential use of herbicides, pesticides, and fertilizers as a Recognized Environmental Condition (REC) for the site given the prior use for agricultural purposes. Mitigation was identified in the Project's Initial Study (included in Draft EIR Appendix A) to address the potential presence of herbicides, pesticides, or fertilizers. This mitigation measure (identified as HA-1) has been carried forward as part of the Draft EIR (please refer to Table 1.10-1, *Summary of Impacts and Mitigation*, presented subsequently within this Section).

Hydrology and Water Quality

The Project would be provided water service by the Eastern Municipal Water District (EMWD) water system, and does not propose or require direct groundwater withdrawals. Nor would the Project be constructed within a designated groundwater

infiltration/percolation area or groundwater recharge facility, or otherwise interfere with or affect groundwater recharge.

Project development concepts do not involve substructures or underground activities that would significantly impair or alter the direction or rate of flow of groundwater. Direct additions or withdrawals of groundwater are not proposed by the Project, nor would the Project alter the site in such a way as to create any flood hazards or otherwise substantially alter area drainage patterns. The subject site does not lie within a dam inundation area.

The Project site does not lie within an identified 100-year flood hazard zone, nor is housing proposed as part of the Project. Accordingly, the Project would have no impacts regarding placement of housing within a 100-year flood hazard area.

The nearest body of water to the Project site is Lake Perris, located approximately three miles southeasterly of the site. At this distance, and because the site is located upgradient from the lake, the site is not considered susceptible to seiche-related hazards. The Project site is located approximately 40 miles easterly of coastal waters, and approximately 1,525 feet above mean sea level. As such, the site is not subject to tsunami hazards.

Based on the preceding discussion, the Project would result in less-than-significant impacts, or have no impact for the following hydrology and water quality considerations:

- 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 the 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);

- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;

- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;

- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or

- Inundation by seiche, tsunami, or mudflow.

Land Use

The Project site is located within the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) area. The Project will be implemented consistent with the requirements of the MSHCP. The Project's potential to conflict with any applicable habitat or natural communities conservation plan is considered less-than-significant.

Based on the preceding, the Project would have less-than-significant impacts for the following land use consideration:

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

Mineral Resources

There are no mineral resources known to exist within the Project site that would be of value to the region and the residents of the state. As such, the Project would result in no impacts for the following mineral resources considerations:

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

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

Noise

The Project site is located approximately 1 mile easterly of March Air Reserve Base. As indicated within the Air Installation Compatible Use Zone Study for March Air Reserve Base, the site is located well beyond the airport's 60 CNEL noise contour. As such, the Project's potential to cause an exposure of future occupants of the Project site to aircraft-related noise is considered less-than-significant. Moreover, it is noted that the Project does not propose activities or uses that would otherwise affect airports or airport operations. As such, the Project would have less-than-significant impacts for the following potential noise impact considerations:

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels; and

- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

Population and Housing

Construction of new housing is not a component of the Project. As such, the Project would not directly contribute to population growth. Employment generated by the Project may incidentally contribute to nominal population growth. Project-related employment demands would likely be filled by the existing personnel pool within the City and neighboring communities. Additionally, the General Plan Land Use designation of the Project site is "Commercial (C)." Zoning for the site is "Community Commercial (CC)." The Project will be implemented on a site designated for commercial uses. The Project does not involve or propose the displacement of any onsite or offsite housing stock. Based on the preceding, the Project would have no or less-than-significant impacts for the following population and housing considerations:

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

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

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

Public Services, Recreation

Employment opportunities created by the Project may result in increased secondary impacts to school and park facilities. Both the Moreno Valley Unified School District (MVUSD) and the Val Verde Unified School District provide educational facilities and services to the City of Moreno Valley. Increased student population could result from requests for Intra-District Transfers from employees of the Project wanting to enroll their children in schools closer to their place of employment. Yet any impacts from such school transfers would be minimal. The Project does not propose elements (e.g., residential development) that would result in substantial increased demands for neighborhood or regional parks or other recreational facilities. Secondary impacts to park facilities from commercial development would be the occasional use of a proximate park during a lunch or dinner break. The Project will pay required school impact fees, and will not contribute substantially to the resident population base using school and/or park facilities.

Development of the Project would require established public agency oversight including, but not limited to, plan check and permitting actions by the City Planning Division, City Public Works Department, Moreno Valley Police Department, and the Moreno Valley Fire Department. These actions typically fall within routine tasks of these agencies and are paid for via plan check and inspection fees. Similar to the previous discussion above, secondary impacts to library facilities from commercial

development would be the occasional use of a proximate library during a lunch or dinner break.

Based on the preceding, the Project would have less-than-significant or no impacts for the following public services and recreation considerations:

- Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, or other public facilities;

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

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

Transportation/Traffic

The Project does not propose elements or aspects that would affect air traffic patterns. As noted previously within discussions of safety hazards and noise, the Project is located outside any identified airport hazard areas. Additionally, the single-story, commercial use is in compliance with all Federal Aviation Administration (FAA) regulations for land uses in the vicinity of an airport, such as height restrictions, noise abatement, and lighting restrictions.

The Project does not present elements or aspects that would conflict with adopted alternative transportation policies. On a long-term basis, the Project may result in increased demand for public transportation as increased retail opportunities become

available onsite; however, existing transit service is available within the Project area. Affected transit agencies routinely review and adjust their ridership schedules to accommodate public demand. The need for transit-related facilities, including but not limited to bus shelters and bicycle parking, will be coordinated between the City and the Project Applicant, with input from transit providers as applicable, as part of the City's standard development review process.

On this basis, the Project would have less-than-significant impacts for the following potential transportation considerations:

- 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; or

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

Utilities and Service Systems

All necessary public services, infrastructure systems, and utilities are currently available to the Project site. No major new infrastructure or utilities improvements are proposed by the Project, nor are any required. The Project will implement necessary utilities improvements to include connections to existing services, and/or necessary realignment or modification of existing service lines. All connections to, and modification of, utilities necessary to serve the Project will be accomplished consistent with City and purveyor requirements. As discussed in the Initial Study, the Project would have less-than-significant impacts in regard to the following considerations:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;

- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;

- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;

- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed;

- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;

- Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs; and

- Comply with federal, state, and local statutes and regulations related to solid waste.

1.6 AREAS OF CONCERN OR CONTROVERSY

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

Responses received pursuant to distribution of the NOP and Public Scoping Meeting are presented at EIR Appendix A. Table 1.6-1 presents a list of NOP respondents, and a corresponding summary of NOP comments, indicated by *italicized text.* Responses to comments, together with correlating EIR references are indicated in subsequent statements. Unless otherwise noted, all NOP respondent comments are addressed within the body of the EIR.

Table 1.6-1
List of NOP Respondents and Summary of NOP Comments

Respondent	Summary of Comments
State Agencies	
State of California Office of Planning and Research, State Clearinghouse (SCH)	*SCH provided receipt and record of distribution of the NOP/IS and established the NOP review and comment period of April 18, 2014 through May 19, 2014.* EIR Appendix A includes a copy of the Project IS/NOP and NOP Responses.
State of California Department of Fish & Wildlife (CDFW)	*The CDFW response provides procedural guidance in determining the Project's potential to impact biological resources.* As discussed at EIR Section 4.9, *Biological Resources*, a comprehensive Biological Resources Survey was conducted for the Project site, and appropriate mitigation to address the Project's potential impacts to nesting birds and onsite riparian areas has been identified. With application of the EIR's proposed mitigation measures, the Project's potential impacts to biological resources would be less-than-significant.
State of California Department of Transportation, District 8 (Caltrans)	*Caltrans provides detailed guidance for preparation of the Project traffic study, referencing their Traffic Impact Study Guidelines. Contact information is also provided.* The Project Traffic Impact Analysis (TIA, EIR Appendix C) was prepared pursuant to applicable Caltrans guidelines. Topics referenced by Caltrans in their NOP Response are addressed at EIR Section 4.3, *Traffic and Circulation*.
State of California, Department of Water Resources (DWR)	*DWR provides concerns related to the maintenance of the integrity of the adjacent aqueduct structure and right-of-way. Contact information and a link to forms and guidelines are also provided.* Review and approval of construction activity by DWR, as well as contact information and application guidelines, is noted. Potential hydrology/water quality impacts of concern are addressed at EIR Section 4.7, *Hydrology/Water Quality.*
State of California, Native American Heritage Commission (NAHC)	*The NAHC response provides procedural guidance in determining the Project's potential to impact cultural resources.* EIR Section 4.10, *Cultural Resources*, summarizes the comprehensive Cultural Resources Investigation conducted for the Project site. The Investigation no cultural resources were identified within the Project site or vicinity. To avoid impacts to potential historic, prehistoric, or paleontological (fossil) resources that may be present onsite in a buried context, EIR mitigation measures require monitoring by a professional archaeologist during earth-moving activities; appropriate disposition of any recovered artifacts; and provisions for discovery of any Native American human remains. Representatives of the appropriate Indian tribes shall also be consulted with respect to the treatment of these resources.

Table 1.6-1
List of NOP Respondents and Summary of NOP Comments

Respondent	Summary of Comments
County/Regional Agencies	
South Coast Air Quality Management District (SCAQMD)	*SCAQMD provides detailed guidance in regard to the preparation of the Project air quality impact analysis, health risk assessment, and greenhouse gas analysis, and requests an electronic copy of these technical studies to be provided with the EIR.* The Project Air Quality Impact Analysis, Health Risk Assessment, and Greenhouse Gas Analysis are presented at EIR Appendices D and E. Specific topics referenced by the SCAQMD in their NOP response are addressed in Sections 4.4, *Air Quality* and 4.5, *Greenhouse Gas and Global Climate Change*. Modeling files and all air quality documentation have been transmitted to SCAQMD in electronic format(s) as requested.
City/Local Agencies	
March Air Reserve Base (MARB)	*MARB acknowledges the consistency of the proposed Project with the compatible land use and MARB mission operations at the proposed location.* The City appreciates MARB's review of the Project Initial Study. No new or additional issues or areas of controversy have been identified.
Individuals and Organizations	
Johnson & Sedlack- Letter Dated 04-02-2014	*The commentor requests to receive all notices regarding the Project, when available.* As requested, the commentor will be added to the City's list of persons/organizations receiving notifications of notices and information related to the proposed Project.
Johnson & Sedlack- Letter Dated 04-21-2014	*The commentor requests various topical issues be evaluated in the EIR.* Topical issues evaluated in this EIR are listed at Section 1.7, *EIR Topical Issues*. Please refer also to correlating topical Sections within this EIR.

1.7 EIR TOPICAL ISSUES

Based upon the Initial Study analysis, comments received pursuant to circulation of the NOP, and other public/agency input, the analysis of the EIR addresses the following topics:

- Air Quality;
- Biological Resources;
- Cultural Resources;
- Geology and Soils;
- Greenhouse Gas (GHG) Emissions;

- Hydrology/Water Quality;
- Land Use and Planning;
- Urban Decay;
- Noise; and
- Transportation/Traffic.

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

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

1.8 SUMMARY OF SIGNIFICANT PROJECT IMPACTS

Implementation of the Project as proposed will result in certain impacts which are determined to be significant. These impacts are discussed in detail in the body of the EIR text under their associated topical headings, and are summarized below.

Table 1.8-1
Summary of Significant and Unavoidable Impacts

Environmental Topic	Comments
Transportation/ Traffic	**Intersection Level of Service (LOS) Impacts/Roadway Segment Impacts** The Project Applicant would construct improvements and would, where applicable, pay requisite fees to be directed toward completion of necessary off-site traffic intersection and roadway segment improvements within the Study Area. Payment of fees does not assure timely implementation of required improvements. In instances where payment of fees is identified as mitigation, pending completion of required improvements, the Project's contributions to Opening Year (2018) and General Plan Buildout (Post-2035) Intersection Level of Service (LOS) Impacts/Roadway Segment impacts would be considered cumulatively significant. More specifically, absent recommended improvements, impacts would be cumulatively significant and unavoidable at Study Area Intersection No.s 1 through 7; 9, 10, 12 through 15; 17 through 21; 24 through 33; and 36 through 46.

Table 1.8-1
Summary of Significant and Unavoidable Impacts

Environmental Topic	Comments
	Freeway Ramp Queuing Impacts Within the Study Area, Under Opening Year and General Plan Buildout conditions, Project traffic would contribute to freeway ramp queuing deficiencies projected to occur at the I-215 Northbound Ramps at Cactus Avenue (Study Area Intersection No. 2). Improvements recommended to mitigate potentially significant intersection LOS conditions at this location would also address ramp queuing deficiencies; the Project Applicant would pay requisite fees directed toward the completion of these improvements. Nonetheless, payment of fees cannot assure timely implementation of the required improvements. Accordingly, pending completion of required improvements, the Project's contributions to Opening Year (2018) and General Plan Buildout (Post-2035) ramp queuing deficiencies projected to occur at the I-215 Northbound Ramps at Cactus Avenue would be considered cumulatively significant.
Air Quality	**NOx Regional Threshold Exceedance** Even after application of mitigation, Project operational-source emissions of nitrogen oxides (NO_x) would exceed applicable South Coast Air Quality Management District (SCAQMD) regional thresholds. This is a Project-level and cumulatively significant impact. **Contributions to Non-Attainment Conditions** Moreover, the Project is located within ozone and PM_{10}/$PM_{2.5}$ non-attainment areas (NO_x is a precursor to ozone, PM_{10}, and $PM_{2.5}$). Project operational-source NO_x emissions exceedances would therefore result in a cumulatively considerable net increase in criteria pollutants (ozone, PM_{10}, and $PM_{2.5}$) for which the Project region is non-attainment. These are cumulatively significant air quality impacts. **AQMP Inconsistency** The Project land uses are not reflected in land uses and development assumed in the South Coast Air Basin 2012 Air Quality Management Plan (AQMP); and on this basis, the Project is conservatively assumed to generate operational-source emissions not reflected within the current 2012 AQMP regional emissions inventory for the South Coast Air Basin (Basin). The Project is therefore considered to be inconsistent with the 2012 AQMP. This is a Project-level and cumulatively significant impact.

All other potential environmental effects of the Project are determined to be less-than-significant as substantiated within this EIR and accompanying Initial Study, or are reduced below levels of significance with application of mitigation measures identified herein. A summary of all Project impacts and proposed mitigation measures is presented at EIR Section 1.10, *Summary of Impacts and Mitigation Measures*.

1.9 ALTERNATIVES TO THE PROJECT

Consistent with provisions of the *CEQA Guidelines*, the EIR Alternatives Analysis (EIR Section 5.2) presents and evaluates alternatives to the Project that would lessen its significant environmental effects while allowing for attainment of the basic Project Objectives. The rationale underlying the selection of alternatives is presented together with a summary description of each alternative. Merits of the alternatives compared with the Project are described and evaluated.

Alternatives considered within the analysis include:

- No Project Alternative;
- No Build Alternative;
- Reduced Intensity Alternative;
- Alternative Site;
- "No Threshold Exceedance" Alternative for Traffic; and
- "NO_x Threshold Exceedance" Alternative for Air Quality.

Following are summary descriptions of each alternative. Please refer also to EIR Section 5.2, *Alternatives Analysis*.

1.9.1 No Project Alternative

Overview

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

> If the project is other than a land use or regulatory plan, for example a development project on identifiable property, the "no project" alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property

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

No Project/No Build Alternative

In the case considered here, the subject site is a vacant and available property absent any significant environmental or physical constraints. Further, the Project site is fully served by proximate available utilities and supporting public services; and is provided appropriate access. Areas around the subject site are developed with, or are being developed with urban uses.

The Project site's current General Plan Land Use designation is "Commercial" (C), and current zoning of the Project site is "Community Commercial" (CC). Given the subject site's Commercial General Plan Land Use designation and overlying Community Commercial zoning designation; availability of infrastructure/services, lack of environmental or physical constraints; and proximity of other urban development, it is considered unlikely that the subject site would remain vacant or in a "No Build" condition, and evaluation of a No Build condition would "analyze a set of artificial assumptions that would be required to preserve the existing physical environment." This is inconsistent with direction provided at *CEQA Guidelines*, Section 15126.6 (e) (3) (b), as presented above.

If however, a hypothetical No Project/No Build scenario were maintained, its comparative environmental impacts would replicate the existing conditions discussions for each of the environmental topics evaluated in this EIR; and comparative impacts of the Project would be as presented under each of the EIR environmental topics. In all instances, a No Build scenario would result in reduced environmental impacts when compared to the Project. A No Build condition would achieve none of the basic Project Objectives.

Evaluated No Project Alternative

In light of the preceding discussions, it is considered unlikely that the subject site would remain vacant or in a "No Build" condition. In this context, failure to proceed with the Project would likely not result in preservation of existing environmental conditions, and the practical result of the Project's non-approval would be the development of some other variety or configuration of urban uses within the subject site. Accordingly, for the purposes of the EIR Alternatives Analysis, it is presumed that if the Project were not constructed, the No Project Alternative would comprise another proposal representing the highest and best use of the subject site.

1.9.3 Reduced Intensity Alternative

The Project would result in certain significant traffic and air quality impacts. As discussed below, there are no feasible alternatives that would completely avoid these impacts. The Reduced Intensity Alternative considered in this EIR would, however diminish the extent of these impacts.

Feasible reduced intensity alternatives would not substantively reduce the Project's significant traffic impacts and were therefore not further considered. More specifically, the Project's significant traffic impacts are cumulative in nature and are a byproduct of the urbanization of the City (including development of the Project site) as envisioned under the City General Plan. That is, development of the City consistent with the General Plan would generate additional traffic, the effects of which would result in interim areawide deficient operating conditions. Development impact fees paid by new development proposals (including the proposed South Moreno Valley Walmart Project)

provide the means to resolve these deficiencies. Notwithstanding, interim deficient conditions affecting the existing roadway system are projected to occur pending completion of circulation system improvements commensurate with the development it is intended to support. In this regard, any development of the Project site consistent with the General Plan would generate additional traffic affecting the area roadway system, the effects of which would be cumulatively significant, and similar to those of the Project. A Reduced Intensity Alternative specifically directed toward substantively reducing or eliminating the Project's significant traffic impacts was therefore not considered further.

In light of the preceding considerations, the Reduced Intensity Alternative considered herein focuses on alternatives to the Project which would reduce or avoid certain significant air quality impacts. As detailed in EIR Section 4.4, *Air Quality*, operational-source air pollutants generated by the Project (due primarily to Project traffic and related mobile-source emissions) would exceed SCAQMD regional thresholds for NO_x. The Project's NO_x regional threshold exceedances are individually and cumulatively significant regional air quality impacts.

Further, the Project lies within a region that has been designated "non-attainment" for ozone, and PM_{10}/$PM_{2.5}$. As such, the above-noted operational exceedances of NO_x (NO_x is a precursor to ozone, PM_{10}, and $PM_{2.5}$), in combination with emissions generated by other sources affecting the non-attainment area, would result in a cumulatively considerable net increase in ozone, PM_{10}, and $PM_{2.5}$ emissions within the region. These are cumulatively significant air quality impacts.

As detailed at Section 5.2, to achieve the SCAQMD regional threshold for NO_x, operational-source NO_x emissions under the Reduced Intensity Alternative would need to be approximately 57.5 percent of NO_x emissions otherwise generated by the Project (a 42.5 percent net reduction in Project operational-source NO_x emissions). In order to achieve this reduction in NOx emissions, Project trip generation (essentially 100 percent of the Project operational-source NOx emissions are generated by Project traffic) and the Project scope would need to be comparably reduced. Such a reduction in scope would

effectively negate the Project, and is substantively *not* the Project proposed and submitted to the Lead Agency for consideration. An alternative that would fully achieve the SCAQMD regional threshold for NOx emissions was therefore not further considered.

Even though the estimated 42.5 percent reduction in Project scope necessary to achieve the SCAQMD regional threshold for NOx emissions is considered infeasible, Project NOx emissions exceedances could however be incrementally reduced through a reduction in Project scope and Project trip generation of some lesser extent. While this could be achieved through a variety of potential scope reduction schemes, for the purposes of this Alternatives Analysis, the Reduced Intensity Alternative considered here reflects elimination of the proposed Parcel 2 uses (Gas Station/Market/Car Wash), and development of the Project site with only the proposed Walmart. In this manner, the Reduced Intensity Alternative provides a readily-envisioned development concept that would reduce the extent of the Project's significant NO_x emissions impacts. Under the Reduced Intensity Alternative evaluated herein, operational-source NOx emissions otherwise resulting from the Project would be reduced by approximately 20.3 percent.[3] Project operational-source NOx emissions would however, still exceed applicable SCAQMD regional thresholds and would remain significant. Since the Reduced Intensity Alternative would reduce trip generation otherwise resulting from the Project, the extent of area traffic impacts may also be reduced, but would remain significant.

1.9.4 Alternative Site

As stated at *CEQA Guidelines* Section 15126.6 (f)(1)(2)(A), the "key question and first step in [the] analysis [of alternative locations] is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another

[3] In context, to achieve this same reduction in NOx emissions, the proposed Walmart Store would need to be reduced in scope by approximately 25 percent. This reduction in development intensity for the proposed Walmart is substantively *not* the Project proposed and submitted to the Lead Agency for consideration. Further a Store of this reduced scope is not consistent with the Applicant's prototypical building footprint and configuration considered necessary to successfully serve the market area. In this regard, the Applicant would likely not further pursue the Project at such a reduced scope. Moreover, at such a reduction in development intensity, the Project Objectives in total would be marginalized. For these reasons, a reduced intensity alternative based on a 25 percent reduction in the scope of the proposed Walmart Store is considered infeasible.

location." As discussed in the body of the Draft EIR, the Project will result in the following significant impacts:

- Individually and cumulatively significant traffic impacts; and
- Operational-source NOx emissions exceeding SCAQMD regional thresholds, and related cumulative air quality impacts.

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

In the case of the proposed Project, relocation to an Alternative Site within the City of Moreno Valley is not likely to achieve any measurable reduction in the Project's traffic impacts. In this regard, certain of the Project's significant cumulative traffic impacts would occur at, or would require improvement of, Caltrans jurisdictional facilities. Ultimately, planned and programmed improvements to Caltrans facilities would alleviate regionally and locally cumulatively significant impacts, including the Project's contributions to these impacts. Such improvements, however, are beyond the scope and purview of the Lead Agency and the Applicant. If not implemented at the current site, the Project uses would still contribute essentially the same volumes and types of traffic to Caltrans facilities, resulting in significant traffic impacts similar to those of the current Project at its current location; the impacts differentiated principally (if not solely) by their location(s) within the freeway system serving the City.

Similarly, implementation of area-serving traffic improvements, including intersection signalization and roadway segment widening as envisioned under the City General Plan Circulation Element, is an ongoing process undertaken in conjunction with the development of vacant or underutilized properties throughout the City. As such, it is highly unlikely that a suitable Alternative Site could be identified that would distribute Project trips only to roadways that have already been improved to their ultimate Moreno Valley General Plan configurations, thus avoiding the Project's significant impacts at area transportation facilities.

In regard to air quality impacts, the Project's operational-source emissions impacts are regional effects, and location of the Project anywhere within the South Coast Air Basin would result in similarly significant impacts. Relocation of the Project to an alternative site within the City would therefore not substantively reduce the Project's operational-source emissions impacts.

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

1.9.5 "No Threshold Exceedance" Alternative for Traffic

While specific improvements identified in the TIA and summarized at Draft EIR Section 4.3 could provide a physical solution to identified significant traffic impacts, the improvements cannot be feasibly implemented due to jurisdictional constraints. Any measurable additional traffic contributed to these intersections would result in significant traffic impacts, requiring some manner of currently infeasible mitigation. In that any development of the subject site or at a viable Alternative Site would generate trips likely affecting some or all of the referenced intersections, an alternative to the Project developed specifically to alleviate significant traffic impacts at significantly affected intersections was not further evaluated.

1.9.6 "NO_x Threshold Exceedance" Alternative for Air Quality

As discussed previously in this Section, in order to reduce Project operational-source NO_x emissions to levels that would avoid the exceedance of applicable SCAQMD thresholds, the Project scope and related vehicle trips would need to be reduced by an estimated 42.5 percent. At such a reduction in scope, the Project Objectives would be substantively marginalized and/or not realized in any meaningful sense; and the Project would likely not be further pursued by the Applicant. In terms of its practical application, such a reduction in scope would constitute a "no build" condition. For these reasons, an alternative based on a scenario developed specifically to achieve SCAQMD regional operational emissions thresholds for NO_x was not further considered.

1.9.7 Environmentally Superior Alternative

For the purposes of CEQA, the Reduced Intensity Alternative is considered to be the environmentally superior alternative. Please refer also to EIR Section 5.2, *Alternatives Analysis*.

1.10 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table 1.10-1 summarizes potential impacts resulting from implementation and operations of the Project. The impacts identified at Table 1.10-1 correspond with environmental topics and impacts discussed at EIR Section 4.0, *Environmental Impact Analysis*. Table 1.10-1 also lists measures proposed to mitigate potentially significant environmental impacts of the Project, and indicates the level of significance after application of proposed mitigation.

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Table 1.10-1
Summary of Impacts and Mitigation

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit.*

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
4.1 Land Use and Planning			
Physically divide an established community.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
4.2 Urban Decay			
Result in adverse physical changes or impacts due to the Project's economic effects.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
4.3 Traffic and Circulation			
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.	Potentially Significant under Existing Plus Project Conditions	***Existing Plus Project Conditions:*** *4.3.1 Prior to the issuance of occupancy permits, the Project Applicant shall install the following improvements at the intersection of Perris Boulevard/Santiago Drive (Study Area Intersection 36):* • *Install a traffic signal.* • *Construct an eastbound left turn lane.* *4.3.2 Prior to the issuance of occupancy permits, the Project Applicant shall install the following improvement at the intersection of Kitching Street/ John F. Kennedy Drive (Study Area Intersection 44):* • *Construct a northbound left turn lane.*	Less-than-significant at Study Area Intersection 36.
	Potentially Significant Existing Plus Project Conditions		Less-than-significant at Study Area Intersection 44.

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
	Potentially Cumulatively Significant under Opening Year Plus Project Conditions and/or General Plan Buildout Plus Project Conditions	***Opening Year Plus Project Conditions:*** *4.3.3 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvement at the intersection of I-215 Southbound Ramps / Cactus Avenue (Study Area Intersection 1):* • *Construct a 2nd westbound left-turn lane.* *4.3.4 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of I-215 Northbound Ramps / Cactus Avenue (Study Area Intersection 2):* • *Construct a 2nd northbound left-turn lane.* • *Construct a 3rd eastbound through WB left-turn lane.* • *Construct a 3rd westbound through lane.* *4.3.5 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Elsworth Street / Cactus Avenue (Study Area Intersection 3):* • *Construct a 2nd northbound left-turn lane.* • *Remove the southbound (west leg) crosswalk.* *4.3.6 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvement at the intersection of Frederick Street / Cactus Avenue (Study*	**Cumulatively Significant and Unavoidable at Study Area Intersection No.s 1 through 7; 9, 10, 12 through 15; 17 through 21; 24 through 33; and 36 through 46.** For the intersections listed, the Project Applicant pay requisite fees directed toward completion of necessary Study Area traffic improvements, thereby fulfilling the Project's mitigation requirements for potential cumulatively significant traffic impacts affecting Study Area intersections. Payment of fees does not however, assure timely implementation of required improvements. In instances where payment of fees is identified as mitigation, pending completion of required improvements, the Project's contributions to potentially significant cumulative intersection LOS impacts under Opening Year (2018) and General Plan Buildout (Post-2035) Conditions would be cumulatively considerable and significant.

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		Area Intersection 4): • *Construct a 3rd eastbound through lane.* *4.3.7 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Graham Street / Cactus Avenue (Study Area Intersection 5):* • *Construct a 2nd southbound left turn lane.* • *Construct a 2nd eastbound left turn lane.* • *Construct a 3rd eastbound through lane.* *4.3.8 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Indian Street / Gentian Avenue (Study Area Intersection 15):* • *Install a traffic signal. Although the intersection does not appear to warrant a traffic signal, no other geometric improvements are anticipated to result in acceptable peak hour operations. As such, it is recommended that the intersection be monitored and a traffic signal be installed at the City Traffic Engineer's discretion.* • *Construct a northbound left turn lane.* • *Construct a southbound left turn lane.* • *Restripe the eastbound right turn lane as a shared through-right turn lane.* • *Construct a westbound shared left-through-right turn lane.*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		4.3.9 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Indian Street / Harley Knox Boulevard (Study Area Intersection 21): • *Construct a 2nd southbound left turn lane.* • *Construct a southbound right turn lane and modify the traffic signal to implement overlap phasing.* • *Construct a 2nd eastbound left turn lane.* • *Construct a 2nd eastbound through lane.* *4.3.10 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of SR-60 Eastbound Off-Ramp / Sunnymead Boulevard (Study Area Intersection 24):* • *Restripe the southbound shared left-right turn lane as a 2nd left turn lane.* • *Construct a southbound right turn lane.* *4.3.11 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvement at the intersection of Perris Boulevard / Sunnymead Boulevard (Study Area Intersection 26):* • *Implement overlap phasing on the eastbound right turn lane.*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		4.3.12 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of SR-60 Eastbound On-Ramp / Sunnymead Boulevard (Study Area Intersection 27): • *Construct a roundabout.*[1] • *Construct an eastbound right turn lane.* *4.3.13 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvement at the intersection of Perris Boulevard / Cactus Avenue (Study Area Intersection 31):* • *Construct an eastbound right turn lane and modify the traffic signal to implement overlap phasing.* *4.3.14 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvement at the intersection of Perris Boulevard / Santiago Drive (Study Area Intersection 36):* • *Install a traffic signal (same improvement as required under Existing Plus Project condition).* *4.3.15 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvement at the intersection of Perris Boulevard / Iris Avenue (Study Area*	

[1] The City has recently been awarded a Highway Safety Grant for this intersection, which will be utilized to construct a roundabout.

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		Intersection 37): • *Modify the existing traffic signal and implement overlap phasing on the northbound right turn lane.* *4.3.16 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Krameria Avenue (Study Area Intersection 38):* • *Restripe the eastbound approach to provide a left turn lane and a shared through right turn lane.* • *Modify the traffic signal to implement protected left turn phasing for the eastbound and westbound approaches.* *4.3.17 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Harley Knox Boulevard (Study Area Intersection 41):* • *Construct a 2nd northbound through lane.* • *Construct a southbound left turn lane.* • *Construct a 2nd southbound through lane.* • *Modify the traffic signal and implement overlap phasing on the southbound right turn lane.* • *Construct a 2nd eastbound left turn lane.* • *Restripe the eastbound right turn lane as a shared through-right turn lane.* • *Construct a westbound left turn lane.* • *Construct a westbound shared through-right turn lane.*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		4.3.18 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Ramona Expressway (Study Area Intersection 42): • *Modify the traffic signal and implement overlap phasing on the southbound right turn lane.* • *Construct a westbound right turn lane and modify the traffic signal to implement overlap phasing.* *4.3.19 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvement at the intersection of Kitching Street / Cactus Avenue (Study Area Intersection 43):* • *Construct a 2nd southbound through lane.* *4.3.20 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Kitching Street / John F. Kennedy Drive (Study Area Intersection 44):* • *Construct a northbound left turn lane (same requirement as required under Existing Plus Project Condition).* • *Construct a 2nd northbound through lane.* • *Construct a southbound left turn lane.* • *Construct a 2nd southbound through lane.* • *Modify the traffic signal and implement protected*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		left turn phasing for the northbound and southbound approaches. *4.3.20.1 Prior to the issuance of building permits, the Project Applicant shall pay requisite DIF/TUMF toward the construction of the improved roadway segment configurations listed at Table 4.3-14.* ***General Plan Buildout Plus Project Conditions:*** *4.3.21 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of I-215 Southbound Ramps / Cactus Avenue (Study Area Intersection 1):* • *Construct a southbound free-right turn lane.* • *Construct a 2nd westbound left turn lane (same improvement required under Opening Year Conditions).* *4.3.22 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of I-215 Northbound Ramps / Cactus Avenue (Study Area Intersection 2):* • *Construct a 2nd northbound left turn lane (same improvement required under Opening Year Conditions).* • *Construct a 2nd northbound through lane.* • *Construct a southbound right turn lane and modify*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		the traffic signal to implement overlap phasing on the southbound right turn lane. • *Re-stripe the existing eastbound shared through-right turn lane as the 3rd through lane.* • *Construct an eastbound right turn lane.* • *Construct a 3rd westbound through lane (same improvement required under Opening Year Conditions).* • *Construct a 4th westbound through lane (to trap as the westbound right turn lane onto the I-215 Northbound ramp).* • *Construct a westbound right turn lane.* *4.3.23 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Elsworth Street / Cactus Avenue (Intersection 3):* • *Construct a 2nd northbound left turn lane (same improvement required under Opening Year Conditions).* • *Remove the southbound (west leg) crosswalk (same improvement required under Opening Year Conditions).* • *Construct a 3rd eastbound through lane. The 3rd eastbound through lane is consistent with the improvements identified in the City of Moreno Valley Capital Improvement Plan (CIP).* • *Construct a 4th eastbound through lane.*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		• *Construct a 4th westbound through lane.* • *Modify the traffic signal and implement protected left turn phasing for the northbound and southbound approaches.* *4.3.24 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Frederick Street / Cactus Avenue (Study Area Intersection 4):* • *Construct a 3rd eastbound through lane (same improvement required under Opening Year Conditions).* • *Construct a 4th eastbound through lane.* *4.3.25 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Graham Street / Cactus Avenue (Study Area Intersection 5):* • *Construct a 2nd southbound left turn lane (same improvement required under Opening Year Conditions).* • *Construct a 2nd eastbound left turn lane (same improvement required under Opening Year Conditions).* • *Construct a 3rd eastbound through lane (same improvement required under Opening Year Conditions).* • *Construct a 4th eastbound through lane.*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		4.3.26 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Heacock Street / Alessandro Boulevard (Study Area Intersection 6): • *Construct a 2nd northbound left turn lane.* • *Construct a 2nd southbound left turn lane.* • *Construct a 4th eastbound through lane.* *4.3.27 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Heacock Street / Cactus Avenue (Study Area Intersection 7):* • *Construct a 2nd southbound left turn lane.* • *Construct a 2nd eastbound left turn lane.* • *Construct a 3rd eastbound through lane.* • *Construct a 2nd eastbound right turn lane and modify the traffic signal to implement overlap phasing.* • *Construct 3rd westbound through lane.* *4.3.28 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Heacock Street / Gentian Avenue (Study Area Intersection 9):* • *Install a traffic signal.* • *Construct a 2nd northbound through lane.* • *Construct a 2nd southbound through lane.*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		4.3.29 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Webster Avenue / Harley Knox Boulevard (Study Area Intersection 10): • *Install a traffic signal. Although the intersection does not appear to warrant a traffic signal, no other geometric improvements are anticipated to result in acceptable peak hour operations. As such, it is recommended that the intersection be monitored and a traffic signal be installed at the City Traffic Engineer's discretion.* • *Construct a 2nd eastbound through lane.* • *Construct a 2nd westbound through lane.* *4.3.30 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Indian Street / Alessandro Boulevard (Study Area Intersection 12):* • *Construct a 2nd northbound left turn lane.* • *Construct a 2nd southbound left turn lane.* • *Construct a 4th eastbound through lane.* • *Construct a 2nd westbound left turn lane.* • *Construct a westbound right turn lane.* *4.3.31 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvement at the intersection of Indian Street / Cactus Avenue (Study Area*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		Intersection 13): • *Construct a 3rd eastbound through lane.* *4.3.32 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Indian Street / John F. Kennedy Drive (Study Area Intersection 14):* • *Construct a northbound right turn lane.* • *Construct a 2nd southbound left turn lane.* *4.3.33 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Indian Street / Gentian Avenue (Study Area Intersection 15):* • *Install a traffic signal (same improvement required under Opening Year Conditions).* • *Construct a northbound left turn lane (same improvement required under Opening Year Conditions).* • *Construct a southbound left turn lane (same improvement required under Opening Year Conditions).* • *Restripe the eastbound right turn lane as a shared through-right turn lane (same improvement required under Opening Year Conditions).* • *Construct a westbound shared left-through-right turn lane (same improvement required under Opening Year Conditions).*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		4.3.34 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Indian Street / Iris Avenue (Study Area Intersection 17): • *Construct a 2nd northbound through lane.* • *Construct a 2nd southbound through lane.* • *Construct a 2nd eastbound through lane.* • *Construct a 2nd westbound through lane.* *4.3.35 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Indian Street / Krameria Avenue (Study Area Intersection 18):* • *Install a traffic signal.* • *Construct a northbound left turn lane.* • *Construct a 2nd northbound through lane.* • *Construct a 2nd southbound through lane.* • *Construct an eastbound left turn lane.* • *Construct an eastbound through lane.* • *Construct an eastbound right turn lane with overlap phasing.* • *Restripe the westbound right turn lane as a shared through-right turn lane.* *4.3.36 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Indian Street / San Michele Road (Study Area Intersection 19):* • *Operation of installed traffic signal. Although the signal heads have been installed at this intersection,*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		they are all currently flashing red for an all-way stop operation. • *Construct two northbound left turn lanes.* • *Construct a 2nd northbound through lane.* • *Construct a northbound right turn lane.* • *Construct two southbound left turn lanes.* • *Construct a southbound right turn lane.* • *Construct an eastbound left turn lane.* • *Construct a 2nd eastbound through lane.* • *Construct two eastbound right turn lanes and modify the traffic signal to implement overlap phasing.* • *Construct a westbound left turn lane.* • *Construct a 2nd westbound through lane.* • *Construct a westbound right turn lane.* *4.3.37 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Indian Street / Nandina Avenue (Study Area Intersection 20):* • *Operation of installed traffic signal. Although the signal heads have been installed at this intersection, they are all currently flashing red for an all-way stop operation.* • *Construct two northbound left turn lanes.* • *Modify the traffic signal and implement overlap phasing on the northbound right turn lane.* • *Construct a southbound left turn lane.* • *Construct a 3rd southbound through lane.*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		• *Construct a southbound right turn lane.* • *Construct a 2nd eastbound right turn lane and modify the traffic signal to implement overlap phasing.* • *Construct two westbound left turn lanes.* *4.3.38 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Indian Street / Harley Knox Boulevard (Study Area Intersection 21):* • *Construct a 3rd northbound through lane.* • *Construct a 2nd southbound left turn lane (same improvement required under Opening Year Conditions).* • *Construct a southbound right turn lane and modify the traffic signal to implement overlap phasing (same improvement required under Opening Year Conditions).* • *Construct a 2nd eastbound left turn lane (same improvement required under Opening Year Conditions).* • *Construct a 2nd eastbound through lane (same improvement required under Opening Year Conditions).* • *Construct a 3rd eastbound through lane.* • *Construct a 3rd westbound through lane.* • *Construct a westbound right turn lane and modify the traffic signal to implement overlap phasing.*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		4.3.39 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of SR-60 Eastbound Off-Ramp / Sunnymead Boulevard (Study Area Intersection 24): • *Restripe the southbound shared left-right turn lane as a 2nd left turn lane (same improvement required under Opening Year Conditions).* • *Construct a southbound right turn lane (same improvement required under Opening Year Conditions).* *4.3.40 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvement at the intersection of Perris Boulevard / SR-60 Westbound Ramps (Study Area Intersection 25):* • *Construct a westbound left turn lane.* *4.3.41 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Sunnymead Boulevard (Study Area Intersection 26):* • *Construct a 2nd northbound left turn lane.* • *Construct a northbound right turn lane.* • *Construct a 3rd southbound through lane.* • *Implement overlap phasing on the eastbound right turn lane (same improvement required under Opening Year Conditions).*	

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Table 1.10-1
Summary of Impacts and Mitigation

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		• *Construct two westbound right turn lanes and modify the traffic signal to implement overlap phasing.* *4.3.42 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of SR-60 Eastbound On-Ramp / Sunnymead Boulevard (Study Area Intersection 27):* • *Construct a roundabout (same improvement required under Opening Year Conditions).* • *Construct a northbound left turn lane.* • *Construct a 3rd eastbound through lane.* • *Construct a 3rd westbound through lane.* *4.3.43 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Eucalyptus Avenue (Study Area Intersection 28):* • *Construct a 3rd northbound through lane.* • *Construct a 3rd southbound through lane.* *4.3.44 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Cottonwood Avenue (Study Area Intersection 29):* • *Construct a 3rd northbound through lane.* • *Construct a 3rd southbound through lane.*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		4.3.45 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Alessandro Boulevard (Study Area Intersection 30): • *Construct a 2nd northbound left turn lane.* • *Construct a 3rd northbound through lane.* • *Construct a 3rd southbound through lane.* • *Construct a 2nd eastbound left turn lane.* • *Construct a 3rd eastbound through lane.* • *Construct a 2nd westbound left turn lane.* • *Construct a westbound right turn lane.* • *Modify the traffic signal and implement overlap phasing on the southbound and eastbound right turn lanes.* *4.3.46 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Cactus Avenue (Study Area Intersection 31):* • *Construct a 2nd northbound left turn lane.* • *Construct a 3rd southbound through lane.* • *Construct a 2nd eastbound left turn lane.* • *Construct a 3rd eastbound through lane.* • *Construct an eastbound right turn lane and modify the traffic signal to implement overlap phasing (same improvement required under Opening Year Conditions).* • *Construct a westbound right turn lane.*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		4.3.47 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / John F. Kennedy Drive (Study Area Intersection 32): • *Construct a 2nd northbound left turn lane.* • *Construct a northbound right turn lane.* • *Construct a 2nd southbound left turn lane.* • *Construct a 2nd westbound left turn lane.* • *Construct a westbound right turn lane.* *4.3.48 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Gentian Avenue (Study Area Intersection 33):* • *Construct a northbound left turn lane.* • *Construct an eastbound left turn lane.* • *Construct an eastbound shared through-right turn lane.* • *Construct a westbound left turn lane.* *4.3.49 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Santiago Drive (Study Area Intersection 36):* • *Install a traffic signal (same improvement required under Existing Plus Project and Opening Year Conditions).* • *Construct a northbound right turn lane.*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		4.3.50 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Iris Avenue (Study Area Intersection 37): • *Construct a northbound left turn lane.* • *Modify the traffic signal to implement overlap phasing on the northbound right turn lane.* • *Construct a 2nd southbound left turn lane.* • *Construct a southbound right turn lane and modify the traffic signal to implement overlap phasing.* • *Construct a 2nd eastbound left turn lane.* • *Construct a 3rd eastbound through lane.* • *Construct an eastbound right turn lane and modify the traffic signal to implement overlap phasing.* • *Construct a 2nd westbound left turn lane.* • *Construct a 3rd westbound through lane.* • *Construct a westbound right turn lane and modify the traffic signal to implement overlap phasing.* *4.3.51 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Krameria Avenue (Study Area Intersection 38):* • *Construct a 2nd northbound left turn lane.* • *Construct a northbound right turn lane.* • *Construct a 2nd southbound left turn lane.* • *Construct a southbound right turn lane.* • *Construct an eastbound left turn lane.* • *Construct a 2nd eastbound through lane.* • *Construct a 2nd westbound left turn lane.*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		• *Construct a 2nd westbound through lane.* • *Modify the traffic signal to implement protected left turn phasing for the eastbound and westbound approaches (same improvement required under Opening Year Conditions).* *4.3.52 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / San Michele Road (Study Area Intersection 39):* • *Construct a southbound right turn lane.* • *Construct an eastbound right turn lane and modify the traffic signal to implement overlap phasing.* *4.3.53 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Nandina Avenue (Study Area Intersection 40):* • *Construct a 2nd eastbound left turn lane.* • *Construct an eastbound right turn lane and modify the traffic signal to implement overlap phasing.* *4.3.54 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Harley Knox Boulevard (Study Area Intersection 41):* • *Construct a 2nd northbound through lane.* • *Construct a 3rd northbound through lane.*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		• *Construct a southbound left turn lane.* • *Construct a 2nd southbound left turn lane.* • *Construct a 2nd southbound through lane.* • *Construct a 3rd southbound through lane.* • *Modify the traffic signal and implement overlap phasing on the southbound right turn lane.* • *Construct a 2nd eastbound left turn lane.* • *Construct two eastbound through lanes.* • *Construct a westbound left turn lane.* • *Construct a westbound shared through-right turn lane.* • *Construct a 2nd westbound through lane.* *4.3.55 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Ramona Expressway (Study Area Intersection 42):* • *Construct a 3rd northbound through lane.* • *Construct a 3rd southbound through lane.* • *Modify the traffic signal and implement overlap phasing on the southbound right turn lane.* • *Construct a westbound right turn lane and modify the traffic signal to implement overlap phasing.* *4.3.56 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Kitching Street / Cactus Avenue (Study Area Intersection 43):* • *Construct a 2nd northbound left turn lane.* • *Construct a 2nd southbound through lane.*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		• *Construct an eastbound right turn lane.* • *Construct a westbound right turn lane.* *4.3.57 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Kitching Street / John F. Kennedy Drive (Study Area Intersection 44):* • *Construct two northbound left turn lanes.* • *Construct a 2nd northbound through lane.* • *Construct a southbound left turn lane.* • *Construct a 2nd southbound through lane.* • *Modify the traffic signal and implement protected left turn phasing for the northbound and southbound approaches.* *4.3.58 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Kitching Street / Iris Avenue (Study Area Intersection 45):* • *Construct a 2nd northbound left turn lane.* • *Construct a northbound right turn lane and modify the traffic signal to implement overlap phasing.* • *Construct a 2nd southbound left turn lane.* • *Construct a southbound right turn lane.* • *Construct a 2nd eastbound left turn lane.* • *Construct a 3rd eastbound through lane.* • *Construct an eastbound right turn lane.* • *Construct a 2nd westbound left turn lane.* • *Construct a 3rd westbound through lane.*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		4.3.59 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Lasselle Street / Iris Avenue (Study Area Intersection 46): • *Construct an eastbound right turn lane and modify the traffic signal to implement overlap phasing.* • *Construct a westbound right turn lane.* • *Modify the traffic signal to accommodate overlap phasing on the westbound right-turn lane.* *4.3.59.1 Prior to the issuance of building permits, the Project Applicant shall pay requisite DIF/TUMF toward the construction of the improved roadway segment configurations listed at Table 4.3-18.*	
		4.3.60 Prior to the issuance of building permits, the Project Applicant shall participate in the City's DIF/TUMF programs and in addition shall pay the Project's fair share for the improvements identified at Mitigation Measures 4.3.3 through 4.3.59.1 in the amount(s) agreed to by the City and Project Applicant.	
		4.3.61 Certain of the improvements identified at Mitigation Measures 4.3.3 through 4.3.20 and 4.3.21 through 4.3.59 are proposed for intersections that are located within the City of Perris. Because the City of Moreno Valley does not have plenary control over intersections that are located within the City of Perris, the City of Moreno Valley cannot guarantee that such	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		improvements will be constructed. Thus, the following additional mitigation is required: The City of Moreno Valley shall participate in a multi-jurisdictional effort with the City of Perris to develop a study to identify fair share contribution funding sources attributable to and paid from private and public development to supplement other regional and State funding sources necessary to implement the improvements identified at Mitigation Measures 4.3.3 through 4.3.20 and 4.3.21 through 4.3.59 that are located in the City of Perris. 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 attributable to City of Perris facilities that are not attributable to development located within the City of Moreno Valley are not paying 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 agreed-upon 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. Because the City of Moreno Valley and the City of Perris are responsible to implement this mitigation measure, the Project Applicant shall have no compliance obligations with respect to this mitigation measure.	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		4.3.62 Fair-share amount(s) agreed to by the City and Project Applicant for non-DIF improvements at intersections that are located within the City of Perris shall be paid by the Project Applicant to the City of Moreno Valley prior to the issuance of the Project's final certificate of occupancy. The City of Moreno Valley shall hold the Project Applicant's Fair Share Contribution in trust and shall apply the Project Applicant's Fair Share Contribution to any fee program adopted or agreed upon by the City of Moreno Valley and the City of Perris as a result of implementation of Mitigation Measure 4.3.61. If, within five (5) years of the date of collection of the Project Applicant's Fair Share Contribution, the City of Moreno Valley and the City of Perris do not comply with Mitigation Measure 4.3.61, then the Project Applicant's Fair Share Contribution shall be returned to the Project Applicant. *4.3.63 Certain of the improvements identified at Mitigation Measures 4.3.3 through 4.3.20 and 4.3.21 through 4.3.59 are proposed for intersections under Caltrans jurisdiction. Because the City of Moreno Valley does not have plenary control over intersections under Caltrans jurisdiction, the City of Moreno Valley cannot guarantee that such improvements will be constructed. Thus, the following additional mitigation is required: The City of Moreno Valley shall participate in a multi-jurisdictional effort with Caltrans to develop a study to identify fair share contribution funding sources attributable to and paid from private and public*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		development to supplement other regional and State funding sources necessary to implement the improvements identified at Mitigation Measures 4.3.3 through 4.3.20 and 4.3.21 through 4.3.59 that are under Caltrans jurisdiction. 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 attributable to Caltrans facilities that are not attributable to development located within the City of Moreno Valley are not paying 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 agreed-upon 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. Because the City of Moreno Valley and Caltrans are responsible to implement this mitigation measure, the Project Applicant shall have no compliance obligations with respect to this mitigation measure.	
		4.3.64 Fair-share amount(s) agreed to by the City and Project Applicant for non-DIF improvements at intersections that are under Caltrans jurisdiction shall be paid by the Project Applicant to the City of Moreno Valley prior to the issuance of the Project's final certificate of occupancy. The City of Moreno Valley shall hold the	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		Project Applicant's Fair Share Contribution in trust and shall apply the Project Applicant's Fair Share Contribution to any fee program adopted or agreed upon by the City of Moreno Valley and Caltrans as a result of implementation of Mitigation Measure 4.3.63. If, within five (5) years of the date of collection of the Project Applicant's Fair Share Contribution, the City of Moreno Valley and Caltrans do not comply with Mitigation Measure 4.3.63, then the Project Applicant's Fair Share Contribution shall be returned to the Project Applicant.	
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.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or result in inadequate emergency access.	Potentially Significant.	*4.3.65 Construction trucks shall utilize the most direct route between the site and the I-215 Freeway (Cactus Avenue to Perris Boulevard). Routes other than those identified on the City's Designated Truck Route Map shall be submitted to the City Public Works Department for review and approval.* *4.3.66 The Project Applicant shall prepare a Construction Area Traffic Management Plan (Plan) to be reviewed and approved by the City Public Works Department. The Plan shall identify traffic controls; any street closures and/or detours, or other disruption to traffic*	Less-Than-Significant.

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		circulation, as well as construction vehicle access routes, hours of construction traffic to include transport of equipment to and from the site as well as any planned import or export of soil; any pavement repairs or enhancements along proposed construction traffic routes; and other information and/or restrictions determined necessary by the Lead Agency. The Plan and its requirements shall be provided to all contractors as one component of building plan/contract document packages.	
4.4 Air Quality			
Conflict with or obstruct implementation of the applicable air quality plan.	The Project would be inconsistent with AQMP Criterion No's. 1 and 2, resulting in a determination that impacts in this regard would be considered to be potentially significant. ***This is a Project-level and cumulatively significant impact.***	Mitigation Measures 4.4.1 through 4.4.5, following.	***Significant and Unavoidable.*** There are no mitigation measures available that would avoid or substantively reduce Project inconsistency with land uses and related emissions inventories reflected in the current AQMP.
Violate any air quality standard or contribute substantially to an existing or projected air quality violation.	Potentially Significant. (Regional emissions of NOx.)	*4.4.1 The following requirements shall be incorporated into Project plans and specifications in order to ensure implementation of SCAQMD Rule 403 and limit fugitive dust emissions:* • *All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 miles*	**Significant.** (NOx regional threshold exceedances.)

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		per hour; • *The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the Project site are watered at least three (3) times daily during dry weather. Watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the mid-morning, afternoon, and after work is done for the day; and* • *The contractor shall ensure that traffic speeds on unpaved roads and Project site areas are reduced to 15 miles per hour or less.* *4.4.2 Grading plans shall reference the requirement that a sign shall be posted on-site stating that construction workers need to shut off engines at or before five minutes of idling. This requirement is based on the California Air Resources Board regulation in Title 13, Chapter 10, Section 2485, Division 3 of the California Code of Regulations, which imposes a requirement that heavy duty trucks accessing the site shall not idle for greater than five minutes at any location. This measure applies to construction traffic.* *4.4.3 During grading activity, all rubber tired dozers and scrapers (≥ 50 horsepower) shall be CARB Tier 3 Certified or better. Additionally, during grading activity, total horsepower output for all equipment shall not exceed 16,784 horsepower-hours per day; and the maximum (actively graded) disturbance area shall not exceed five (5) acres per day.*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		4.4.4 Prior to the issuance of building permits, the Project Applicant shall submit energy usage calculations showing that the Project is designed to achieve a minimum 10% efficiency beyond then incumbent California Building Code Title 24 requirements. Verification of increased energy efficiencies shall be shall be documented in Title 24 Compliance Reports provided by the Applicant, and reviewed and approved by the City prior to the issuance of building permits. Examples of measures that reduce energy consumption include, but are not limited to, the following (it being understood that the items listed below are not all required and merely present examples; the list is not all-inclusive and other features that achieve the required energy efficiency performance standard also are acceptable): • *Increase in insulation such that heat transfer and thermal bridging is minimized;* • *Limit air leakage through the structure and/or within the heating and cooling distribution system;* • *Use of energy-efficient space heating and cooling equipment;* • *Installation of electrical hook-ups at loading dock areas;* • *Installation of dual-paned or other energy efficient windows;* • *Use of interior and exterior energy efficient lighting that exceeds then incumbent California Title 24 Energy Efficiency performance standards;* • *Installation of automatic devices to turn off lights*	

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		where they are not needed; • *Application of a paint and surface color palette that emphasizes light and off-white colors that reflect heat away from buildings;* • *Design of buildings with "cool roofs" using products certified by the Cool Roof Rating Council, and/or exposed roof surfaces using light and off-white colors;* • *Installation of ENERGY STAR-qualified energy-efficient appliances, heating and cooling systems, office equipment, and/or lighting products.* *4.4.5 Enhanced Water Conservation Required: Prior to the issuance of building permits, the Project Applicant shall prepare a Water Conservation Strategy demonstrating a minimum 30% reduction in outdoor water usage when compared to baseline water demand (total expected water demand without implementation of the Water Conservation Strategy).*[2] *Verification of decreased outdoor water usage shall be documented in CalGreen Code Compliance Worksheets provided by the Applicant, and reviewed and approved by the City prior to the issuance of building permits. Correlating documentation shall be incorporated in the Project landscape plans.* *The Project shall also implement the following:*	

[2] AA reduction of 20% indoor water use shall be achieved pursuant to CalGreen Code performance standards for residential and non-residential land uses. Per CalGreen, the reduction shall be based on the maximum allowable water use per plumbing fixture and fittings as quantified in the California Building Standards Code.

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		• *Landscaping palette emphasizing drought tolerant plants;* • *Use of water-efficient irrigation techniques;* • *U.S. Environmental Protection Agency (EPA) Certified WaterSense labeled or equivalent faucets, high-efficiency toilets (HETs), and water-conserving shower heads.*	
Expose sensitive receptors to substantial pollutant concentrations.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Create objectionable odors affecting a substantial number of people.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard, including releasing emissions which exceed quantitative thresholds for ozone precursors.	**Potentially Significant.**	Please refer to Mitigation Measures 4.4.4 and 4.4.5.	**Significant.** Mitigation Measures 4.4.4 through 4.4.5 would reduce Project operational-source NO_x emissions to the extent feasible. Operational-source NO_x emission exceedances would persist however, and would be cumulatively considerable even with the application of mitigation.
4.5 Global Climate Change and Greenhouse Gas Emissions			
Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases; or generate greenhouse gas emissions, either	Less-Than-Significant.	No mitigation is necessary.	Not applicable. GHG emissions would nonetheless be reduced coincident with criteria pollutant emissions reductions achieved

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
directly or indirectly, that may have a significant impact on the environment.			by Air Quality Mitigation Measures 4.4.1 through 4.4.5.
4.6 Noise			
Project construction activities and associated noise would result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	Potentially Significant.	*4.6.1 Install temporary noise control barriers that provide a minimum noise level attenuation of 17 dBA when Project construction activities occur within 200 feet of existing residential structures or other off-site sensitive receptor land uses that are occupied or actively utilized. The noise control barrier must present a solid face from top to bottom. The noise control barrier must be high enough and long enough to block the view of the noise source. Unnecessary openings shall not be made.* • *The noise barriers must be maintained and any damage promptly repaired. Gaps, holes, or weaknesses in the barrier or openings between the barrier and the ground shall be promptly repaired.* • *The noise control barriers and associated elements shall be completely removed and the site appropriately restored upon the conclusion of the construction activity.* *4.6.2 For other than grading activities, noise-generating Project construction activities shall not occur between the hours of 8 p.m. to 8 a.m. Grading operations shall be limited to between the hours of 8a.m. and 6 p.m. weekdays, and 8 a.m. to 4 p.m. on weekends and holidays, or as otherwise approved by the City Engineer.* *4.6.3 During all Project site construction, the*	Less-Than-Significant.

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from off-site noise sensitive receptors nearest the Project site. *4.6.4 The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and off-site noise sensitive receptors nearest the Project site during all Project construction activities.* *4.6.5 The construction contractor shall prohibit haul truck deliveries to the Project site, including transportation of heavy construction equipment, consistent with timeframe limitations specified for general construction equipment operations, other than grading, (i.e., deliveries are prohibited between the hours of 8 p.m. to 8 a.m.) The Project Applicant shall prepare a haul route exhibit for review and approval by the City Planning Division prior to commencement of construction activities. The haul route exhibit shall design delivery routes to minimize the exposure of sensitive land uses or residential dwellings to delivery truck-related noise.* *4.6.6 The construction contractor shall post a publicly visible sign with Contractor and City telephone numbers*	

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Table 1.10-1
Summary of Impacts and Mitigation

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		and persons to contact regarding noise complaints. The construction manager, within 72 hours of receipt of a noise complaint, shall either take corrective actions or, if immediate action is not feasible, provide a plan of corrective action to address the source of the noise complaint. Plan(s) for corrective action shall be submitted to City for approval, and shall be implemented within 24 hours of City approval. Pending City approval, offending construction activities shall cease, or the source of objectionable noise shall otherwise be terminated.	
Project construction activities and associated noise would result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Project construction activities and associated noise would result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project.	Potentially Significant.	Please refer to Mitigation Measures 4.6.1 through 4.6.6.	Less-Than-Significant.
Project vehicular source noise would result in exposure of persons to, or generation of, noise levels in excess of standards established in the City's General Plan or Noise Ordinance, or other applicable standards of other agencies.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
Project vehicular source noise would result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Project vehicular source noise would result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Project operational noise would result in exposure of persons to, or generation of, noise levels in excess of standards established in the City's General Plan or Noise Ordinance.	Less-Than-Significant.	No mitigation is necessary.	Less-Than-Significant.
Project operational noise would result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Project operational noise would result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
4.7 Hydrology and Water Quality			
Violate any water quality standards or waste discharge requirements.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding or substantial erosion or siltation on- or off-site; or create or contribute runoff water which would exceed the capacity of the existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or otherwise substantially degrade water quality.	Potentially Significant.	*4.7.1 Prior to the issuance of grading permits, the Project Applicant shall submit a Stormwater Pollution Prevention Plan (SWPPP) to the City of Moreno Valley, Riverside County Flood Control and Water Conservation District, and Santa Ana Regional Water Quality Control Board for review and approval. The SWPPP shall identify Best Management Practices (BMPs) intended to prevent the release of sediment and pollutants into downstream waterways. Examples of construction BMPs to be incorporated in the Project include, but are not limited to, the following:* • *Silt Fences;* • *Check Dams;* • *Gravel Bag Berms;* • *Street Sweeping and Vacuuming;* • *Sand Bag Barriers;* • *Storm Drain Inlet Protection;* • *Wind Erosion Control;* • *Stabilized Construction Entrance/Exit; and* • *Entrance/Outlet Tire Wash.* *Post-construction BMPs to reduce sediments and other pollutants include, but are not limited to, the following:* • *Providing permanent cover to stabilize the disturbed surfaces after construction has been completed;* • *Incorporating structural BMPs (e.g., grease traps, debris, screens, continuous deflection separators,*	Less-Than-Significant.

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		oil/water separators, drain inlet inserts) into the Project's design to provide detention and filtering of contaminants in urban runoff prior to discharge to stormwater facilities; • *Precluding non-stormwater discharges to the stormwater system; and* • *Performing monitoring of discharges to the stormwater system.*	
		4.7.2 Prior to the issuance of grading permits, the Project Applicant shall submit a final Water Quality Management Plan (WQMP) to the City of Moreno Valley, Riverside County Flood Control and Water Conservation District, and Santa Ana Regional Water Quality Control Board for review and approval. The WQMP shall identify Best Management Practices (BMPs) addressing all post-construction pollutant discharges. Examples of BMPs included in the Project's Preliminary WQMP include the following: *<u>Source Control/Non-Structural BMPs</u>* • *Education of property owners, operators, tenants, occupants, or employees;* • *Street Sweeping of Private Streets and Parking Lots;* • *Drainage facility inspection and maintenance;* • *Roof Runoff Controls;* • *Efficient Irrigation;* • *Protection of Slopes and Channels;* • *Storm Drain stenciling and signage;* • *Trash Storage Areas and Litter Control;*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		• *Irrigation system and landscape maintenance; and* • *Loading dock drainage controls.* *Site Design/Structural BMPs* • *Maximize permeable areas;* • *Minimize street, sidewalk, and parking lot aisle widths;* • *Maintain natural drainage patterns;* • *Incorporate drought-tolerant landscaping;* • *On-site ponding areas or retention facilities to increase opportunities for infiltration;* • *Convey roof runoff to landscaping/permeable areas prior to discharge to storm drains;* • *Drain sidewalks and walkways to adjacent landscaped areas; and* • *Integration of landscaping and drainage designs.*	
4.8 Geology and Soils			
Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? Would the Project be located on expansive soil, as defined in Table 18-1-B of the California Building Code (2010), thereby creating substantial risks to life or property.	Potentially Significant.	*4.8.1 Design and development of the Project shall comply with recommendations and performance standards identified within the Final Geotechnical Investigation. Where the Project Geotechnical Investigation is silent, requirements of the California Building Code as adopted and implemented by the City shall prevail.*	Less-Than-Significant.

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
4.9 Biological Resources			
Substantially affect, either directly or through habitat modifications, 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 (CDFW) or United States Fish and Wildlife Service (USFWS).	Potentially Significant.	*4.9.1 Within 30 days prior to disturbance at the Project site, a pre-construction survey shall be conducted for burrowing owl (Athene cunicularia), and if owls are present, they can be relocated following accepted protocols to comply with the MSHCP. The findings of the survey shall be submitted to the California Department of Fish and Wildlife.*	Less-Than-Significant.
		4.9.2 To avoid impacts to nesting birds and to comply with the federal Migratory Bird Treaty Act of 1918 (MBTA): • *If possible, all vegetation removal activities shall be scheduled from August 1 to February 15, which is outside the nesting season. This would ensure that no active nests would be disturbed and that removal could proceed rapidly.* • *If vegetation is to be cleared during the nesting season (February 15 – July 31), all suitable habitat shall be thoroughly surveyed for the presence of nesting birds by a qualified biologist 72 hours prior to clearing. If any active nests are detected, the area shall be flagged and mapped on the construction plans along with a minimum 50-foot buffer and up to 300 feet for raptors, with the final buffer distance to be determined by the qualified biologist. The buffer*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		area shall be avoided until the nesting cycle is complete or it is determined that the nest has failed. In addition, the biologist will be present on the site to monitor the vegetation removal to ensure that any nests, which were not detected during the initial survey, are not disturbed.	
Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
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.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
4.10 Cultural Resources			
Cause a substantial adverse change in the significance of an archaeological or historic resource as defined in §15064.5.	Less-Than-Significant.	*4.10.1 If any prehistoric/historic archaeological resources are encountered during the initial grading and over-excavation phases of construction, the developer will retain a qualified archaeologist to monitor construction activities, and to take appropriate measures to avoid, protect or preserve these resources for study.* *4.10.2 If significant Native American cultural resources are discovered for which a Treatment Plan must be prepared, the developer or archaeologist shall contact all appropriate Native American tribal representatives, as identified by the Native American Heritage Commission. If requested by the Tribe(s), the City, the developer, or the Project archaeologist, the City shall, in good faith, consult on the discovery and its disposition (e.g., avoidance, preservation, return of artifacts to tribe, etc.). A report of findings shall also be prepared by a qualified archaeologist, and shall include an itemized inventory of any specimens recovered. The report and confirmation of curation of any recovered resources from an accredited museum repository shall signify completion of the program to mitigate impacts to archaeological/historic resources. If disturbed resources are required to be collected and preserved, the Applicant shall be required to participate financially up to the limits imposed by Public Resources Code Section 21083.2.*	Less-Than-Significant. Although the likelihood for prehistoric and/or historic cultural resources to exist onsite is considered low, Mitigation Measures 4.10.1 and 4.10.2 have been incorporated to fully ensure the protection of cultural resources that may be present in a buried context within the Project area.

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Potentially Significant.	*4.10.3 Any excavation exceeding five feet below the current grade shall be monitored by a qualified paleontologist. If older alluvial deposits are encountered at shallower depths, monitoring shall be initialed once these deposits are encountered. A qualified paleontologist is defined as an individual with an M.S. or a Ph.D. in paleontology or geology who is familiar with paleontological procedures and techniques. A paleontological monitor may be retained to perform the on-site monitoring in place of the qualified paleontologist. The paleontological monitoring program should follow the local protocols of the Western Center (Hemet) and/or the San Bernardino County Museum and a paleontological monitoring plan should be developed prior to the ground altering activities. The extent and duration of the monitoring can be determined once the grading plan is understood and approved. The paleontological monitor shall have the authority to halt any Project-related activities that may be adversely impacting potentially significant resources. If paleontological resources are uncovered or otherwise identified, they shall be recovered, analyzed in accordance with standard guidelines, and curated with the appropriate facility (e.g. the Western Center at the Diamond Valley Reservoir, Hemet).*	Less-Than-Significant.
Hazards and Hazardous Materials			
Be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to	Potentially Significant.	*HA-1 Any soils to be disposed of off-site shall be sampled prior to their transport from the Project site. Soils transported off-site for disposal shall be sampled for contamination of herbicides, pesticides, and fertilizers consistent with a soil management plan to be prepared for*	Less-Than-Significant.

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
the public or the environment.		*this Project. Sample results may provide an indication as to the presence of chemicals of concern which require special handling during disposal. Any additional impacted soil identified during site work, shall be removed and additional confirmatory sampling shall be conducted until non-actionable levels of pesticides are found.*	

2.0 INTRODUCTION

2.0 INTRODUCTION

2.1 OVERVIEW

This Environmental Impact Report (DEIR or EIR) evaluates and discloses potential environmental impacts of the proposed South Moreno Valley Walmart Project (the Project). The Project would result in up to 193,000 square feet of new retail/commercial uses on the 22.28-acre (gross) site[1], located within the City of Moreno Valley, in Riverside County. Elements of the Project are further described at EIR Section 3.0, *Project Description.*

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

2.2 AUTHORIZATION

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

[1] Rights-of-way and parks dedications would total approximately 2.03 acres, yielding approximately 20.25 net acres.

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

2.3 LEAD AND RESPONSIBLE AGENCIES

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

The City's address is:	The City of Moreno Valley 14177 Frederick Street Moreno Valley, CA 92552
Contact Person:	Mr. Jeffrey Bradshaw, Associate Planner Phone: (951) 413-3224 Email: jeffreyb@moval.org

2.4 PROJECT APPLICANT

The Project Applicant is:	Walmart Real Estate Business Trust 2001 Southeast 10th Street Bentonville, AR 72716
Contact Person:	Mr. Donovan Collier - c/o Gresham Savage Nolan & Tilden 550 Hospitality Lane, Suite 300 San Bernardino, CA 92406

2.5 THE EIR PROCESS

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

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

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

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

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

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

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

2.6 EIR CONTENT AND FORMAT

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

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

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

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

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

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

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

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

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

2.7 INTENDED USE OF THIS EIR

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

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

In employing this EIR, the City and other agencies need recognize that Project plans and development concepts identified herein are just that, plans and concepts which are subject to refinement and the Project is further defined. Recognizing the potential for these future minor alterations to the Project, this EIR in all instances evaluates likely maximum impact scenarios that would account for these minor alterations. These refinements and/or minor revisions to development proposals do not typically warrant modified or revised environmental documentation. Notwithstanding, at the discretion and direction of the City, substantive modifications to the Project described herein may warrant additional environmental evaluation.

2.8 DOCUMENTS INCORPORATED BY REFERENCE

Section 15150 of the State *CEQA Guidelines* permits and encourages an environmental document to incorporate, by reference, other documents that provide relevant data. The documents summarized below are incorporated by reference, and the pertinent material is summarized throughout this EIR, where that information is relevant to the analysis of potential impacts of the Project. All documents incorporated by reference are available for review at, or can be obtained through, the City of Moreno Valley Planning Department. Technical studies cited below were specifically developed in conjunction with the Project, and are appended to the EIR.

2.8.1 City of Moreno Valley General Plan

The City of Moreno Valley General Plan (General Plan) establishes Goals and Policies and provides guidance for future development of the City. The General Plan, which was adopted in 2006, incorporates and relies upon its Implementation Plan to provide the guidance necessary for successful implementation of General Plan Goals and Policies.

The General Plan includes seven elements: "Community Development"; "Economic Development"; "Parks, Recreation and Open Spaces"; "Circulation"; "Safety"; "Conservation"; and "Housing." All proposed development projects (inclusive of the South Moreno Valley Walmart Project) are evaluated for consistency with the intent and

purpose of the applicable General Plan land use designation(s) and related General Plan Goals, Policies and Implementation Plan actions. Physical development within the General Plan Area will be shaped by the General Plan's Goals, Policies and Programs integral to each of the General Plan Elements.

2.8.2 City of Moreno Valley Municipal Code

The City of Moreno Valley Municipal Code (Municipal Code) codifies and complements the City General Plan. The Municipal Code, in effect, provides the mechanism to implement and enforce the goals, objectives, policies and programs articulated in the General Plan. Many of the potential environmental concerns considered in this EIR are adequately addressed through application of existing guidelines and regulations contained in the Municipal Code.

2.8.3 Project Technical Studies/EIR Appendices

Following are summaries of documents and supporting technical studies which are appended to the main body of this EIR. Working titles of these documents generically refer to the Project and its physical attributes, and may not necessarily reflect the currently assigned "South Moreno Valley Walmart Project" development title.

2.8.3.1 Initial Study, NOP, and NOP Responses - EIR Appendix A

The EIR Initial Study (IS), Notice of Preparation (NOP) and responses received pursuant to distribution of the IS/NOP are presented at EIR Appendix A. Based on the Initial Study and responses to the NOP, the EIR addresses the following environmental topics:

- Air Quality;
- Biological Resources;
- Cultural Resources;
- Geology and Soils;
- Greenhouse Gas (GHG) Emissions impacts;
- Hydrology/Water Quality;

- Land Use and Planning (including consideration of potential economic impacts that could result in physical land use impacts, i.e., urban decay);
- Noise; and
- Transportation/Traffic.

2.8.3.2 Urban Decay Analysis - EIR Appendix B

A Project-specific urban decay analysis has been prepared for the Project. *Urban Decay Study for Moreno Valley Walmart* (The Natelson Dale Group, Inc.), October 28, 2013 assesses the Project's potential to adversely affect area economic conditions, thereby resulting in urban decay. In addition to addressing the potential impacts of the proposed Project itself, the Study also considers cumulative economic impacts, taking into account the impacts from other planned or proposed retail projects in the area.

2.8.3.3 Traffic Impact Analysis - EIR Appendix C

The detailed evaluation of Project-related traffic/transportation impacts is documented in *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.), March 5, 2015 (TIA). The traffic issues related to the Project have been evaluated within the TIA in the context of the California Environmental Quality Act (CEQA) and as directed by the City of Moreno Valley, the lead agency responsible for preparation of the traffic impact analysis. The TIA also reflects and incorporates applicable guidance provided by the California Department of Transportation, District 8 (Caltrans District 8).

2.8.3.4 Air Quality Impact Analysis - EIR Appendix D

Project air quality impact analyses are provided at EIR Appendix D. These analyses include: *Moreno Valley Walmart Air Quality Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.), August 14, 2014; and *Moreno Valley Walmart Air Toxics Health Risk Assessment, City of Moreno Valley* (Urban Crossroads, Inc.), August 14, 2014.

2.8.3.5 Greenhouse Gas Analysis - EIR Appendix E

Detailed analysis of the Project's potential Greenhouse Gas and Global Climate Change impacts are presented in *Moreno Valley Walmart Greenhouse Gas Analysis, City of Moreno Valley* (Urban Crossroads, Inc.), August 27, 2014.

2.8.3.6 Noise Impact Analysis - EIR Appendix F

Potential noise impacts of the Project, including construction-source and operational-source noise impacts are assessed within *Moreno Valley Walmart Noise Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) February 10, 2015.

2.8.3.7 Stormwater Management - EIR Appendix G

Drainage and stormwater runoff water quality considerations respectively are evaluated and addressed in: *Preliminary Drainage Study, Walmart Store 4059-00, NWC Perris Blvd and Santiago Drive, Moreno Valley, CA* (Kimley-Horn & Associates, Inc.) October 15, 2013; and *Project Specific Water Quality Management Plan for Moreno Valley Walmart Store 4059-00* (Kimley-Horn and Associates, Inc.) July 3, 2013.

2.8.3.8 Geotechnical Investigation - EIR Appendix H

An assessment of the soils and geological conditions affecting the Project site and vicinity properties is presented in: *Draft Geotechnical Engineering Investigation, Proposed Walmart Store No. 85313, Southwest Corner of Gentian Avenue and Perris Boulevard, Moreno Valley, Riverside County, California* (Moore Twining Associates, Inc.), November 30, 2012. The Geotechnical Investigation also provides recommendations pertaining to geotechnical aspects of constructing the Project.

2.8.3.9 Biological Resources Assessment - EIR Appendix I

Biological resources potentially affected by the Project are assessed in: *Gentian Walmart Project Site Biological Surveys* (Harmsworth Associates) August 13, 2014.

2.8.3.10 Phase I Environmental Site Assessment - EIR Appendix J

An assessment of potential hazards associated with the Project site's historic uses, and the potential for hazardous materials to currently exist within or proximate to the Project site is provided in: *Phase I Environmental Site Assessment, Walmart Store No. 4059-00 Moreno Valley, Riverside County, California* (Kimley-Horn & Associates, Inc.) November 8, 2012.

2.8.3.11 Cultural Resources Investigation

A cultural resources investigation was also prepared for the Project: *A Phase I Cultural Resources Survey for the Proposed Walmart Supercenter on Approximately 22.28 Acres of Land in the City of Moreno Valley, Riverside County, California* (McKenna et al.) June 10, 2014.

Due to the relative sensitivity of archaeological and historic sites to disturbance, cultural resource reports which identify the locations of potential resources are generally not circulated publicly. Although sensitive resources have not been identified within the Project site, other off-site sensitive resources are discussed in the Cultural Resources Investigation prepared for the Project. A copy of the Phase I Cultural Resources Investigation may be reviewed at the City of Moreno Valley Planning Department.

3.0 PROJECT DESCRIPTION

3.0 PROJECT DESCRIPTION

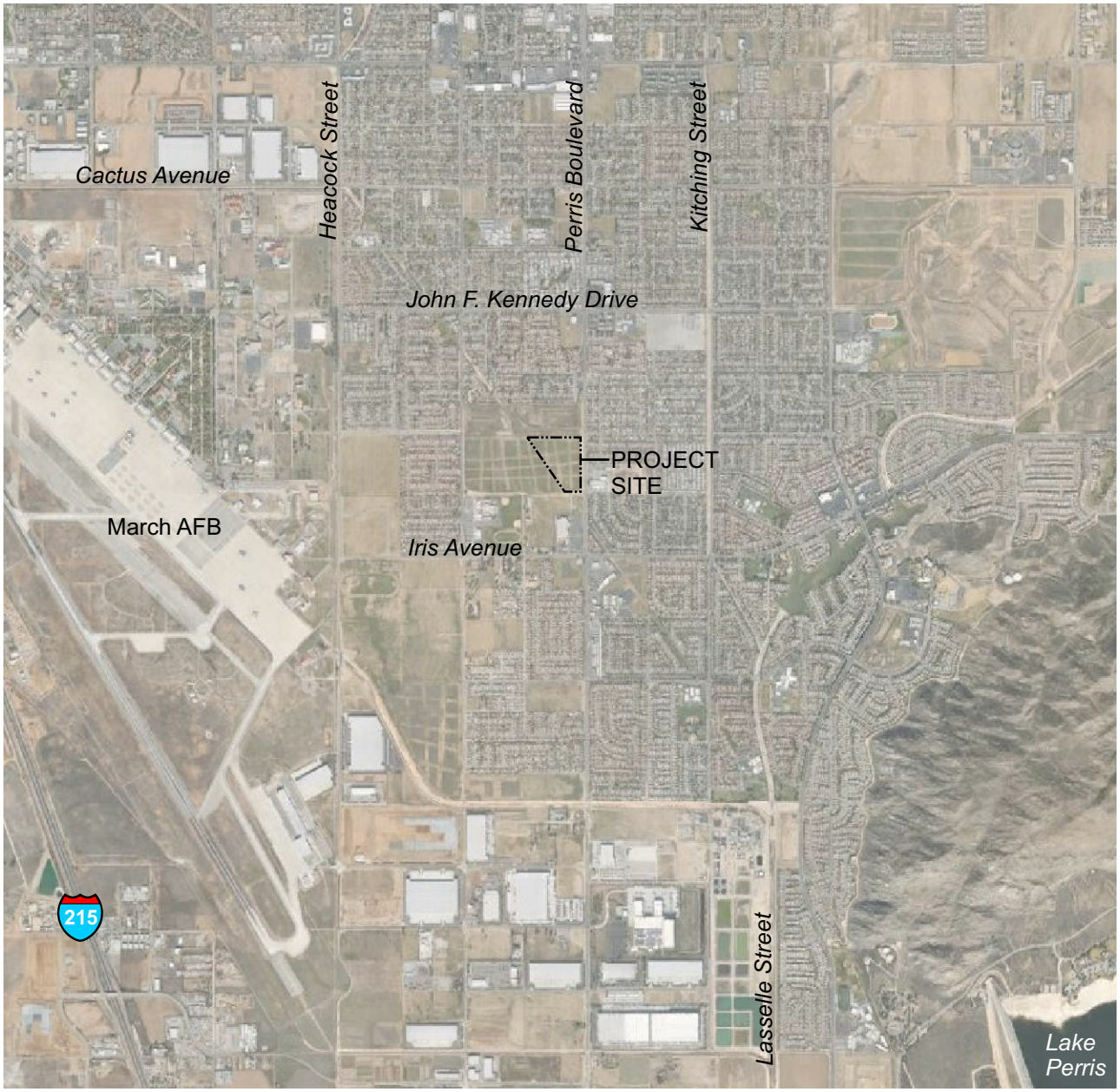
3.1 OVERVIEW

The Project considered in this EIR includes the proposed South Moreno Valley Walmart, and all facilities proposed within the Project site, on- and off-site supporting improvements, and associated discretionary actions necessary to realize the development. In summary, approval of the Project would allow for development of an approximately 193,000 square feet of new retail/commercial uses on the approximately 22.28-acre (gross) subject site.[1] The Project also includes on-site supporting infrastructure, parking, landscaping/hardscaping, and signs. The Project would further implement those off-site improvements necessary to ensure safe and efficient operations of the proposed development. The Project and its context are further described below.

3.2 PROJECT LOCATION

The Project site is located within the southwestern portion of the City of Moreno Valley, within Riverside County. The site is a triangular-shaped parcel located at the intersection of Perris Boulevard and Gentian Avenue. Specifically, Gentian Avenue forms the site's northern boundary. The site is bordered to the east by Perris Boulevard and the California Aqueduct forms the site's westerly boundary. Santiago Drive borders the site to the south. Figure 3.2-1, *Project Location*, provides an illustrated view of the site's context within the surrounding area.

[1] Rights-of-way and parks dedications would total approximately 2.03 acres, yielding approximately 20.25 net acres.



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NOT TO SCALE

Source: Google Earth; Applied Planning, Inc.

applied planning inc

Figure 3.2-1
Project Location

3.3 EXISTING LAND USES AND LAND USE DESIGNATIONS

The following discussions summarize existing land use conditions in the Project vicinity and provide general context for the Project.

3.3.1 Existing Land Uses

Project site and vicinity land uses are denoted in the aerial photograph presented at Figure 3.3-1; and area land uses are described below. Photographs of the existing Project site (as of May 2014) and a photo location key map are presented at Figure 3.3-2.

3.3.1.1 Project Site Land Use

The Project site is a roughly triangular-shaped parcel, totaling 22.28 acres. The Project site includes all of current Assessor's Parcel Number (APN) 485-220-041. Elevations within the Project site generally range from 1,509 feet above mean sea level (MSL) in the southeastern portions of the site, and rise to approximately 1,519 feet MSL in the northwestern portions of the site. The subject site is vacant and undeveloped and is devoid of notable topographic features or substantial terrain differentials.

The site has been regularly disked and contains worn trails created from foot traffic and other vehicle use. Although no special status plant species are known to exist on the site, two special status wildlife species, California horned lark (*Eremophila alpestris actia*) and burrowing owl (*Athene cunicularia*), have been observed onsite. Mitigation is incorporated in the EIR that would reduce potential impacts to both species to levels that are less-than-significant. Please refer also to EIR Section 4.9, *Biological Resources*.

N

NOT TO SCALE

Source: Google Earth; Applied Planning, Inc.

applied planning inc

Figure 3.3-1
Existing Land Uses

Photo A: View Northwesterly from Perris Boulevard

Photo B: View Southwesterly from Perris Boulevard

Photo C: View Southerly from Gentian Avenue

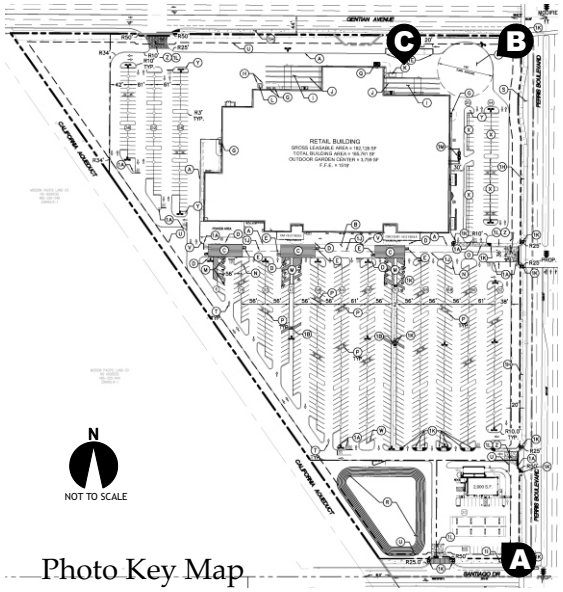


Photo Key Map

Source: Applied Planning, Inc.

applied planning inc

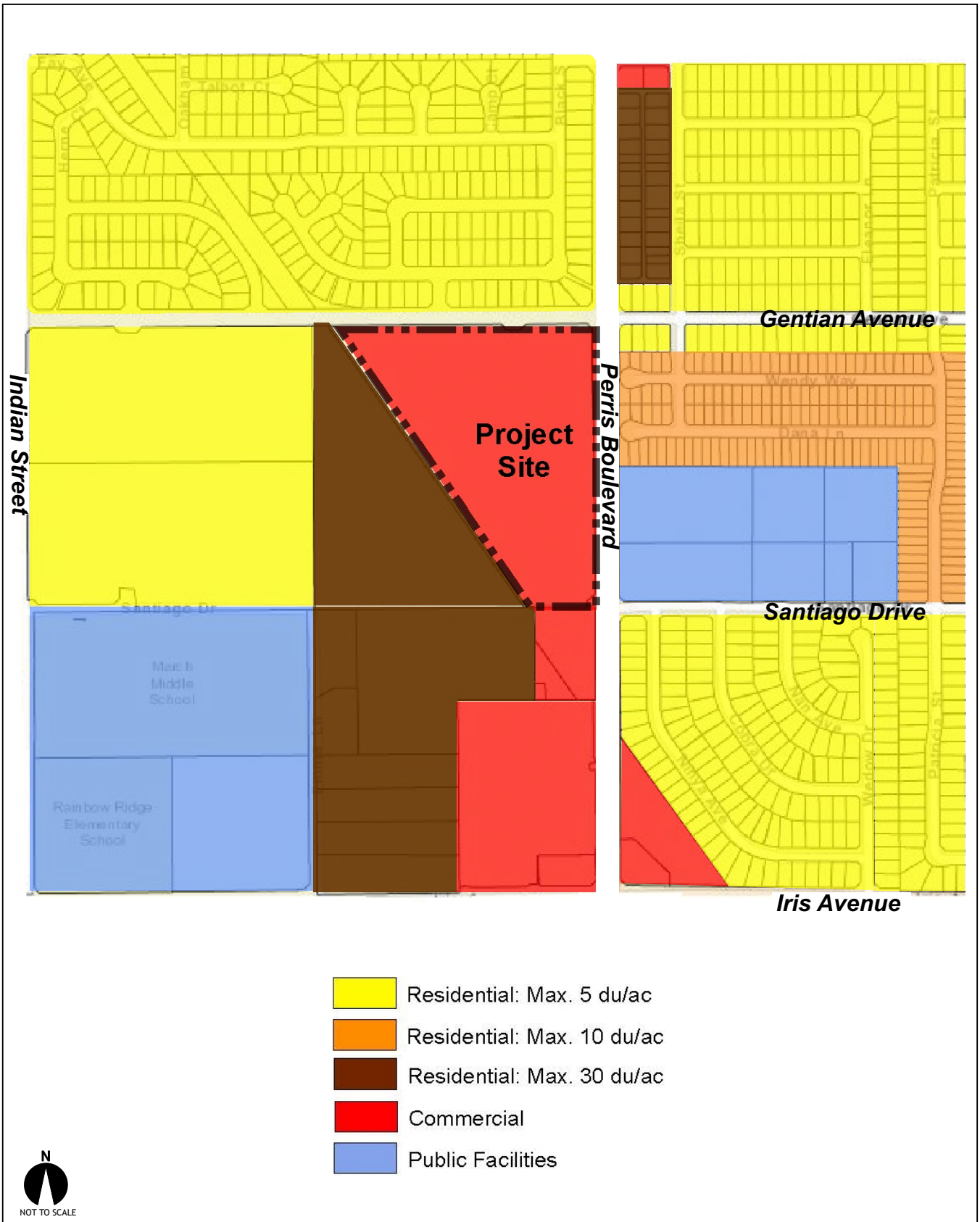
Figure 3.3-2
Site Photos & Key Map

3.3.1.2 Vicinity Land Uses

Properties to the north, across Gentian Avenue, are currently vacant but are proposed for residential development pursuant to recorded Tract Map 22180. Across Perris Boulevard to the east, there are residential uses and a City maintenance yard. Vacant land, sparse residential uses, and a Home Depot are located to the south of the site. Properties to the west are currently vacant. March Middle School and Rainbow Ridge Elementary School are located approximately 900 feet southwesterly of the Project site, south of Santiago Drive. Existing General Plan Land Use and Zoning designations for the Project site and vicinity properties are described at EIR Section 4.1, *Land Use and Planning*.

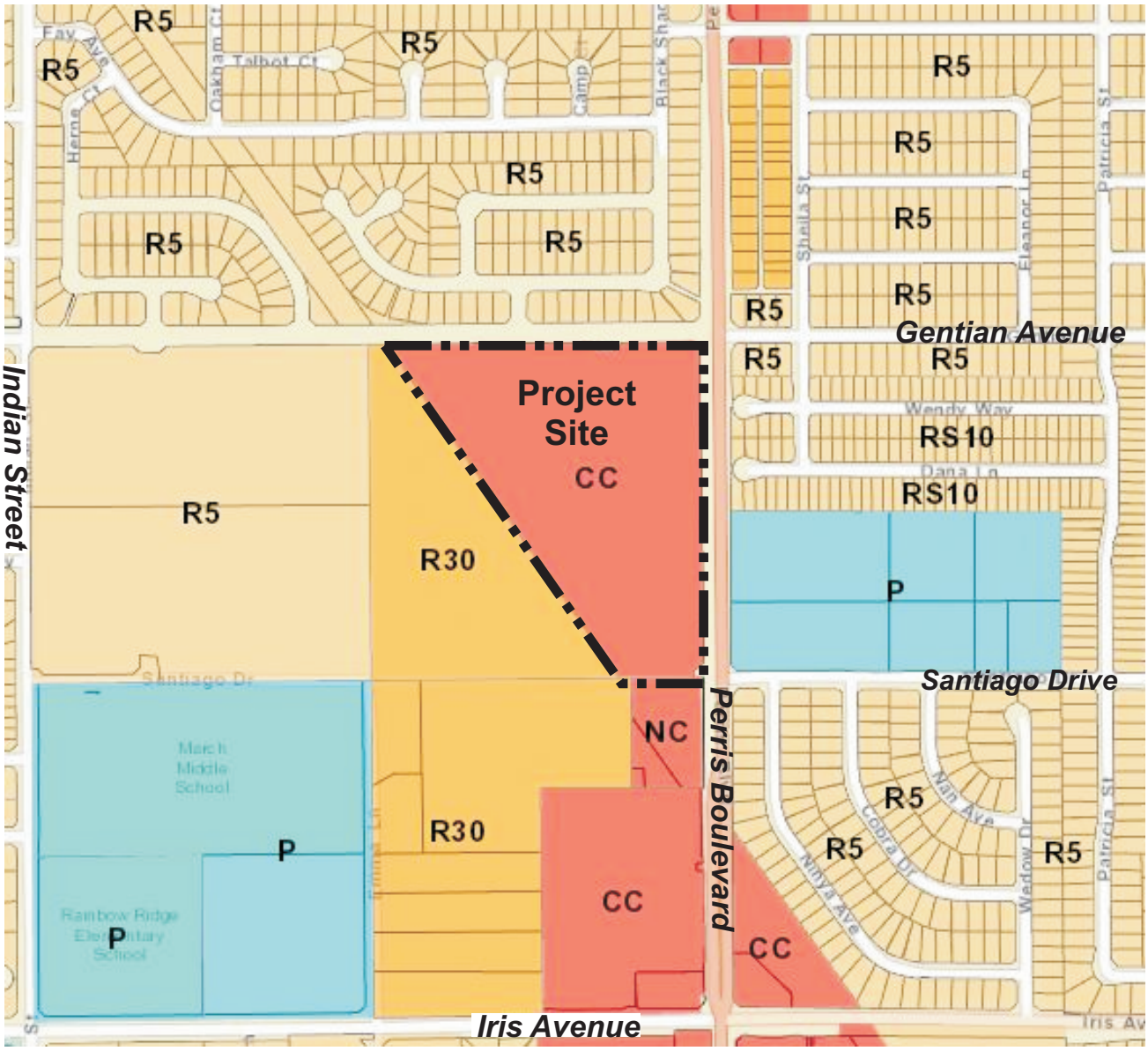
3.3.2 Existing Land Use Designations

Existing General Plan Land Use and Zoning designations for the Project site and vicinity properties are depicted at Figures 3.3-3 and 3.3-4, respectively. The General Plan Land Use Map designates the entire Project site as "Commercial" (C) intended for commercial/retail and service uses at a maximum Floor-to-Area Ratio (FAR) of 1.00, with an average FAR substantially less than 1.00 (City of Moreno Valley General Plan, page 9-5). Commercial/retail uses implemented under the Project could total a maximum of approximately 193,000 square feet on 22.28 gross acres (20.25 net acres), yielding a FAR of approximately 0.21. Current zoning of the Project site is "Community Commercial" (CC). The CC Zone District provides for the general shopping needs of area residents and workers with a variety of business, retail, personal and related or similar services. Vicinity properties are designated for a variety of land uses ranging from commercial to residential and public facilities. Draft EIR Section 4.1, *Land Use and Planning*, identifies and describes germane General Plan Land Use and Zoning designations and provides an assessment of the Project's context within, and consistency with, existing and anticipated area land uses and land use designations.



Source: Moreno Valley General Plan Land Use Map; Applied Planning, Inc.

Figure 3.3-3
General Plan Land Use Designations



Commercial

Public Facilities

Suburban Residential

Multi-family

N

NOT TO SCALE

Source: Moreno Valley Zoning Map; Applied Planning, Inc.

applied planning inc

Figure 3.3-4
Existing Zoning Designations

3.4 PROJECT ELEMENTS

3.4.1 Site Preparation

The Project area would be grubbed, rough-graded, and fine-graded in preparation of building construction. Any debris generated during site preparation activities would be disposed of and/or recycled consistent with the City's Source Reduction and Recycling Element (SRRE). Existing grades within the Project site would be modified to establish suitable building pads and to facilitate site drainage. Approximately 521 cubic yards of soil export would be required over the course of Project site preparation and construction.

3.4.2 Project Development Concept

As one of the Project's requested discretionary actions, the Project site would be subdivided into two commercial parcels (Parcels 1 and 2). Parcel 1 and Parcel 2 land uses and development concepts proposed by the Project are described below and summarized at Table 3.4-1. The Project Site Plan Concept is presented at Figure 3.4-1.

Parcel 1, Walmart Store. Parcel 1, approximately 19.25 acres, would be developed with the proposed Walmart Store (Store) totaling approximately 185,761 square feet, and would incorporate all appurtenant structures and facilities for the sale of general merchandise, groceries and liquor, including without limitation, a garden center, truck docks and loading facilities, outdoor sale facilities, outside container storage facilities, rooftop proprietary satellite communication facilities and parking facilities. The Store may contain without limitation, a drive thru pharmacy, a medical clinic, a vision and hearing care center, a food service center, a photo studio, a photo finishing center, a banking center and other similar accessory uses. The Store may, among other things, carry pool chemicals, petroleum products, pesticides, paint products, and ammunition. The Store would operate 24 hours a day.

Truck doors, loading facilities, and areas dedicated to trash compaction, organic waste, recycling, and bale and pallet storage will also be provided at the rear of the building, along Gentian Avenue.

A stormwater detention basin would be located at the southwesterly corner of Parcel 1, westerly adjacent to Parcel 2. Under post-development conditions, onsite stormwater runoff would be directed to this detention basin via a system of underground pipes and catch basins. Detention capacity and controlled release of storm waters from the Project stormwater detention basin would ensure that post-development stormwater discharges do not exceed pre-development conditions. The detention basin would also functionally ensure that carrying capacities of upstream and downstream stormwater management systems would not be adversely affected. The proposed detention basin would also serve as a stormwater treatment component of the Project Water Quality Management Plan (WQMP), acting to preclude or substantively reduce the potential for discharge of stormwater pollutants from the Project site.

Parcel 2, Outer Parcel Uses. Parcel 2, approximately 1.00 acre, is located in the southernmost portion of the Project site, northwesterly of the intersection of Santiago Drive and Perris Boulevard. Parcel 2 would be developed under one of two potential Development Options. Under Development Option "A," Parcel 2 would be developed with a commercial gas station, convenience store, and car wash. Under Development Option "B," Parcel 2 would be developed with a fast food w/ drive-through restaurant of approximately 3,500 square feet, plus 3,300 square feet of retail shops.

When comparing the "A" and "B" Options, all other factors being approximately equal, Option A would generate more traffic, vehicular-source air pollutant emissions, and vehicular-source noise than would Option B. (Please refer to related discussions presented at pages 2-6, 2-7 of the EIR Initial Study, EIR Appendix A). The Parcel 2 Development Option A is therefore considered to establish the likely maximum impact scenario, and is the basis for the environmental analyses presented in this EIR and all supporting technical studies and analyses.[2]

[2] Unless otherwise specified in this EIR and supporting technical studies, potential development of Parcel 2 under the Option "B" development concept would not result in substantively greater impacts or substantively different impacts than would otherwise result from the Parcel 2 Option "A" development concept.

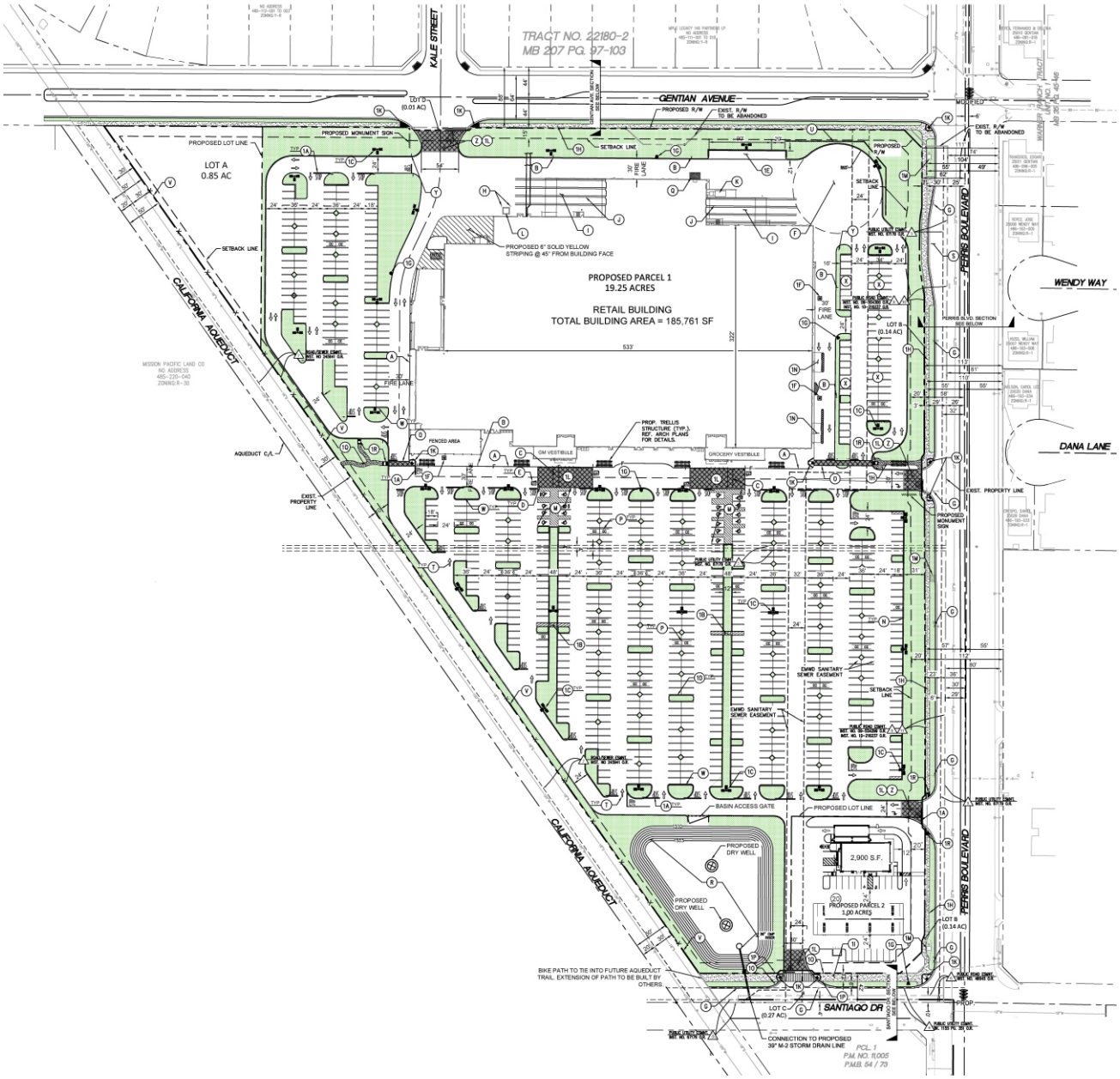
Within the scope and context of the "A" and "B" Development Options described above, the specific use and development concept for Parcel 2 would ultimately be determined by market demands.

Other. Approximately 0.85 acres located in the northwesterly corner of the Project site (Lot "A") would be allocated for park dedication. The remainder of the Project site (approximately 1.18 acres) would comprise necessary right-of-way dedications.

Table 3.4-1
Summary of Project Development

Parcel	Use	Parcel Area (approximate)	Building Area (approximate)
1	Walmart Supercenter	19.25 Acres	185,761 s.f.
2	Development Option A: * Gas Station w/Convenience Store and Car Wash*	1.00 Acre	2,900 s.f. (16 fueling points)
	Development Option B: Fast-food restaurant with drive-through; retail shops	1.00 Acre	6,800 s.f. (Fast food restaurant w/drive through @ approx. 3,500 s.f.; retail shops @ approx. 3,300 s.f.)
Subtotal		*20.25 Acres*	*188,661 s.f. (Option A)* *192,561 s.f. (Option B)*
	R/W Dedication	1.18	n/a
	Parks Dedication	0.85	n/a
Subtotal		*2.03 acres*	
Site Total		**22.28 acres**	

Source: Project Site Plan Concept (Kimley-Horn and Associates) January 29, 2015.
Notes: * The EIR analysis reflects a likely maximum impact scenario which assumes development of Parcel 2 with a commercial gas station (16 fueling points), convenience store, and commercial car wash (Parcel 2, Development Option "A"). Alternatively, Parcel 2 may be developed with an approximately 3,500 s.f. fast food restaurant w/ drive-through; plus 3,300 s.f. of retail shops (Parcel 2, Development Option "B").



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Source: Kimley-Horn and Associates, Inc.

applied planning inc

Figure 3.4-1
Site Plan Concept

3.4.3 Architectural/Facilities Design Concepts

A representative architectural rendering of the proposed Walmart store is presented at Figure 3.4-2. Other facilities proposed by the Project would incorporate compatible architectural styles and elements. Design accents and amenities concepts proposed by the Project are illustrated at Figure 3.4-3. As illustrated at Figures 3.4-2 and 3.4-3, buildings proposed by the Project reflect a contemporary commercial architectural style evidencing articulated surfaces and roof lines, and employing varied exterior finish materials.

3.4.4 Utilities Systems Improvements and Modifications

As elements of the Project, public utility systems, including water and sanitary sewer systems would be modified or extended to serve the Project facilities. Such modifications may include, but are not limited to: new service connections, service/distribution line upgrades, and realignment(s) of existing service/distribution lines. The Project does not propose, nor does it require, construction of major new water or wastewater infrastructure systems. Serving utilities and improvements that would be implemented by the Project are described below.

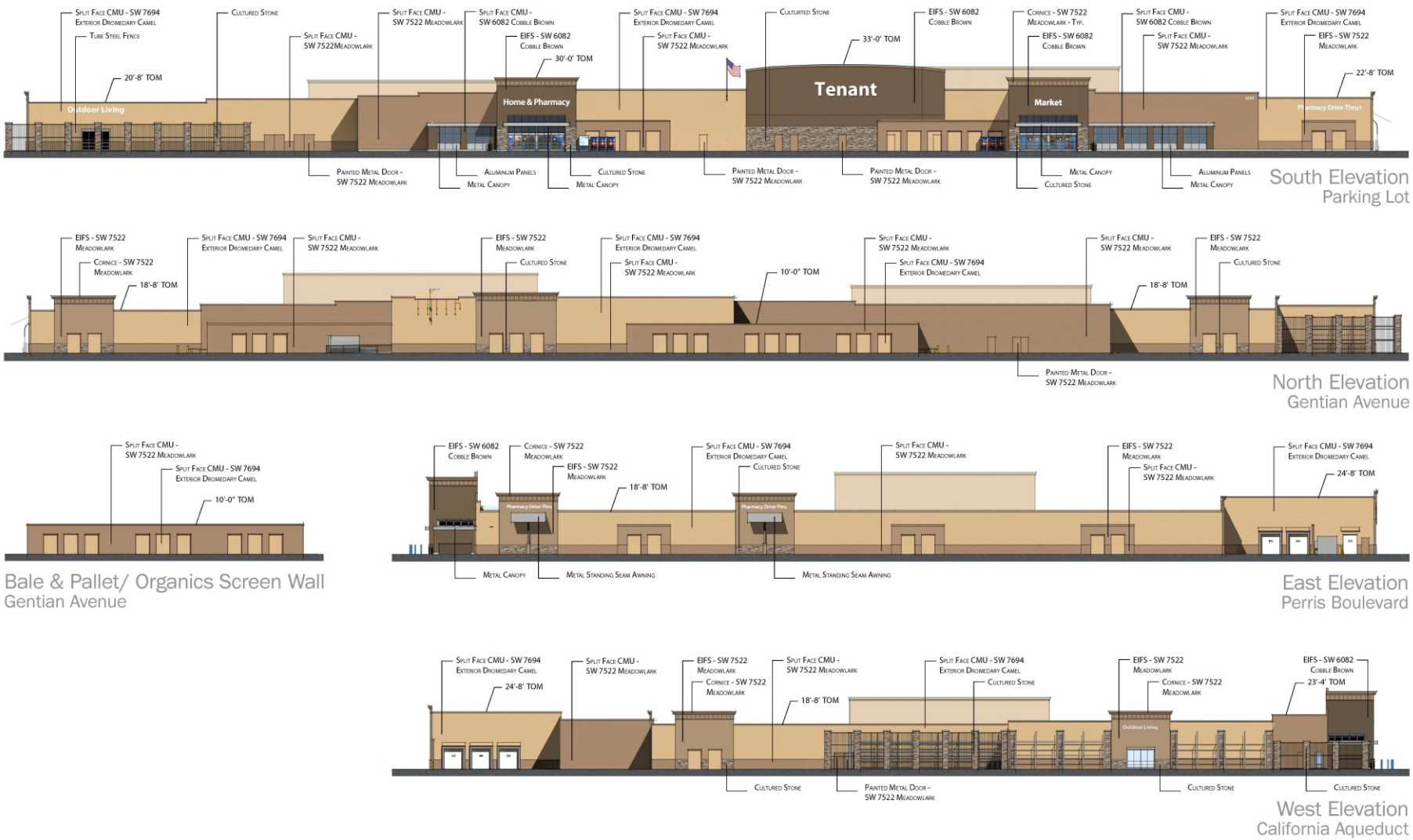
3.4.4.1 Water Supply and Delivery

Water would be provided to the Project by the Eastern Municipal Water District (EMWD). Water supplies available to the Project are considered adequate to meet all potable and non-potable requirements. The Project has received a "will serve" letter from EMWD (Service Planning Letter #2636-0, dated 7/15/14). The Project would connect to one or more of the water service lines located in road rights-of-way adjacent to the Project site.

Source:

applied planning inc

Figure 3.4-2
Walmart Rendering



Source:

appliedplanning inc

Figure 3.4-3
Walmart Elevations

To ensure that adequate fire flows are available to all Project uses, on-site water delivery improvements would be provided consistent with City of Moreno Valley Fire Department requirements. The Project would be fitted with recycled water lines (purple pipe) and connect to the EMWD recycled water distribution system when available to the Project site, acting to reduce potable water demands of the Project.

3.4.4.2 Stormwater Management

Proposed stormwater management system concepts are discussed in detail in EIR Section 4.7, *Hydrology and Water Quality*. In summary, onsite runoff would be collected by roof rains to be located on the Walmart rooftop, curb inlets, catch basins, and a truck well drain (with inlet filter) to be located in the northerly portion of the site, along the buildings rear façade. These flows would be directed to a 1.12-acre infiltration basin to be located at the Project site's southerly boundary, via an underground storm drain system.

This basin is triangular in shape, and will serve as both a water quality basin and a flood control basin. The basin has been designed consistent with the Riverside County Low Impact Development Design BMP Handbook and the City's Water Quality Basin Civil Design Guidelines.

The basin would drain to a new 39-inch storm drainage line (portion of Riverside County Flood Control and Water Conservation District [RCFCWCD] Master Drainage Plan [MDP] M-2 Line, RCFCWCD MDP M-2 Line) to be installed within Santiago Drive. This new 39-inch RCFCWCD MDP M-2 Line would extend easterly from the Project onsite infiltration basin to Perris Boulevard. The RCFCWCD MDP M-2 Line would then continue southerly along Perris Boulevard until it reaches Iris Avenue, where the RCFCWCD MDP M-2 line would increase to 45-inches, and would extend approximately 1,200 feet easterly along Iris Avenue where it would tie into the existing 48-inch RCP M-2 Line near the Wedow Drive/Iris Avenue intersection.

The RCFCWCD MDP M-2 Line provides a restriction on the amount of flows that can be accommodated. Consistent with this restriction, discharges from the Project

detention basin would be limited to 26.00 cubic feet per second (cfs). An outfall structure would be constructed within the Project stormwater detention basin to ensure this peak discharge rate is not exceeded.

All of the above-noted RCFCWCD MDP M-2 Line improvements would be constructed by the Project, or would otherwise be assured (via Project Conditions of Approval or other means established by the Lead Agency) to be in place and operational prior to issuance of the first Certificate of Occupancy for the Project.

3.4.4.3 Wastewater Conveyance and Treatment

A proposed sanitary sewer line (10-inch) from the property to the north will traverse the site and extend southerly to Santiago Drive.[3] The Project would connect to this line, which connects to an existing sanitary sewer line (18-inch) located within the adjacent aqueduct. Wastewater generated by the Project would be conveyed by Eastern Municipal Water District (EMWD) wastewater conveyance facilities to treatment plants operated by EMWD.

3.4.4.4 Other Utilities and Services

The Project site is also provided natural gas service, electrical service and communications services as summarized below. All modification of, and connection to, existing services would be accomplished consistent with City and purveyor requirements.

- Natural Gas Service: Natural gas service is provided by Southern California Gas Company. A natural gas service line is currently located within Perris Boulevard.

- Electrical Service: Electrical Service is provided by Moreno Valley Electric Utility and Southern California Edison. As part of the Project, existing overhead

[3] It is noted that this line is currently planned to be installed (by others) to serve the property located just north of the Project site. However, if the South Moreno Valley Walmart Project is developed prior to the neighboring property, the line will be installed by the Project; and therefore has been considered part of the Project within this EIR.

electrical lines will be relocated underground along Perris Boulevard and Santiago Drive. All new electrical connections would also be underground.

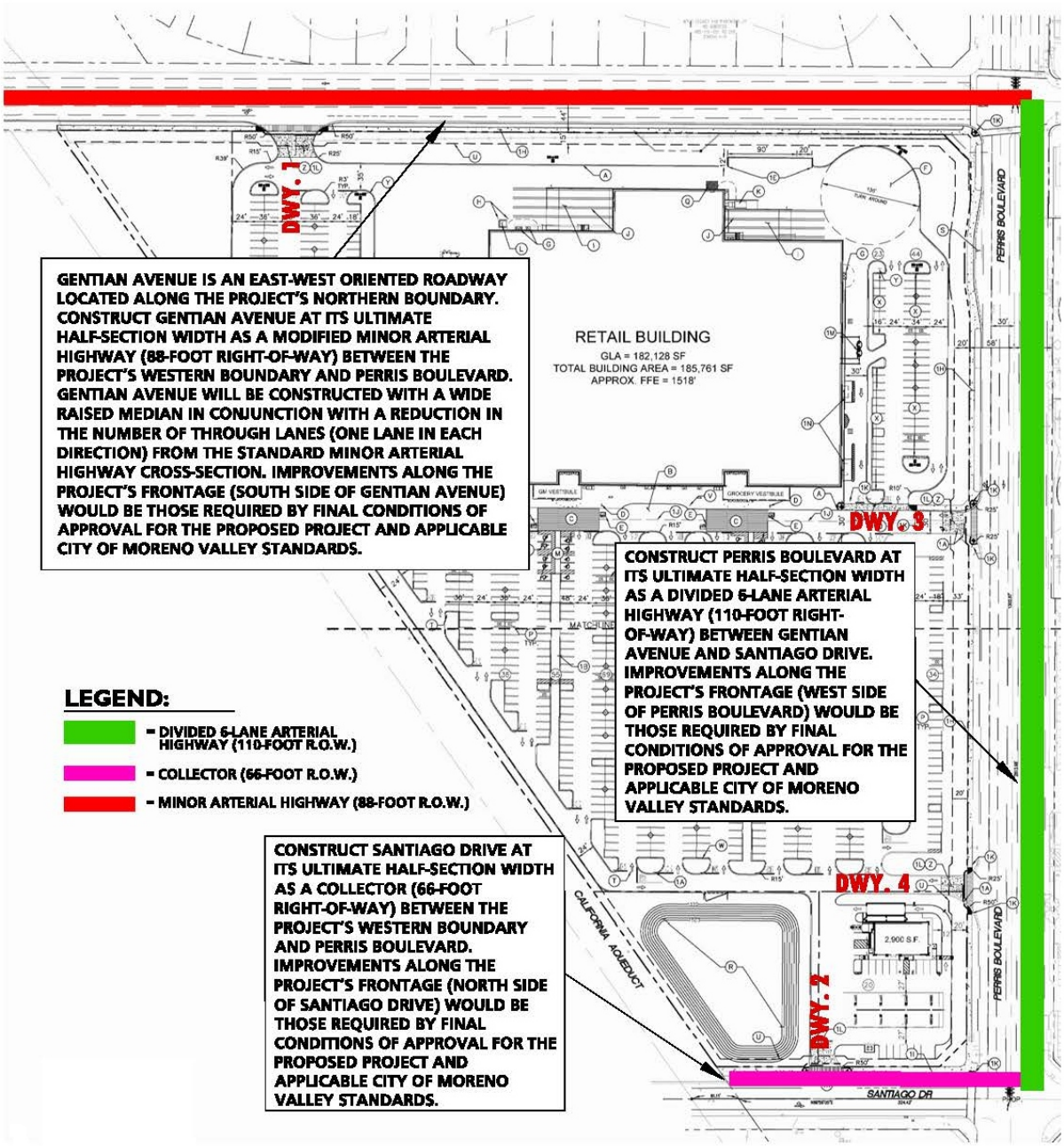
- Communications Service: AT&T and Verizon provide communication/cable services to the City inclusive of the Project site.

3.4.5 Access/Circulation/Parking

Primary access to the Project will be provided via two (2) driveways off Perris Boulevard. Gentian Avenue would provide secondary access to the Project site as well as truck and delivery access to the proposed Walmart Store. A driveway accessing Santiago Drive along the southerly Project boundary would provide access to the Parcel 2 uses as well as access to the proposed Walmart Store via a reciprocal access agreement. Final designs and specifications for all Project driveways, traffic controls, and internal circulation improvements would conform to requirements of the City's Engineering Department.

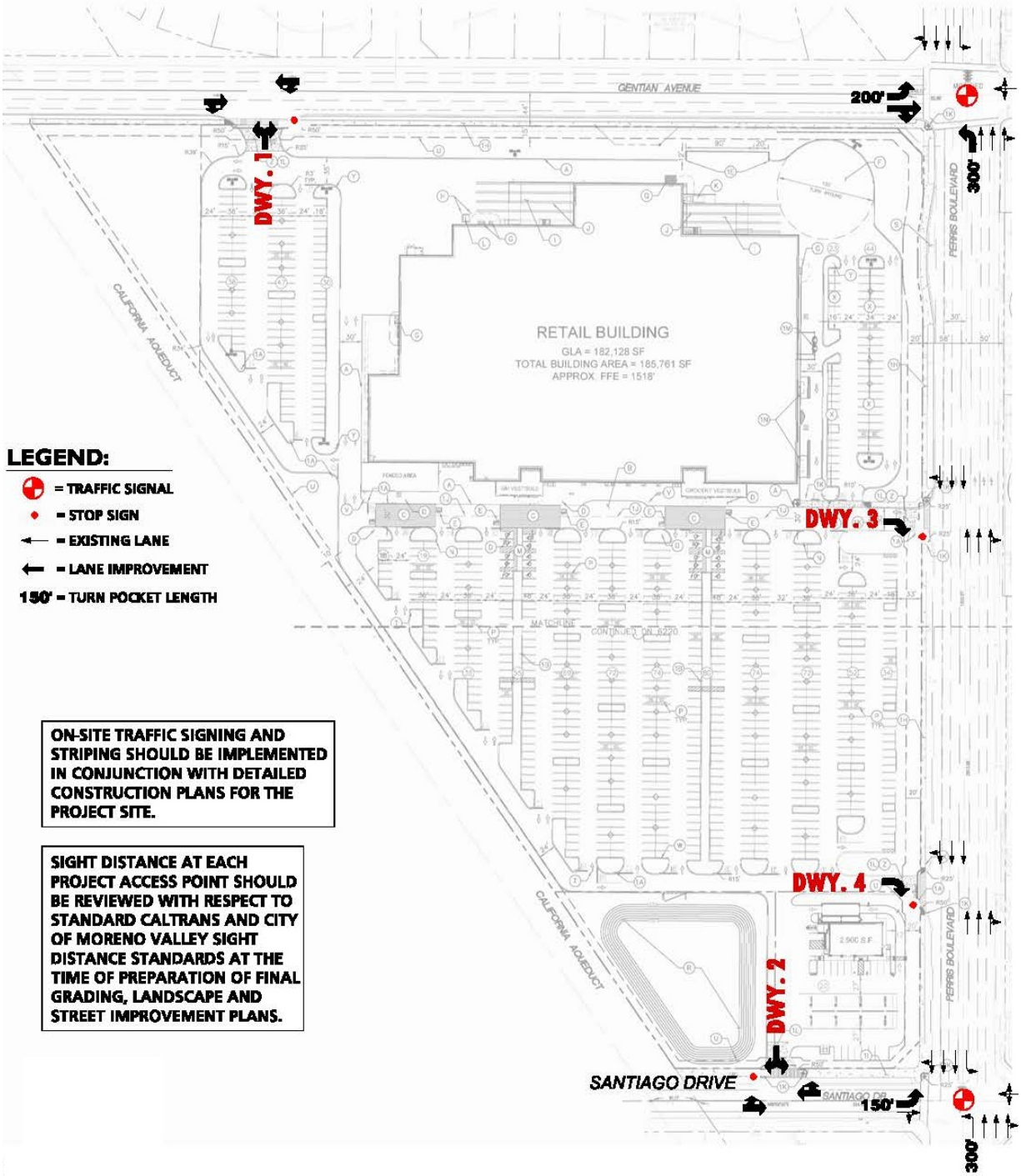
The Project Site Plan Concept identifies a total of 826 parking spaces in support of the proposed Walmart; and 20 spaces in support of the gas station/convenience store/carwash proposed under the Parcel 2 Development Option "A." Should the Parcel 2 Development Option "B" be implemented (fast-food restaurant w/drive-through and retail shops), approximately 51 total parking spaces would be provided. All parking areas and their configurations would be designed and implemented consistent with City of Moreno Valley Municipal Code Chapter 9.11, Parking, Pedestrian, and Loading Requirements.

Project implementation would also involve the construction of a number of roadway and intersection improvements occurring on or adjacent to the Project site. Improvements that would be constructed by the Project are illustrated in Figures 3.4-4 and 3.4-5, and described below.



Source: Urban Crossroads

Figure 3.4-4
Adjacent Roadway Recommendations



Source: Urban Crossroads

Figure 3.4-5
On-Site Circulation Recommendations

Gentian Avenue is an east-west oriented roadway located along the Project's northern boundary. Gentian Avenue would provide secondary access to the Project site as well as truck and delivery access to the proposed Walmart Store. Gentian Avenue will be constructed at its ultimate half-section width as a modified Minor Arterial Highway (88-foot right-of-way) between the Project's western boundary and Perris Boulevard. Gentian Avenue will be constructed with a wide raised median in conjunction with a reduction in the number of through lanes (one lane in each direction) from the standard Minor Arterial Highway cross-section. Improvements along the Project's frontage (south side of Gentian Avenue) would be those required by final conditions of approval for the proposed Project and applicable City of Moreno Valley standards.

Perris Boulevard is a north-south oriented roadway located along the Project's eastern boundary. Perris Boulevard would be constructed at its ultimate half-section width as a Divided 6-Lane Arterial Highway (110-foot right-of-way) between Gentian Avenue and Santiago Drive. Improvements along the Project's frontage (west side of Perris Boulevard) would be those required by final conditions of approval for the proposed Project and applicable City of Moreno Valley standards.

Santiago Drive is an east-west oriented roadway located along the Project's southern boundary. Santiago Drive would be constructed at its ultimate half-section width as a Collector (66-foot right-of-way) between the Project's western boundary and Perris Boulevard. Improvements along the Project's frontage (north side of Santiago Drive) would be those required by final conditions of approval for the proposed Project and applicable City of Moreno Valley standards. A driveway accessing Santiago Drive along the southerly Project boundary would provide access to the Parcel 2 uses as well as access to the proposed Walmart Store via a reciprocal access agreement.

In order to ensure safe and efficient traffic movements, the Project includes the installation of traffic signals/new signal heads at the following intersections:

- Perris Boulevard and Santiago Drive – new signal; and

- Perris Boulevard and Gentian Avenue – new signal heads on the eastbound approach.

The improvements listed above have been designed consistent with current street section and right-of-way standard concepts presented in the City's General Plan Circulation Element. Actual improvements to be constructed within the public right-of-way would be subject to final conditions of approval for the Project, pursuant to all incumbent City traffic engineering and safety standards.

3.4.5.1 Construction Traffic Management Plan

It is also recognized that temporary and short-term traffic detours and traffic disruption could result during Project construction activities including implementation of access and circulation improvements noted above. Accordingly, the Project Applicant would be responsible for the preparation and submittal of a construction area traffic management plan (Plan) to be reviewed and approved by the City Public Works Department. Typical elements and information incorporated in the Plan would include but would not be limited to:

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

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

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

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

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

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

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

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

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

3.4.6 Walls/Screening

A 10-foot high screening wall would be constructed around the loading dock areas in the northerly portion of the Project site. Additionally, the truck turn-around area would be screened by an 8-foot high wall to be located along the corner of Gentian Avenue and Perris Boulevard. Screening landscaping would be installed along Gentian Avenue. These screening walls and landscaping would block potentially intrusive views of outdoor storage areas and trash receptacles, and act to attenuate noise generated by delivery trucks accessing the Walmart loading docks and noise generated by loading dock activities; and noise generated by other general back-of-store maintenance activities (e.g., trash compacting). Wall heights would be verified by the City Planning Department concurrent with, or subsequent to, plot plan review.

Screening of other potentially intrusive elements, e.g., trash storage, trash storage and loading areas, and ground and roof mounted mechanical equipment would be provided consistent with Municipal Code Section 9.08.150, "Screening requirements."

Project screening elements, including all screening walls, would be architecturally compatible with other Project facilities. Final design of all proposed screening elements are subject to City review and approval processes.

3.4.7 Landscape/Hardscape Concept

Figure 3.4-6 presents the Project landscape/hardscape concept. As indicated, the Project would incorporate perimeter and interior landscaping and streetscape elements, acting to generally enhance the Project's visual qualities. Proposed landscaping includes varied trees, shrubs, and ground cover. Design accents, including all landscape/hardscape designs and features are subject to City review and approval. Landscaping will also be provided within and adjacent to the Project retention/detention areas acting to screen and enhance these areas as well as provide treatment for stormwater runoff from the Project site. Final design of the Project's landscaping and hardscape are subject to the City's Design Review processes.

3.4.8 Lighting

All Project lighting would be designed and implemented in a manner that precludes potential adverse effects of light overspill consistent with requirements identified at City Municipal Code Section 9.10.110, "Light and Glare." All decorative and security lighting plans would be submitted for required City review and approval prior to, or concurrent with, application for building permits. Final design of the Project's lighting is subject to the City's Design Review processes.

PLANT LEGEND

STREET TREE FOR PERRIS BOULEVARD

BOTANICAL NAME	COMMON NAME	SIZE
LIRIODENDRON TULIPIFERA	TULIP TREE	24" BOX

STREET TREE FOR ARCHIBALD AVENUE

BOTANICAL NAME	COMMON NAME	SIZE
PLATANUS X ACERIFOLIA 'COLUMBIA'	LONDON PLANE TREE	24" BOX

STREET TREE FOR ARCHIBALD AVENUE

BOTANICAL NAME	COMMON NAME	SIZE
LIQUIDAMBAR STYRACIFLUA 'BURGANDY'	AMERICAN SWEET GUM	24" BOX

PARKING LOT TREES SUCH AS:

BOTANICAL NAME	COMMON NAME	SIZE
TIPUANA TIPU	TIPU TREE	24" BOX
KOELREUTERIA BIPINATA	CHINESE FLAME TREE	24" BOX
LAGERSTROEMIA INDICA 'NATCHEZ'	CRAPE MYRTLE	24" BOX
GEIJERA PARVIFLORA	AUSTRALIAN WILLOW	24" BOX
TRISTANIA CONFERTA	BRISBANE BOX	24" BOX
PYRUS CALLERYANA 'CHANTICLEER'	ORNAMENTAL PEAR	24" BOX
CUPANIOPSIS ANACARDIOIDES	CARROT WOOD TREE	24" BOX
CINNAMOMUM CAMPHORA	CAMPHOR TREE	24" BOX

PERIMETER SCREENING TREES SUCH AS:

BOTANICAL NAME	COMMON NAME	SIZE
SCHINUS MOLLE	CALIFORNIA PEPPER TREE	24" BOX
QUERCUS AGRIFOLIA	COAST LIVE OAK	24" BOX
PINUS ELDARICA	AFGHAN PINE	24" BOX
PLATANUS X ACERIFOLIA 'COLUMBIA'	LONDON PLANE TREE	24" BOX

ACCENT AND ENTRY PALMS

BOTANICAL NAME	COMMON NAME	SIZE
WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	25'-30' B.T.H.
PHOENIX DACTYLIFERA	DATE PALM	25'-30' B.T.H.

DETENTION BASIN TREES SUCH AS:

BOTANICAL NAME	COMMON NAME	SIZE
POPULUS FREMONTII	WESTERN COTTONWOOD	24" BOX
ROBINIA AMBIGUA 'IDAHOENSIS'	IDAHO LOCUST	24" BOX

DROUGHT TOLARENT SHRUBS AND GROUND COVERS SUCH AS:

BOTANICAL NAME	COMMON NAME	SIZE
PHORMIUM SPP.	NEW ZEALAND FLAX	5 GALLON
ANIGOZANTHUS HYBRIDS	KANGAROO PAW	5 GALLON
CISTUS 'PURPUREUS'	ROCKROSE	5 GALLON
SALVIA SPP.	SAGE	5 GALLON
CALLISTEMON 'LITTLE JOHN'	BOTTLEBRUSH	5 GALLON
HESPERALOE PARVIFLORA	RED YUCCA	5 GALLON
KNIPHOFIA UVARIA	RED HOT POKER	1 GALLON
LIGUSTRUM JAPONICUM 'TEXANUM'	TEXAS PRIVET	5 GALLON
PITTOSPORUM TOBIRA 'VARIEGATA'	VARIEGATED PITTOSPORUM	5 GALLON
MUHLENBERGIA RIGENS	DEER GRASS	1 GALLON
PENNISETUM SETACEUM 'EATON CANYON'	RED FOUNTAIN GRASS	1 GALLON
NASSELLA TENUISSIMA	MEXICAN FEATHER GRASS	1 GALLON
JUNCUS PATENS	CALIFORNIA GRAY RUSH	1 GALLON
LAVANDULA SPP.	LAVENDER	5 GALLON
NANDINA DOMESTICA 'HARBOR DWARF'	HEAVENLY BAMBOO	5 GALLON
RHAPHIOLEPIS INDICA 'BALLERINA'	INDIAN HAWTHORN	5 GALLON
ECHIUM CANDICANS	PRIDE OF MADEIRA	5 GALLON
CEANOTHUS 'CONCHA'	WILD LILAC	5 GALLON
HETEROMELES ARBUTIFOLIA	TOYON	5 GALLON
FREMONTODENDRON 'CALIFORNIA GLORY'	FLANNEL BUSH	5 GALLON
TRACHELOSPERMUM JASMINOIDES	STAR JASMINE	FLATS
DYMONDIA MARGARETAE	SILVER CARPET	FLATS
LANTANA MONTEVIDENSIS	PURPLE TRAILING LANTANA	4" POTS
SENECIO MANDRALISCAE	KLEINIA	FLATS
LAMPRANTHUS SPECTABILIS	TRAILING ICE PLANT	FLATS
ROSMARINUS OFFICINALIS 'PROSTRATUS'	TRAILING ROSEMARY	4" POTS
CEANOTHUS HORIZONTALIS 'YANKEE POINT'	WILD LILAC	4" POTS
MYOPORUM PARVIFOLIUM 'PINK'	PINK MYOPORUM	FLATS
GAZANIA 'MITSUWA YELLOW'	GAZANIA	FLATS

Source: Teshima Design Group

applied planning inc

Figure 3.4-6
Landscape Plan

3.4.9 Loading and Deliveries

The proposed Walmart building would also include truck doors and loading facilities at the rear of the store, among other necessary features. As illustrated at Figure 3.4-1, two delivery docks, (one for groceries and one for general merchandise), are proposed. These docks would be located along the store's northerly (rear) elevation. Truck deliveries may occur 24 hours per day, and would consist of both semi-trucks (larger deliveries would be accomplished by way of 3 + axle tractor-trailer combinations with trailers up to 53 feet in length), and small to medium size (two-axle) trucks.

As noted at Section 3.4.6, an eight-foot screening wall would be constructed around the truck turn-around area in the northerly portion of the Project site. This wall would act to attenuate noise generated by delivery trucks accessing the Walmart loading docks and noise generated by loading dock activities. Wall heights would be verified by the City Planning Department concurrent with, or subsequent to, plot plan review. Project screening elements, including all screening walls, would be architecturally compatible with other Project facilities. Final design of all proposed screening elements are subject to City review and approval processes.

As discussed previously, Parcel 2 may be developed under one of two Development Options. Under Development Option "A," Parcel 2 would be developed with a commercial gas station, convenience store, and car wash. Under Development Option "B," Parcel 2 would be developed with a fast food w/ drive-through restaurant of approximately 3,500 square feet, plus 3,300 square feet of retail shops. Under either Option, loading and delivery areas would be required to conform to applicable City design criteria and standards. Final design of all proposed loading and delivery areas are subject to City review and approval processes.

3.4.10 Energy Efficiency/Sustainability

3.4.10.1 General

Energy-saving and sustainable design features and operational programs incorporated in the Project are summarized below. Because tenants are not currently under contract

for the Project's proposed secondary use(s), the majority of the features and design elements and programs described in this Section are specific to the Project's proposed Walmart store. Notwithstanding, the Project in total would surpass by ten percent incumbent performance standards established under the Building Energy Efficiency Standards contained in the California Code of Regulations (CCR), Title 24, Part 6 (Title 24, Title 24 Energy Efficiency Standards). Please refer also to related discussions presented at EIR Section 4.4, *Air Quality*, EIR Section 4.5, *Greenhouse Gas Emissions and Global Climate Change*, and EIR Section 5.6, *Energy Conservation*.

Building Energy and Resource Conservation

Lighting:

- The entire store would include occupancy sensors in most non-sales areas, including restrooms, break rooms, and offices. The sensors automatically turn the lights off when the space is unoccupied.

- All lighting in the store would consist of T-8 fluorescent lamps and electronic ballasts, resulting in up to a 15 to 20 percent reduction in energy load.

- All exterior building signage and many refrigerated food cases would be illuminated with light emitting diodes (LEDs). In refrigerated food cases, LEDs perform well in the cold and produce less heat (which must be compensated for by the refrigeration equipment) than fluorescent bulbs. LEDs also contain no mercury or lead. LED technology is up to 52 percent more energy efficient than fluorescent lights. Total estimated energy savings for LED lighting in the store's grocery section is approximately 59,000 kWh per year, enough energy to power five single family homes.

- The store would include a daylight harvesting system, which incorporates more efficient lighting, electronic continuous dimming ballasts, skylights and computer controlled daylight sensors that monitor the amount of natural light

available. During periods of higher natural daylight, the system dims or turns off the store lights if they are not needed, thereby reducing energy use. This program would help the store save a substantial amount of energy. Dimming and turning off building lights also helps eliminate unnecessary heat in the building.

Central Energy Management System:

- Walmart employs a centralized energy management system (EMS) to monitor and control the heating, air conditioning, refrigeration and lighting systems for all stores from Walmart's corporate headquarters in Bentonville, Arkansas. The EMS enables Walmart to constantly monitor and control the store's energy use, analyze refrigeration temperatures, observe HVAC and lighting performance, and adjust system levels from a central location 24 hours per day, seven days per week. Energy use for the store would be monitored and controlled in this manner.

Heating Ventilation and Air Conditioning (HVAC) Systems:

- The store would employ energy efficient heating (HVAC) systems.

Dehumidification:

- The Walmart store would include a dehumidifying system allowing the store to operate comfortably at a higher interior temperature, use less energy for air conditioning, and allow the air conditioning/refrigeration systems to operate more efficiently.

White Roofs:

- The store would utilize a white membrane roof instead of the typical darker colored roof materials employed in commercial construction. The white

membrane roof's higher reflectivity helps reduce building energy consumption and reduces the heat island effect, as compared to buildings utilizing darker roofing colors.

Refrigeration:

- Refrigeration equipment is typically roof-mounted proximate to refrigerated cases. This reduces the amount of copper refrigerant piping, insulation, and minimizes the potential for refrigerant leaks and attendant demands for refrigerant recharging. Walmart uses non ozone-depleting refrigerants (R407a and R410a) for refrigeration equipment and air conditioning, respectively.

Heat Reclamation:

- The proposed Walmart store would reclaim waste heat from onsite refrigeration equipment to supply approximately 70 percent of the hot water needs for the store.

Water Conservation:

- Walmart would install high-efficiency urinals that use only one-eighth (1/8) gallon of water per flush. This fixture reduces water use by 87 percent compared to the conventional one gallon per flush urinal. The 1/8 gallon urinal also requires less maintenance than waterless urinals.

- All restroom sinks would use sensor-activated one-half (1/2) gallon per minute high-efficiency faucets. These faucets reduce water use by approximately 75 percent when compared to mandated 1992 EPA Standards. During use, water flows through turbines built into the faucets to generate the electricity needed to operate the motion sensors.

- Water efficient restroom toilets would be employed in the Walmart restrooms. These fixtures use 20 percent less water compared to mandated EPA Standards of 1.6 gallon per flush fixtures.

    - The toilets utilize built-in water turbines to generate the power required to activate the flush mechanism. These turbines save energy and material by eliminating electrical conduits required to power automatic flush valve sensors.

    - It is estimated that Walmart's water conservation measures would save up to 530,000 gallons of water annually at this store.

Material and Finishes:

Cement Mixes

- The store would be built using cement mixes that include 15 to 20 percent fly ash, a waste product of coal-fired electrical generation, or 25 to 30 percent slag, a by-product of the steel manufacturing process. By incorporating these waste product materials into its cement mixes, Walmart offsets the greenhouse gases emitted in the cement manufacturing process.

- The store would use Non-Reinforced Thermoplastic Panel (NRP) in lieu of Fiber Reinforced Plastic (FRP) sheets on the walls in areas where plastic sheeting is appropriate, including food preparation areas, utility and janitorial areas, and associate break rooms. NRP can be recycled, has better impact resistance and, like FRP, is easy to keep clean.

- The store would employ a plant-based oil extracted from a renewable resource as a concrete form release agent (a product sprayed on concrete forms to allow ease of removal after the concrete has set). This release agent is nonpetroleum based non-toxic and a biodegradable agent. For the store's exterior and interior field

paint coatings, Walmart would use low-volatile organic (VOC) content paint consistent with South Coast Air Quality Management District (SCAQMD) requirements.

- Paint products required for the Project would be primarily purchased in 55 gallon drums and 275 gallon totes, reducing the number of one gallon and five gallon buckets needed. These plastic buckets are filled from the drums and totes and then returned to the paint supplier for cleaning and reuse.

- Exposed concrete floors are used where appropriate thereby reducing surface applied flooring materials. Use of exposed concrete floors also substantially reduces the need for most chemical cleaners, wax strippers, and propane-powered floor buffing.

Recycled Building Materials

- Construction of the store would use steel containing approximately 90 to 98 percent recycled structural steel, which utilizes less energy in the mining and manufacturing process than does new steel.

- All of the plastic baseboards and much of the plastic shelving employed in the store would be composed of recycled plastic.

Construction and Demolition (C&D) Recycling

- Walmart would develop and implement a Construction and Demolition (C&D) program at this location in order to capture and recycle as much of any metals, woods, floor and ceiling tiles, concretes, asphalts and other materials that may be generated as part of Project implementation. Walmart would work with the City and serving waste management company to fully research all available C&D recycling facilities in the area, and the Walmart C&D program would seek to include the widest possible range of materials recovery options. Throughout the

course of Project construction, any demolished concrete or asphalt, concrete truck wash out, scrap building materials and construction refuse would be removed and recycled/disposed of consistent with the City's adopted Source Reduction and Recycling Element (SRRE), thereby maximizing reuse of building materials and minimizing recyclables placed within landfills.

3.4.10.2 Landscaping

Landscaping throughout the Project area would be provided consistent with City of Moreno Valley requirements, and recognizing competing demands for available water resources. Drought-tolerant plants would be used, where appropriate, reducing water consumption and power demand related to water delivery/irrigation systems. The Project would include a recycled water system that would connect to the EMWD recycled water distribution system when available to the Project site, further reducing potable water demands of the Project.

3.4.10.3 Pedestrian Walkways

Project walkways and pedestrian crosswalks would be provided consistent with City of Moreno Valley requirements, facilitating pedestrian access between commercial uses within the Project site, as well as between the Project site and adjacent areas.

3.4.10.4 Bicycle Racks/Bicycle Lockers

Bicycle racks and lockers would be provided on-site consistent with City requirements thereby facilitating and encouraging use of bicycles. Bicycle racks provided by the Project would implement securable locations for bikes; lockers provided would allow for additional secured storage of helmets and biking gear.

3.4.10.5 Location

The Project's commercial/retail facilities are proximate to customers and patrons and readily accessible from regional and local roadways. In this manner, the Project at its current location acts to reduce vehicle miles traveled (VMT) within the region and associated consumption of resources.

3.4.10.6 Transit Facilities

The Project would accommodate a mix of automobile, pedestrian, and transit opportunities. Riverside Transit Authority (RTA) currently provides scheduled bus service to the Project vicinity. RTA Route 19 travels along Perris Boulevard, the Project's easterly boundary, and there are currently bus stops (benches) along Perris Boulevard immediately adjacent to the Project site.[4] Dial-a-ride services are also provided by RTA. Serving transit agencies (in this case Riverside Transit Agency) routinely review and adjust their ridership schedules to accommodate public demand. The need for transit-related facilities, including but not limited to bus shelters and bicycle parking, would be coordinated between the City and the Project Applicant, with input from transit providers as applicable, as part of the City's standard development review process.

3.5 PROJECT OBJECTIVES

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

- To capitalize on the site's location proximate to Perris Boulevard and its connection to local and regional transportation systems;

- To create a complementary mix of commercial/retail uses;

- To take advantage of available infrastructure; enhance and improve local infrastructure systems to the benefit of the Project and surrounding areas; and to maximize access opportunities for the convenience of patrons;

- To provide a commercial/retail development that meets the current unmet demand for goods and services from consumers residing in the trade area and future residential developments;

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[4] RTA Routes and Schedules can be accessed at:
http://www.riversidetransit.com/index.php/riding-the-bus/maps-schedules

- To provide a commercial/retail shopping center that serves the local market area and beyond, and to attract new customers and retailers into the City of Moreno Valley;

- To provide goods and services at a local site, thereby reducing the number of trips currently being made to shop for these same goods and services at greater distances outside the City of Moreno Valley;

- To provide a convenient source of grocery and food items to serve the local community;

- To provide convenience-oriented retail sale of food, beverage, and related products and convenience-oriented services to the currently underserved area;

- Improve and maximize economic viability of the currently vacant and underutilized Project site and area through the establishment of a new commercial center;

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

- Expand and provide new retail options, with updated, modern and energy efficient buildings, proximate to local consumers by providing daytime and nighttime shopping opportunities in a safe and secure environment;

- Create additional employment-generating opportunities for the citizens of Moreno Valley and surrounding communities.

3.6 PROJECT DISCRETIONARY ACTIONS, PERMITS, CONSULTATION

Discretionary actions, permits and related consultation(s) necessary to approve and implement the Project are summarized below.

3.6.1 City Discretionary Actions and Permits

CEQA Section 15124 states in pertinent part that if "a public agency must make more than one decision on a Project, all its decisions subject to CEQA should be listed . . ." Requested decisions, or discretionary actions, necessary to realize the Project include, but may not be limited to the following:

- Certification of the EIR;
- Approval of a Tentative Parcel Map to divide the single parcel into two parcels;
- Plot Plan review and approval to include Project design and architectural reviews; and review and approval of the Walmart pharmacy and alcohol sales as ancillary uses;
- Approval of Conditional Use Permit(s) (CUPs) as follows:
    - Parcel 2 Development Option A includes a fueling station, alcohol sales for offsite consumption, and a drive-through car wash; all would require a CUP.
    - Parcel 2 Development Option B includes a fast food with drive-through restaurant, and retail shops. The proposed fast food with drive-through restaurant would require a CUP.

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

3.6.2 Other Consultation and Permits

CEQA Section 15124 also states that the EIR should, to the extent known, include a list of all the agencies expected to use the EIR in their decision-making (Responsible Agencies, Trustee Agencies), and a list of other permits or approvals required to implement the Project. Based on the current Project design concept, anticipated permits

necessary to realize the proposal would likely include, but are not limited to the following:

- Permitting may be required by/through the South Coast Air Quality Management District (SCAQMD) for certain aspects of the Project operations and its associated equipment.

- Permitting (i.e., utility connection permits) may be required from utility providers.

- Permits from the Riverside County Flood Control and Water Conservation District in order to implement the District's area-serving RCFCWCD MDP M-2 Line.

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

4.0 ENVIRONMENTAL IMPACT ANALYSIS

4.0 ENVIRONMENTAL IMPACT ANALYSIS

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

Section	Topic
4.1	Land Use and Planning
4.2	Urban Decay
4.3	Traffic and Circulation
4.4	Air Quality
4.5	Global Climate Change and Greenhouse Gas Emissions
4.6	Noise
4.7	Hydrology/Water Quality
4.8	Geology and Soils
4.9	Biological Resources
4.10	Cultural Resources

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

the intent of the California Environmental Quality Act (CEQA) is to focus on significant, or potentially significant adverse effects of the Project, and therefore, mitigation is proposed only for potential impacts of this magnitude.

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

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

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

- **Potentially Significant Impacts**: Potentially significant impacts are defined as a substantial, or potentially substantial, adverse change in the environment. The CEQA Guidelines and various responsible agencies provide guidance for

determining the significance of impacts. However, the determination of impact significance is ultimately based on the judgment of the lead agency. Similarly, the establishment of any criteria to be used in evaluating the significance of impacts is the responsibility of the lead agency. Wherever possible, mitigation is proposed in the EIR to avoid or reduce the magnitude of potentially significant impacts.

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

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

4.1 LAND USE AND PLANNING

4.1 LAND USE AND PLANNING

Abstract

This Section identifies and addresses potential impacts that may result from land use and planning decisions necessary to implement the Project. More specifically, the land use and planning analysis presented here examines whether the Project would:

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

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

4.1.1 INTRODUCTION

Land use refers to occupation and employment of properties for various purposes such as commerce, industry, open space, community services, infrastructure, and residential uses. Local land use plans, policies, and development regulations control the types, configurations, and intensities of land uses within the community. Changes in land use patterns resulting from new development can affect overall characteristics of an area, and may result in physical impacts to the environment. The Land Use and Planning Section of the EIR focuses on the Project's consistency with applicable land use plans, policies and regulations, and its potential incompatibilities with land use districts and existing and proposed vicinity development.

4.1.2 SETTING

4.1.2.1 Location

The Project site is located within the southwesterly portion of the City of Moreno Valley, within Riverside County. The site is a roughly triangular-shaped parcel located southwesterly of the intersection of Perris Boulevard and Gentian Avenue. Specifically, Gentian Avenue forms the site's northern boundary. The site is bordered to the east by Perris Boulevard and the California Aqueduct forms the site's westerly boundary. Santiago Drive borders the site to the south. Please refer also to EIR Section 3.0, *Project Description*, Figure 3.2-1, *Project Location.*

4.1.2.2 Existing Land Uses

Project site and vicinity land uses are denoted in the aerial photograph presented at Figure 4.1-1; and area land uses are described in the following discussions. Photographs of the existing Project site (as of May 2014) and a photo location key map are presented at Figure 4.1-2. Please refer also to land use descriptions presented at EIR Section 3.0, *Project Description*.

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NOT TO SCALE

Source: Google Earth; Applied Planning, Inc.

applied planning inc

Figure 4.1-1
Existing Land Uses

Photo A: View Northwesterly from Perris Boulevard

Photo B: View Southwesterly from Perris Boulevard

Photo C: View Southerly from Gentian Avenue

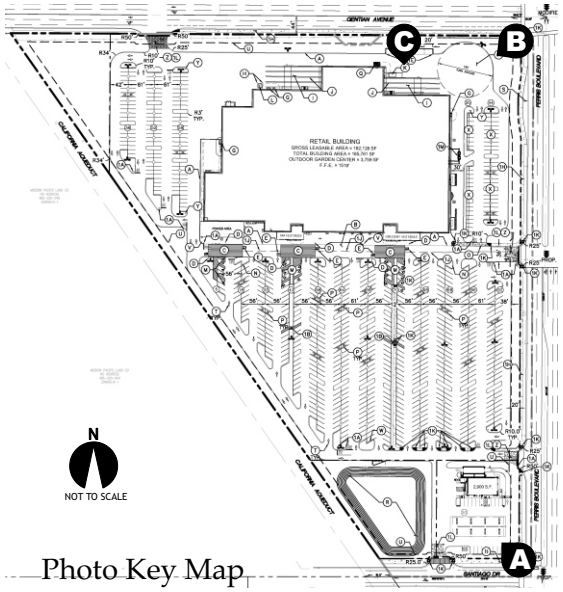


Photo Key Map

Source: Applied Planning, Inc.

applied planning inc

Figure 4.1-2
Site Photos & Key Map

Project Site Land Use

The subject site is vacant and undeveloped and is devoid of notable topographic features or substantial terrain differentials. Elevations within the Project site generally range from 1,509 feet above mean sea level (MSL) in the southeastern portions of the site to approximately 1,519 feet MSL in the northwestern portions of the site. The Project grading plan concept would provide balanced cut/fill, with no substantive soil import or export requirements.

No protected or intrinsically valuable biologic habitat exists within the Project site; and the Project area is generally disturbed by human activities (e.g., regular disking and weed abatement; off-road vehicle trails; footpaths). Sparse vegetation that does exist within the Project site consists of non-native grasses and weeds.

The Project site does, at present, accommodate various common nesting birds, and is considered potential habitat for the burrowing owl, a special status wildlife species. The California horned lark, also a special status wildlife species, was observed during surveys of the site, though no nesting larks were observed. The Project site also lies within, and is subject to provisions of, the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP).

Vicinity Land Uses

Properties to the north of the Project site, across Gentian Avenue, are currently vacant. Residential uses and City yard uses are located to the east of the Project site, across Perris Boulevard. Vacant land, sparse residential uses, and a Home Depot are located to the south of the site. Properties to the west are currently vacant. March Middle School and Rainbow Ridge Elementary School are located approximately 900 feet southwesterly of the Project site, south of Santiago Drive.

4.1.3 LAND USE POLICIES AND REGULATIONS

The City has developed and adopted Land Use Goals, Policies and Development Standards/Regulations that act to promote orderly development of compatible land uses. In many instances, compliance with existing policies and standards eliminates, or

substantially reduces, potential land use and planning impacts. Existing policies and standards, to some extent, also indicate community and regional values and prerogatives relative to environmental concerns.

4.1.3.1 City of Moreno Valley General Plan

The City General Plan Land Use designations direct the general character and intensities of land uses within the City boundaries. All proposed development projects are evaluated for consistency with the intent and purpose of the applicable General Plan Land Use designation(s) and related General Plan Goals and Policies.

4.1.3.2 City of Moreno Valley Zoning Ordinance

The City of Moreno Valley Zoning Ordinance is the primary tool for implementing the City General Plan. In contrast to the long-term, broad-based outlook of the General Plan, the City Zoning Ordinance establishes location-specific regulations and standards designed to control the locations, densities, and intensities of various land uses. The California Government Code, Section 65860, requires that the City Zoning Ordinance be consistent with the City General Plan.

To prevent incompatible land use relationships, the City Zoning Ordinance and accompanying Zoning Map designate different areas or "Zone Districts" for different types of land uses, and establishes standards for development within each District. These standards may specify requirements for lot sizes, lot coverages, building heights, setbacks, parking, landscaping, and other development parameters.

4.1.3.3 Other

Air Installation Compatible Use Zone Consistency

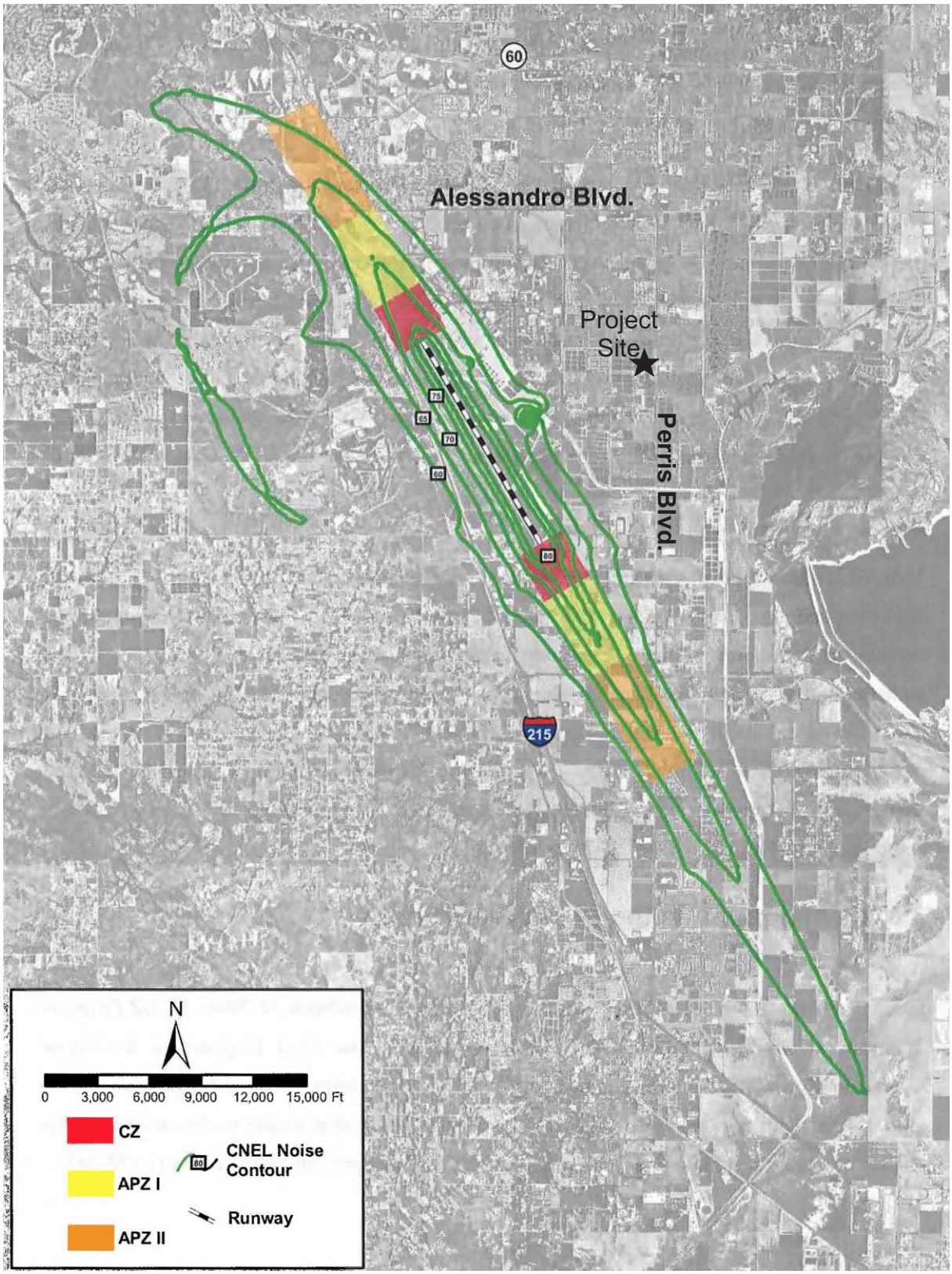
The Project site is located approximately one mile easterly of the March Air Reserve Base (MARB). The MARB airfield is a joint-use airport, operated by the March Air Reserve Base and the March Inland Port Airport Authority.

To promote compatible land use in areas around Air Force Installations, which are subject to aircraft noise and accident hazards, the Air Force developed the Air Installation Compatible Use Zone (AICUZ) program. The program is intended to provide information concerning aircraft accident hazards to communities surrounding Air Force installations and to prevent incompatible development in areas affected by aircraft operations.

Air crash hazards and land use compatibility associated with the MARB airfield were analyzed in the AICUZ Report (Report) prepared by the Air Force in 1998, and updated in 2005. The Report mapped and classified hazards areas into various categories indicating the potential for these areas to be subject to aircraft crashes. These areas included: areas on or adjacent to the runway; clear zone areas under runway approach/departure paths; Accident Potential Zone (APZ) I; and Accident Potential Zone (APZ) II. Aircraft Noise Compatibility Zones are also identified in the Report.

As presented in the Report, airfield accident risks are greatest within the clear zones located at either end of the airfield runway(s). Areas with greatest potential exposure to aircraft noise are those areas that align with and parallel the airfield runways. As indicated at Figure 4.1-3, the Project site is not located within nor is it proximate to the MARB airfield clear zone; APZ I; or APZ II; and does not lie within noise-impacted zones identified in the AICUZ. NOP comments provided by the Department of the Air Force, Air Force Reserve Command are consistent with and support the above conclusions. Specifically, the Department concluded . . . "[t}his development appears consistent with compatible land use and MARB mission operations at the proposed location. The site does not occupy any area impacted by current mission aircraft noise, flight paths, or any zones related to localized aircraft incident statistics."[1]

[1] NOP Comments and Responses, DEIR Appendix A–Memorandum to the City of Moreno Valley (Department of the Air Force, Air Force Reserve Command) 22 April 2014.



Source: March ARB; Applied Planning, Inc.

applied planning inc

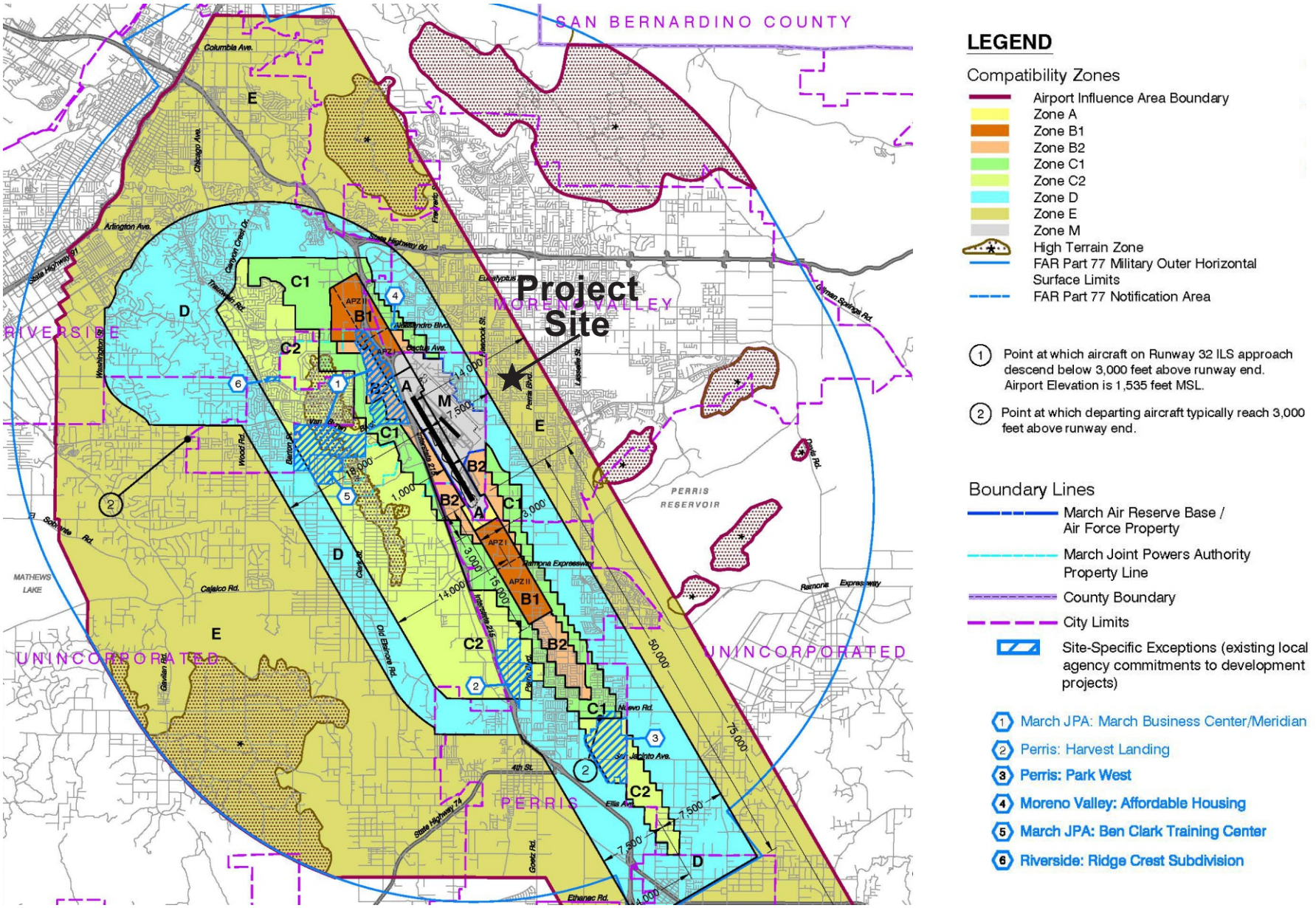
Figure 4.1-3
MARB AICUZ CNEL & Safety Zones

March Air Reserve Base /Inland Port Airport Land Use Compatibility Plan Consistency

The Project is also determined to comport with the March Air Reserve Base /Inland Port Airport Land Use Compatibility Plan (March ARB/IPA ALUCP). In this regard, the Project site lies within the Zone "E" of the March ARB/IPA ALUCP Land Use Compatibility Map (please refer to Figure 4.1-4). March ARB/IPA ALUCP Basic Compatibility Criteria for the Land Use Compatibility Map "Zones" are summarized at Table 4.1-1. As indicated at Table 4.1-1, properties designated Zone "E," *Other Airport Environs,* are not use- or development- restricted, and commercial/retail uses such as those proposed by the Project are permitted within, and would be compatible with the Zone E *Density/Intensity Standards* and *Additional Criteria* identified at Table 4.1-1. The Project is therefore considered to be consistent with the March Air Reserve Base /Inland Port Airport Land Use Compatibility Plan.

4.1.3.4 Existing Land Use Designations

Land Use Goals, Polices, and Development Standards germane to the Project are articulated within the City of Moreno Valley General Plan, and the City of Moreno Valley Municipal Code (Zoning Ordinance). The Project does not propose, nor require amendment to existing land use designations. Existing General Plan Land Use and Zoning designations for the Project site and vicinity properties are depicted at Figures 4.1-5 and 4.1-6, respectively, and are described below.



Source: Mead & Hunt, Inc.; Applied Planning, Inc.

applied planning inc

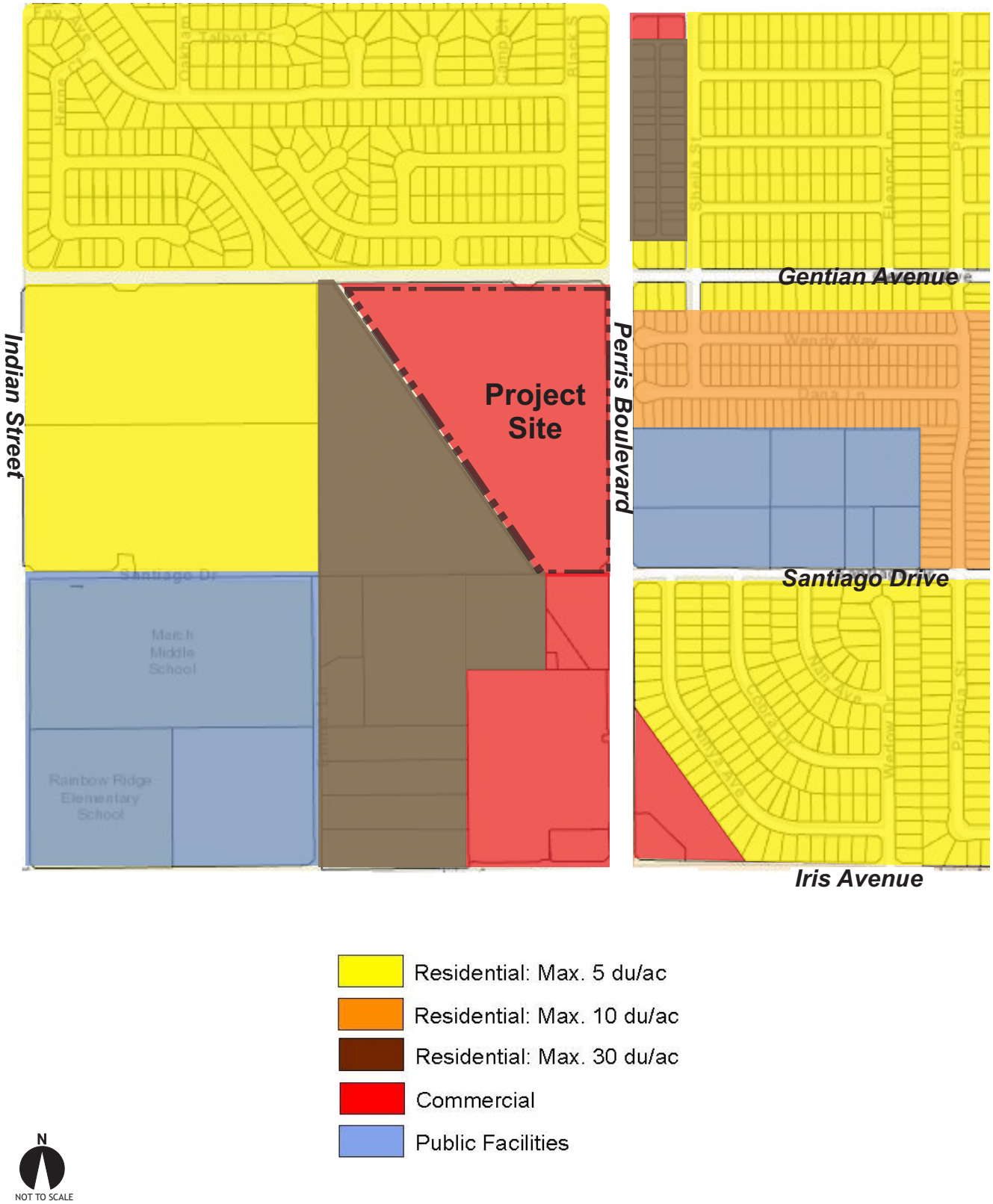
Figure 4.1-4
MARB/Inland Port Airport Land Use Compatibility Map

Zone	Locations	Density / Intensity Standards: Residential (d.u./ac) [1]	Other Uses (people/ac) [2]: Average [5]	Other Uses (people/ac) [2]: Single Acre [6]	Req'd Open Land	Additional Criteria: Prohibited Uses [3]	Additional Criteria: Other Development Conditions [4]
M	Military					› No ALUC authority	
A	Clear Zone [7]	No new dwellings allowed	0	0	All Remaining	› All non-aeronautical structures › Assemblages of people › Objects exceeding FAR Part 77 height limits › All storage of hazardous materials › Hazards to flight [8]	› Electromagnetic radiation notification [9] › Avigation easement dedication and disclosure [4, 7]
B1	Inner Approach/ Departure Zone	No new dwellings allowed [10]	25 (APZ I) 50 (APZ II and outside APZs) [11]	100 100	Max. 50% lot coverage within APZs [12]	› Children's schools, day care centers, libraries › Hospitals, congregate care facilities, hotels/ motels, restaurants, places of assembly › Bldgs with >1 aboveground habitable floor in APZ I or >2 floors in APZ II and outside of APZs [13] › Hazardous materials manufacture/storage [14] › Noise sensitive outdoor nonresidential uses [15] › Critical community infrastructure facilities [16] › Hazards to flight [8] › Uses listed in AICUZ as not compatible in APZ I or APZ II [17]	› Locate structures maximum distance from extended runway centerline › Sound attenuation as necessary to meet interior noise level criteria [18] › Zoned fire sprinkler systems required › Airspace review req'd for objects >35 ft. tall [19] › Electromagnetic radiation notification [9] › Avigation easement dedication and disclosure [4]
B2	High Noise Zone	No new dwellings allowed [10]	100	250	No Req't	› Children's schools, day care centers, libraries › Hospitals, congregate care facilities, hotels/ motels, places of assembly › Bldgs with >3 aboveground habitable floors › Noise-sensitive outdoor nonresidential uses [15] › Critical community infrastructure facilities [16] › Hazards to flight [8]	› Locate structures max. distance from runway › Sound attenuation as necessary to meet interior noise level criteria [18] › Aboveground bulk storage of hazardous materials discouraged [14, 20] › Airspace review req'd for objects >35 ft. tall [19] › Electromagnetic radiation notification [9] › Avigation easement dedication and disclosure [4]
C1	Primary Approach/ Departure Zone	≤3.0	100	250	No Req't	› Children's schools, day care centers, libraries › Hospitals, congregate care facilities, places of assembly › Noise-sensitive outdoor nonresidential uses [15] › Hazards to flight [8]	› Critical community infrastructure facilities discouraged [16, 20] › Aboveground bulk storage of hazardous materials discouraged [14, 20] › Sound attenuation as necessary to meet interior noise level criteria [18] › Airspace review req'd for objects >70 ft. tall [19] › Electromagnetic radiation notification [9] › Deed notice and disclosure [4]
C2	Flight Corridor Zone	≤ 6.0	200	500	No Req't	› Highly noise-sensitive outdoor nonresidential uses [15] › Hazards to flight [8]	› Children's schools discouraged [20] › Airspace review req'd for objects >70 ft. tall [19] › Electromagnetic radiation notification [9] › Deed notice and disclosure [4]
D	Flight Corridor Buffer	No Limit	No restriction [21]		No Req't	› Hazards to flight [8]	› Major spectator-oriented sports stadium, amphitheaters, concert halls discouraged [21] › Electromagnetic radiation notification [9] › Deed notice and disclosure [4]
E	Other Airport Environs	No Limit	No Restriction [21]		No Req't	› Hazards to flight [8]	› Disclosure only [4]
*	High Terrain	Same as Underlying Compatibility Zone			Not Applicable	› Hazards to flight [8] › Other uses restricted in accordance with criteria for underlying zone	› Airspace review req'd for objects >35 ft. tall [19] › Avigation easement dedication and disclosure [4]

Source: March Air Reserve Base

applied planning inc

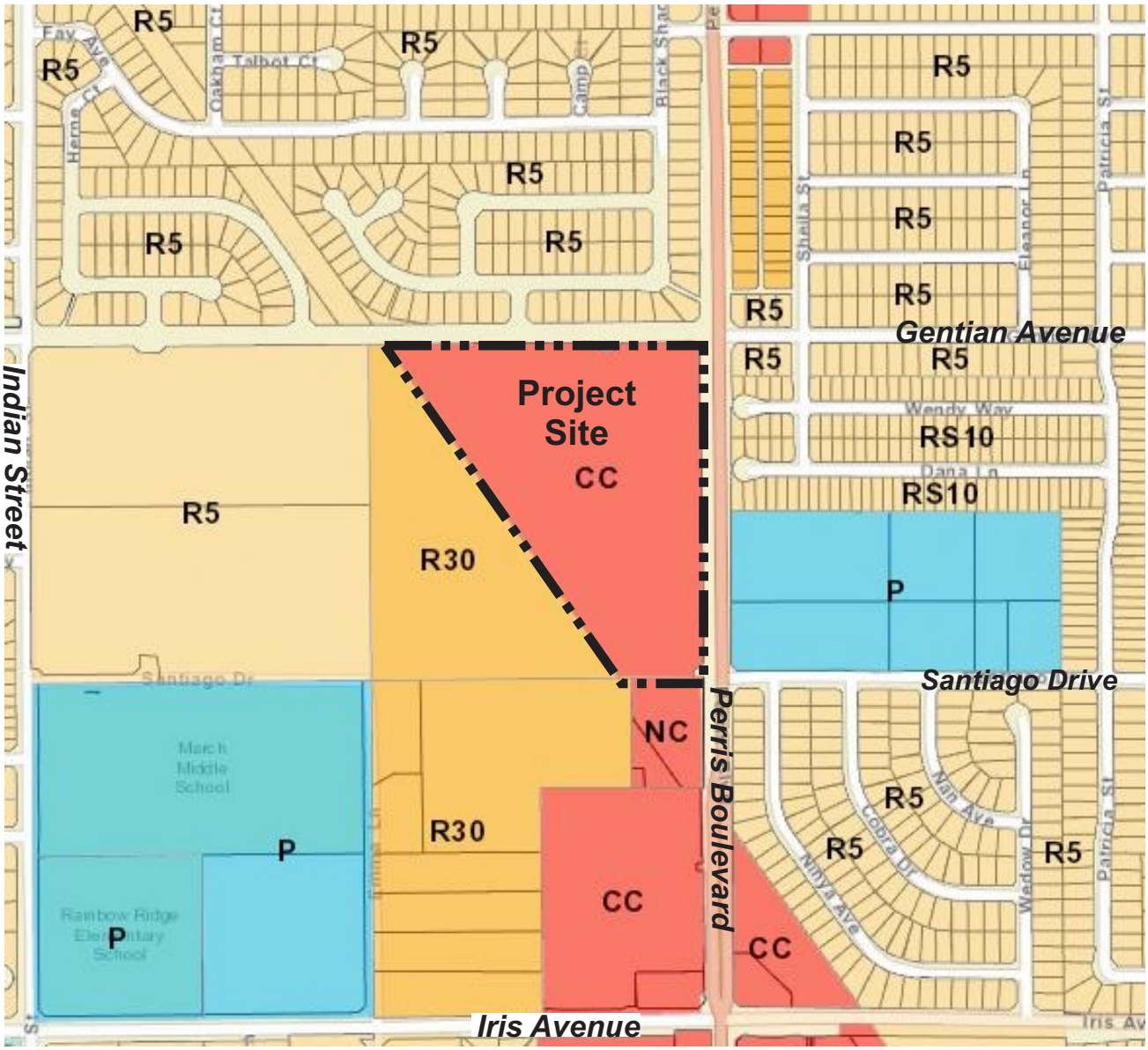
Table 4.1-1
March ARB/IAP Basic Compatibility Criteria



Source: Moreno Valley General Plan Land Use Map; Applied Planning, Inc.

applied planning inc

Figure 4.1-5
General Plan Land Use Designations



Source: Moreno Valley Zoning Map; Applied Planning, Inc.

applied planning inc

Figure 4.1-6
Existing Zoning Designations

General Plan Land Use

The General Plan Land Use Map designates the Project site as "Commercial" (C). As described in the City of Moreno Valley General Plan:

> The primary purpose of areas designated Commercial is to provide property for business purposes, including, but not limited to, retail stores, restaurants, banks, hotels, professional offices, personal services and repair services. The zoning regulations shall identify the particular uses permitted on each parcel of land, which could include compatible noncommercial uses. Commercial development intensity should not exceed a Floor Area Ratio of 1.00 and the average floor area ratio should be significantly less (Moreno Valley General Plan; July 11, 2006; p. 9-5).

Commercial/retail uses proposed by the Project are allowed under the site's Commercial General Plan Land Use designation, and would total approximately 188,661 square feet on approximately 20.34 net acres, yielding a FAR of approximately 0.21. This would be well below the maximum allowed FAR of 1.00. An assessment of Project support consistency with applicable General Plan Goals/Policies is presented subsequently at Section 4.1.5, *Potential Impacts and Mitigation Measures.*

Zoning

Current zoning of the Project site is "Community Commercial" (CC). The City Municipal Code describes the CC Zone District as follows:

Community Commercial District (CC) - "The primary purpose of the Community Commercial (CC) district is to provide for the general shopping needs of area residents and workers with a variety of business, retail, personal and related or similar services" (City of Moreno Valley Municipal Code, Section 9.04.020. E.).

An assessment of Project consistency with permitted or conditionally permitted land uses and development standards articulated for the CC Zone District is presented subsequently at Section 4.1.5, *Potential Impacts and Mitigation Measures*.

Vicinity Land Use Designations

General Plan Land Use

General Plan Land Use designations of vicinity properties are summarized below. Further information regarding the City General Plan and General Plan Land Uses can be accessed at: http://www.moreno-valley.ca.us/city_hall/general_plan.shtml

- Northerly and northeasterly of the Project site, across Gentian Avenue, properties are designated Residential 5. General Plan description of the Residential 5 land use is presented below:

  - **Residential 5** - "The primary purpose of acres designated Residential 5 is to provide for single-family detached housing on standard sized suburban lots. The maximum allowable density shall be 5.0 dwelling units per acre" (General Plan, page 9-4).

- Properties designated Residential 30 exist northeasterly of the Project site. The Residential 30 General Plan Land Use designation was recently established (September 2013) and the City General Plan was amended accordingly. In this regard, new General Plan Policy 2.2.1 describes the Residential 30 land use as follows:

  - **Residential 30** - "The primary purpose of areas designated Residential 30 is to provide a range of high density multifamily housing types in an urban setting. Developments within Residential 30 areas shall also provide amenities, such as common open spaces and recreational facilities. The maximum density shall be 30 dwelling units per acre" (City General Plan Amendment PA09-0018).

- Easterly of the Project site, across Perris Boulevard, properties are designated as Residential 10 and Public Facilities. General Plan descriptions of the Residential 10 and Public Facilities Land Uses are presented below:

  - **Residential 10** - "The primary purpose of areas designated Residential 10 is to provide for a variety of residential products and to encourage innovation in housing types. Developments within Residential 10 areas are typically expected to provide amenities not generally found in suburban subdivisions, such as common open space and recreational areas. The maximum allowable density shall be 10.0 dwelling units per acre" (General Plan, page 9-4).

  - **Public Facilities** – "The primary purpose of areas designated Public/Quasi-Public is to provide property for civic, cultural and public utility uses, including, but not limited to schools, libraries, fire stations, museums, and government offices. The zoning regulations shall identify the particular uses permitted on each parcel of land. Development intensity should not exceed a Floor Area Ratio of 1.00 and the average Floor Area Ratio should be significantly less" (General Plan, page 9-7).

- Southeasterly of the Project site, across Perris Boulevard, properties are designated Residential 5 and Commercial. Descriptions of the Residential 5 and Commercial Land Uses are previously presented.

- Southerly of the Project site, across Santiago Drive (alignment), properties are designated Commercial and Residential 30. Descriptions of the Commercial and Residential 30 Land Uses are previously presented.

- Westerly of the Project site, across the California Aqueduct, properties are designated Residential 30. Westerly of this Residential 30 Land Use, properties are designated Residential 5. Descriptions of the Residential 30 and Residential 5 Land Uses are previously presented.

Zoning

Zoning of vicinity land uses is summarized below. Zoning of the properties described is consistent with and reflects underlying General Plan Land Use designations. Please refer also to the listings and descriptions of City Zoning Districts, their permitted and conditionally permitted uses, and applicable property development standards are presented within City of Moreno Valley Municipal Code, Title 9 Planning and Zoning, and can be accessed at: http://qcode.us/codes/morenovalley/.

- Northerly and northeasterly of the Project site, across Gentian Avenue, properties are Zoned Residential 5 (R5). The City Municipal Code describes the R5 Zone District as follows:

    - **Residential 5 District (R5).** "The primary purpose of the R5 district is to provide for residential development on common sized suburban lots. This district is intended as an area for development of single-family residential and mobile home subdivisions at a maximum allowable density of five DUs per net acre in accordance with the provisions outlined herein [in the Municipal Code]" (Municipal Code Section 9.03.020. G.).

- Properties Zoned Residential 30 (R30) also exist northeasterly of the Project site. The R30 Zoning designation was recently established (September 2013) and the City Municipal Code was amended accordingly. In this regard, new Municipal Code Section 9.03.020 L. "Residential 30 District (R30)" describes the R30 Zone District as follows:

    - **Residential 30 District (R30).** "The primary purpose of the R30 district is to provide a broadened range of housing types in a more urban setting than is typically found within other areas of the city. This district is intended as an area for development of multifamily residential dwelling units at a maximum allowable density of thirty (30) DUs per net acre in accordance with the provisions outlined herein [in the Municipal Code]" (Municipal Code Amendment PA08-0099).

- Easterly of the Project site, across Perris Boulevard, properties are Zoned Residential Single-Family 10 (RS10) and Public (P), and R5. The R5 Zone District is described previously. Descriptions of the R10 and P Zone Districts are presented below:

  - **Residential Single-Family 10 District (RS10)** – "The primary purpose of the RS10 district is to provide for residential development on small single-family lots with amenities not generally found in suburban subdivisions. The district is intended for subdivisions at a maximum allowable density of ten (10) dwelling units per net acre" (Municipal Section 9.03.020. I.).

  - **Public District (P)** - "Purpose and Intent. The primary purpose of the public district is to provide for the conduct of public and institutional activities, including providing protected designated areas for public and institutional facilities" (Municipal Code Section 9.07.030. A.).

- Southeasterly of the Project site, across Perris Boulevard, properties are Zoned R5 and CC. Descriptions of the R5 and CC Zone Districts are previously presented.

- Southerly of the Project site, across Santiago Drive (alignment), properties are designated NC and R30. The R30 Zone District is described previously. The Municipal Code description of NC is presented below:

  - **Neighborhood Commercial District (NC) –** "The primary purpose of the neighborhood commercial (NC) district is to satisfy the daily shopping needs of Moreno Valley residents by providing construction of conveniently located neighborhood centers which provide limited retail commercial services. These centers must be compatible with the surrounding residential communities" (City of Moreno Valley Municipal Code, Section 9.04.020.D.).

- Westerly of the Project site, across the California Aqueduct, properties are Zoned R30. Westerly of this R30 Zone District, properties are Zoned R5. Descriptions of the R30 and R5 Zone Districts are previously presented.

4.1.4 STANDARDS OF SIGNIFICANCE

Appendix G of the California Environmental Quality Act (*CEQA*) Guidelines, as employed by the City of Moreno Valley, indicates a Project would have a potentially significant effect related to land use and planning if it would:

- Physically divide an established community;

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

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

4.1.5 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.1.5.1 Introduction

The following discussions focus on those areas where it has been determined that the Project may result in potentially significant land use and planning impacts, based on the previous discussions included within this Section and analysis presented within the EIR Initial Study (EIR Appendix A). As discussed within the Initial Study, the Project would not conflict with any applicable habitat conservation plan or natural community conservation plan. The Project would have no impact in these regards. These potential impacts are therefore not substantively discussed further within this Section. Please refer also to Initial Study Checklist Item X., "Land Use and Planning."

4.1.5.2 Impact Statements

Potential Impact: *Physically divide an established community.*

Impact Analysis: No established communities exist on the Project site. Moreover, the Project does not propose elements or aspects that would otherwise physically divide an established community. That is, the Project land uses are allowed under the site's current General Plan Commercial (C) Land Use designation and current Community Commercial (CC) Zoning Designation. The Project does not propose or require any change in the site's current land use designations that would directly or indirectly physically divide an established community.

Implementation and operation of the Project would therefore not physically divide an established community. Please refer also to the subsequent discussions of Project consistency with applicable General Plan Community Development Element Goals, Objectives, and Policies; and consistency with applicable Community Commercial Zone District development standards.

Based on the preceding, the potential for the Project to physically divide an established community is considered less-than-significant.

Level of Significance: Less-Than-Significant.

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

Impact Analysis: The Project is subject to land use plans, policies, guidelines, and regulations as established by the City of Moreno Valley. Germane to the Project, these include the City General Plan Goals, Objectives, and Policies; and CC Zone District Regulations and Development Standards. In summary, the Walmart Store and free-standing retail/commercial pad proposed by the Project are allowed under the site's

current Commercial (C) Land Use designation. Current zoning of the Project site is "Community Commercial" (CC). The CC Zone District permits or conditionally permits the commercial/retail uses that would be implemented under the Project.

As summarized at Table 4.1-2, the Project is consistent with, and appropriately responds, to Community Development Goals, Objectives, and Policies articulated in the City General Plan. Substantiation of Project conformity with applicable Community Commercial (CC) Zone District Regulations and Development Standards is presented at Table 4.1-3.

Table 4.1-2
General Plan Community Development
Goals, Objectives, and Policies Consistency

Goals/Objectives/Policies		**Remarks**
Goals		
2.1	A pattern of land uses, which organizes future growth, minimizes conflicts between land uses, and which promotes the rational utilization of presently underdeveloped and undeveloped parcels.	**Consistent:** The Project does not propose any change in land use designations. The Project would transition currently undeveloped property to commercial/retail uses that are consistent with development and growth anticipated under the current General Plan. Moreover, as substantiated in this EIR, development proposed by the Project would conform to applicable General Plan Goals, Objectives, and Policies; and would also conform to Regulations and Development Standards established for the Community Commercial Zone District. Please refer also to discussions of land uses and development proposed by the Project presented at EIR Section 3.0, *Project Description*. Based on the preceding, the Project is considered to be consistent with and supports General Plan Goal 2.1.
2.2	An organized, well-designed, high quality, and functional balance of urban and rural land uses that will meet the needs of a diverse population, and promote the optimum degree of health, safety, well-being, and beauty for all areas of the community, while maintaining a sound economic base.	**Consistent:** As substantiated in this EIR, the Project would be implemented and operated consistent with Goals, Objectives, and Policies applicable to the site's current Commercial General Plan Land Use designation. The Project would also conform to Regulations and Development Standards established under the site's current Community Commercial Zoning designation. Project Objectives include provision of a commercial/retail development that meets the current unmet demand for goods and services from consumers residing in the trade area and future residential developments; and

Table 4.1-2
General Plan Community Development
Goals, Objectives, and Policies Consistency

Goals/Objectives/Policies		Remarks
		establishment of a commercial/retail shopping center that serves the local market area and beyond, and to attract new customers and retailers into the City of Moreno Valley. The Project does not propose uses or activities that would conflict with or obstruct health, safety, well-being, or beautification goals of the City. Commercial/retail development proposed by the Project would contribute to the City's economic base. Please refer also to discussions of land uses and development proposed by the Project presented at EIR Section 3.0, *Project Description.* Based on the preceding, the Project is considered to be consistent with and supports General Plan Goal 2.2.
2.3	Achieves an overall design statement that will establish a visually unique image throughout the City.	**Consistent:** As substantiated in this EIR, the Project would be implemented consistent with Development Standards established for the site's Community Commercial Zoning designation. Final Project designs would be subject to review and approval by the City to ensure development of the site conforming to the City's vision for the subject site. Please refer also to discussions of land uses and development proposed by the Project presented at EIR Section 3.0, *Project Description.* Based on the preceding, the Project is considered to be consistent with and supports General Plan Goal 2.3.
2.5	Maintenance of systems for water supply and distribution; wastewater collection, treatment, and disposal; solid waste collection and disposal; and energy distribution which are capable of meeting the present and future needs of all residential, commercial, and industrial customers within the City of Moreno Valley.	**Consistent:** The Project would connect to, and be served by, currently available water supply and distribution; wastewater collection, treatment, and disposal; solid waste collection and disposal; and energy distribution systems. As substantiated in this EIR, the Project does not propose uses or operations that would cause or result in potentially significant environmental impacts related to the provision of new or expanded infrastructure systems or services. Please refer also to discussions of land uses and development proposed by the Project presented at EIR Section 3.0, *Project Description*; and analysis of potential impacts to public services and utilities presented

Table 4.1-2
General Plan Community Development
Goals, Objectives, and Policies Consistency

Goals/Objectives/Policies		Remarks
		in the EIR Initial Study (EIR Appendix A), items XIV. Public Services; and XVII. Utilities And Service Systems. Based on the preceding, the Project is considered to be consistent with and supports General Plan Goal 2.5.
Objectives		
2.1	Balance the provision of urban and rural lands within Moreno Valley by providing adequate land for present and future urban and economic development needs, while retaining the significant natural features and the rural character and lifestyle of the northeastern portion of the community.	**Consistent:** As substantiated in this EIR, the Project would be implemented and operated consistent with Goals, Objectives, and Policies applicable to the site's current Commercial General Plan Land Use designation. The Project would also conform to Regulations and Development Standards established under the site's current Community Commercial Zoning designation. The Project would be implemented within the southwesterly portion of the City, and would not affect the rural character and lifestyle of the northeastern portion of the community. Based on the preceding, the Project is considered to be consistent with and supports General Plan Objective 2.1.
2.4	Provide commercial areas within the City that are conveniently located, efficient, attractive, and have safe and easy pedestrian and vehicular circulation in order to serve the retail and service commercial needs of Moreno Valley residents and businesses.	**Consistent:** The Project site abuts Perris Boulevard, providing convenient access to customers and employees. The Project Description (EIR Section 3.0) reflects vehicular and pedestrian circulation elements that are consistent with applicable City Community Commercial Development Standards. Final design of the Project would be subject to City review and approval, thereby ensuring that the implemented Project would be provided safe and convenient vehicular and pedestrian access. Please refer also to EIR Section 3.0, *Project Description*. Based on the preceding, the Project is considered to be consistent with and supports General Plan Objective 2.4.
2.10	Ensure that all development within the City of Moreno Valley is of high quality, yields a pleasant living and working environment for existing and future residents, and attracts business as the result of consistent exemplary design.	**Consistent:** The Project would conform to applicable Community Commercial Zone District development standards. Final design of the Project would be subject to City review and approval, thereby ensuring that the implemented Project would reflect design qualities consistent with the City design standards. Please refer also

Table 4.1-2
General Plan Community Development
Goals, Objectives, and Policies Consistency

Goals/Objectives/Policies		Remarks
		to EIR Section 3.0, *Project Description*. Based on the preceding, the Project is considered to be consistent with and supports General Plan Objective 2.10.
2.11	Maintain a water system that is capable of meeting the daily and peak demands of Moreno Valley residents and businesses, including the provision of adequate fire flows.	**Consistent:** The Project would connect to the existing Eastern Valley Municipal Water District (EVMWD, District) water line located in Perris Boulevard. EVMWD has issued a "Will-Serve" letter indicating available water supplies and water service to the Project (EVMWD Service Planning Letter # 2636-0; July 15, 2014). Pursuant to requirements of the Will-Serve letter, the Project Applicant would construct water facilities serving the Project per District approved plans. The Project Applicant would also submit detailed water demand estimates to support meter sizing for domestic and irrigation service for review during the District's Plan Check process. Fire protection and fire prevention systems, including but not limited to, fire flow adequacy would be provided consistent with City of Moreno Valley Fire Department requirements. Based on the preceding, the Project is considered to be consistent with and supports General Plan Objective 2.11.
2.12	Maintain a wastewater collection, treatment, and disposal system that are capable of meeting the daily and peak demands of Moreno Valley residents and businesses.	**Consistent:** The Project would connect to the existing Eastern Valley Municipal Water District (EVMWD) wastewater collection line located in Perris Boulevard. EVMWD has provided a Will-Serve letter indicating available wastewater collection and treatment service to the Project (EVMWD Service Planning Letter #2636-0; July 15, 2014). Pursuant to requirements of the Will-Serve letter, the Project Applicant would construct wastewater collection facilities serving the Project per District approved plans. The Project Applicant would also submit final building square footages and uses in order to allow the District to calculate applicable sewer capacity fees during the District's Plan Check process. Based on the preceding, the Project is considered to be consistent with and supports General Plan Objective 2.12.

Table 4.1-2
General Plan Community Development
Goals, Objectives, and Policies Consistency

Goals/Objectives/Policies		Remarks
2.13	Coordinate development activity with the provision of public infrastructure and services to eliminate possible gaps in service provision.	**Consistent:** Potentially affected service providers and utility purveyors are notified of development projects through the City's development review processes. Utility purveyor and service provider requirements identified through the development review process are incorporated as conditions of approval for development projects. Serving infrastructure would be required to be in place and operational; and service provider stipulations would be required to be met prior to issuance of a Certificate of Occupancy for each facility within the Project site, thereby eliminating possible gaps in service provision. Based on the preceding, the Project is considered to be consistent with and supports General Plan Objective 2.13.
Policies		
2.4.1	The primary purpose of areas designated Commercial is to provide property for business purposes, including, but not limited to, retail stores, restaurants, banks, hotels, professional offices, personal services and repair services. The zoning regulations shall identify the particular uses permitted on each parcel of land, which could include compatible noncommercial uses. Commercial development intensity should not exceed a Floor Area Ratio of 1.00 and the average floor area ratio should be significantly less.	**Consistent:** Commercial/retail uses implemented under the Project are allowed under the site's Commercial General Plan Land Use designation, and would total approximately 188,661 square feet on approximately 20.31 net acres, yielding a FAR of approximately 0.21, well below the maximum allowed FAR of 1.00. Commercial/retail uses proposed by the Project are permitted or conditionally permitted within the CC Zone District.[2] Development concepts proposed for the Project as presented at EIR Section 3.0, *Project Description*, would conform to minimum standards and special requirements identified at subsequent Table 4.1-3, *Community Commercial (CC) Zone District Minimum Development Standards Consistency*. Based on the preceding, the Project is considered to be consistent with and supports General Plan Policy 2.4.1.

[2] Moreno Valley Municipal Code. *Title 9 Planning and Zoning*. Chapter 9.02 *Permits and Approvals*. Section 9.02.020 *Permitted Uses*. Permitted Uses Table 9.02.020-1. Web. July 22, 2014. <http://qcode.us/codes/morenovalley/view.php?topic=9-9_02-9_02_020&frames=on>

Table 4.1-2
General Plan Community Development
Goals, Objectives, and Policies Consistency

Goals/Objectives/Policies		Remarks
2.4.8	Orient commercial development toward pedestrian use. Buildings should be designed and sited so as to present a human-scale environment, including convenient and comfortable pedestrian access, seating areas, courtyards, landscaping and convenient pedestrian access to the public sidewalk.	**Consistent:** The Project design and development concepts articulated at EIR Section 3.0, *Project Description*, reflect appropriate pedestrian access and site amenities commensurate with the commercial development proposed. More specifically, sidewalks would be constructed along the Project's Gentian Avenue, Perris Boulevard, and Santiago frontages. Connection between the Project site's Perris Boulevard sidewalk and walkways along the Walmart storefront would be provided, facilitating pedestrian access to the Project. Similarly, pedestrian connection would be provided between the Project site's Perris Boulevard sidewalk and the proposed Parcel 2 use. Landscaping would be provided throughout the Project site consistent with Community Commercial Zone District Standards (please refer to Table 4.1-3). Final design of the Project would be subject to City review and approval, thereby ensuring that the implemented Project would be provided appropriate pedestrian access, landscaping, and site amenities. Please refer also to the Project Site Plan Concept and Landscape Concept EIR Section 3.0, *Project Description*. Based on the preceding, the Project is considered to be consistent with and supports General Plan Policy 2.4.8.
2.4.9	Require reciprocal parking and access agreements between individual parcels where practical.	**Consistent:** The Project design and development concepts articulated at EIR Section 3.0, *Project Description*, indicate that shared access would be provided between the proposed Walmart and the proposed Parcel 2 use(s). Sufficient on-site parking is provided to meet use-specific parking demands consistent with Municipal Code Chapter 9.11 requirements and standards. Parking pools within the Project site would be available to all patrons. Final design of the Project would be subject to City review and approval, thereby ensuring that the implemented Project would appropriately incorporate reciprocal access and parking agreements. Please refer also to EIR to the Project

Table 4.1-2
General Plan Community Development
Goals, Objectives, and Policies Consistency

Goals/Objectives/Policies		Remarks
		Site Plan Concept presented at Section 3.0, *Project Description*. Based on the preceding, the Project is considered to be consistent with and supports General Plan Policy 2.4.9.
2.4.10	Design internal roadways so that direct access is available to all structures visible from a particular parking area entrance in order to eliminate unnecessary vehicle travel, and to improve emergency response.	**Consistent:** The Project design and development concepts presented at EIR Section 3.0, *Project Description*, indicate that direct access would be provided to all uses within the Project site. Final design of the Project would be subject to City review and approval, thereby ensuring that the implemented Project would appropriately orient buildings and configure internal roadways and drive aisles to ensure that direct, recognized access is provided structures within the Project site. Please refer also to the description of Project circulation, access and parking presented at EIR Section 3.0, *Project Description*. Based on the preceding, the Project is considered to be consistent with and supports General Plan Policy 2.4.10.
2.10.1	Encourage a design theme for each new development that is compatible with surrounding existing and planned developments.	**Consistent:** The Project design and development concepts presented at EIR Section 3.0, *Project Description* reflect contemporary commercial architectural themes that are consistent with regulations and standards for the site's Community Commercial Zone District, thereby reducing the potential for establishment of uses that would be incompatible with surrounding existing and planned developments. Moreover, the Project Site Plan Concept and Landscape Concept depict setbacks and perimeter landscaping/screening elements consistent with or surpassing the Community Commercial Zone District minimum standards, thereby promoting Project compatibility with surrounding uses. Final design of the Project would be subject to City review and approval, thereby ensuring that the implemented Project design themes would be compatible with surrounding existing and planned developments. Please refer also to the description of Project architectural and design concepts presented at EIR Section 3.0, *Project Description.*

Table 4.1-2
General Plan Community Development
Goals, Objectives, and Policies Consistency

Goals/Objectives/Policies		Remarks
		Based on the preceding, the Project is considered to be consistent with and supports General Plan Policy 2.10.1.
2.10.2	Screen trash storage and loading areas, ground and roof mounted mechanical equipment, and outdoor storage areas from public view as appropriate.	**Consistent:** The Project would conform to all regulations and standards for the site's Community Commercial Zone District as well as City Conditions of Approval addressing screening of trash areas, ground and roof mounted mechanical equipment. Final design of the Project would be subject to City review and approval, thereby ensuring that the implemented Project would incorporate appropriate site and facility screening elements Please refer also to discussion of Project screening elements presented at EIR Section 3.0, *Project Description.* Based on the preceding, the Project is considered to be consistent with and supports General Plan Policy 2.10.2.
2.10.3	Require exterior elevations of buildings to have architectural treatments that enhance their appearance.	**Consistent:** The Project design and development concepts presented at EIR Section 3.0, *Project Description* reflect contemporary commercial architectural themes that incorporate compatible materials and styles, secondary accent materials and accent colors, and varied rooflines and setbacks. All architectural designs would conform to regulations and standards for the site's Community Commercial Zone District. Final design of exterior elevations would be subject to City review and approval, thereby ensuring that the implemented Project would incorporate appropriate architectural treatments. Please refer also to the description of Project architectural concepts and designs presented at EIR Section 3.0, *Project Description*. Based on the preceding, the Project is considered to be consistent with and supports General Plan Policies 2.10.3 a., b., and c.
	a. A design theme, with compatible materials and styles should be evident within a development project;	
	b. Secondary accent materials, colors and lighting should be used to highlight building features;	
	c. Variations in roofline and setbacks (projections and recesses) should be used to break up the building mass.	
2.10.4	Landscaping and open spaces should be provided as an integral part of project design to enhance building design, public views, and interior spaces; provide buffers and transitions as needed; and facilitate energy	**Consistent:** Landscaping of the Project site would be provided consistent with applicable Community Commercial Zone District regulations and standards. The Project Landscape Concept (EIR Figure 3.4-6) reflects elements that

Table 4.1-2
General Plan Community Development
Goals, Objectives, and Policies Consistency

Goals/Objectives/Policies		Remarks
	and resource conservation.	would enhance the appearance and perception of Project buildings and parking areas. Landscape screening/buffering and transitional elements reflected in the Project Landscape Concept would meet or surpass regulatory requirements for the Community Commercial Zone District. Landscaping would be located and oriented to maximize shading of parking areas, buildings, and site amenities, thereby enhancing physical comfort within the Project site, and reducing air conditioning energy demands. Final design of Project landscaping would be subject to City review and approval, thereby ensuring that the implemented Project would incorporate appropriate landscape treatments, including buffer and transitional areas. Please refer also to the description of Project landscaping presented at EIR Section 3.0, *Project Description*. Based on the preceding, the Project is considered to be consistent with and supports General Plan Policy 2.10.4.
2.10.6	Buildings should be designed with a plan for adequate signage. Signs should be highly compatible with the building and site design relative to size, color, material, and placement.	**Consistent:** An Integrated Sign Program would be developed and implemented by the Project consistent with provisions outlined at Municipal Code Section 9.12.070, "Sign program." Approval of the Project Sign Program is one of the Project's requested discretionary approvals listed at EIR Section 3.0, *Project Description*. Signs would be implemented consistent with the approved Sign Program. Based on the preceding, the Project is considered to be consistent with and supports General Plan Policy 2.10.6.
2.10.7	On-site lighting should not cause nuisance levels of light or glare on adjacent properties.	**Consistent:** The Project design and development concepts presented at EIR Section 3.0 do not incorporate or require lighting that would result in nuisance levels of light or glare on adjacent properties. All on-site lighting would conform to light performance standards identified at City Municipal Code Section 9.10.110, "Light and glare." Final design of Project lighting would be subject to City review and approval, thereby ensuring that the implemented Project would not result in

Table 4.1-2
General Plan Community Development
Goals, Objectives, and Policies Consistency

Goals/Objectives/Policies		Remarks
		or cause nuisance levels of light or glare on adjacent properties. Please refer also to the description of Project lighting presented at EIR Section 3.0, *Project Description.* Based on the preceding, the Project is considered to be consistent with and supports General Plan Policy 2.10.7.
2.10.8	Lighting should improve the visual identification of structures. Within commercial areas, lighting should also help create a festive atmosphere by outlining buildings and encouraging nighttime use of areas by pedestrians.	**Consistent:** All on-site lighting would conform to light performance standards identified at City Municipal Code Section 9.10.110, "Light and glare." Final design of Project lighting would be subject to City review and approval, thereby ensuring that the lighting of the implemented Project would contribute to its visual perception from on-site and off-site vantages. Please refer also to the description of Project lighting presented at EIR Section 3.0, *Project Description*. Based on the preceding, the Project is considered to be consistent with and supports General Plan Policy 2.10.8.
2.10.9	Fences and walls should incorporate landscape elements and changes in materials or texture to deter graffiti and add visual interest.	**Consistent:** Project fences and walls would conform to design and development standards identified at Municipal Code Section 9.08.070 "Fences and walls." Graffiti deterrence measures described at Section 9.08.070 would be implemented consistent with City requirements. Final design of Project lighting would be subject to City review and approval, thereby ensuring that fences and walls implemented by the Project would incorporate landscape elements and changes in materials or texture to deter graffiti and add visual interest. Please refer also to the description of Project fences and walls presented at EIR Section 3.0, *Project Description*. Based on the preceding, the Project is considered to be consistent with and supports General Plan Policy 2.10.9.
2.10.11	Screen and buffer nonresidential projects from adjacent residential property and other sensitive land uses when necessary to mitigate noise, glare and other adverse effects on adjacent uses.	**Consistent:** The Project as described at EIR Section 3.0 incorporates physical designs and operational programs that would act to screen and buffer the Project from westerly and northerly adjacent residential uses. Specifically

Table 4.1-2
General Plan Community Development
Goals, Objectives, and Policies Consistency

Goals/Objectives/Policies		Remarks
		perimeter setbacks, landscaping, and screenwalls would be provided conforming to applicable Community Commercial Zone District regulations and development standards. Final designs of the Project Site Plan, Landscape Plan, and Lighting Plan would be subject to City review and approval, thereby ensuring that adjacent residential properties are provided appropriate screening from noise, glare and other potentially adverse effects of Project operations. In these latter regards, and as substantiated in this EIR, all localized operational impacts of the Project would be less-than-significant or less-than-significant as mitigated. Please refer also to the description of Project screening/buffering elements presented at EIR Section 3.0, *Project Description.* Based on the preceding, the Project is considered to be consistent with and supports General Plan Policy 2.10.11.
2.10.12	Screen parking areas from streets to the extent consistent with surveillance needs (e.g. mounding, landscaping, low profile walls, and/or grade separations).	**Consistent:** The Project as described at EIR Section 3.0 incorporates physical designs and operational programs that would act to screen and buffer the Project from westerly and northerly adjacent residential uses. Specifically perimeter setbacks, landscaping, and screenwalls would be provided conforming to applicable Community Commercial Zone District regulations and development standards. Final designs of the parking areas and parking area screening would be subject to City review and approval, thereby ensuring that parking areas are screened from streets to the extent consistent with surveillance needs. Please refer also to the discussion of Project parking area screening/buffering presented at EIR Table 4.1-3, *Community Commercial (CC) Zone District Minimum Development Standards Consistency.* Based on the preceding, the Project is considered to be consistent with and supports General Plan Policy 2.10.12.
2.10.13	Provide landscaping in automobile parking areas to reduce solar heat and glare.	**Consistent:** Please refer to remarks at Policy 2.10.4. "Landscaping would be located and oriented to maximize shading of parking areas,

Table 4.1-2
General Plan Community Development
Goals, Objectives, and Policies Consistency

Goals/Objectives/Policies		Remarks
		buildings, and site amenities, thereby enhancing physical comfort within the Project site, and reducing air conditioning energy demands." Based on the preceding, the Project is considered to be consistent with and supports General Plan Policy 2.10.13.
2.11.1	Permit new development only where and when adequate water services can be provided.	**Consistent:** Please refer to remarks at General Plan Objective 2.11.
2.12.1	Prior to the approval of any new development application ensure that adequate septic or sewer service capacity exists or will be available in a timely manner.	**Consistent:** Please refer to remarks at General Plan Objective 2.12.
2.13.1	Limit the amount of development to that which can be adequately served by public services and facilities, based upon current information concerning the capability of public services and facilities.	**Consistent:** As discussed in the EIR Initial Study (EIR Appendix A) the Project site is currently provided all necessary infrastructure and services, and would not adversely affect existing infrastructure or services. Please refer also to remarks at General Plan Goal 2.5, and analysis of potential impacts to public services and utilities presented in the EIR Initial Study (EIR Appendix A), items XIV. Public Services; and XVII. Utilities And Service Systems. Based on the preceding, the Project is considered to be consistent with and supports General Plan Policy 2.13.1.
2.13.2	Unless otherwise approved by the City, public water, sewer, drainage and other backbone facilities needed for a project phase shall be constructed prior to or concurrent with initial development within that phase.	**Consistent:** Please refer to remarks at General Plan Goal 2.5, General Plan Objective 2.13, and General Plan Policy 2.13.1.
2.13.3	It shall be the ultimate responsibility of the sponsor of a development project to assure that all necessary infrastructure improvements (including system wide improvements) needed to support project development are available at the time that they are needed.	**Consistent:** Please refer to remarks at General Plan Objective 2.13.

Table 4.1-3
Community Commercial (CC) Zone District
Minimum Development Standards Consistency

Requirement	Remarks
Minimum site area: 1 Acre	The Project site is 22.28 gross acres (20.31 net acres) and would be subdivided into three commercial parcels: **Parcel 1**: Walmart Supercenter - 18.19 Acres **Parcel 2**: Gas Station w/Convenience Store and Car Wash - 1.00 Acres **Parcel 3**: Detention Basin - 1.12 Acres As indicated, the minimum developed lot area proposed is 1.00 acres. Moreover, the Project Applicant would be required to comply with City Conditions of Approval stipulating compliance with CC Zone site area standards. Based on the preceding, the Project would conform to CC Zone District minimum site area requirements.
Minimum site width: 200 Feet	The Project Site Plan Concept and Tentative Parcel Map indicate that the minimum developed lot width within the Project site (proposed Parcel 2) would be at least 200 feet. Moreover, the Project Applicant would be required to comply with City Conditions of Approval stipulating compliance with CC Zone District lot width standards. Based on the preceding, the Project would conform to CC Zone District lot width requirements.
Minimum site depth: 175 Feet	The Project Site Plan Concept (EIR Figure 3.4-1) and Tentative Parcel Map indicate that the minimum developed lot depth (proposed Parcel 2) would be at least 175 feet. Moreover, the Project Applicant would be required to comply with City Conditions of Approval stipulating compliance with CC Zone District lot depth standards. (At its minimum dimension along Santiago Drive, proposed Parcel 3 would approximate 125 feet, however no buildings are proposed on this site). Based on the preceding, the Project would conform to CC Zone District lot depth requirements.
Front building setback:* 10 Feet**	The Project Site Plan Concept (EIR Figure 3.4-1) and Tentative Parcel Map indicate that the minimum developed lot front (proposed Parcel 2) would be at least 20 feet. The proposed building on this site would not exceed 30 feet in height (development applications filed with the City indicate that the maximum building height within the Project site would not exceed 28 feet 8 inches). Moreover, the Project Applicant would be required to comply with City Conditions of Approval stipulating compliance with CC Zone District front setback standards. Based on the preceding, the Project would conform to CC Zone District front setback requirements.

Table 4.1-3
Community Commercial (CC) Zone District
Minimum Development Standards Consistency

Requirement	Remarks
Side street building setback area, street sides:* 10 Feet**	The Project Site Plan Concept (EIR Figure 3.4-1) and Tentative Parcel Map indicate that the minimum developed lot side street setback (proposed Parcel 2) would be at least 10 feet. The proposed building on this site would not exceed 30 feet in height (development applications filed with the City indicate that the maximum building height within the Project site would not exceed 28 feet 8 inches). Moreover, the Project Applicant would be required to comply with City Conditions of Approval stipulating compliance with CC Zone District side street setback standards. Based on the preceding, the Project would conform to CC Zone District side street setback requirements.
Lot coverage, maximum: ---	---
Building height, maximum: See ***Special Requirements*** below.	
Parking front street setback: 20 Feet	The Project Site Plan Concept (EIR Figure 3.4-1) indicates that all parking areas would maintain a front street setback of at least 20 feet. Moreover, the Project Applicant would be required to comply with City Conditions of Approval stipulating compliance with CC Zone District parking area front street setback standards. Based on the preceding, the Project would conform to CC Zone District front street setback requirements.
Parking side street setback: 15 Feet	The Project Site Plan Concept (EIR Figure 3.4-1) indicates that all parking areas would maintain a side street setback of at least 15 feet. Moreover, the Project Applicant would be required to comply with City Conditions of Approval stipulating compliance with CC Zone District parking area side street setback standards. Based on the preceding, the Project would conform to CC Zone District side street setback requirements.
Setback landscaping: All setbacks exclusive of required walkways and driveways will be landscaped planting areas.	The Project Landscape Concept (EIR Figure 3.4-6) indicates that all setbacks exclusive of required walkways and driveways would be landscaped planting areas. Moreover, the Project Applicant would be required to comply with City Conditions of Approval stipulating compliance with CC Zone District setback landscaping standards. Based on the preceding, the Project would conform to CC Zone District setback landscaping requirements.
Special Requirements. Municipal Code Section **9.04.040** B. **Special Requirements** applicable to the Project are excerpted below:	
1. Wherever a lot in any commercial district abuts a lot in any residential district, a minimum setback equal to the building height, but not less than ten (10) feet shall be required. A minimum of ten (10) feet nearest the district boundary line shall be landscaped.	Residentially-zoned properties abut the Project site to the east. CC Zone District Special Requirement No. 1 (listed below) stipulates: "Wherever a lot in any commercial district abuts a lot in any residential district, a minimum setback equal to the building height, but not less than ten (10) feet shall be required. A minimum of ten (10) feet nearest the

Table 4.1-3
Community Commercial (CC) Zone District
Minimum Development Standards Consistency

Requirement	Remarks
	district boundary line shall be landscaped." Building heights within the Project site would not exceed 28 feet 8 inches. The Project Site Plan Concept (EIR Figure 3.4-1) indicates that the minimum building setback along the Project site's easterly boundary would be approximately 120 feet. The Project Landscape Concept (EIR Figure 3.4-6) indicates that a minimum 20 foot wide landscape buffer would be provided along the entirety of the Project site's easterly boundary line. Based on the preceding, the Project would conform to CC Zone District Special Requirement No. 1. Moreover, the Project Applicant would be required to comply with City Conditions of Approval stipulating compliance with CC Zone District Special Requirement No. 1.
2. Where off-street parking areas or drive-through aisles in commercial districts are situated so as to be visible from any street, screening in the form of a landscaped earthen berm, shrubs, or decorative wall three feet in height shall be erected between the street and the parking area.	The Project Landscape Concept (EIR Figure 3.4-6) indicates that landscaped areas would be provided along street frontages, acting to screen views of the Project's parking areas and drive through aisles. Moreover, the Project Applicant would be required to comply with City Conditions of Approval stipulating compliance with CC Zone District Special Requirement No. 2. Based on the preceding, the Project would conform to CC Zone District Special Requirement No. 2.

Table 4.1-3
Community Commercial (CC) Zone District
Minimum Development Standards Consistency

Requirement	Remarks
3. In all commercial districts, required front building setback areas shall be landscaped. Such landscaping shall consist predominantly of plant materials except for necessary walks and drives.	The Project Landscape Concept (EIR Figure 3.4-6) indicates that landscaped areas would be provided within all building front setback areas, and would consist predominantly of plant materials. Moreover, the Project Applicant would be required to comply with City Conditions of Approval stipulating compliance with CC Zone District Special Requirement No. 3. Based on the preceding, the Project would conform to CC Zone District Special Requirement No. 3.
4. Required rear and interior side building setback areas in any commercial district shall be used only for landscaping, pedestrian walkways, driveways, off-street parking or loading, recreational activities or facilities, and similar accessory activities.	The Project Site Plan Concept (EIR Figure 3.4-1) indicates that rear and interior side building setback areas would not be used for activities or purposes other than landscaping, pedestrian walkways, driveways, off-street parking or loading, and similar accessory activities. Moreover, the Project Applicant would be required to comply with City Conditions of Approval stipulating compliance with CC Zone District Special Requirement No. 4. Based on the preceding, the Project would conform to CC Zone District Special Requirement No. 4.
7. Parking for each use shall comply with the requirements of Chapter 9.11.	As noted at EIR Section 3.0, *Project Description*, the Project Site Plan Concept identifies a total 917 parking spaces (898 standard spaces and 19 accessible spaces) in support of the proposed Walmart; and 20 spaces (18 standard spaces and 2 accessible spaces) in support of the proposed gas station and 2,900-square-foot convenience store outparcel uses. All parking areas and their configurations would be designed and implemented consistent with Municipal Code Chapter 9.11, Parking, Pedestrian and Loading Requirements. Moreover, the Project Applicant would be required to comply with City Conditions of Approval stipulating compliance with a CC Zone District Special Requirement No. 7. Based

Table 4.1-3
Community Commercial (CC) Zone District
Minimum Development Standards Consistency

Requirement	Remarks
	on the preceding, the Project would conform to CC Zone District Special Requirement No. 7.
8. Except as otherwise specified in this section, structures shall be constructed either on the property line or be set back at least three feet from the rear or interior side property line. (Ord. 849 § 2.3, 2012; Ord. 643 § 2.1, 2003; Ord. 616 §§ 2.2.3, 2.2.4, 2003; Ord. 590 § 2, 2001; Ord. 560 § 2.1, 2000; Ord. 497 § 1.4, 1996; Ord. 359, 1992)	The Project Site Plan Concept (EIR Figure 3.4-1) indicates that all structures would be setback at least three feet from the rear or interior side property line. Moreover, the Project Applicant would be required to comply with City Conditions of Approval stipulating compliance with CC Zone District Special Requirement No. 8. Based on the preceding, the Project would conform to CC Zone District Special Requirement No. 8.

Source: Moreno Valley Municipal Code, Table 9.04.040-7, "Commercial Site Development Minimum Standards."
Notes:
* Setback measured from property line after dedications for public rights-of-way.
** Building areas above thirty (30) feet shall be setback an additional five feet for every ten (10) feet of additional structure height unless otherwise approved by the planning commission.

Summary

As outlined above, the Project commercial/retail land uses, site plan concept, and building designs reflect, and/or can be feasibly implemented consistent with applicable provisions of the City General Plan Commercial Land Use, Community Commercial Zone District, and City Municipal Code. Prior to issuance of building permits, the City would review the final Project site plan and facilities designs to ensure consistency with applicable standards, design guidelines, and requirements. Based on the preceding analysis, the potential for the Project to conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project is therefore considered less-than-significant.

Level of Significance: Less-Than-Significant.

4.2 URBAN DECAY

4.2 URBAN DECAY

Abstract

The analysis presented in this Section evaluates potential economic effects of the Project that could lead to store closures, long-term vacancies, and physical deterioration, which could constitute urban decay.[1] *Urban decay may occur when there are stores closed and cannot be re-tenanted, creating permanent or long-term vacancies. These vacancies, in turn, may cause property owners to neglect their maintenance and repair responsibilities, thereby resulting in the deterioration of building, improvements and facilities.*

Potential economic effects of the Project are evaluated in the context of similar existing commercial/retail development, and in this manner, competitive economic effects of the Project, and related potential for the Project to cause or result in urban decay are evaluated. That is, if the Project would result in diversion of sales from existing competitive retailers at such a magnitude that the Project could substantively contribute to the downward spiral of retail store closures and long-term vacancies resulting in physical deterioration, urban decay impacts would be considered potentially significant. As supported by the analysis presented in this Section, the potential for the Project to result in or cause urban decay is less-than-significant.

[1] Urban decay is a potential consequence of a downward spiral of store closures, long-term vacancies and physical deterioration (Bakersfield Citizens for Local Control v. City of Bakersfield (2004) 124 Cal. App 4th 1184, p 2).

4.2.1 INTRODUCTION

CEQA specifically states that economic or social effects of a project shall not be treated as significant impacts on the environment. However, adverse physical changes that could indirectly result from economic or social effects of projects are within the scope of CEQA considerations. Although CEQA does not define what should be considered a significant adverse physical change due to economic effects, case law indicates that a project may have a significant impact if it results in a condition commonly referred to as urban decay. The term "urban decay" refers to unsightly conditions and physical deterioration caused by the closure of retail businesses and resultant long-term vacancies. Specific indicators of urban decay typically include, but are not limited to, boarded-up doors and windows, deferred maintenance, graffiti, illegally-parked cars, and unauthorized use of parking lots.

4.2.2 PROJECT URBAN DECAY STUDY

4.2.2.1 Overview

A Project Urban Decay Study (*Urban Decay Study for Moreno Valley Walmart* [The Natelson Dale Group, Inc.] October 28, 2013) was prepared to assess the Project's potential to result in urban decay as defined above. The Project Urban Decay Study (Urban Decay Study, Study) provides quantified data to determine whether there would be sufficient consumer demand within the Project's market area to support: General Merchandise, Apparel, Furniture, and Other/Specialty (GAFO)[2] sales; supermarket sales; and retail gasoline sales without negatively impacting the long-term market performance of existing competing retailers, supermarkets, or retail gasoline outlets. The Urban Decay Study is presented in its entirety at EIR Appendix B.

[2] "GAFO" is a retail industry acronym for the General Merchandise, Apparel, Furniture and Other/Specialty retail categories. The GAFO categories generally correspond to the merchandise mix of a discount department store such as Walmart.

4.2.2.2 Methodology

The Urban Decay Study (Study) considers potential competitive economic effects of the Project within a Trade Area that includes portions of the cities of Moreno Valley, Perris, and Riverside, in addition to an adjacent unincorporated area in Riverside County. The rationale and basis for establishment of the Study Trade Area boundaries is presented subsequently.

The Study projects total resident purchasing power (market demand) within the Trade Area, and uses this projection of total demand as the basis for determining the extent to which the Project could be supported without adversely affecting existing businesses, and thereby result in or cause potential business closures, long-term vacancies and related urban decay impacts.

For non-grocery retail categories, potential impacts are expressed in terms of the square feet of existing businesses that could potentially be displaced by the Project. For the grocery category, in addition to evaluating the potential square footage displacement, the Study evaluates direct potential sales impacts (in terms of dollars per square foot) to existing supermarkets in the Trade Area.

The Study methodology includes the following analytic steps:

- Estimate the current potential demand for retail sales in the Trade Area, based on existing demographics;

- Estimate the portion of total Trade Area demand that could realistically be "captured" by retail facilities in the Trade Area, based on an evaluation of the amounts and locations of competitive retail facilities outside of the evaluated Trade Area;

- Forecast Trade Area future (15-year) growth in supportable retail sales, based on projected increases in the Trade Area's resident population;

- Forecast Trade Area future growth in retail sales by individual retail category;

- Estimate Trade Area supermarket demand by determining the portion of total food store sales captured by supermarkets (versus other types of food stores such as convenience markets);

- Estimate net supermarket Trade Area demand after accounting for the capture of available demand by the proposed grocery component of the proposed Walmart store; and

- Evaluate the impact of the Project on average sales per square foot levels at existing supermarkets in the Trade Area.

4.2.3 SETTING

4.2.3.1 Trade Area

Overview

"Big box" retail facilities, such as the Walmart Store proposed by the Project, generally fall within the definition of a community shopping center (which, in the hierarchy of retail facilities, are typically larger than neighborhood shopping centers and smaller than regional/superregional shopping malls). The International Council of Shopping Centers (ICSC) indicates that a community center similar in scale and scope to the Project would typically have a Trade Area of three to six miles.[3] Notwithstanding, to be analytically conservative, the Urban Decay Study evaluates a smaller Trade Area than the three to six mile radius recommended by the ICSC. The smaller Trade Area evaluated in the Urban Decay Study excludes potential demand from some residents that may patronize the Project, and thereby provides a reduced rather than inflated estimate of the Trade Area's potential retail demand that would be available to support the Project.

[3] U.S. Shopping-Center Classification and Characteristics, Appraisal Institute (CoStar and the International Council of Shopping Centers) January 2014.

Trade Area Boundaries

As an initial reference point, the Trade Area boundaries were established at approximately three miles from the Project site. The Trade Area boundaries were then modified to account for natural traffic barriers (such as major roads and highways) and the locations of existing competitive shopping centers.[4] Reflecting these adjustments, the Trade Area boundaries are defined as follows and illustrated in Figure 4.2-1:

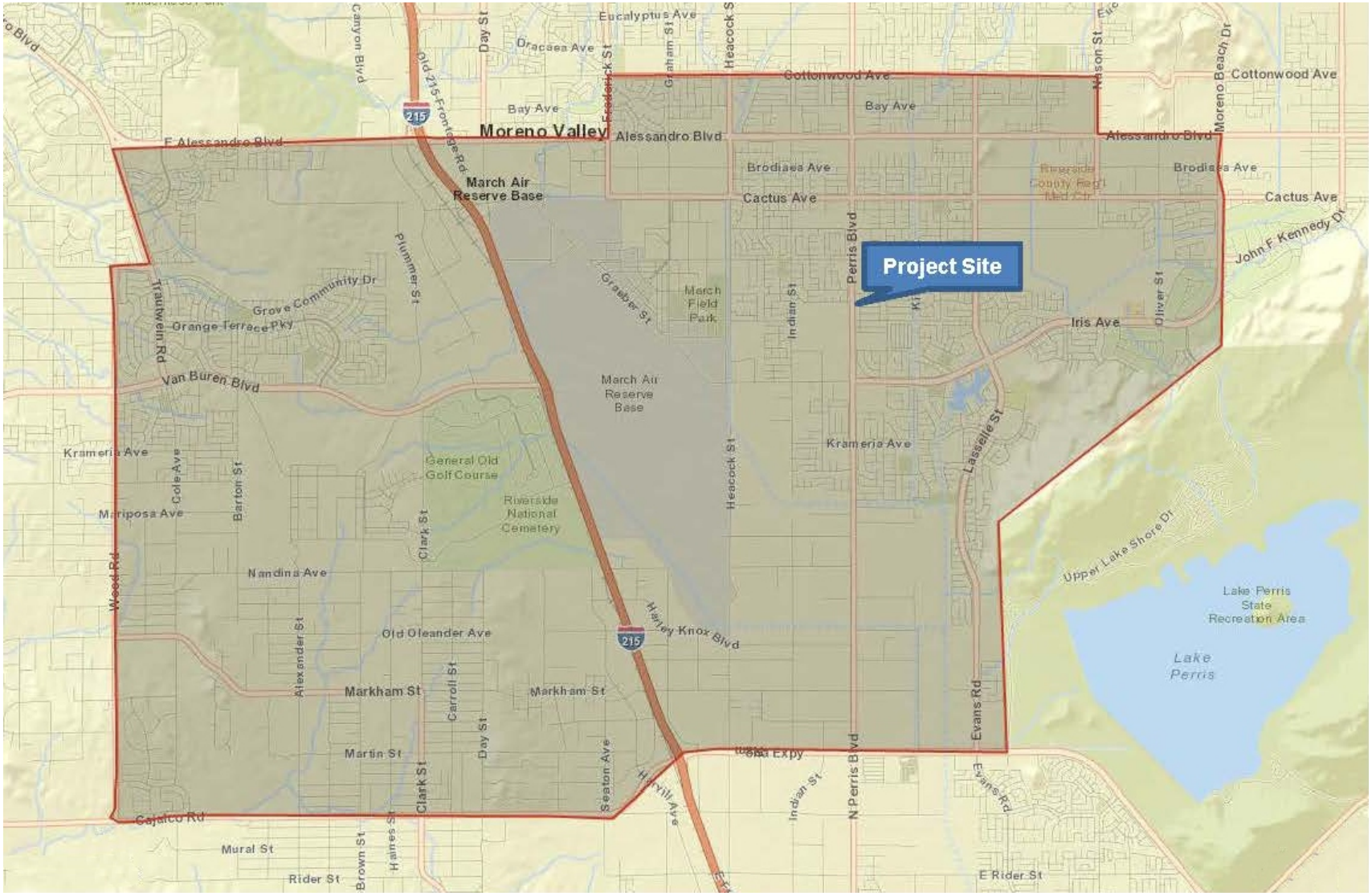
• *Easterly Boundary* – The easterly boundary is represented by the Lake Perris State Recreation Area/Moreno Beach Drive in the City of Moreno Valley, which is between 2.0 and 3.0 miles from the Project site.

• *Westerly Boundary* – The westerly boundary is represented by Trautwein Road/Wood Road, partially located in the City of Riverside and in unincorporated Riverside County. The Trade Area westerly boundary is approximately 5.8 miles from the Project site.

• *Southerly Boundary* – The southerly boundary is represented by Cajalco Road/Ramona Expressway, extending across portions of the City of Perris and unincorporated portions of Riverside County. The Trade Area southerly boundary is approximately 3.5 to 4.0 miles from the Project site.

• *Northerly Boundary* – The northerly boundary parallels the southerly boundary and is generally represented by Alessandro Boulevard. Between Frederick Street and Nason Street, the boundary extends northerly to Cottonwood Avenue in the City of Moreno Valley. The northerly Trade Area boundary traverses the cities of Moreno Valley and Riverside, along with an unincorporated portion of Riverside County. It is approximately 1.6 to 2.0 miles from the Project site.

[4] Trade area boundary formulation with respect to existing competitive shopping centers is discussed in detailed within the Project Urban Decay Study, p. 9-10.



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Source: The Natelson Dale Group, Inc.

appliedplanning inc

Figure 4.2-1
Trade Area Map

Trade Area Commercial/Retail Space Inventory

Within the Trade Area, commercial/retail space categories that could be affected by market impacts of the Project were identified and inventoried. Inventoried space summaries are provided below. Inventoried categories include:

- General Merchandise, Apparel, Furniture, and Other/Specialty (GAFO) Retail Space;
- Supermarkets; and
- Commercial Gasoline Service Stations.

Existing Trade Area Retail Space

The Urban Decay Study provides a detailed inventory of all retail tenants and vacancies in the Trade Area. A summary of the retail space inventory is presented at Table 4.2-1.

Table 4.2-1
Inventory of Existing Trade Area Retail Space

Category	Square Feet
General Merchandise, Apparel, Furniture, and Other/Specialty (GAFO)	
Clothing and Clothing Accessories	42,181
General Merchandise	202,813
Home Furnishings and Appliances	44,156
Specialty/Other	217,869
Subtotal GAFO	***507,019 Square Feet***
Other Retail/Services	
Food and Beverage	434,630
Food Service and Drinking	304,938
Building Material & Garden Equipment & Supplies	96,788
Auto Parts	40,556
Gasoline Stations	47,869
Services Space	572,563
Subtotal Other Retail/Services	*1,497,344*
Vacant Space	239,562
TOTAL RETAIL/SERVICES SPACE	**2,243,923 Square Feet**

Source: *Urban Decay Study for Moreno Valley Walmart* (The Natelson Dale Group, Inc.) October 28, 2013.

As indicated at Table 4.2-1, total retail/services space in the Trade Area is estimated at approximately 2.25 million square feet, of which approximately 507,019 square feet is classified as GAFO retail space. GAFO retail space within the Trade Area could be subject to potential competitive market effects of the Project.

Trade Area Retail Space Vacancy Rate

The overall retail vacancy rate in the Trade Area is estimated at 10.8%, which is at the high end of the range (5% to 10%) generally considered to be reflective of a healthy retail market.[5] However, this vacancy rate is in line with the current (3rd Quarter, 2013) 10.5% national vacancy rate for strip, neighborhood and community shopping centers, as estimated by REIS, the nation's leading provider of commercial real estate information.[6] Two of the inventoried Trade Area shopping centers (identified below) exhibit relatively high vacancy rates:[7]

- The *Bear Valley Shopping Center* (approximately 89,500 sq. ft.), located on the northeast corner of Alessandro Boulevard and Perris Boulevard in Moreno Valley, has an estimated 46% vacancy rate.

- The *Sunnymead Village Shopping Center* (approximately 146,000 sq. ft.), located on the southeast corner of Alessandro Boulevard and Indian Street in Moreno Valley, has an estimated 26% vacancy rate.

The relevant finding of the Urban Decay Study regarding the above-noted vacancies, is that none of the buildings in the identified shopping centers currently exhibit urban decay conditions (please refer to October 2013 site survey photographs presented at Urban Decay Study Appendix B). None of the buildings or their surroundings exhibited signs of significant deterioration; none had significant indications of deferred

[5] "Real Estate Principles: A Value Approach, 3rd Ed., 2010, Ling and Archer," as cited in *Urban Decay Study for Moreno Valley Walmart*, p. 8.
[6] http://journalrecord.com/2013/10/10/blog-slow-but-steady-growth-for-national-market/ as cited in *Urban Decay Study for Moreno Valley Walmart*, p. 8.
[7] Problematic shopping centers include those with a minimum gross leasable area (GLA) of 50,000 square feet and a 20% or higher vacancy rate. *Urban Decay Study for Moreno Valley Walmart*, p. 8.

maintenance; none had graffiti; none had boarded-up windows; and there were no indications of landscape neglect (weeds, brown grass, etc.). Moreover, property owners are currently actively marketing all of these vacant spaces. This provides a strong indication that the property owners consider these centers to be fully viable properties.

Existing GAFO Space Supply and Demand

The Urban Decay Study demand analysis indicates there is existing (year 2013) market support for $222.4 million in GAFO retail sales in the Trade Area. The $222.4 million in market demand translates to approximately 889,677 square feet of GAFO retail space that could be currently supported in the Trade Area. The Urban Decay Study demand analysis therefore indicates that the Trade Area, which at present includes 507,019 square feet of GAFO space, could currently support approximately 382,658 square feet of additional GAFO space over and above the existing inventory.[8]

Existing Trade Area Supermarkets

The Trade Area currently evidences ten supermarkets totaling approximately 410,830 square feet.[9] Table 4.2-2 summarizes existing supermarket square footages, and indicates their relative distances from the Project site.

Table 4.2-2
Inventory of Existing Trade Area Supermarkets

Store Name/Address	Distance from Project Site (miles)	Store Area (Square Feet)
Fresh & Easy/ 16100 Perris Boulevard, Moreno Valley	0.5	13,929
Stater Bros./ 25900 Iris Avenue, Moreno Valley	1.0	44,054
Stater Bros./ 14425 Moreno Beach Drive, Moreno Valley	3.3	45,002
Cardenas/ 14940 Perris Boulevard, Moreno Valley	0.7	36,642
El Super/ 24899 Alessandro Boulevard, Moreno Valley	1.6	52,400

[8] *Urban Decay Study for Moreno Valley Walmart* (The Natelson Dale Group, Inc.) October 28, 2013, pp. 9-10.
[9] Supermarket space considered in the demand analysis is defined and described in detail within the Project Urban Decay Study, p. 10.

Table 4.2-2
Inventory of Existing Trade Area Supermarkets

Store Name/Address	Distance from Project Site (miles)	Store Area (Square Feet)
Food 4 Less/ 24440 Alessandro Boulevard, Moreno Valley	1.6	78,523
Sprouts/ 475 E Alessandro Boulevard, Riverside	5.7	24,543
Ralphs/ 315 E Alessandro Boulevard, Riverside	5.8	50,565
Fresh & Easy/ 8765 Trautwein Road, Riverside	5.6	14,925
Albertsons/ 8938 Trautwein Road, Riverside	5.6	50,247
TOTAL SUPERMARKET SPACE		**410,830 Square Feet**

Source: *Urban Decay Study for Moreno Valley Walmart* (The Natelson Dale Group, Inc.) October 28, 2013.

Existing Supermarket Space Supply and Demand

The Urban Decay Study demand analysis indicates that there is sufficient base year (2013) demand to support average supermarket sales volumes in the Trade Area of $436 per square foot at all ten existing supermarkets. In comparison, the industry median for supermarkets is approximately $473 per square foot nationally and $418 per square foot within the Western United States. The Study therefore indicates that, on average, supermarkets in the Trade Area currently have the potential to generate sales volumes which are above the Western regional median, but below the national median.

Existing Trade Area Commercial Gasoline Fueling Stations

Germane to this analysis, the Urban Decay Study indicates that existing (2013) Trade Area gasoline sales totaled approximately $150,428,000.[10] And that on average, a commercial gasoline fueling station in California currently generates approximately $5.5 million in annual sales.

[10] Gasoline sales are estimated at approximately 14 percent of the Trade Area total retail sales demand. For example, total Trade Area retail sales demand in 2013 is estimated at $1,074,489,000 x 0.14 = $150,428,000. Please refer also to Project Urban Decay Study, p.25.

Existing Commercial Gasoline Fueling Stations Supply and Demand

On a mathematical basis, assuming average sales per station of $5.5 million, the estimated $150,428,000 in gasoline sales generated by the Trade Area could support approximately 27 commercial gasoline fueling stations.

4.2.4 STANDARDS OF SIGNIFICANCE

CEQA specifically states that economic or social effects of a project shall not be treated as significant impacts on the environment. However, adverse physical changes that could indirectly result from economic or social effects of projects are within the scope of CEQA considerations. Although CEQA does not define what should be considered a significant adverse physical change due to economic forces, case law indicates that a project may have a significant impact if it results in a condition commonly referred to as urban decay.

An economic analysis is used to determine, in accordance with CEQA, a project's potential to create urban decay. Under CEQA, there is not an automatic presumption that urban decay will occur as a result of other businesses being closed. A store closure, in and of itself, does not constitute urban decay. While the closure of a business is clearly a severe impact to the owners and employees of the firm, within the context of CEQA it is only significant if it results in sustained vacancies and related deterioration of the physical condition of the vacant building(s).

For the purpose of this analysis, urban decay is defined as physical deterioration due to store closures and long-term vacancies that is so prevalent and substantial that it impairs the health, safety, and welfare of the surrounding community. Physical deterioration includes, but is not limited to, abandoned buildings and commercial sites in disrepair, boarded doors and windows, long-term unauthorized use of properties and parking lots, extensive gang or offensive graffiti painted on buildings, dumping of refuse or overturned dumpsters on properties, dead trees or shrubbery, extensive litter, uncontrolled weed growth, and homeless encampments.

Within this context, the Project may result in a significant urban decay impact if:

- Any diversion of sales from existing retail facilities are severe enough to result in business closings; and

- The business closures are significant enough in scale (i.e., in terms of the total square footage affected and/or the loss of key "anchor" tenants) to affect the long-term viability of existing shopping centers or districts, subsequently resulting in urban decay.

4.2.5 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.2.5.1 Introduction

The following discussions focus on those areas where it has been determined that the Project may result in competitive market/economic impacts with resultant urban decay impacts, based on the previous discussions included within this Section and analysis presented within the EIR Initial Study (EIR Appendix A). Please refer also to Initial Study Checklist Item X., "Land Use and Planning."

4.2.5.2 Impact Statements

Potential Impact: *Result in adverse physical changes or impacts due to the Project's economic effects.*

Impact Analysis:

<u>Retail Demand Summary</u>

This summary considers the total resident "purchasing power" of the Trade Area, and uses this projection of total demand as the basis for determining the extent to which the Project could be supported in the market area without negatively impacting existing businesses. To these ends, the Urban Decay Study provides estimates of: population

within the Trade Area; Trade Area per capita income; percentage of income allocated for retail spending; and disaggregated retail spending by category.

Trade Area Population

Population estimates for the Trade Area for the timeframe 2013–2028 were provided by Environmental Systems Research Institute (ESRI) and are summarized at Table 4.2-3.

Table 4.2-3
Trade Area Population
by Year 2013–2028

2013	2018	2020	2022	2024	2026	2028
124,542	133,881	137,810	141,854	146,017	150,302	154,712

Source: *Urban Decay Study for Moreno Valley Walmart* (The Natelson Dale Group, Inc.) October 28, 2013.

The indicated annual population growth rate for 2013–2018 is approximately 1.5 percent. For the purposes of the Urban Decay Study, this 1.5 percent growth rate was globally applied throughout the Study period (2013–2028). This growth rate (1.5 percent/year) appears to be relatively conservative, as the Trade Area's population increased at a 4.6% annual rate during the 10-year period between 2000 and 2010 (Urban Decay Study, p. 23). By employing a more conservative growth rate, the Urban Decay Study would tend to underestimate rather than overestimate the Trade Area population and related purchasing power and retail demand available to support the Project.

Trade Area per Capita Income

Per capita money income data for the Trade Area was obtained from ESRI, and was then adjusted upward by 28% to reflect income sources (other than money) that contribute to personal income.[11] In this latter regard, personal income represents a more complete gauge of a household's economic status, and is the preferred measure for purposes of projecting a household's purchasing power (Urban Decay Study, p. 23). Personal income includes money income, fringe benefits (health insurance, retirement

[11] "Per capita 'personal income' is a full 28% higher than per capita "money income" in Riverside County, based on 2007-2011 income data (the most recent years available) provided by the Bureau of Economic Analysis and the U.S. Census Bureau," (Urban Decay Study, p.23).

benefits), imputed income (interest, rent), and direct government payments to medical providers. The adjusted personal per capita income within the Trade Area is estimated at $25,080/year (Urban Decay Study, p. 23).

Trade Area Retail Sales

The Urban Decay Study estimates that on average, for the period 2000 through 2011, retail expenditures accounted for 34.4 percent of the Trade Area aggregate income, as summarized at Table 4.2-4. The Urban Decay Study assumes that future retail expenditures within the Trade Area would approximate the historic average of 34.4 percent for the period 2013 through 2028.

Table 4.2-4
Trade Area Retail Sales as a
Percentage of Historic Aggregate Personal Income

2000	2005	2011	2000–2011 Year Average
34.6%	40.4%	30.0%	34.4%

Source: *Urban Decay Study for Moreno Valley Walmart* (The Natelson Dale Group, Inc.) October 28, 2013.

Reflecting Trade Area population estimates and per capital personal income estimates noted previously in this Section, Table 4.2-5 summarizes estimated total income and percent of income spent on retail goods (retail demand) within the Trade Area for the period 2013 through 2028.

Table 4.2-5
Trade Area Income and Retail Demand 2013–2028
(in thousands of constant dollars)

	2013	**2018**	**2020**	**2022**	**2024**	**2026**	**2028**
Total Income	$3,123,513	$3,357,735	$3,456,275	$3,557,698	$3,662,106	$3,769,574	$3,880,177
Percent of Income Spent on Retail Goods	34.4%	34.4%	34.4%	34.4%	34.4%	34.4%	34.4%
Potential Retail Sales	$1,074,489	$1,155,061	$1,188,959	$1,223,848	$1,259,765	$1,296,734	$1,334,781

Source: *Urban Decay Study for Moreno Valley Walmart* (The Natelson Dale Group, Inc.) October 28, 2013.

Trade Area Retail Sales by Category

The Urban Decay Study disaggregates Trade Area retail sales into various retail categories based on average retail expenditure patterns observed in Riverside County for the period 2009 through 2011 (the most recent three years for which data are available), as reported by the California State Board of Equalization (SBOE). The basic distribution of Trade Area retail sales, by retail category, is summarized at Table 4.2-6.

Table 4.2-6
Trade Area Distribution of Retail Sales by Category

Retail Category	Percent of Trade Area Retail Sales
Shopper Goods:	
Clothing and Clothing Accessories	15.0%
General Merchandise	7.0%
Home Furnishings and Appliances	4.5%
Specialty/Other	8.0%
Shopper Goods Subtotal	*34.5%*
Convenience Goods:	
Food and Beverage	19.5%
Food Service and Drinking	12.0%
Convenience Goods Subtotal	*31.5%*
Heavy Commercial Goods:	
Building Material & Garden Equipment & Supplies	6.5%
Motor Vehicle and Parts Dealers	13.5%
Gasoline Stations	14.0%
Heavy Commercial Goods Subtotal	*34.0%*
Total All Categories	**100.0%**

Source: *Urban Decay Study for Moreno Valley Walmart* (The Natelson Dale Group, Inc.) October 28, 2013.

Trade Area "Capture Rates"

The portion of sales from Trade Area residents that take place within the Trade Area is referred to as the Trade Area's "capture rate." Capture rates of resident demand are projected to be relatively high within the Trade Area due to the tendency of residents to shop relatively close to their homes, especially for convenience goods. Generally, it is

reasonable to expect that residents will make the vast majority of their retail purchases locally, provided that a competitive mix of retail stores reflective of consumer needs is available (Urban Decay Study, p. 26).

To be analytically conservative, the Urban Decay Study has adjusted capture rates downward to account for the fact that the Trade Area does not evidence "regional" or "super-regional" shopping centers (respectively, centers with 400,000–800,000 square feet gross leasable area; or 800,000 square feet or more of gross leasable area).[12] On this basis, there is expected to be some level of retail "leakage" to other areas of Moreno Valley and neighboring unincorporated Riverside County which evidence a larger array of retail facilities. Effective Trade Area Capture Rates are summarized at Table 4.2-7, and are subsequently described.

Table 4.2-7
Trade Area Capture Rates by Retail Category

Retail Category	Capture Rate
Shopper Goods:	
Clothing and Clothing Accessories	60%
General Merchandise	60%
Home Furnishings and Appliances	60%
Specialty/Other	60%
Convenience Goods:	
Food and Beverage	95%
Food Service and Drinking	75%
Heavy Commercial Goods:	
Building Material & Garden Equipment & Supplies	75%
Motor Vehicle and Parts Dealers	75%
Gasoline Stations	100%

Source: *Urban Decay Study for Moreno Valley Walmart* (The Natelson Dale Group, Inc.) October 28, 2013.

[12] Shopping Center classifications from: *U.S. Shopping-Center Classification and Characteristics*, Appraisal Institute, CoStar and the International Council of Shopping Centers.

The Urban Decay Study employs a conservative capture rate of 60 percent of retail demand in the shopper goods categories (clothing and clothing accessories, general merchandise, home furnishings and appliances, and specialty/other goods) (Urban Decay Study, p. 27).

Sales captured for other categories (food service and drinking [restaurant], building materials/garden equipment/supplies; and motor vehicles and parts dealers) are also conservatively estimated recognizing the presence of a wider variety of these goods and services beyond the Trade Area boundaries.

Typically, the Trade Area would capture all Food and Beverage (grocery) sales due to the strong propensity of consumers to purchase goods in this category as close as possible to their residences. In this case, however, proximity of the March Reserve Base Commissary (located approximately one mile westerly of the Project site) would likely attract that portion of the Trade Area population (active Armed Forces personnel and Veterans) that would have access to the Commissary. To account for Trade Area sales leakage to the Commissary, the Urban Decay Study analysis reduced the potential capture of grocery demand within the Trade Area from 100% to 95% (Urban Decay Study, p. 27).

Based on the capture rates discussed above, Table 4.2-8 summarizes potential Trade Area demand for each retail category considered herein.

Table 4.2-8
Trade Area Potential Capture of Sales Demand by Retail Category
(in thousands of constant dollars)

Retail Category	**2013**	**2018**	**2020**	**2022**	**2024**	**2026**	**2028**
Shopper Goods:							
Clothing and Clothing Accessories	$96,704	$103,955	$107,006	$110,146	$113,379	$116,706	$120,130
General Merchandise	$45,129	$48,513	$49,936	$51,402	$52,910	$54,463	$56,061
Home Furnishings and Appliances	$29,011	$31,187	$32,102	$33,044	$34,014	$35,012	$36,039
Specialty/Other	$51,575	$55,443	$57,070	$58,745	$60,469	$62,243	$64,069
Subtotal	*$222,419*	*$239,098*	*$246,114*	*$253,337*	*$260,771*	*$268,424*	*$276,300*

Table 4.2-8
Trade Area Potential Capture of Sales Demand by Retail Category
(in thousands of constant dollars)

Retail Category	2013	2018	2020	2022	2024	2026	2028
Convenience Goods:							
Food and Beverage	$199,049	$213,975	$220,255	$226,718	$233,371	$240,220	$247,268
Food Service and Drinking	$96,704	$103,955	$107,006	$110,146	$113,379	$116,706	$120,130
Subtotal	*$295,753*	*$317,931*	*$327,261*	*$336,864*	*$346,750*	*$356,926*	*$367,398*
Heavy Commercial Goods:							
Building Material & Garden Equipment & Supplies	$52,381	$56,309	$57,962	$59,663	$61,414	$63,216	$65,071
Motor Vehicle and Parts Dealers	$108,792	$116,950	$120,382	$123,915	$127,551	$131,294	$135,147
Gasoline Stations	$150,428	$161,709	$166,454	$171,339	$176,367	$181,543	$186,869
Subtotal	*$311,602*	*$334,968*	*$344,798*	*$354,916*	*$365,332*	*$376,053*	*$387,086*
Total	***$829,774***	***$891,996***	***$918,173***	***$945,117***	***$972,853***	***$1,001,402***	***$1,030,785***

Source: *Urban Decay Study for Moreno Valley Walmart* (The Natelson Dale Group, Inc.) October 28, 2013.
Note: Totals may not sum due to rounding.

Trade Area Supportable Retail Space

Table 4.2-9 presents sales volume requirements per square foot of retail space by retail sales categories evaluated in the Urban Decay Study. These requirements are derived from sales standards established by the Urban Land Institute's (ULI's) Dollars & Cents Publication and are typical of reported sales per square foot data from representative stores in each retail category (Urban Decay Study, p. 29).

Table 4.2-9
Sales per Foot Standards for Retail Space

Retail Category	Required Sales/Square Foot
GAFO	$250
Food Service and Drinking	$300
Building Material & Garden Equipment & Supplies	$250
Automotive Parts	$175

Source: *Urban Decay Study for Moreno Valley Walmart* (The Natelson Dale Group, Inc.) October 28, 2013.

Based on the Trade Area retail sales as summarized at Table 4.2-8, and the Sales per Foot Standards for Retail Space presented at Table 4.2-9, the Urban Decay Study estimated the retail space (non-grocery space) that could be supported within the Trade Area, as presented at Table 4.2-10.

Table 4.2-10
Trade Area Supportable Retail Space (in square feet)

Retail Category	2013	2018	2020	2022	2024	2026	2028
Shopper Goods:							
GAFO	889,677	956,391	984,458	1,013,346	1,043,085	1,073,695	1,105,199
Convenience Goods:							
Food Service and Drinking	322,347	346,518	356,688	367,154	377,929	389,020	400,434
Heavy Commercial Goods:							
Building Material & Garden Equipment & Supplies	209,525	225,237	231,847	238,650	245,654	252,863	260,282
Auto Parts	80,817	86,877	89,427	92,051	94,752	97,533	100,395
Total	**1,502,366**	**1,615,023**	**1,662,420**	**1,711,201**	**1,761,420**	**1,813,111**	**1,866,310**

Source: *Urban Decay Study for Moreno Valley Walmart* (The Natelson Dale Group, Inc.) October 28, 2013.
Note: Totals may not sum due to rounding.

Potential Retail (non-grocery) Sales Impacts within the Trade Area

Of relevance to this analysis, the Trade Area could support a total of 889,677 GAFO retail space under existing (2013) conditions, or an additional 382,648 square feet when compared to the Trade Area existing (2013) GAFO retail space (507,019 square feet, please refer to previous Table 4.2-1). Under 2018 conditions, the Project's estimated opening year, a total of 956,391 square feet of GAFO retail space could be supported within the Trade Area, or an additional 449,372 square feet of GAFO retail space when compared to the Trade Area existing (2013) GAFO retail space (507,019 square feet). The Project's proposed Walmart Store would result in a maximum net increase of approximately 141,220 square feet in GAFO sales area within the Trade Area. Given that proposed Walmart Store GAFO retail space is well within the level of the estimated residual market support for GAFO space in the Trade Area, the GAFO component of

the Project would not have significant competitive impacts on existing or projected GAFO sales in the Trade Area.

Trade Area Supportable Food and Beverage (Supermarket) Demand

Based on the Trade Area retail sales as summarized at Table 4.2-8, the Urban Decay Study estimated Food and Beverage sales demands that could be supported within the Trade Area, as presented at Table 4.2-10. As indicated at Table 4.2-11, an estimated 90% of the Food and Beverage sales category would be captured by the ten existing supermarkets within the Trade Area; with the balance of Food and Beverage sales (10% of the total) captured by smaller convenience and specialty markets. Table 4.2-11 also provides an estimate of the supermarkets' average sales volumes, in terms of sales per square foot, by dividing the estimate of supermarket demand (in dollars) by the square feet of existing supermarket space. Projections of future average sales volumes are net of the demand that would be absorbed by the proposed grocery component of the Walmart store.

Table 4.2-11
Potential Sales Impacts to Existing Trade Area Supermarkets
(in thousands of constant dollars)

Description	2013	2018	2020	2022	2024	2026	2028
Total Food Sales Demand	$199,049	$213,975	$220,255	$226,718	$233,371	$240,220	$247,268
Supermarket Share (90% of Total)	$179,144	$192,578	$198,229	$204,046	$210,034	$216,198	$222,541
Walmart Store Sales[2]	$0	($24,150)	($24,150)	($24,150)	($24,150)	($24,150)	($24,150)
Net Demand Available to Support Existing Supermarkets	$179,144	$168,428	$174,079	$179,896	$185,884	$192,048	$198,391
Existing Supermarket square footage	410,830	410,830	410,830	410,830	410,830	410,830	410,830
Potential Sales per Square Foot for Existing Supermarkets	**$436**	**$410**	**$424**	**$438**	**$452**	**$467**	**$483**

Source: *Urban Decay Study for Moreno Valley Walmart* (The Natelson Dale Group, Inc.) October 28, 2013.
Note: [2] Sales per square foot (gross area) assumptions: $500. Typically, new retail stores operate below average sales volumes in the first few years after opening, and then reach stabilized sales volume levels after being open for a few years. However, in order to remain analytically conservative (i.e., to depict the maximum potential impact), we have assumed that store would reach its full sales potential (based on the chain-wide average) in year 1.

Potential Grocery Sales Impacts within the Trade Area

The Urban Decay Study estimates that the Project's Walmart Store grocery component would total approximately 48,300 square feet, including grocery sales floor area and support/stockroom space. The Trade Area currently accommodates ten supermarkets totaling approximately 410,830 square feet (please refer to previous Table 4.2-2).

The Urban Decay Study demand analysis indicates that there is sufficient demand to support average supermarket sales volumes in the Trade Area of $436 per square foot at all ten existing supermarkets. In comparison, the industry median for supermarkets is approximately $473 per square foot nationally and $418 per square foot in the Western United States. On average, supermarkets in the Trade Area currently have the potential to generate sales volumes which are above the Western regional median ($418 per square foot), but are below the national median ($473 per square foot).

Total demand for supermarket sales in the Trade Area is projected to increase from approximately $179.1 million in 2013 to approximately $192.6 million in 2018 (the Project opening year). By 2028, total demand for supermarket sales in the Trade Area is projected to reach approximately $222.5 million (Urban Decay Study, p. 11). Table 4.2-11 summarizes the Project's grocery component potential impact on Trade Area grocery sales, expressed in terms of the potential reduction in the sales per square foot at existing Trade Area supermarkets.

Based on long-term chain-wide averages, Walmart grocery sales are estimated at $500 per square foot (gross area), commencing in the Project opening year. More typically however, new retail grocery stores operate at below average sales volumes in the first few years after opening, and then reach stabilized sales approximating long-term averages. Notwithstanding, to remain analytically conservative, the Urban Decay Study assumes the proposed Walmart grocery component would reach its full sales potential beginning in the Project opening year.

The sales impact information presented at Table 4.2-11 indicates that the Project would initially cause potential average sales volumes at the Trade Area's ten existing supermarkets to decrease from the current estimate of $436 per square foot to

approximately $410 per square foot. Although this represents a reduction in the potential sales volume per square foot for existing stores, the sales level of $410 per square foot in the Project opening year is unlikely to be low enough to cause the closure of any of the Trade Area's existing supermarkets (Urban Decay Study, p. 11). More specifically, at $410 per square foot, even with the Project, potential sales volumes at existing Trade Area supermarkets would be approximately 98% of the Western regional median ($418 per square foot) and about 87% of the national median ($473 per square foot) indicating that existing Trade Area supermarkets would likely maintain sales volumes approximating regional and national medians.

In this latter regard, it is important to note that there is significant variability in sales volumes at individual supermarkets, and evidence suggests that a number of California stores (and entire chains) are operating at well below the noted $418 per square foot Western region median (Urban Decay Study, p. 17). More specifically, to further evaluate the "typical" sales volumes of California supermarkets, the Urban Decay Study employed a proprietary database of chain-specific supermarket sales estimates provided by Trade Dimensions International, Inc., a market research firm of The Nielsen Company. The database, reflecting May 2011 data from more than 3,200 individual stores, includes sales estimates for 51 supermarket chains operating in California along with aggregate sales estimates for independent supermarkets. According to this database, average sales per square foot by chain range from $220 to $809 per square foot. For all chains combined, the median and average sales are $385 per square foot and $407 per square foot, respectively, with a standard deviation of $128 per square foot. Of the 51 grocery chains represented in the database (including the aggregated independent category), 29 (or 57% of the total) generate average sales volumes below $418 per square foot. Further, more than half (55%) of the chains operate at sales volumes below $400 per square foot, while 41% operate below $350 per square foot (Urban Decay Study, p.17). The above discussion would indicate that even with incrementally reduced sales volumes resulting from the Project, existing Trade Area supermarkets would likely maintain sustainable operations.

The following factors and considerations further support the conclusion that market effects of the Project would not substantively affect Trade Area supermarket sales to the extent that store closures would result.

The Project Urban Decay Study classifies all grocery stores over 10,000 square feet as supermarkets, so as not to potentially underestimate competitive impacts. Notwithstanding, in the following two respects, certain of the Trade Area supermarkets would likely serve different market segments than the grocery component of the proposed Walmart. This suggests that these specific markets would potentially be less vulnerable to potential competitive impacts of the Project.

- Of the Trade Area's ten supermarkets, two of them target Hispanic ethnic groups (Cardenas and El Super), suggesting that these stores would be less vulnerable to competitive impacts given their focused market niches. In addition to carrying conventional grocery products, these grocery stores offer large selections of specialty items not available at traditional supermarkets.

- Certain of the Trade Area grocers (e.g., "Fresh & Easy," and "Sprouts") are intended to serve specific market segments (e.g., convenience and prepared foods in the case of a Fresh & Easy store, and bulk goods/organic and all-natural products in the case of Sprouts). Though classified as supermarkets within the Urban Decay Study, these specialty grocers are not direct competitors with full-scale supermarkets, such as would be implemented under the Project.

Continuing population growth within the Trade Area and related growth in Trade Area aggregate income indicates that any potential sales impacts to existing supermarkets would be temporary, and would be partially offset by growth in overall retail demand within the Trade Area. In this regard, Table 4.2-1 indicates that sales at Trade Area supermarkets (inclusive of the Project) would approximate $424 per square foot in 2020, just two years after Project opening. This projected sales volume is above the Western Regional median figure ($418 per square foot) and 97% of the estimated base year (2013) amount ($436 per square foot). Further, in 2022, just four years after the projected start

date, projected potential sales volumes would reach $438 per square foot, which is above the current estimate of $436 per square foot.

Potential Gasoline/Service Station Sales Impacts within the Trade Area

As summarized at Table 4.2-12, gasoline/service station sales generated by Trade Area residents are projected to increase by $11.3 million between 2013 and the Project opening year (Urban Decay Study, p. 12). Thus, the growth in the market over the next five years would be more than sufficient to support the $5.5 million annual sales typical of a gasoline station in California, and would be capable of supporting the additional gasoline station/convenience store use proposed by the Project. On this basis, the proposed gasoline station/convenience store would not have significant competitive impacts on existing gasoline stations/convenience stores currently serving Trade Area residents.

Table 4.2-12
Trade Area Gasoline Station/Convenience Store Sales
(in thousands of constant dollars)

Retail Category	2013	2018	2020	2022	2024	2026	2028
Gasoline Stations	$150,428	$161,709	$166,454	$171,339	$176,367	$181,543	$186,869

Source: *Urban Decay Study for Moreno Valley Walmart* (The Natelson Dale Group, Inc.) October 28, 2013.

POTENTIAL FOR URBAN DECAY

As substantiated within the preceding analyses, there is sufficient market demand to support the Project in addition to existing competing commercial/retail uses within the Trade Area; and it is unlikely that implementation of the Project would result in closures of existing competing retail uses.

More specifically, the GAFO and fueling station space proposed by the Project would be well within the envelope of available demand for new space in these retail categories, and thus is not likely to result in the closure of existing stores or gas stations. With respect to the Food (supermarket/grocery) category, existing supermarkets in the Trade Area could experience an initial decline in sales when the Project opens. However even at their minimum, aggregate sales/square foot for existing supermarkets within the Trade Area would be maintained at 98 percent of the Western regional median

sales/square foot for supermarkets; and at 87 percent of the national median sales/square foot for supermarkets, indicating that existing Trade Area supermarkets would likely maintain sales volumes approximating regional and national medians.

Moreover, the noted Western regional and national median sales figures do not represent "break-even" or subsistence thresholds for supermarkets. In this latter regard, the Urban Decay Study notes chain-specific supermarket sales (based on estimates provided by Trade Dimensions International, Inc.) vary widely within California, ranging from $220 to $809 per square foot by chain, and that for all chains combined, the median and average sales are $385 per square foot and $407 per square foot, respectively. Within this context, even with competitive effects of the Project, minimum supermarket sales/square foot within the Trade Area would be maintained within the range of average sales experienced at supermarkets in California. Based on the preceding, the Urban Decay Study concludes that although market effects of the Project would potentially represent a reduction in the potential sales volume per square foot for existing supermarkets, the estimated minimum average sales level of $410 per square foot in year 2018 is unlikely to be low enough to cause the closure of any of the Trade Area's existing supermarkets. The Urban Decay Study notes further that certain of the Trade Area supermarkets, because of their niche markets, would be less vulnerable to competitive effects of the Project, further substantiating that implementation of the Project would likely not result in the closure of existing supermarkets.

Based on the preceding, it is unlikely that the Project would result in or cause store closures, long-term vacancies, and physical deterioration. The potential for the Project to result in or cause urban decay is therefore considered less-than-significant.

Level of Significance: Less-Than-Significant.

4.3 TRAFFIC AND CIRCULATION

4.3 TRAFFIC AND CIRCULATION

Abstract

Detailed analysis of the Project's potential weekday and Saturday traffic and circulation impacts is presented in Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California *(Urban Crossroads, Inc.) March 5, 2015 (Project TIA, TIA).*

The Project TIA is presented in EIR Appendix C. Potential Project-related traffic and circulation impacts are evaluated under Existing (2013) Conditions, Opening Year (2018) Conditions, and General Plan Buildout (Post-2035) Conditions.

This EIR Section summarizes analysis and findings of the Project TIA, and substantiates whether the Project would:

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

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

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

- *Result in inadequate emergency access.*

Summary of Findings

Improvements necessary to mitigate Project impacts under Existing + Project Conditions would be constructed by the Project. The Project would also construct all necessary site access and site adjacent roadway improvements as summarized in the EIR Project Description (please refer to EIR Section 3.4.5, Access/Circulation/Parking). The above-noted improvements would reduce Project impacts to levels that are less-than-significant under Existing + Project Conditions, and would also act to reduce localized cumulative deficiencies under Opening Year + Project Conditions, and General Plan Buildout + Project Conditions.

Additionally, the Project Applicant would pay requisite fees in support of off-site improvements necessary to mitigate the Project's contributions to potentially significant cumulative traffic/circulation system impacts projected to occur under Opening Year + Project Conditions, and General Plan Buildout + Project Conditions. However, as discussed herein, payment of fees in these instances would not ensure timely completion of off-site improvements. Therefore, pending completion of required circulation system improvements, Project contributions to deficiencies affecting off-site locations under Opening Year + Project Conditions, and General Plan Buildout + Project Conditions would be considered cumulatively significant and unavoidable.

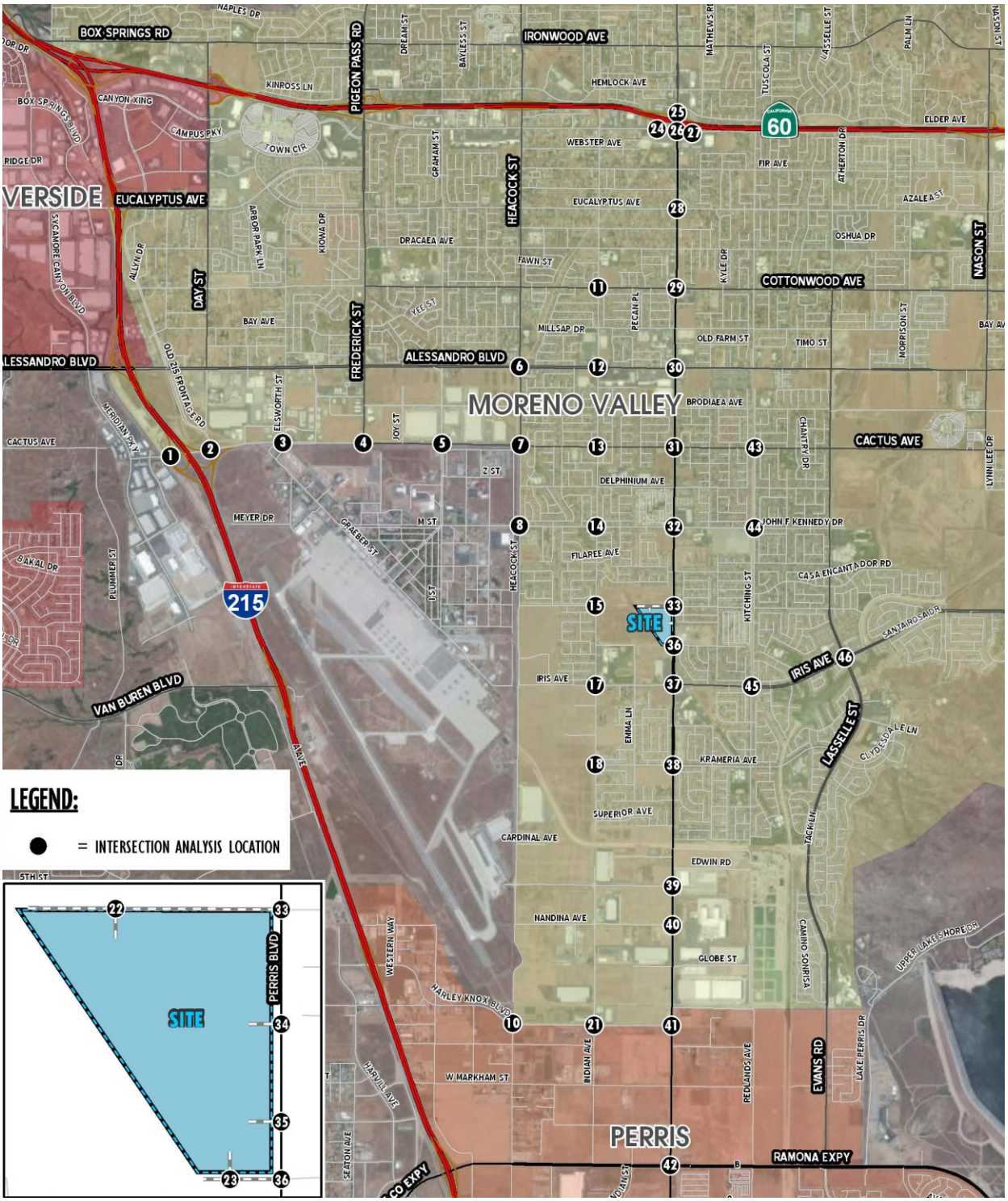
4.3.1 INTRODUCTION

The detailed evaluation of potential Project-related traffic and circulation impacts is documented in the *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015 (Project TIA).

4.3.2 STUDY AREA AND METHODOLOGIES

4.3.2.1 Overview

Discussions were held with the City of Moreno Valley and the Project Applicant to establish a comprehensive understanding of the Project, determine the Scope of Work and Methodology and for the TIA, and define the TIA Study Area. The Study Area defined for the Project is illustrated in Figure 4.3-1. The Scope of Work and Methodology for the Project TIA is also consistent with applicable Riverside County and California Department of Transportation (Caltrans) TIA guidelines.



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Source: Urban Crossroads

Figure 4.3-1
Study Area Intersections

Discussions with the City defined the level-of-service (LOS) analysis methodology, and the determination of traffic impact significance. Approved or planned projects which would be considered as part of the cumulative development setting were also identified. The Project is expected to be built in one phase and, for the purposes of the TIA, is assumed to be open by 2018.

Pursuant to the TIA Scope of Work and City requirements, analyses of traffic conditions are presented for Existing Conditions (2013), Project Opening Year (2018) Conditions, and General Plan Buildout (Post-2035) Conditions during weekday and Saturday peak hour periods.

4.3.2.2 Level of Service Descriptors

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS "A," representing completely free-flow conditions, to LOS "F," representing breakdown in flow resulting in stop-and-go conditions. LOS "E" represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow. Tables 4.3-1 and 4.3-2 present LOS descriptors for signalized and unsignalized intersections within the Study Area.

Table 4.3-1
Signalized Intersection LOS Descriptors

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

Table 4.3-1
Signalized Intersection LOS Descriptors

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

Source: *Highway Capacity Manual* (Chapter 16).

Table 4.3-2
Unsignalized Intersection LOS Descriptors

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

Source: *Highway Capacity Manual* (Chapter 17).

4.3.2.3 Intersection Analysis Methodology

A total of 46 existing and future intersections within the Study Area were selected for evaluation as part of the Project TIA. Table 4.3-3 identifies these intersections, and indicates the jurisdiction for each, since some are located on or outside the City of Moreno Valley's corporate boundaries. Intersections with freeway ramps that would be used to access the Project, which are under Caltrans jurisdiction, have also been included.

As shown below, Caltrans jurisdictional intersections include Study Area Intersections 1, 2, 24, 25, and 27. Caltrans jurisdictional intersections within the Study Area are also designated Riverside County Congestion Management Plan (CMP) facilities.

Table 4.3-3
Study Area Intersections

ID #	Intersection Location	Jurisdiction
1	I-215 South Ramps / Cactus Ave.	Caltrans
2	I-215 Northbound Ramps / Cactus Ave.	Caltrans
3	Elsworth St. / Cactus Ave.	Moreno Valley
4	Frederick St. / Cactus Ave.	Moreno Valley
5	Graham St. / Cactus Ave.	Moreno Valley
6	Heacock St. / Alessandro Bl.	Moreno Valley
7	Heacock St. / Cactus Ave.	Moreno Valley
8	Heacock St. / John F. Kennedy Dr.	Moreno Valley
9	Heacock St. / Gentian Ave.	Moreno Valley
10	Webster Ave. / Harley Knox Bl.	Perris
11	Indian St. / Cottonwood Ave.	Moreno Valley
12	Indian St. / Alessandro Bl.	Moreno Valley
13	Indian St. / Cactus Ave.	Moreno Valley
14	Indian St. / John F. Kennedy Dr.	Moreno Valley
15	Indian St. / Gentian Ave.	Moreno Valley
16	Indian St. / Santiago Dr.	Moreno Valley
17	Indian St. / Iris Ave.	Moreno Valley
18	Indian St. / Krameria Ave.	Moreno Valley
19	Indian St. / San Michele Rd.	Moreno Valley
20	Indian St. / Nandina Ave.	Moreno Valley
21	Indian St. / Harley Knox Bl.	Perris
22	Driveway 1 / Gentian Ave.	Moreno Valley
23	Driveway 2 / Santiago Dr.	Moreno Valley
24	SR-60 Eastbound Off-Ramp / Sunnymead Bl.	Caltrans
25	Perris Bl. / SR-60 Westbound Ramps	Caltrans
26	Perris Bl. / Sunnymead Bl.	Moreno Valley
27	SR-60 Eastbound On-Ramp / Sunnymead Bl.	Caltrans
28	Perris Bl. / Eucalyptus Ave.	Moreno Valley
29	Perris Bl. / Cottonwood Ave.	Moreno Valley
30	Perris Bl. / Alessandro Bl.	Moreno Valley
31	Perris Bl. / Cactus Ave.	Moreno Valley
32	Perris Bl. / John F. Kennedy Dr.	Moreno Valley
33	Perris Bl. / Gentian Ave.	Moreno Valley
34	Perris Bl. / Driveway 3	Moreno Valley

Table 4.3-3
Study Area Intersections

ID #	Intersection Location	Jurisdiction
35	Perris Bl. / Driveway 4	Moreno Valley
36	Perris Bl. / Santiago Dr.	Moreno Valley
37	Perris Bl. / Iris Ave.	Moreno Valley
38	Perris Bl. / Krameria Ave.	Moreno Valley
39	Perris Bl. / San Michele Rd.	Moreno Valley
40	Perris Bl. / Nandina Ave.	Moreno Valley
41	Perris Bl. / Harley Knox Bl.	Perris
42	Perris Bl. / Ramona Expressway	Perris
43	Kitching St. / Cactus Ave.	Moreno Valley
44	Kitching St. / John F. Kennedy Dr.	Moreno Valley
45	Kitching St. / Iris Ave.	Moreno Valley
46	Lasselle St. / Iris Ave.	Moreno Valley

Source: *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015.

It is noted that the Study Area is expected to have different travel patterns for the near-term condition as compared to long-range conditions, due to changes to the roadway circulation network in the vicinity.[1] Specifically, Intersections 9, 16, 19, and 20 are future intersections, and as such, do not warrant analysis during near-term conditions. To this end, these intersections have only been included in the analysis of General Plan Buildout Conditions.

4.3.2.4 Roadway Segment Analysis Methodology

Roadway segment operations have been evaluated using the City of Moreno Valley Daily Roadway Capacity Values provided in the *City of Moreno Valley Transportation Engineering Division Traffic Impact Analysis (TIA) Preparation Guide* (dated August 2007). The daily roadway segment capacities for each type of roadway are summarized in Table 4.3-4.

[1] Please refer to TIA Exhibit 1-3.

Table 4.3-4
Roadway Segment Capacity LOS Thresholds

Facility Type	Level of Service Capacity				
	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

Source: *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015.

These roadway capacities are "rule of thumb" estimates for planning purposes and do not reflect 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 bicycle traffic. As such, where the roadway average daily trip (ADT) 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 intersection through lanes.

The roadway segments evaluated in this this analysis were selected based on a review of the key roadway segments to which the Project is anticipated to contribute 50 or more peak hour trips. A total of 146 existing/future roadway segments have been included within the analysis. The roadway segments are located on either side of the Study Area intersections listed previously at Table 4.3-3.

4.3.2.5 Freeway Ramp Progression Analysis Methodology

The Study Area includes segments of the I-215 Freeway north of Cactus Avenue to south of Cactus Avenue and SR-60 both west and east of Perris Boulevard; and also includes the freeway-to-arterial interchanges of the I-215 Freeway with the Cactus Avenue ramps and the Perris Avenue ramps. Consistent with Caltrans requirements,

the progression of vehicles has been assessed to determine potential queuing issues at the freeway ramp intersections on Cactus Avenue at the I-215 Freeway and Perris Boulevard/Sunnymead Boulevard at the SR-60. Specifically, the queuing analysis is utilized to identify any queue storage deficiencies, which could result in "spill back" onto the I-215 and SR-60 Freeway mainlines from the off-ramps and thereby affect freeway mainline traffic flows.

4.3.2.6 Freeway Mainline Segments and Merge/Diverge Ramp Junctions

Consistent with Caltrans traffic study guidelines, a TIA freeway mainline and merge/diverge ramp analyses should include those freeway segments where a project would contribute 50 or more two-way peak hour trips. The Project TIA notes that the Project is anticipated to add fewer than 25 two-way peak hour trips to the State Highway System. Notwithstanding, to ensure that all potentially significant impacts have been identified and addressed, focused analysis of freeway mainline and freeway merge/diverge ramp junctions at these locations were conducted for Existing and Existing + Project Conditions. Based on that analysis, it was determined that further analysis under Opening Year or General Plan Buildout Conditions was not required.

4.3.2.7 Jurisdictional Definitions for System Capacity

Definitions for system capacities established by the City of Moreno Valley and other potentially affected jurisdictions are presented below. For intersections and roadway segments outside of the City of Moreno Valley, this EIR evaluates the Project impact on the LOS conditions adopted by the agency with jurisdiction over the intersection or roadway segment.

City of Moreno Valley

LOS D is applicable to intersections and roadway segments that are adjacent to freeway on/off ramps and/or adjacent to employment-generating land uses. LOS C is applicable to all other intersections and roadway segments. Boundary intersections are assumed to be LOS D. Please refer also to TIA Exhibit 2-1.

To determine whether the addition of Project traffic at a Study Area intersection would result in a deficient intersection LOS condition, the City of Moreno Valley utilizes the following standards:

- A deficiency would occur at a Study Area intersection if the addition of Project trips causes the peak hour level of service of the Study Area intersection to change from acceptable "pre-project" LOS to unacceptable LOS.

- For Study Area intersections already operating at unacceptable LOS, a deficiency would occur if the Project adds 50 trips or more.

City of Perris

The definition of an intersection deficiency in the City of Perris is based on their General Plan Circulation Element. Intersections must maintain a LOS D along all City maintained roads (including intersections) and LOS D along I-215 and SR-74 (including intersections with local streets and roads). An exception to the local road standard is LOS E, at intersections of any Arterials and Expressways with SR-74, the Ramona-Cajalco Expressway or at I-215 freeway ramps.[2]

Caltrans

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

> The LOS for operating State highway facilities is based upon Measures of Effectiveness (MOE) identified in the Highway Capacity Manual (HCM). Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target

[2] Policy II.A, City of Perris General Plan.

LOS. If an existing State highway facility is operating at less than this target LOS, the existing MOE should be maintained.[3]

Within these analyses, LOS D is also considered to be the limit of acceptable traffic operations for Caltrans-maintained facilities. LOS E and LOS F conditions affecting Caltrans facilities are therefore considered deficient. Construction of improvements that may be necessary to maintain or achieve acceptable LOS D conditions for Caltrans facilities are beyond the control or purview of the Project Applicant or the Lead Agency. The Project Applicant would however pay all requisite fees in support of improvements necessary to maintain or achieve acceptable LOS D conditions for Caltrans facilities.

4.3.3 EXISTING CONDITIONS

4.3.3.1 Overview

The following discussions describe the existing Study Area circulation network within the context of the General Plan Circulation Elements of the Cities of Moreno Valley and Perris; and describe other transportation modes that exist within, or are available to, the Study Area.

4.3.3.2 Existing Roadway System

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

Regional Access

Interstate 215 (I-215) is the major regional route that would provide access to the Project site, and is located approximately three miles west of the Project. I-215 is currently a six-lane freeway in the Project vicinity, traveling through western Riverside County and

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

connecting the I-15 to the south to the High Desert communities located San Bernardino County to the north.

State Route 60 (SR-60) is a major regional route that would provide regional access to the Project site, and is located approximately four miles to the north. In the vicinity of the site, SR-60 is a six-lane (including two HOV lanes) freeway that provides access from eastern Los Angeles on the west to Interstate 10 on the east.

Local Access

Primary access to the Project will be provided via two driveways off Perris Boulevard. Gentian Avenue will provide truck and delivery access to the Walmart building. A driveway along Santiago Drive will provide access to the outpad parcel. Final designs and specifications for driveways, traffic controls, and internal circulation improvements will be incorporated into the Project, consistent with the requirements of the City's Engineering Department.

4.3.3.3 Alternative Transportation Modes

Bus Service

Bus transit services are currently provided to the Project area by the Riverside Transit Authority (RTA), a public transit agency serving the unincorporated Riverside County region and the City of Moreno Valley. RTA currently provides bus service along Cottonwood Avenue, Perris Boulevard, John F. Kennedy Drive, Lasselle Street and Krameria Avenue via Route 18. Route 19 provides service along Sunnymead Boulevard, Perris Boulevard, Iris Avenue, Lasselle Street and Krameria Avenue. RTA Route 20 serves Allesandro Boulevard, Iris Avenue, Kitching Street, Lasselle Street and Krameria Avenue. Existing Route 19 will directly serve the Project site and the Project will provide a bus turnout for a future stop along its Perris Boulevard frontage.

Pedestrian and Bicycle Facilities

Field observations conducted in May 2013 indicate nominal pedestrian and bicycle activity within the Study Area, which can be attributable to the limited residential and commercial

development in the vicinity. There are no proposed trails in the immediate vicinity of the Project site. The nearest existing trail is a regional multi-purpose trail located around Lake Perris. The following bikeways currently exist within the vicinity of the Study Area:

- A Class I bikeway facility currently exists along the California Aqueduct, running from the northwest portion of the Study Area to the southeast. Class I bikeways are dedicated trails, separated from vehicular traffic.

- Class II bikeway facilities currently exist along Alessandro Boulevard, west of Heacock Street, Indian Street from north of the Study Area to Iris Avenue, Iris Avenue from Indian Street to east of the Study Area, and Lasselle Street north of Iris Avenue. Class II bikeways are designated, striped bikeways generally located along the right shoulder of the roadway.

- Class III bikeway facilities currently exist along Cactus Avenue, Graham Street, Eucalyptus Avenue, Cottonwood Avenue, John F. Kennedy Drive, Iris Avenue west of Indian Street, Indian Street south of Iris Avenue, San Michele Road west of Indian Street, and Lasselle Street south of Iris Avenue. Class III routes are designated bikeways, although not striped, and are shared with vehicles.

4.3.3.4 Existing Traffic Volumes

Existing peak hour traffic volumes within the Study Area were determined by field traffic counts conducted May 2013 (while schools were in session). Weekday morning (AM) peak traffic conditions are represented by traffic counts conducted for the two-hour period between 7:00 and 9:00 a.m. Similarly, weekday evening (PM) peak hour traffic conditions are represented by traffic counts conducted for the two-hour period from 4:00 to 6:00 p.m. Saturday midday peak hour counts were conducted between 12:00 and 3:00 p.m. The TIA traffic count data is considered representative of typical peak hour traffic conditions in the Study Area.[4]

[4] Please refer to TIA Exhibits 3-11 through 3-13.

4.3.3.5 Intersection LOS Analysis, Existing Conditions

Table 4.3-5, following, summarizes existing intersection LOS deficiencies within the Study Area. All other Study Area intersections operate acceptably during the peak hour periods.[5]

Table 4.3-5
Intersection Deficiencies, Existing Conditions

ID #	Intersection Location	Traffic Control	Delay (in seconds)			LOS		
			AM	PM	SAT	AM	PM	SAT
3	Elsworth Street and Cactus Avenue	TS	**68.0**	**82.7**	40.0	**E**	**F**	D
27	SR-60 EB On-Ramps at Sunnymead Boulevard	CSS	34.1	**>100**	**>100**	D	**F**	**F**
44	Kitching Street and John F. Kennedy Drive	TS	**42.0**	26.4	22.9	**D**	C	C

Source: *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015.
Notes: **Bold, shaded text** indicates unacceptable levels of service.
TS = Traffic Signal; CSS = Cross-street stop; AWS = All-way stop

4.3.3.6 Roadway Segment Analysis, Existing Conditions

The City of Moreno Valley General Plan Circulation Element provides roadway volume capacity values that are employed at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet traffic demand. All but three of the Study Area roadway segments currently operate at acceptable LOS based on the City's planning level daily roadway capacity thresholds. Table 4.3-6, below, presents the three roadway segments that are currently calculated to operate at an unacceptable LOS based solely on daily roadway segment capacities; and without taking in to account factors noted previously such 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 bicycle traffic.

[5] For a complete listing of all Study Area intersections, see TIA Table 3-1.

Table 4.3-6
Roadway Segment Deficiencies, Existing Conditions

#	Roadway	Segment Limits	Roadway Section	LOS Capacity	Existing (2013)	V/C	LOS	Acceptable LOS
19	Cactus Avenue	East of I-215 NB Ramps	4D	37,500	34,644	0.92	E	D
20	Cactus Avenue	West of Elsworth Street	4D	37,500	34,092	0.91	E	D
90	Heacock Street	South of Gentian Avenue	2U	12,500	12,192	0.98	E	D

Source: *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015, Table 3-2.

4.3.3.7 Freeway Ramp Progression Analysis, Existing Conditions

In order to assess vehicle queues for the ramps that may potentially impact peak hour operations at the ramp-to-arterial intersections, a queue length analysis was performed. Under Existing Conditions, all Study Area freeway ramp queue lengths analyzed would perform acceptably.

4.3.3.8 Mainline Freeway Segment Analysis, Existing Conditions

Existing mainline freeway segment directional volumes for all peak hour periods were analyzed. All Study Area freeway segments analyzed were found to operate acceptably during peak hour periods.

4.3.3.9 Freeway Merge/Diverge Analysis, Existing Conditions

Freeway ramp merge and diverge operations were also evaluated for Existing Conditions under all peak hour periods. All merge and diverge areas within the Study Area currently operate acceptably.

4.3.4 FUTURE TRAFFIC VOLUMES

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

4.3.4.1 Project Trip Generation

Determining traffic generation for a specific project is based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development.

The trip generation rates used in this analysis were obtained from Institute of Transportation Engineers (ITE) *Trip Generation Manual* (9th Edition, 2012). Specific ITE land use categories and trip generates employed were:

- Free-Standing Discount Superstore (ITE Land Use Code 813) - the proposed Walmart Store; and
- Gas/Market/Car Wash (ITE Land Use Code 946)

Gross Project trip generation was then adjusted to account for pass-by trips and internal trip capture.[6]

Pass-By Trips

Pass-by trips are defined as intermediate stops on the way from an origin to a primary trip destination without a route diversion. Pass-by trips are attracted from traffic passing the site on an adjacent street or roadway that offers direct access to the generator. These types of trips are often associated with retail uses such as gas stations, convenience stores, and drive-through restaurants.

The Project would include a gas station with convenience store and a car wash component, and certain trips attracted to the site would therefore be considered pass-by trips. Pass-by trip percentages employed in this analysis were obtained from Tables 5.29 and 5.30 of the *ITE Trip Generation Handbook* (2nd Edition, 2004) for the Shopping Center land use.

As specified by the *ITE Trip Generation Handbook*, a 62 percent pass-by reduction could be applied to the Gas/Convenience/Car Wash trip generation for the weekday morning and 56 percent pass-by reduction for has been taken for weekday evening, weekday daily, and Saturday mid-day peak hour periods. No pass-by trip reduction is taken for the Walmart or adjacent specialty stores.

[6] Please refer to TIA Tables 4-1 and 4-2.

Internal Trip Capture

Internal trip capture accounts for trips made between on-site uses and can be made either by walking or using internal roadways without using external streets. As the trip generation for the site was conservatively estimated based on individual land uses as opposed to the overall ITE Shopping Center rate, an internal capture reduction of ten percent was applied to recognize the interactions that would occur between the various complementary land uses. For example, patrons of the free-standing discount superstore may also visit the Gas/Convenience/Car Wash without leaving the site. These vehicle trips that are internal to the site are reflected in the ten percent internal trip capture rate noted above.

Table 7.1 of the *ITE Trip Generation Handbook* indicates that the internal capture percentage between retail-to-retail land uses is approximately 29 percent during the weekday mid-day peak hour and approximately 20 percent during the weekday PM peak hour. The ten percent internal capture reduction that was utilized in this analysis is therefore considered a conservative underestimation of internal trip capture that would be realized under the Project. The internal trip capture rate employed in this analysis has been reviewed and approved by City Staff.

Net Project-Related Trips

Based on the Project's ITE trip generation rates, and adjustments for pass-by-trips and internal trip capture, the Project would generate approximately 9,625 net new weekday trips. During the morning peak period (7:00 to 9:00 a.m.), 388 trips (218 inbound and 170 outbound) would be generated; and during the evening peak period (4:00 to 6:00 p.m.), 834 trips (411 inbound and 423 outbound) would be generated.

Saturday peak hour and daily trip generation rates have also been estimated. During the Saturday midday peak period (11:30 a.m. to 1:30 p.m.), 1,086 trips (543 inbound and 543 outbound) would be generated.

It is noted that while alternative travel modes (e.g., public transit, walking, or bicycling) may diminish the Project's forecasted traffic volumes, the traffic-reducing potentials of

alternative travel modes were not considered in the Project trip generation estimates. Project traffic volumes considered in this analysis therefore represent the likely maximum traffic generation and traffic impact condition.

4.3.4.2 Project Trip Distribution

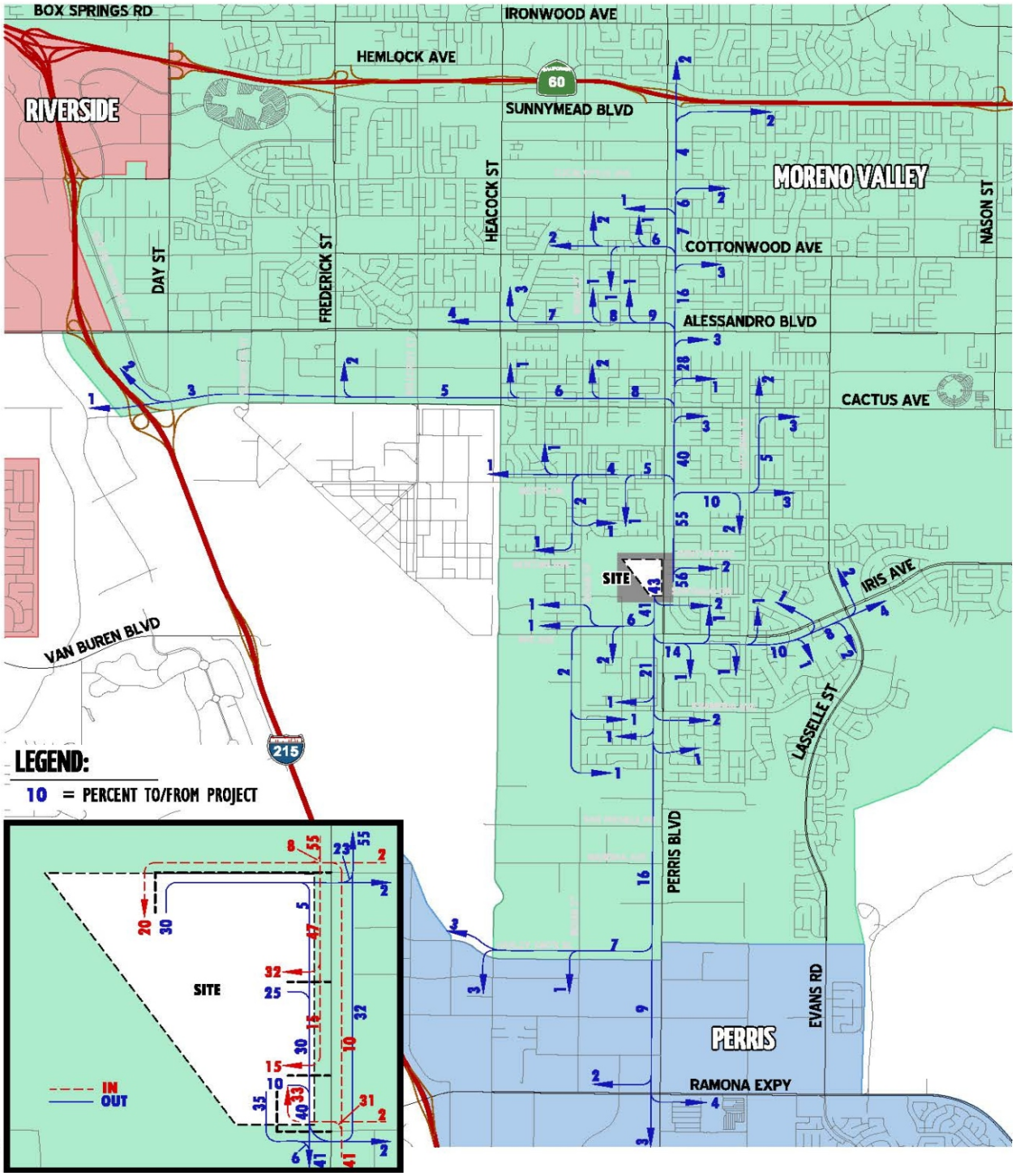
The trip distribution process establishes the directional orientation of traffic approaching and departing the site. Trip distribution is influenced by the location of the site in relation to nearby residential, employment and recreational opportunities, and proximity to the regional freeway system. Based on the trip distribution patterns, peak hour trips were assigned at Study Area intersections. Project trip distribution is illustrated at Figure 4.3-2.[7]

Traffic Growth

Opening Year Traffic Conditions

Future year traffic forecasts have been based upon five years of background (ambient) growth at 2% per year for 2018 traffic conditions. The ambient growth factor is intended to approximate regional traffic growth. The total ambient growth is 10.4% for 2018 traffic conditions (compounded growth of two percent per year over five years). This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies.

[7] As noted previously, travel patterns (and therefore trip distribution) will differ slightly under General Plan Buildout Conditions. Please refer to TIA Exhibit 4-2.



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Source: Urban Crossroads

Figure 4.3-2
Project Trip Distribution

Riverside County Center for Demographic Research (RCCDR) information employed in completing the Western Riverside Council of Governments (WRCOG) TUMF Nexus Study – 2009 Program Update indicates that the population of Western Riverside County is projected to increase by 62% in the period between 2007 and 2035; a compounded rate of approximately 1.73% annually. During the same period, employment in Western Riverside County is expected to increase by 111% or 2.71% compounded annually. Therefore, the use of an annual growth rate of 2% would appear to conservatively approximate the anticipated regional growth in traffic volumes in the City of Moreno Valley.

The assumed 2% annual background growth rate reflected in the TIA does not include traffic generated by the Project or traffic generated by other known or probable development ("cumulative projects") identified in the TIA. The TIA in essence double-counts this traffic as it is already reflected in the aforementioned SCAG growth estimates. The TIA's assumed ambient traffic growth rate of 2% would therefore tend to overstate rather than understate potential cumulative traffic impacts. Ambient background traffic growth was then added to daily and peak hour traffic volumes on Study Area roadways *in addition* to traffic generated by the development of cumulative projects that have been approved but not yet constructed, and/or for which development applications have been filed and are under consideration by governing agencies. Only certain of the identified cumulative projects have been approved by the applicable governing agency, and not all of these would be completed prior to the Project's anticipated opening in 2018. Nonetheless, the TIA conservatively assumes that all cumulative projects would be complete, fully occupied, and generating traffic by the Project Opening Year. Please refer to TIA Table 4-3 for a complete listing of all cumulative development considered within the analysis.

Based on the preceding, the growth in traffic and total traffic volumes reflected in the Opening Year Conditions analysis would tend to overstate the significance of potential cumulative traffic impacts affecting the area circulation system.

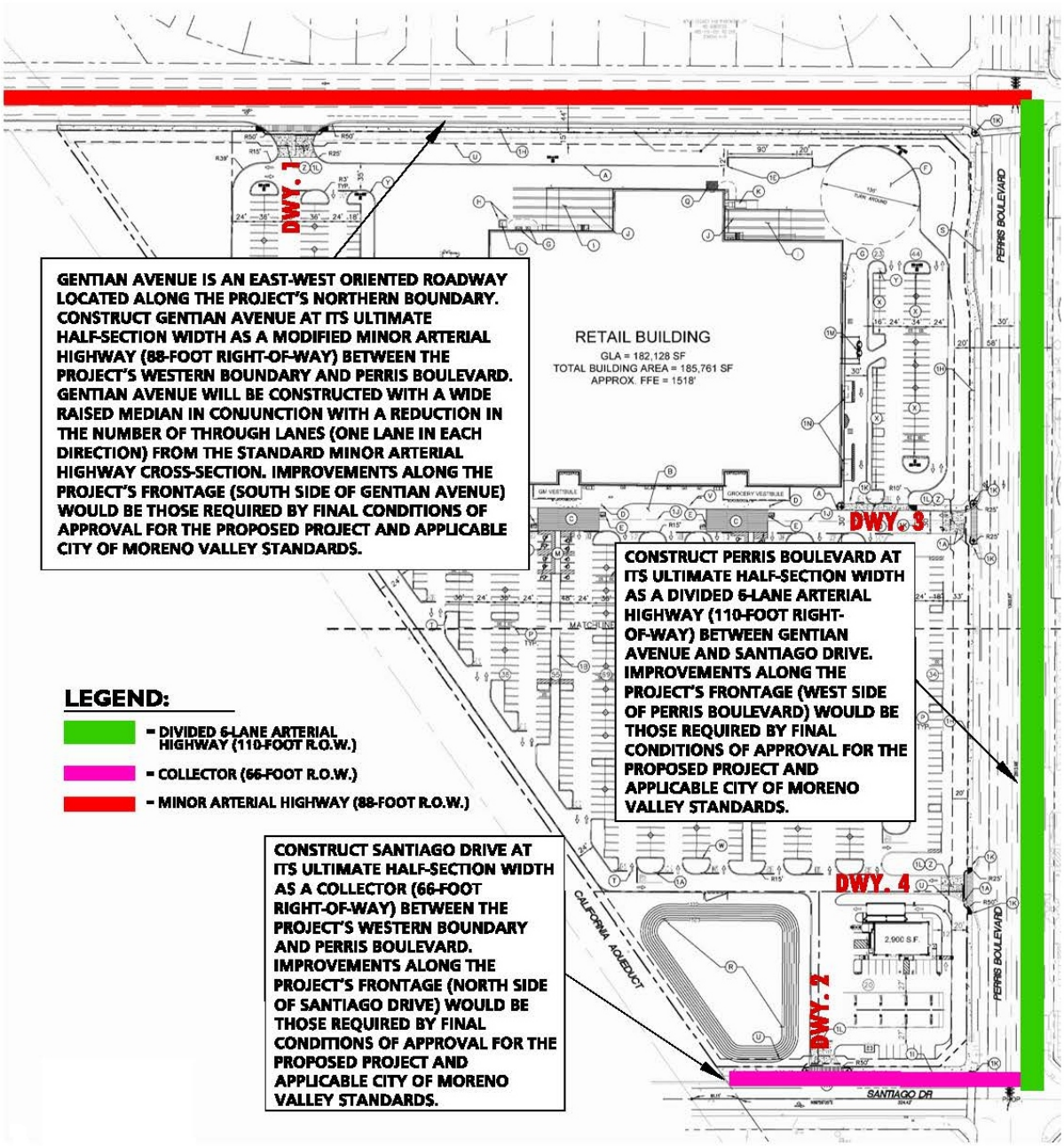
General Plan Buildout Traffic Conditions

General Plan Buildout traffic conditions represent comprehensive and full development of the City pursuant to the City General Plan. In consultation with the Lead Agency, the Project TIA employed the Riverside Traffic Analysis Model (RivTam) to develop future General Plan Buildout traffic conditions. Please refer to TIA Section 4.10 "General Plan Buildout (Post-2035) Conditions," for further details regarding application of RivTam in the TIA projection of General Plan Buildout Traffic Conditions.

4.3.5 PROJECT IMPROVEMENTS

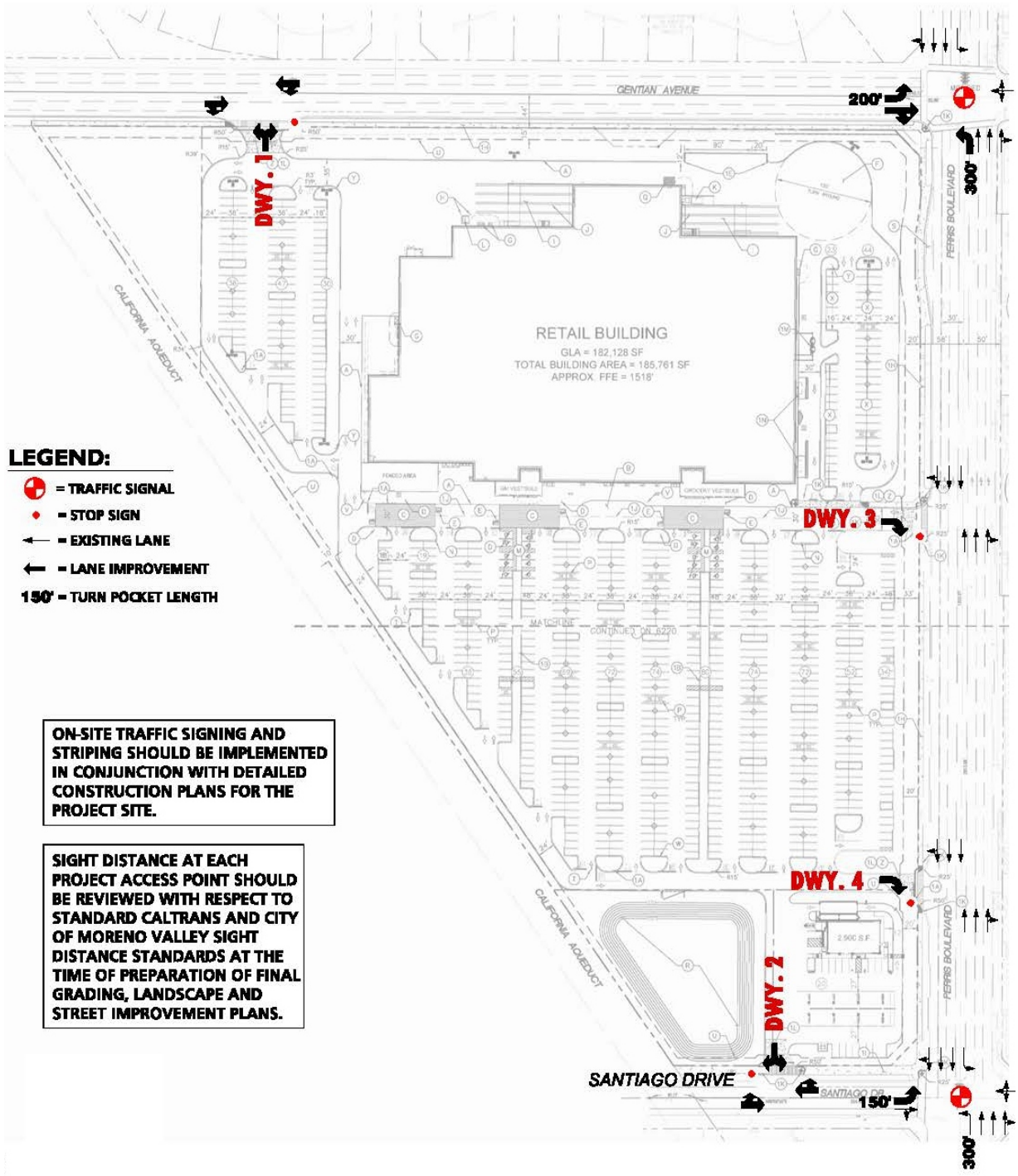
As discussed in EIR Section 3.0, *Project Description*, Project implementation would involve the construction of a number of roadway and intersection improvements occurring on or adjacent to the Project site. Under Existing + Project Conditions analyzed in this Section, these improvements would act to avoid or preclude potentially significant impacts to the circulation system in the immediate vicinity of the Project site. These same improvements would, under Opening Year and General Plan Buildout Conditions, act to incrementally reduce localized circulation system cumulative impacts. Improvements that would be constructed by the Project are illustrated at Figures 4.3-3 and 4.3-4, and are described below.

Gentian Avenue is an east-west oriented roadway located along the Project's northern boundary. Gentian Avenue will be constructed at its ultimate half-section width as a modified Minor Arterial Highway (88-foot right-of-way) between the Project's western boundary and Perris Boulevard. Gentian Avenue will be constructed with a wide raised median in conjunction with a reduction in the number of through lanes (one lane in each direction) from the standard Minor Arterial Highway cross-section. Improvements along the Project's frontage (south side of Gentian Avenue) would be those required by final conditions of approval for the proposed Project and applicable City of Moreno Valley standards.



Source: Urban Crossroads

Figure 4.3-3
Adjacent Roadway Recommendations



Source: Urban Crossroads

Figure 4.3-4
On-Site Circulation Recommendations

Perris Boulevard is a north-south oriented roadway located along the Project's eastern boundary. Perris Boulevard would be constructed at its ultimate half-section width as a Divided Six-Lane Arterial Highway (110-foot right-of-way) between Gentian Avenue and Santiago Drive. Improvements along the Project's frontage (west side of Perris Boulevard) would be those required by final conditions of approval for the proposed Project and applicable City of Moreno Valley standards.

Santiago Drive is an east-west oriented roadway located along the Project's southern boundary. Santiago Drive would be constructed at its ultimate half-section width as a Collector (66-foot right-of-way) between the Project's western boundary and Perris Boulevard. Improvements along the Project's frontage (north side of Santiago Drive) would be those required by final conditions of approval for the proposed Project and applicable City of Moreno Valley standards.

Intersection Improvements

In order to ensure safe and efficient traffic movements, the Project includes the installation of traffic signals/new signal heads at the following intersections:

- Perris Boulevard and Santiago Drive – new signal (Intersection 36) and;
- Perris Boulevard and Gentian Avenue – new signal heads on the eastbound approach (Intersection 33).

The improvements listed above have been designed consistent with current street section and right-of-way standard concepts presented in the City's General Plan Circulation Element. Actual improvements to be constructed within the public right-of-way would be subject to final conditions of approval for the Project, pursuant to all incumbent City traffic engineering and safety standards.

4.3.6 STANDARDS OF SIGNIFICANCE

Consistent with the standards of significance outlined in the *CEQA Guidelines*, traffic and circulation impacts would be considered potentially significant if the Project would:

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

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

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;

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

- Result in inadequate emergency access; or

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

4.3.7 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.3.7.1 Introduction

The following discussions focus on topical issues where it has been determined that the Project may result in potentially significant traffic and circulation impacts, pursuant to comments received through the NOP process, and based on the analysis presented within this Section and included within the EIR Initial Study. Of the CEQA threshold considerations identified above at Section 4.3.6, and as substantiated in the Initial Study (EIR Appendix A), the Project's potential impacts under the following topics are determined to be less-than-significant, and are not further substantively discussed here:

- 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; and

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

All other CEQA topics concerning the Project's potential traffic/transportation impacts are discussed below. Please also refer to Initial Study Checklist Item XVI., "Transportation/Traffic."

4.3.7.2 Impact Considerations

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

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

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

Under the CEQA topic: "Conflict with an applicable congestion management program [CMP] but not limited to a level of service standards and travel demand measures. . ." CMP facilities within the Study Area are identified, and potentially significant Project impacts affecting these facilities are summarized. Interstate 215 (I-215) and SR-60 facilities within the Study Area are designated CMP components. Project impacts to these facilities are coincident with analyses of Intersection LOS; Freeway Ramp Progression; Mainline Freeway Segment performance; and Freeway Merge/Diverge operations noted above.

Under the CEQA topics: "Substantially increase hazards to a design feature . . ." and "Result in inadequate emergency access . . ." the analysis presented summarizes Project design and operational concepts that act to avoid hazardous conditions and ensure adequate emergency access.

4.3.7.3 Mitigation Considerations

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

Site-Adjacent Improvements Constructed as Part of the Project

The Project would construct improvements necessary to ensure safe and efficient access and operating conditions along roadways and at intersections adjacent to the Project site. These improvements include:

Gentian Avenue / Driveway 1

- Install a stop control on the northbound approach and construct the intersection with the following geometrics:
  - Northbound Approach: One shared left-right turn lane.
  - Southbound Approach: N/A
  - Eastbound Approach: One shared through-right turn lane.
  - Westbound Approach: One shared left-through lane.

Santiago Drive / Driveway 2

- Install a stop control on the southbound approach and construct the intersection with the following geometrics:
  - Northbound Approach: N/A
  - Southbound Approach: One shared left-right turn lane.
  - Eastbound Approach: One shared left-through lane.
  - Westbound Approach: One shared through-right turn lane.

Perris Boulevard / Gentian Avenue

- Maintain the existing traffic signal; however, install signal heads for the eastbound approach, and construct the intersection with the following geometrics:
  - Northbound Approach: One left turn lane (to provide a minimum of 300-feet of storage), two through lanes and one shared through-right turn lane.
  - Southbound Approach: One southbound left turn lane, two through lanes and one shared through-right turn lane.
  - Eastbound Approach: One left turn lane (to provide a minimum of 200-feet of storage) and a shared through-right turn lane.
  - Westbound Approach: One shared left-through-right turn lane.

Perris Boulevard / Driveway 3

- Install a stop control on the eastbound approach and construct the intersection with the following geometrics:
  - Northbound Approach: Three through lanes.

- Southbound Approach: Two through lanes and one shared through-right turn lane.
- Eastbound Approach: One right turn lane.
- Westbound Approach: N/A

Perris Boulevard / Driveway 4

- Install a stop control on the eastbound approach and construct the intersection with the following geometrics:
  - Northbound Approach: Three through lanes.
  - Southbound Approach: Two through lanes and one shared through-right turn lane.
  - Eastbound Approach: One right turn lane.
  - Westbound Approach: N/A

Perris Boulevard / Santiago Drive

- Install a traffic signal and construct the intersection with the following geometrics:
  - Northbound Approach: One left turn lane (to provide a minimum of 300-feet of storage), two through lanes and one shared through-right turn lane.
  - Southbound Approach: One left turn lane, two through lanes and one shared through-right turn lane.
  - Eastbound Approach: One left turn lane (to provide a minimum of 150-feet of storage) and a shared through-right turn lane.
  - Westbound Approach: One shared left-through-right turn lane.

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

The Project would also pay all requisite fees directed to the completion of other necessary Study Area traffic improvements at locations where Project traffic would contribute to existing or projected circulation system deficiencies. Required Study Area improvements and associated fee payments are identified for each of the analysis

timeframes (Existing, Opening Year, General Plan Buildout); fees would, however, be assessed and collected in total prior to Project implementation or as otherwise stipulated by the Lead Agency.

Improvements under each of the analysis scenarios (Existing, Opening Year, and General Plan Buildout) tier off the preceding scenario(s). For example, Opening Year improvements reflect improvements required under Existing Conditions, plus any additional improvements addressing increased traffic demands under Opening Year Conditions; General Plan Buildout improvements reflect improvements required under Existing and Opening Year Conditions, plus any additional improvements required to address increased traffic demands under General Plan Buildout Conditions. This structure provides the Lead Agency with an estimated scope of required improvements and an approximate timeframe for their implementation. The final configuration and timing for implementation of improvements identified herein is, however, subject to priorities of the City and other affected jurisdictions.

Fee assessment mechanisms and fee programs applicable to the Project would include: "Fair Share" Fees, Riverside County Transportation Uniform Mitigation Fee (TUMF) Program and the City of Moreno Valley Development Impact Fee (DIF) Program. Notwithstanding the Project's full compliance with fee assessments and fee programs noted above, Project payment of fees would not ensure timely completion of required improvements. Within these discussions, potentially significant impacts that are addressed through Project fee payments are considered to remain significant and unavoidable pending completion of the required improvements. Traffic/transportation fees that would be assessed of the Project along with a description of fee programs assessment and fee assignment mechanisms are summarized below.

Fair Share Fees

The Project TIA identifies the recommended improvements for each potentially impacted intersection or freeway facility within the Study Area, and compares these with improvements already identified and included in other established fee programs (i.e. TUMF, City of Moreno Valley DIF). If an impacted facility requires improvements

other than, or in addition to, those already identified within a regional or local fee program, the Project would contribute a "fair-share" percentage toward the costs of the recommended improvements. Fair share fees assessed of the Project in this manner would be collected by the City and deposited to a dedicated Capital Improvement Project account, created for the express purpose of constructing the required improvements.

Providing context for and summarizing traffic volumes generated by the Project, Table 4.3-7 identifies Project fair share traffic volumes as a percentage of new traffic volumes that would be generated between Existing and General Plan Buildout Conditions. The Project fair share traffic volumes also provide an indication of the relative effects of the Project in the context of traffic that would be generated by other existing uses and anticipated development. The Project's greatest traffic volume contributions (indicated in **bold**) represent the Project's proportional impacts at affected intersections and would be the basis for fee assessments in instances where the costs of intersection improvements are not otherwise funded through Project payment of DIF, TUMF, or other fee assessment mechanisms. Please refer also to TIA Table 1-2, *Summary of Transportation Impact Fee Program Improvements for General Plan Buildout (Post-2035) Conditions*.

Table 4.3-7
Project Fair Share Traffic Volumes

ID #	Intersection	Existing	Project	2035 WP	Total New Traffic	Project % of New Traffic[1]
3	Elsworth St / Cactus Av					
	AM:	3,464	12	6,079	2,615	0.5%
	PM:	3,317	25	6,480	3,163	0.8%
	Saturday:	2,167	32	4,432	2,265	**1.4%**
4	Frederick St / Cactus Av					
	AM:	2,503	19	5,314	2,811	0.7%
	PM:	2,826	41	5,977	3,151	1.3%
	Saturday:	2,052	54	4,464	2,412	**2.2%**
5	Graham St / Cactus Av					
	AM:	2,768	20	5,996	3,228	0.6%
	PM:	3,039	42	7,253	4,214	1.0%
	Saturday:	2,244	54	5,513	3,269	**1.7%**
6	Heacock St / Alessandro Bl					
	AM:	2,721	26	4,913	2,192	1.2%
	PM:	3,365	57	6,225	2,860	2.0%
	Saturday:	2,862	76	5,959	3,097	**2.5%**
7	Heacock St / Cactus Av					
	AM:	2,867	43	5,837	2,970	1.4%
	PM:	3,016	91	6,653	3,637	2.5%

Table 4.3-7
Project Fair Share Traffic Volumes

ID #	Intersection	Existing	Project	2035 WP	Total New Traffic	Project % of New Traffic[1]
	Saturday:	2,322	118	6,014	3,692	**3.2%**
12	Indian St / Alessandro Bl					
	AM:	2,157	34	4,453	2,296	1.5%
	PM:	2,808	74	6,020	3,212	2.3%
	Saturday:	2,434	98	5,802	3,368	**2.9%**
13	Indian St / Cactus Av					
	AM:	1,925	66	4,347	2,422	2.7%
	PM:	2,166	142	5,390	3,224	4.4%
	Saturday:	1,551	186	4,516	2,965	**6.3%**
18	Indian St / Krameria Av					
	AM:	669	31	2,375	1,706	1.8%
	PM:	378	67	2,869	2,491	2.7%
	Saturday:	294	86	2,231	1,937	**4.4%**
19	Indian St / San Michele Rd					
	AM:	210	23	4,480	4,270	0.5%
	PM:	193	50	5,370	5,177	1.0%
	Saturday:	166	64	4,143	3,977	**1.6%**
20	Indian St / Nandina Av					
	AM:	409	19	4,160	3,751	0.5%
	PM:	424	42	5,451	5,027	0.8%
	Saturday:	313	54	4,470	4,157	**1.3%**
21	Indian St / Harley Knox Bl					
	AM:	980	27	6,249	5,269	0.5%
	PM:	1,074	58	7,859	6,785	0.9%
	Saturday:	540	76	5,618	5,078	**1.5%**
26	Perris Bl / Sunnymead Bl					
	AM:	3,135	15	6,086	2,951	0.5%
	PM:	4,113	32	7,109	2,996	1.1%
	Saturday:	4,168	44	7,855	3,687	**1.2%**
30	Perris Bl / Alessandro Bl					
	AM:	2,657	43	6,044	3,387	1.3%
	PM:	3,177	91	7,572	4,395	2.1%
	Saturday:	2,996	118	7,307	4,311	**2.7%**
31	Perris Bl / Cactus Av					
	AM:	2,443	50	6,307	3,864	1.3%
	PM:	2,599	108	7,180	4,581	2.4%
	Saturday:	2,305	140	6,629	4,324	**3.2%**
37	Perris Bl / Iris Av					
	AM:	2,471	119	5,653	3,182	3.7%
	PM:	2,372	258	6,734	4,362	5.9%
	Saturday:	2,370	338	7,491	5,121	**6.6%**
39	Perris Bl / San Michele Rd					
	AM:	1,533	43	4,373	2,840	1.5%
	PM:	1,432	91	5,141	3,709	2.5%
	Saturday:	1,151	118	4,087	2,936	**4.0%**
40	Perris Bl / Nandina Av					
	AM:	1,460	39	4,533	3,073	1.3%
	PM:	1,362	83	5,703	4,341	1.9%
	Saturday:	1,084	108	3,976	2,892	**3.7%**
41	Perris Bl / Harley Knox Bl					
	AM:	1,478	34	4,646	3,168	1.1%
	PM:	1,511	76	5,524	4,013	1.9%
	Saturday:	1,080	98	3,521	2,441	**4.0%**
42	Perris Bl / Ramona Expressway					
	AM:	3,011	27	6,497	3,486	0.8%
	PM:	3,398	57	6,819	3,421	1.7%
	Saturday:	3,138	76	5,963	2,825	**2.7%**
45	Kitching St / Iris Av					
	AM:	2,013	43	4,884	2,871	1.5%

Table 4.3-7
Project Fair Share Traffic Volumes

ID #	Intersection	Existing	Project	2035 WP	Total New Traffic	Project % of New Traffic[1]
	PM:	2,073	91	5,710	3,637	2.5%
	Saturday:	1,834	118	4,938	3,104	**3.8%**
46	Lasselle St / Iris Av					
	AM:	2,996	27	6,313	3,317	0.8%
	PM:	3,354	57	7,179	3,825	1.5%
	Saturday:	2,246	76	5,465	3,219	**2.4%**

Source: *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015.
[1] Project percentage of new traffic between Existing (2013) and Horizon Year (2035) traffic conditions.
BOLD = Greater of the peak hours.

Riverside County Transportation Uniform Mitigation Fee (TUMF) Program

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

TUMF assessments are imposed on new residential, industrial, and commercial development through application of the TUMF Ordinance, and assessed fees are collected at the building or occupancy permit stage. As of May 2014, the TUMF assessment for new retail/commercial development, such as the proposed South Moreno Valley Walmart Project, is $10.49 per square foot of gross floor area (GFA).[8] At the May 2014 TUMF assessment rates, TUMF paid for the approximately 192,420-square-foot Project would total an estimated $2 million. TUMF assessments are adjusted on a regular basis to ensure that fees collected keep pace with inflation, and local construction and labor costs. The Project Applicant would pay requisite TUMF assessments at the prevailing rate in effect pursuant to the TUMF Ordinance.

[8] TUMF WRCOG. Fee Calculation. *Current TUMF Fee Schedule.* Web. May 28, 2014. http://www.wrcog.cog.ca.us/uploads/media_items/april-2013-current-fee-schedule.original.pdf

Study Area facilities programmed for improvements through the TUMF Program are listed in TIA Table 9-1, "Summary of Transportation Impact Fee Program Improvements for General Plan Buildout (Post-2035) Conditions."

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

City of Moreno Valley Development Impact Fee (DIF) Program

The City of Moreno Valley has created its own local Development Impact Fee (DIF) program to impose and collect fees from new residential, commercial and industrial development for the purpose of funding roadways and intersections necessary to accommodate City growth as identified in the City's General Plan Circulation Element. The City's DIF program includes facilities that are not part of, or which may exceed improvements identified and covered by, the TUMF program. As a result, the pairing of the regional and local fee programs provides a more comprehensive funding and implementation plan to ensure an adequate and interconnected transportation system. Under the City's DIF program, the City may grant developers a credit against specific components of fees when those developers construct certain facilities identified in the list of improvements funded by the DIF program.[9]

The timing to use the DIF monies is established through periodic capital improvement programs which are overseen by the City's Public Works Department. Periodic traffic counts, review of traffic accidents, and a review of traffic trends throughout the City are

[9] Please refer to TIA Table 9-1.

also periodically performed by City staff and consultants. The City uses this data to determine the timing of implementing the improvements listed in its facilities list.

Some of the facilities forecasted to be impacted by the Project are planned for improvements through the City's DIF Program. The Project Applicant will be subject to the City's DIF program, and will pay the requisite City DIF at the rates then in effect pursuant to the City's ordinance.

4.3.7.4 Impact Statements

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

Impact Analysis:

Overview

The following discussions summarize traffic conditions within the Study Area reflecting implementation of the Project under Existing Conditions, as well as the anticipated Opening Year, and General Plan Buildout scenarios. For each of the considered scenarios, potentially significant traffic impacts (deficient conditions) are identified. Less-than-significant impacts are noted, and mitigation measures are proposed for those impacts determined to be potentially significant. It is noted that, to ensure their timely and monitored completion, the improvements proposed as part of the Project are presented as mitigation within the following analysis.

EXISTING + PROJECT TRAFFIC ANALYSIS

The Existing + Project analysis scenario provides an indication of the incremental effects of the Project without the addition of assumed future cumulative traffic growth reflected under the Opening Year and General Plan Buildout Year analysis scenarios. In

this manner, instances where Project traffic alone would cause or result in new potentially significant impacts can be identified. Related, the Existing + Project analysis indicates effects of cumulative traffic growth under Opening Year and General Plan Buildout Year analysis scenarios, not attributable to the Project.

The Existing + Project analysis also identifies currently deficient LOS conditions to which the Project would contribute additional traffic. Improvements that would resolve these pre-existing deficiencies are identified. Project driveways and those facilities to be constructed by the Project providing site access are assumed to be in place (e.g., intersection turn lane improvements at Project driveways).

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

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

Intersection LOS Analysis, Existing + Project Conditions

Intersections with identified deficiencies under Existing or Existing + Project Conditions are presented in Table 4.3-8. Where the Project would result in or cause potentially significant LOS impacts (deficiencies), applicable deficiency criteria are noted, and citation to improvements recommended to mitigate potentially significant Project-related impacts is provided.

Table 4.3-8
Existing and Existing + Project Peak Hour Intersection Deficiencies

ID #	Intersection Location	Traffic Control	Existing without Project LOS (Delay in Seconds)			Existing + Project LOS (Delay in Seconds)			Jurisdiction/ LOS Standard	Mitigation Measures
			Weekday		SAT	Weekday		SAT		
			AM	PM		AM	PM			
3	Elsworth St./Cactus Ave.	TS	**E (68.0)**	**F (82.7)**	D	**E (69.1)**	**F (84.7)**	D	City of Moreno Valley/ LOS "D"	N/A
27	SR-60 EB On-Ramp/ Sunnymead Blvd.	CSS	D	**F (>100)**	**F (>100)**	D	**F (>100)**	**F (>100)**	Caltrans/ LOS "D"	N/A
36	Perris Blvd./ Santiago Dr.	CSS	C	D	C	D	**F (>100)**	**F (>100)**	City of Moreno Valley/ LOS "D"	4.3.1
44	Kitching St./ John F. Kennedy Dr.	TS	**D (42.0)**	C	C	**D (43.2)**	C	C	City of Moreno Valley/ LOS "C"	4.3.2

Source: *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015.

Notes: **Bold, shaded text** indicates unacceptable levels of service.
TS = Traffic Signal; CSS = Cross-street stop; AWS = All-way stop.

Level of Significance: Potentially Significant. Of the intersections listed at Table 4.3-8, under Existing + Project Conditions, Project traffic would result in potentially significant impacts at the following Study Area Intersections:

- Intersection 36, Perris Boulevard at Santiago Drive; and
- Intersection 44, Kitching Street at John F. Kennedy Drive.

Impacts at the remaining two intersections (Study Area Intersections No. 3 and No. 27) are considered less-than-significant because, although the intersections are currently operating unacceptably and are anticipated to continue to operate unacceptably with the addition of Project traffic, the Project would not contribute more than 50 peak hour trips to these intersections. Based on the previously stated significance threshold for intersections already operating at LOS "E" or LOS "F" under pre-Project conditions, impacts at Study Area Intersections No. 3 and No. 27 are considered less-than-significant.

Mitigation Measures:

4.3.1 *Prior to the issuance of occupancy permits, the Project Applicant shall install the following improvements at the intersection of Perris Boulevard/Santiago Drive (Study Area Intersection 36):*

- *Install a traffic signal.*
- *Construct an eastbound left turn lane.*

4.3.2 *Prior to the issuance of occupancy permits, the Project Applicant shall install the following improvement at the intersection of Kitching Street/ John F. Kennedy Drive (Study Area Intersection 44):*

- *Construct a northbound left turn lane.*

Level of Significance After Mitigation: Table 4.3-9 presents a comparison of Existing + Project Conditions, without and with the recommended improvements required by Mitigation Measures 4.3.1 and 4.3.2.

Table 4.3-9
Summary of Existing + Project Intersection Conditions
Without and With Recommended Improvements

ID #	Intersection	Traffic Control	Level of Service (Delay) Seconds		
			AM	PM	SAT
36	**Perris Boulevard/ Santiago Drive**				
	Without Improvements	CSS	D (27.7)	**F (>100)**	**F (>100)**
	With Improvements	TS	D (39.9)	D (39.3)	D (41.5)
44	**Kitching Street/John F. Kennedy Drive**				
	Without Improvements	TS	**D (43.2)**	C (27.5)	C (23.5)
	With Improvements	TS	C (33.5)	C (24.9)	C (22.3)

Source: *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015.
Notes: **Bold, shaded text** indicates unacceptable levels of service.
TS = Traffic Signal; CSS = Cross-street stop; AWS = All-way stop.

As indicated at Table 4.3-9, completion of the recommended improvements would achieve acceptable LOS at Study Area Intersections 36 and 44 under Existing + Project Conditions. It is noted that the site-adjacent improvements required at Intersection 36 are currently proposed as part of the Project. Mitigation Measure 4.3.1 has been included within this analysis to ensure the monitored completion of the Project improvement. Impacts at this intersection are considered less-than-significant. Pursuant to Mitigation Measure 4.3.2, the Project would also construct required improvements at Intersection 44, reducing traffic impacts under Existing + Project Conditions to levels that are less-than-significant.

Roadway Segment Analysis, Existing + Project Conditions

Based solely on calculated lane capacities, the roadway segments listed at Table 4.3-10 would be considered to operate at deficient LOS under Existing + Project Conditions *in addition* to those previously identified under Existing Conditions.[10]

Table 4.3-10
Roadway Segment Deficiencies, Existing + Project Conditions

#	Roadway	Segment Limits	Roadway Section	LOS Capacity	Existing + Project	V/C	LOS	Acceptable LOS
135	Perris Boulevard	North of Harley Knox Boulevard	2D	18,750	18,064	0.96	E	D

Source: *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015.

Notwithstanding the above-noted calculated roadway segment deficiency (based solely on lane capacities), the practical and functional operation of this roadway segment is controlled by the intersections that are located along its length; in this case the intersections of Harley Knox Boulevard at Perris Boulevard, and intersections continuing northerly along Perris Boulevard.

In this latter regard, the peak hour intersection LOS analysis indicates that the adjacent Study Area intersections along Study Area roadway segment #135 (Perris Boulevard, north of Harley Knox Boulevard) are anticipated to operate at acceptable LOS, as would the intervening roadway segment(s). On this basis, Project traffic would not adversely affect Study Area roadway segment #135 (Perris Boulevard, north of Harley Knox Boulevard) under Existing + Project Conditions; and the Project's impacts are considered less-than-significant.

Level of Significance: Less-Than-Significant.

[10] Please refer to TIA Tables 3-2 and 5-2.

Freeway Ramp Progression Analysis, Existing + Project Conditions

Freeway ramp operations were evaluated for all peak hour periods under Existing + Project Conditions. All Study Area freeway ramps would experience acceptable queue lengths under Existing + Project Conditions.

Mainline Freeway Segment Analysis, Existing + Project Conditions

Mainline freeway segment directional volumes for all peak hour periods were analyzed for Existing + Project Conditions. All Study Area freeway segments would operate acceptably under Existing + Project Conditions.

Freeway Merge/Diverge Analysis, Existing + Project Conditions

Freeway ramp merge and diverge operations were also evaluated for Existing + Project Conditions under all peak hour periods. All Study Area merge and diverge areas would operate at acceptable LOS under Existing + Project Conditions.

Level of Significance: Less-Than-Significant.

OPENING YEAR/OPENING YEAR + PROJECT TRAFFIC ANALYSIS

Opening Year traffic volumes and levels of service reflect conditions which could be expected based on Project completion and opening in the year 2018. The Opening Year (without Project) condition reflects existing (2013) traffic volumes, plus additional background traffic that would be generated by generalized ambient growth within the region over the next five years as well as traffic generated by known or probable cumulative projects. In the following analysis of Opening Year/Opening Year + Project Conditions, the following subtopics are discussed:

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

Intersection LOS Analysis, Opening Year/Opening Year + Project Conditions

Intersections with identified deficiencies under Opening Year (without Project) or Opening Year + Project Conditions are presented at Table 4.3-11. These are considered potentially significant cumulative impacts resulting from existing traffic, ambient traffic growth within the region, traffic generated by known or probable "cumulative projects" and traffic generated by the proposed South Moreno Valley Walmart Project. Where the Project contributions to cumulative LOS deficiencies would be potentially significant, applicable deficiency criteria are noted, and citation to improvements recommended to mitigate these deficiencies is provided.

Level of Significance: Potentially Significant.

Mitigation Overview

Under Opening Year Conditions, the Project's mitigation responsibilities for its incremental contributions to potentially significant cumulative traffic impacts would be fulfilled through payment of fees directed toward the completion of required improvements. To this end, the Project would contribute applicable fees through the City's DIF program and the County's TUMF program. For improvements not included under these funding mechanisms, the Project would pay fair share fees. Fees collected by the City would be deposited to a dedicated Capital Improvement Project account (or accounts), created for the express purpose of constructing the required improvements.

Improvements required to mitigate potentially significant cumulative impacts under Opening Year Conditions would be implemented consistent with demonstrated demands and pursuant to priorities established through the jurisdictional capital improvements programs. In these regards, the City as the Lead Agency is considered authoritative in determining when and how City improvements should be programmed and implemented to ensure near-term and long-term adequacy of the City roadway system. Similarly, other jurisdictional authorities, e.g., Caltrans, City of Perris, would determine appropriate programming and implementation of required improvements under their control.

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Table 4.3-11
Opening Year (2018) Without Project and With Project Conditions, Intersection Deficiencies

ID	Intersection Location	Traffic Control	Opening Year without Project LOS (Delay in Seconds)			Opening Year with Project LOS (Delay in Seconds)			Jurisdiction/ LOS Std.	Mitigation Measures
			AM	PM	SAT	AM	PM	SAT		
1	I-215 SB Ramps / Cactus Av.	TS	C	**F (110.0)**	C	C	**F (110.1)**	C	Caltrans/ LOS "D"	4.3.3
2	I-215 NB Ramps / Cactus Av.	TS	**F (174.3)**	**F (84.9)**	B	**F (174.9)**	**F (86.8)**	B	Caltrans/ LOS "D"	4.3.4
3	Elsworth St. / Cactus Av.	TS	**F (>200)**	**F (>200)**	D	**F (>200)**	**F (>200)**	D	Moreno Valley/ LOS "D"	4.3.5
4	Frederick St. / Cactus Av.	TS	C	**F (127.4)**	B	C	**F (130.0)**	B	Moreno Valley/ LOS "D"	4.3.6
5	Graham St. / Cactus Av.	TS	**E (77.1)**	**F (198.4)**	D	**E (78.5)**	**F (>200)**	**E (56.1)**	Moreno Valley/ LOS "D"	4.3.7
15	Indian St. / Gentian Av.	CSS	C	C	**F (72.6)**	C	C	**F (79.3)**	Moreno Valley/ LOS "D"	4.3.8
21	Indian St. / Harley Knox Bl.	TS	**F (>200)**	**F (157.6)**	D	**F (>200)**	**F (168.2)**	D	Perris/ LOS "D"	4.3.9
24	SR-60 EB Off-Ramp / Sunnymead Bl.	TS	C	**E (70.0)**	C	C	**E (70.0)**	C	Caltrans/ LOS "D"	4.3.10
26	Perris Bl. / Sunnymead Bl.	TS	D	**E (55.2)**	**E (59.5)**	D	**E (55.3)**	**E (59.7)**	Moreno Valley/ LOS "D"	4.3.11
27	SR-60 EB On-Ramp / Sunnymead Bl.	CSS	**F (>100)**	**F (>100)**	**F (>100)**	**F (>100)**	**F (>100)**	**F (>100)**	Caltrans/ LOS "D"	4.3.12
31	Perris Bl. / Cactus Av.	TS	D	D	D	D	**E (57.0)**	D	Moreno Valley/ LOS "D"	4.3.13
36	Perris Bl. / Santiago Dr.	CSS	**F (>100)**	**F (>100)**	**F (>100)**	**F (>100)**	**F (>100)**	**F (>100)**	Moreno Valley/ LOS "D"	4.3.14

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Table 4.3-11

Opening Year (2018) Without Project and With Project Conditions, Intersection Deficiencies

ID	Intersection Location	Traffic Control	Opening Year without Project LOS (Delay in Seconds)			Opening Year with Project LOS (Delay in Seconds)			Jurisdiction/ LOS Std.	Mitigation Measures
			AM	PM	SAT	AM	PM	SAT		
37	Perris Bl. / Iris Av.	TS	D	D	D	D	D	**E (64.5)**	Moreno Valley/ LOS "D"	4.3.15
38	Perris Bl. / Krameria Av.	TS	**E (57.4)**	**E (57.0)**	**F (89.8)**	**E (61.8)**	**E (65.8)**	**F (110.1)**	Moreno Valley/ LOS "D"	4.3.16
41	Perris Bl. / Harley Knox Bl.	TS	**F (>200)**	**F (121.4)**	B	**F (>200)**	**F (140.2)**	C	Perris/ LOS "D"	4.3.17
42	Perris Bl. / Ramona Expressway	TS	**F (94.9)**	D	D	**F (96.4)**	D	D	Perris/ LOS "D"	4.3.18
43	Kitching St. / Cactus Av.	TS	**D (36.0)**	C	C	**D (36.2)**	C	C	Moreno Valley/ LOS "C"	4.3.19
44	Kitching St. / John F. Kennedy Dr.	TS	**F (90.0)**	**D (50.6)**	C	**F (94.0)**	**D (53.7)**	**D (36.7)**	Moreno Valley/ LOS "C"	4.3.20

Source: *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015.

Notes:

Bold, shaded text indicates unacceptable levels of service.

TS = Traffic Signal; CSS = Cross-street stop; AWS = All-way stop.

Project proportional responsibilities for construction of necessary improvements is addressed through fee payments noted previously. However, depending on jurisdictional improvements priorities and coordination with broader transportation planning objectives, timing of these off-site improvements may or may not coincide with construction and opening of the Project.

Further, within areas that are extra-jurisdictional to the City, or are under shared jurisdictional control, neither the Lead Agency nor the Project Applicant can autonomously construct improvements. Thus, while the physical improvements identified at these extra-jurisdictional or shared-jurisdictional locations may be capable of mitigating potentially significant impacts, these improvements cannot be feasibly implemented or assured by the Project Applicant or the City of Moreno Valley, nor can their timely completion be assured.

To further timely completion of required traffic improvements to the extent practical, Mitigation Measures 4.3.60 through 4.3.64 identified subsequently in this Section establish mechanisms to collect and assign Project fees for required traffic improvements identified herein.

Mitigation Measures (Opening Year Conditions, Intersection Improvements)**:**

4.3.3 *Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvement at the intersection of I-215 Southbound Ramps / Cactus Avenue (Study Area Intersection 1):*

- *Construct a 2nd westbound left-turn lane.*

4.3.4 *Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of I-215 Northbound Ramps / Cactus Avenue (Study Area Intersection 2):*

- *Construct a 2nd northbound left-turn lane.*
- *Construct a 3rd eastbound through WB left-turn lane.*
- *Construct a 3rd westbound through lane.*

4.3.5 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Elsworth Street / Cactus Avenue (Study Area Intersection 3):

- *Construct a 2nd northbound left-turn lane.*
- *Remove the southbound (west leg) crosswalk.*

4.3.6 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvement at the intersection of Frederick Street / Cactus Avenue (Study Area Intersection 4):

- *Construct a 3rd eastbound through lane.*

4.3.7 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Graham Street / Cactus Avenue (Study Area Intersection 5):

- *Construct a 2nd southbound left turn lane.*
- *Construct a 2nd eastbound left turn lane.*
- *Construct a 3rd eastbound through lane.*

4.3.8 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Indian Street / Gentian Avenue (Study Area Intersection 15):

- *Install a traffic signal. Although the intersection does not appear to warrant a traffic signal, no other geometric improvements are anticipated to result in acceptable peak hour operations. As such, it is recommended that the intersection be monitored and a traffic signal be installed at the City Traffic Engineer's discretion.*
- *Construct a northbound left turn lane.*
- *Construct a southbound left turn lane.*
- *Restripe the eastbound right turn lane as a shared through-right turn lane.*
- *Construct a westbound shared left-through-right turn lane.*

4.3.9 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Indian Street / Harley Knox Boulevard (Study Area Intersection 21):

- *Construct a 2nd southbound left turn lane.*
- *Construct a southbound right turn lane and modify the traffic signal to implement overlap phasing.*
- *Construct a 2nd eastbound left turn lane.*
- *Construct a 2nd eastbound through lane.*

4.3.10 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of SR-60 Eastbound Off-Ramp / Sunnymead Boulevard (Study Area Intersection 24):

- *Restripe the southbound shared left-right turn lane as a 2nd left turn lane.*
- *Construct a southbound right turn lane.*

4.3.11 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvement at the intersection of Perris Boulevard / Sunnymead Boulevard (Study Area Intersection 26):

- *Implement overlap phasing on the eastbound right turn lane.*

4.3.12 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of SR-60 Eastbound On-Ramp / Sunnymead Boulevard (Study Area Intersection 27):

- *Construct a roundabout.*[11]
- *Construct an eastbound right turn lane.*

4.3.13 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvement at the intersection of Perris Boulevard / Cactus Avenue (Study Area Intersection 31):

[11] The City has recently been awarded a Highway Safety Grant for this intersection, which will be utilized to construct a roundabout.

- *Construct an eastbound right turn lane and modify the traffic signal to implement overlap phasing.*

4.3.14 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvement at the intersection of Perris Boulevard / Santiago Drive (Study Area Intersection 36):

- *Install a traffic signal (same improvement as required under Existing Plus Project condition).*

4.3.15 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvement at the intersection of Perris Boulevard / Iris Avenue (Study Area Intersection 37):

- *Modify the existing traffic signal and implement overlap phasing on the northbound right turn lane.*

4.3.16 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Krameria Avenue (Study Area Intersection 38):

- *Restripe the eastbound approach to provide a left turn lane and a shared through right turn lane.*
- *Modify the traffic signal to implement protected left turn phasing for the eastbound and westbound approaches.*

4.3.17 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Harley Knox Boulevard (Study Area Intersection 41):

- *Construct a 2nd northbound through lane.*
- *Construct a southbound left turn lane.*
- *Construct a 2nd southbound through lane.*
- *Modify the traffic signal and implement overlap phasing on the southbound right turn lane.*
- *Construct a 2nd eastbound left turn lane.*

- *Restripe the eastbound right turn lane as a shared through-right turn lane.*
- *Construct a westbound left turn lane.*
- *Construct a westbound shared through-right turn lane.*

4.3.18 *Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Ramona Expressway (Study Area Intersection 42):*

- *Modify the traffic signal and implement overlap phasing on the southbound right turn lane.*
- *Construct a westbound right turn lane and modify the traffic signal to implement overlap phasing.*

4.3.19 *Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvement at the intersection of Kitching Street / Cactus Avenue (Study Area Intersection 43):*

- *Construct a 2nd southbound through lane.*

4.3.20 *Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Kitching Street / John F. Kennedy Drive (Study Area Intersection 44):*

- *Construct a northbound left turn lane (same requirement as required under Existing Plus Project Condition).*
- *Construct a 2nd northbound through lane.*
- *Construct a southbound left turn lane.*
- *Construct a 2nd southbound through lane.*
- *Modify the traffic signal and implement protected left turn phasing for the northbound and southbound approaches.*

Table 4.3-12 summarizes Opening Year + Project Conditions Study Area Intersection LOS, without and with improvements required by Mitigation Measures 4.3.3 through 4.3.20. For the intersections listed below, improvements previously identified under mitigation for Existing + Project Conditions would be sufficient to support acceptable

levels of service under Opening Year + Project Conditions. In these instances, previously specified improvements have not been duplicated. These locations, and their applicable mitigation measures, include:

- Perris Boulevard/Santiago Drive (Study Area Intersection 36, improvements implemented pursuant to Mitigation Measure 4.3.1); and
- Kitching Street/John F. Kennedy Drive (Study Area Intersection 44, improvements implemented pursuant to Mitigation Measure 4.3.2).

Table 4.3-12
Summary of Opening Year + Project Conditions
Without and With Recommended Improvements

ID #	Intersection	Traffic Control	Delay (Seconds)			Level of Service		
			AM	PM	SAT	AM	PM	SAT
1	I-215 SB Ramps at Cactus Avenue							
	Without improvements	TS	21.8	**110.1**	20.9	C	**F**	C
	With improvements	TS	38.1	42.6	23.3	D	D	C
2	I-215 NB Ramps at Cactus Avenue							
	Without improvements	TS	**174.9**	**86.8**	10.7	**F**	**F**	B
	With improvements	TS	20.7	8.5	7.5	C	A	A
3	Elsworth Street at Cactus Avenue							
	Without improvements	TS	**>200.0**	**>200.0**	54.3	**F**	**F**	D
	With improvements	TS	53.0	53.4	33.0	D	D	C
4	Frederick Street at Cactus Avenue							
	Without improvements	TS	23.8	**130.0**	18.7	C	**F**	B
	With improvements	TS	22.5	49.8	17.0	C	D	B
5	Graham Street at Cactus Avenue							
	Without improvements	TS	**78.5**	**>200.0**	**56.1**	**E**	**F**	**E**
	With improvements	TS	54.1	53.5	36.1	D	D	D
15	Indian Street at Gentian Avenue							
	Without improvements	CSS	22.0	19.4	**79.3**	C	C	**F**
	With improvements	TS	19.9	19.5	21.8	B	B	C
21	Indian Street at Harley Knox Boulevard							
	Without improvements	TS	**>200.0**	**168.2**	48.5	**F**	**F**	D
	With improvements	TS	44.9	50.8	28.4	D	D	C

Table 4.3-12
Summary of Opening Year + Project Conditions
Without and With Recommended Improvements

ID #	Intersection	Traffic Control	Delay (Seconds)			Level of Service		
			AM	PM	SAT	AM	PM	SAT
24	SR-60 EB Off-Ramp at Sunnymead Boulevard							
	Without improvements	TS	20.5	**70.0**	26.2	C	**E**	C
	With improvements	TS	19.3	47.4	22.6	B	D	C
26	Perris Boulevard at Sunnymead Boulevard							
	Without improvements	TS	46.6	**55.3**	**59.7**	D	**E**	**E**
	With improvements	TS	45.7	54.0	53.5	D	D	D
27	SR-60 EB On-Ramp at Sunnymead Boulevard							
	Without improvements	CSS	**>100.0**	**>100.0**	**>100.0**	**F**	**F**	**F**
	With improvements	RA	10.6	4.9	10.6	B	A	B
31	Perris Boulevard at Cactus Avenue							
	Without improvements	TS	45.3	**57.0**	52.5	D	**E**	D
	With improvements	TS	44.4	42.4	38.4	D	D	D
36	Perris Boulevard at Santiago Drive							
	Without improvements	CSS	**>100.0**	**>100.0**	**>100.0**	**F**	**F**	**F**
	With improvements	TS	22.0	24.5	24.9	C	C	C
37	Perris Boulevard at Iris Avenue							
	Without improvements	TS	51.3	47.2	**64.5**	D	D	**E**
	With improvements	TS	44.5	42.4	54.4	D	D	D
38	Perris Boulevard at Krameria Avenue							
	Without improvements	TS	**61.8**	**65.8**	**110.1**	**E**	**E**	**F**
	With improvements	TS	42.4	41.4	42.8	D	D	D
41	Perris Boulevard at Harley Knox Boulevard							
	Without improvements	TS	**>200.0**	**140.2**	24.2	**F**	**F**	C
	With improvements	TS	28.8	30.5	21.9	C	C	C
42	Perris Boulevard at Ramona Expressway							
	Without improvements	TS	**96.4**	52.0	45.6	**F**	D	D
	With improvements	TS	54.6	49.8	41.3	D	D	D
43	Kitching Street at Cactus Avenue							
	Without improvements	TS	**36.2**	32.0	29.9	**D**	C	C
	With improvements	TS	32.1	28.2	27.1	C	C	C

Table 4.3-12
Summary of Opening Year + Project Conditions
Without and With Recommended Improvements

ID #	Intersection	Traffic Control	Delay (Seconds)			Level of Service		
			AM	PM	SAT	AM	PM	SAT
44	Kitching Street at John F. Kennedy Drive							
	Without improvements	TS	**94.0**	**43.7**	**36.7**	**F**	**D**	**D**
	With improvements	TS	28.8	24.5	22.7	C	C	C

Source: *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015.
Notes: **Bold, shaded text** indicates unacceptable levels of service.
TS = Traffic Signal; CSS = Cross-street stop; AWS = All-way stop; RA = Roundabout.

As indicated at Table 4.3-12, completion of the improvements identified previously under the Existing + Project Conditions analysis together with additional improvements identified under Mitigation Measures 4.3.3 through 4.3.20 would achieve acceptable LOS conditions under Opening Year + Project Conditions.

The Project Applicant would pay all requisite fees, acting to offset the Project's proportional contributions to cumulative traffic impacts projected to occur under Opening Year + Project Conditions. Payment of fees does not however, ensure timely completion of required improvements; and pending completion of the required improvements, Project contributions to cumulative impacts under Opening Year + Project Conditions are recognized as cumulatively significant and unavoidable at all Study Area intersections listed at previous Table 4.3-11.

Level of Significance After Mitigation: ***Cumulatively significant and unavoidable.***

Roadway Segment Capacity Analysis, Opening Year + Project Conditions

Roadway segment functional performance is determined largely by the performance of controlling intersections. To this end, peak hour assessment of intersections located on either side of potentially deficient Study Area roadway segments has been conducted to determine if peak hour traffic flows can be accommodated by the roadway segment in question. In summary, if it is determined that intersection peak hour traffic flows can be accommodated at the City's stated intersection LOS thresholds, then widening of connecting roadway segments is typically not recommended.

The peak hour intersection analysis presented in the TIA substantiates that Study Area intersections along potentially deficient roadway segments are anticipated to operate at acceptable LOS with the incorporation of the intersection improvements detailed in the EIR mitigation measures. In instances where the required improvements include additional intersection through lanes, correlating roadway segment lane improvements would be required for the roadway segments between the improved intersections. Absent required roadway segment lane improvements, Project traffic impacts to roadway segments between those improved intersections which include additional through lanes would be considered potentially significant under Opening Year + Project Conditions. Potentially affected roadway segments subject to these conditions are listed at Table 4.3-13.

Table 4.3-13
Roadway Segment Deficiencies, Opening Year + Project Conditions

#	Roadway	Segment Limits	Roadway Section	LOS Capacity-ADT	Opening Year + Project-ADT	V/C	LOS	Acceptable LOS
19	Cactus Avenue	East of I-215 NB Ramps	5D	46,900	**50,500**	**1.08**	**F**	D
20	Cactus Avenue	West of Elsworth Street	5D	46,900	**57,600**	**1.23**	**F**	D
21	Cactus Avenue	East of Elsworth Street	6D	56,300	**53,500**	**0.95**	**E**	D
22	Cactus Avenue	West of Frederick Street	5D	46,900	**55,100**	**1.17**	**F**	D
23	Cactus Avenue	East of Frederick Street	5D	46,900	**56,100**	**1.20**	**F**	D
24	Cactus Avenue	West of Graham Street	5D	46,900	**54,200**	**1.16**	**F**	D
25	Cactus Avenue	East of Graham Street	5D	46,900	**42,900**	**0.91**	**E**	D
26	Cactus Avenue	West of Heacock Street	5D	46,900	38,853	0.83	D*	D
74	Harley Knox Boulevard	West of Perris Boulevard	2D	18,750	13,274	0.71	C*	D
140	Kitching Street	South of Cactus Avenue	2U	12,500	9,767	0.78	C*	C
141	Kitching Street	North of John F. Kennedy Drive	2U	12,500	9,303	0.74	C*	C

Table 4.3-13
Roadway Segment Deficiencies, Opening Year + Project Conditions

#	Roadway	Segment Limits	Roadway Section	LOS Capacity-ADT	Opening Year + Project-ADT	V/C	LOS	Acceptable LOS
142	Kitching Street	South of John F. Kennedy Drive	2U	12,500	**10,160**	**0.81**	**D**	C

Source: *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015.

Notes: Bold text indicates deficient LOS based on calculated lane capacities.

* Roadway segment improvements would be required in order to provide compatible continuation of through lane improvements at controlling segment intersections.

Level of Significance: Potentially Significant. Absent required lane improvements, cumulative traffic impacts affecting the roadway segments listed at Table 4.3-14 under Opening Year + Project Conditions would be potentially significant, and the Project's contributions to these impacts would be cumulatively considerable.

Mitigation Measures (Opening Year, Roadway Segment Improvements**):**

4.3.20.1 *Prior to the issuance of building permits, the Project Applicant shall pay requisite DIF/TUMF toward the construction of the improved roadway segment configurations listed at Table 4.3-14.*

Table 4.3-14
Opening Year + Project
Roadway Segment Improvements and Resulting LOS

Roadway Segment ID No.	Roadway	Segment Limits	Unimproved Roadway Segment Configuration	Improved Roadway Segment Configuration	Improved Segment Capacity-ADT	2018 With-Project Segment ADT	V/C	LOS	Acceptable LOS
19	Cactus Avenue	East of I-215 NB Ramps	5D	6D	56,300	50,500	0.90	D	D
20	Cactus Avenue	West of Elsworth St.	5D	6D	56,300	**57,600**	**1.02**	**F**	D
21	Cactus Avenue	East of Elsworth St.	6D	6D	56,300	**53,500**	**0.95**	**E**	D
22	Cactus Avenue	West of Frederick St.	5D	6D	56,300	**55,100**	**0.98**	**E**	D
23	Cactus Avenue	East of Frederick St.	5D	6D	56,300	**56,100**	**1.00**	**E**	D

Table 4.3-14
Opening Year + Project
Roadway Segment Improvements and Resulting LOS

Roadway Segment ID No.	Roadway	Segment Limits	Unimproved Roadway Segment Configuration	Improved Roadway Segment Configuration	Improved Segment Capacity-ADT	2018 With-Project Segment ADT	V/C	LOS	Acceptable LOS
24	Cactus Avenue	West of Graham St.	5D	6D	56,300	**54,200**	**0.96**	**E**	D
25	Cactus Avenue	East of Graham St.	5D	6D	56,300	42,900	0.76	C	D
26	Cactus Avenue	West of Heacock St.	5D	6D	56,300	38,853	0.69	B*	D
74	Harley Knox Blvd.	West of Perris Blvd.	2D	4D	37,500	13,274	0.35	A*	D
140	Kitching St.	South of Cactus Ave.	2U	4D	37,500	9,767	0.26	A*	C
141	Kitching St.	North of JFK Drive	2U	4D	37,500	9,303	0.25	A*	C
142	Kitching St.	South of JFK Drive	2U	4D	37,500	10,160	0.27	A	C

Source: *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015.
Notes: Bold text indicates deficient LOS based on calculated lane capacities.
* Roadway segment improvements would be required in order to provide compatible continuation of through lane improvements at controlling segment intersections.

As indicated at Table 4.3-14, with completion of the required roadway segment improvements, LOS standards based solely on lane capacities would be achieved for all Study Area roadway segments with the exception of roadway segments 20 through 24. Along roadway segments 20 through 24, cumulative daily traffic volumes under Opening Year + Project Conditions would exceed calculated lane capacities even with implementation of required roadway segments improvements. Along these segments however, controlling intersections as improved would operate at acceptable LOS, indicating that intervening roadway segments would also operate acceptably. On this basis, with the completion of the roadway segment improvements identified at Table 4.3-14, impacts to Study Area roadway segments would be less-than-significant under Opening Year + Project Conditions.

The Project Applicant would pay requisite DIF/TUMF toward the completion of improvements necessary to mitigate potentially significant cumulative roadway segment impacts anticipated to occur under Opening Year + Project Conditions, thereby fulfilling the Project's proportional mitigation responsibilities. Notwithstanding, payment of DIF/TUMF does not ensure timely completion of required improvements. Pending completion of the required improvements, Project-related impacts under Opening Year + Project Conditions are recognized as cumulatively significant and unavoidable at all Study Area roadway segments listed at previous Table 4.3-14.

Level of Significance After Mitigation: ***Cumulatively significant and unavoidable.***

Freeway Ramp Progression Analysis, Opening Year/Opening Year + Project Conditions

The queue length analysis performed for Opening Year Conditions found that under Without-Project and With-Project Conditions, there would be a potential freeway ramp queuing issue at the I-215 Northbound Ramps at Cactus Avenue during the AM Peak hour. All other freeway ramps that were studied will operate at acceptable levels.

Mainline Freeway Segment and Merge/Diverge Analysis, Opening Year/Opening Year + Project Conditions

Through consultation with the City, it was determined that freeway analysis (segment and merge/diverge analyses) was not needed beyond the Existing + Project scenario. This conclusion is based on the Project's nominal contributions to both the I-215 and SR-60 (less than 25 two-way peak hour trips). The distribution pattern is based on the assumption that the majority of customers to the proposed Project would reside in the local area, given that there is an existing Walmart in Perris (located approximately five miles south of the Project) and in Moreno Valley (approximately four miles to the north).

Level of Significance: Potentially Significant (Freeway Ramp Progression Analysis).

Mitigation Measure: Please refer to Mitigation Measure 4.3.4, presented previously.

Although the improvements identified by Mitigation Measure 4.3.4 would alleviate the potential freeway ramp queuing issue at the I-215 Northbound Ramps at Cactus Avenue, the payment of fees does not ensure timely completion of required improvements; and pending completion of the required improvements, Project-related impacts at this location are considered cumulatively significant and unavoidable.

Level of Significance After Mitigation: ***Cumulatively significant and unavoidable***

GENERAL PLAN BUILDOUT/ GENERAL PLAN BUILDOUT + PROJECT TRAFFIC ANALYSIS

General Plan Buildout traffic volumes and levels of service reflect conditions which could be expected based on buildout of the Moreno Valley General Plan. In the following analysis of General Plan Buildout/General Plan Buildout + Project Conditions, the following subtopics are discussed:

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

Intersection LOS Analysis, General Plan Buildout Conditions

Intersections with identified deficiencies under General Plan Buildout (without Project) or General Plan Buildout + Project Conditions are presented in Table 4.3-15. These are considered potentially significant cumulative LOS deficiencies. Where the Project contributions to cumulative LOS deficiencies would be potentially significant, applicable deficiency criteria are noted, and citation to improvements recommended to mitigate these deficiencies is provided. At other potentially affected locations, the Project would pay all requisite fees (TUMF, DIF, and/or Fair Share), acting to offset its proportional impacts.

Level of Significance: Potentially Significant.

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Table 4.3-15
General Plan Buildout/ General Plan Buildout + Project Conditions, Intersection Deficiencies

ID #	Intersection Location	Traffic Control	General Plan Buildout (without Project) LOS (Delay in Seconds)			General Plan Buildout + Project LOS (Delay in Seconds)			Jurisdiction/ LOS Std.	Mitigation Measures
			AM	PM	SAT	AM	PM	SAT		
1	I-215 SB Ramps / Cactus Av.	TS	**F (30.6)**	**F (130.9)**	C	**F (30.6)**	**F (131.1)**	C	Caltrans/ LOS "D"	4.3.21
2	I-215 NB Ramps / Cactus Av.	TS	**F (>200)**	**F (>200)**	C	**F (>200)**	**F (>200)**	C	Caltrans/ LOS "D"	4.3.22
3	Elsworth St. / Cactus Av.	TS	**F (>200)**	**F (>200)**	**E (77.3)**	**F (>200)**	**F (>200)**	**E (79.7)**	Moreno Valley/ LOS "D"	4.3.23
4	Frederick St. / Cactus Av.	TS	D	**F (>200)**	C	D	**F (>200)**	C	Moreno Valley/ LOS "D"	4.3.24
5	Graham St. / Cactus Av.	TS	**F (162.5)**	**F (>200)**	**F (109.1)**	**F (164.2)**	**F (>200)**	**F (112.5)**	Moreno Valley/ LOS "D"	4.3.25
6	Heacock St. / Alessandro Bl.	TS	**E (79.5)**	**F (107.8)**	**E (59.4)**	**F (80.3)**	**F (108.3)**	**E (60.1)**	Moreno Valley/ LOS "D"	4.3.26
7	Heacock St. / Cactus Av.	TS	**F (89.9)**	**F (117.4)**	**F (83.9)**	**F (91.6)**	**F (120.7)**	**F (89.0)**	Moreno Valley/ LOS "D"	4.3.27
9	Heacock St. / Gentian Av.	CSS	**F (55.1)**	**E (39.8)**	**E (44.6)**	**F (56.9)**	**E (39.9)**	**E (48.5)**	Moreno Valley/ LOS "D"	4.3.28
10	Webster Av. / Harley Knox Bl.	CSS	**F (78.1)**	**F (>100)**	D	**F (63.7)**	**F (>100)**	D	Perris/ LOS "D"	4.3.29
12	Indian St. / Alessandro Bl.	TS	**E (73.8)**	**F (109.8)**	**F (125.5)**	**E (74.4)**	**F (109.9)**	**F (128.3)**	Moreno Valley/ LOS "D"	4.3.30
13	Indian St. / Cactus Av.	TS	D	**F (106.6)**	D	D	**F (120.4)**	D	Moreno Valley/ LOS "D"	4.3.31
14	Indian St. / John F. Kennedy Dr.	TS	**D (39.3)**	C	C	**D (39.4)**	C	C	Moreno Valley/ LOS "C"	4.3.32
15	Indian St. / Gentian Av.	CSS	**F (51.6)**	**F (56.9)**	**F (>100)**	**F (97.9)**	**F (>100)**	**F (>100)**	Moreno Valley/ LOS "D"	4.3.33
17	Indian St. / Iris Av.	TS	**F (82.6)**	**F (93.6)**	D	**F (83.1)**	**F (98.6)**	**E (56.9)**	Moreno Valley/ LOS "D"	4.3.34
18	Indian St. / Krameria Av.	CSS	**F (>100)**	**F (>100)**	**F (>100)**	**F (>100)**	**F (>100)**	**F (>100)**	Moreno Valley/ LOS "D"	4.3.35
19	Indian St. / San Michele Road	AWS	**F (>100)**	**F (>100)**	**F (>100)**	**F (>100)**	**F (>100)**	**F (>100)**	Moreno Valley/ LOS "D"	4.3.36

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Table 4.3-15
General Plan Buildout/ General Plan Buildout + Project Conditions, Intersection Deficiencies

ID #	Intersection Location	Traffic Control	General Plan Buildout (without Project) LOS (Delay in Seconds)			General Plan Buildout + Project LOS (Delay in Seconds)			Jurisdiction/ LOS Std.	Mitigation Measures
			AM	PM	SAT	AM	PM	SAT		
20	Indian St. / Nandina Av.	AWS	**F (>100)**	**F (>100)**	**F (>100)**	**F (>100)**	**F (>100)**	**F (>100)**	Moreno Valley/ LOS "D"	4.3.37
21	Indian St. / Harley Knox Bl.	TS	**F (>200)**	**F (>200)**	**F (105.2)**	**F (>200)**	**F (>200)**	**F (114.8)**	Perris/ LOS "D"	4.3.38
24	SR-60 EB Off-Ramp / Sunnymead Bl.	TS	C	**F (81.7)**	C	C	**F (81.7)**	C	Caltrans/ LOS "D"	4.3.39
25	Perris Bl. / SR-60 WB Ramps	TS	**F (50.8)**	**F (47.0)**	**F (64.3)**	**F (51.3)**	**F (48.3)**	**F (65.2)**	Moreno Valley/ LOS "D"	4.3.40
26	Perris Bl. / Sunnymead Bl.	TS	**F (123.0)**	**F (111.0)**	**F (151.0)**	**F (124.5)**	**F (113.7)**	**F (154.6)**	Moreno Valley/ LOS "D"	4.3.41
27	SR-60 EB On-Ramp / Sunnymead Bl.	CSS	**F (>100)**	**F (>100)**	**F (<100)**	**F <100)**	**F (>100)**	**F (>100)**	Caltrans/ LOS "D"	4.3.42
28	Perris Bl. / Eucalyptus Av.	TS	**E (61.9)**	**E (62.3)**	**F (96.2)**	**E (62.6)**	**E (63.7)**	**F (100.6)**	Moreno Valley/ LOS "D"	4.3.43
29	Perris Bl. / Cottonwood Av.	TS	**E (56.4)**	**E (76.2)**	**F (82.7)**	**E (57.4)**	**E (79.6)**	**F (87.1)**	Moreno Valley/ LOS "D"	4.3.44
30	Perris Bl. / Alessandro Bl.	TS	D	**F (165.8)**	**F (156.4)**	D	**F (170.2)**	**F (161.6)**	Moreno Valley/ LOS "D"	4.3.45
31	Perris Bl. / Cactus Av.	TS	**F (117.0)**	**F (160.5)**	**F (128.0)**	**F (119.4)**	**F (165.3)**	**F (133.2)**	Moreno Valley/ LOS "D"	4.3.46
32	Perris Bl. / John F. Kennedy Dr.	TS	**F (134.8)**	**F (66.3)**	D	**F (143.7)**	**F (77.3)**	**F (64.0)**	Moreno Valley/ LOS "D"	4.3.47
33	Perris Bl. / Gentian Av.	TS	D	**F (189.8)**	C	C	**F (63.7)**	**F (29.6)**	Moreno Valley/ LOS "D"	4.3.48
36	Perris Bl. / Santiago Dr.	CSS	**F (>100)**	**F (>100)**	**F (>100)**	**F (>100)**	**F (>100)**	**F (>100)**	Moreno Valley/ LOS "D"	4.3.49
37	Perris Bl. / Iris Av.	TS	**F (88.3)**	**F (111.2)**	**F (>200)**	**F (98.1)**	**F (128.1)**	**F (>200)**	Moreno Valley/ LOS "D"	4.3.50
38	Perris Bl. / Krameria Av.	TS	**F (153.9)**	**F (>200)**	**F (>200)**	**F (160.8)**	**F (>200)**	**F (>200)**	Moreno Valley/ LOS "D"	4.3.51

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Table 4.3-15
General Plan Buildout/ General Plan Buildout + Project Conditions, Intersection Deficiencies

ID #	Intersection Location	Traffic Control	General Plan Buildout (without Project) LOS (Delay in Seconds)			General Plan Buildout + Project LOS (Delay in Seconds)			Jurisdiction/ LOS Std.	Mitigation Measures
			AM	PM	SAT	AM	PM	SAT		
39	Perris Bl. / San Michele Rd.	TS	**F (114.9)**	**F (154.3)**	**F (95.7)**	**F (117.3)**	**F (162.2)**	**F (104.1)**	Moreno Valley/ LOS "D"	4.3.52
40	Perris Bl. / Nandina Av.	TS	**F (102.5)**	**F (>200)**	**F (100.5)**	**F (105.8)**	**F (>200)**	**F (107.8)**	Moreno Valley/ LOS "D"	4.3.53
41	Perris Bl. / Harley Knox Bl.	TS	**F (>200)**	**F (>200)**	**F (>200)**	**F (>200)**	**F (>200)**	**F (>200)**	Perris/ LOS "D"	4.3.54
42	Perris Bl. / Ramona Expressway	TS	**F (132.8)**	**E (76.3)**	**F (90.3)**	**F (134.3)**	**E (79.1)**	**F (95.5)**	Perris/ LOS "D"	4.3.55
43	Kitching St. / Cactus Av.	TS	**E (63.9)**	**D (42.4)**	**D (37.0)**	**F (64.8)**	**D (43.3)**	**D (37.8)**	Moreno Valley/ LOS "C"	4.3.56
44	Kitching St. / John F. Kennedy Dr.	TS	**F (>200)**	**F (116.9)**	**E (67.2)**	**F (>200)**	**F (126.2)**	**E (75.8)**	Moreno Valley/ LOS "C"	4.3.57
45	Kitching St. / Iris Av.	TS	**F (117.9)**	**F (154.2)**	**F (67.3)**	**F (119.6)**	**F (157.3)**	**F (70.4)**	Moreno Valley/ LOS "C"	4.3.58
46	Lasselle St. / Iris Av.	TS	**E (57.3)**	**E (66.9)**	D	**E (57.8)**	**F[3] (68.2)**	D	Moreno Valley/ LOS "D"	4.3.59

Source: *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015.
Notes: **Bold, shaded text** indicates unacceptable levels of service.
TS = Traffic Signal; CSS = Cross-street stop; AWS = All-way stop.

Mitigation Overview

Under General Plan Buildout Conditions, the Project's mitigation responsibilities for its incremental contributions to potentially significant cumulative traffic impacts would be fulfilled through payment of fees directed toward the completion of required improvements. To this end, the Project would contribute applicable fees through the City's DIF program and the County's TUMF program. For improvements not included under these funding mechanisms, the Project would pay fair share fees. Fees collected by the City would be deposited to a dedicated Capital Improvement Project account (or accounts), created for the express purpose of constructing the required improvements.

Improvements required to mitigate potentially significant cumulative impacts under General Plan Buildout Conditions would be implemented consistent with demonstrated demands and pursuant to priorities established through the jurisdictional capital improvements programs. In these regards, the City as the Lead Agency is considered authoritative in determining when and how City improvements should be programmed and implemented to ensure near-term and long-term adequacy of the City roadway system. Similarly, other jurisdictional authorities, e.g., Caltrans, City of Perris, would determine appropriate programming and implementation of required improvements under their control.

Project proportional mitigation responsibilities for completion of necessary improvements is addressed through fee payments noted previously. However, depending on jurisdictional improvements priorities and coordination with broader transportation planning objectives, timely implementation of improvements under Genera Plan Buildout + Project Conditions cannot be timely assured.

Further, within areas that are extra-jurisdictional to the City, or are under shared jurisdictional control, neither the Lead Agency nor the Project Applicant can autonomously construct improvements. Thus, while the physical improvements identified at these extra-jurisdictional or shared-jurisdictional locations may be capable of mitigating potentially significant impacts, these improvements cannot be feasibly implemented or assured by the Project Applicant or the City of Moreno Valley.

To further timely completion of required traffic improvements to the extent practical, Mitigation Measures 4.3.60 through 4.3.64 identified subsequently within this Section establish mechanisms to collect and assign Project fees for required traffic improvements identified herein.

Mitigation Measures (General Plan Buildout, Intersection Improvements):

4.3.21 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of I-215 Southbound Ramps / Cactus Avenue (Study Area Intersection 1):

- *Construct a southbound free-right turn lane.*
- *Construct a 2nd westbound left turn lane (same improvement required under Opening Year Conditions).*

4.3.22 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of I-215 Northbound Ramps / Cactus Avenue (Study Area Intersection 2):

- *Construct a 2nd northbound left turn lane (same improvement required under Opening Year Conditions).*
- *Construct a 2nd northbound through lane.*
- *Construct a southbound right turn lane and modify the traffic signal to implement overlap phasing on the southbound right turn lane.*
- *Re-stripe the existing eastbound shared through-right turn lane as the 3rd through lane.*
- *Construct an eastbound right turn lane.*
- *Construct a 3rd westbound through lane (same improvement required under Opening Year Conditions).*
- *Construct a 4th westbound through lane (to trap as the westbound right turn lane onto the I-215 Northbound ramp).*
- *Construct a westbound right turn lane.*

4.3.23 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Elsworth Street / Cactus Avenue (Intersection 3):

- *Construct a 2nd northbound left turn lane (same improvement required under Opening Year Conditions).*
- *Remove the southbound (west leg) crosswalk (same improvement required under Opening Year Conditions).*
- *Construct a 3rd eastbound through lane. The 3rd eastbound through lane is consistent with the improvements identified in the City of Moreno Valley Capital Improvement Plan (CIP).*
- *Construct a 4th eastbound through lane.*
- *Construct a 4th westbound through lane.*
- *Modify the traffic signal and implement protected left turn phasing for the northbound and southbound approaches.*

4.3.24 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Frederick Street / Cactus Avenue (Study Area Intersection 4):

- *Construct a 3rd eastbound through lane (same improvement required under Opening Year Conditions).*
- *Construct a 4th eastbound through lane.*

4.3.25 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Graham Street / Cactus Avenue (Study Area Intersection 5):

- *Construct a 2nd southbound left turn lane (same improvement required under Opening Year Conditions).*
- *Construct a 2nd eastbound left turn lane (same improvement required under Opening Year Conditions).*
- *Construct a 3rd eastbound through lane (same improvement required under Opening Year Conditions).*
- *Construct a 4th eastbound through lane.*

4.3.26 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Heacock Street / Alessandro Boulevard (Study Area Intersection 6):

- *Construct a 2nd northbound left turn lane.*
- *Construct a 2nd southbound left turn lane.*
- *Construct a 4th eastbound through lane.*

4.3.27 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Heacock Street / Cactus Avenue (Study Area Intersection 7):

- *Construct a 2nd southbound left turn lane.*
- *Construct a 2nd eastbound left turn lane.*
- *Construct a 3rd eastbound through lane.*
- *Construct a 2nd eastbound right turn lane and modify the traffic signal to implement overlap phasing.*
- *Construct 3rd westbound through lane.*

4.3.28 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Heacock Street / Gentian Avenue (Study Area Intersection 9):

- *Install a traffic signal.*
- *Construct a 2nd northbound through lane.*
- *Construct a 2nd southbound through lane.*

4.3.29 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Webster Avenue / Harley Knox Boulevard (Study Area Intersection 10):

- *Install a traffic signal. Although the intersection does not appear to warrant a traffic signal, no other geometric improvements are anticipated to result in acceptable peak hour operations. As such, it is recommended that the intersection be monitored and a traffic signal be installed at the City Traffic Engineer's discretion.*
- *Construct a 2nd eastbound through lane.*
- *Construct a 2nd westbound through lane.*

4.3.30 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Indian Street / Alessandro Boulevard (Study Area Intersection 12):

- *Construct a 2nd northbound left turn lane.*
- *Construct a 2nd southbound left turn lane.*
- *Construct a 4th eastbound through lane.*
- *Construct a 2nd westbound left turn lane.*
- *Construct a westbound right turn lane.*

4.3.31 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvement at the intersection of Indian Street / Cactus Avenue (Study Area Intersection 13):

- *Construct a 3rd eastbound through lane.*

4.3.32 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Indian Street / John F. Kennedy Drive (Study Area Intersection 14):

- *Construct a northbound right turn lane.*
- *Construct a 2nd southbound left turn lane.*

4.3.33 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Indian Street / Gentian Avenue (Study Area Intersection 15):

- *Install a traffic signal (same improvement required under Opening Year Conditions).*
- *Construct a northbound left turn lane (same improvement required under Opening Year Conditions).*
- *Construct a southbound left turn lane (same improvement required under Opening Year Conditions).*
- *Restripe the eastbound right turn lane as a shared through-right turn lane (same improvement required under Opening Year Conditions).*
- *Construct a westbound shared left-through-right turn lane (same improvement required under Opening Year Conditions).*

4.3.34 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Indian Street / Iris Avenue (Study Area Intersection 17):

- *Construct a 2nd northbound through lane.*
- *Construct a 2nd southbound through lane.*
- *Construct a 2nd eastbound through lane.*
- *Construct a 2nd westbound through lane.*

4.3.35 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Indian Street / Krameria Avenue (Study Area Intersection 18):

- *Install a traffic signal.*
- *Construct a northbound left turn lane.*
- *Construct a 2nd northbound through lane.*
- *Construct a 2nd southbound through lane.*
- *Construct an eastbound left turn lane.*
- *Construct an eastbound through lane.*
- *Construct an eastbound right turn lane with overlap phasing.*
- *Restripe the westbound right turn lane as a shared through-right turn lane.*

4.3.36 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Indian Street / San Michele Road (Study Area Intersection 19):

- *Operation of installed traffic signal. Although the signal heads have been installed at this intersection, they are all currently flashing red for an all-way stop operation.*
- *Construct two northbound left turn lanes.*
- *Construct a 2nd northbound through lane.*
- *Construct a northbound right turn lane.*
- *Construct two southbound left turn lanes.*
- *Construct a southbound right turn lane.*
- *Construct an eastbound left turn lane.*
- *Construct a 2nd eastbound through lane.*

- *Construct two eastbound right turn lanes and modify the traffic signal to implement overlap phasing.*
- *Construct a westbound left turn lane.*
- *Construct a 2nd westbound through lane.*
- *Construct a westbound right turn lane.*

4.3.37 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Indian Street / Nandina Avenue (Study Area Intersection 20):

- *Operation of installed traffic signal. Although the signal heads have been installed at this intersection, they are all currently flashing red for an all-way stop operation.*
- *Construct two northbound left turn lanes.*
- *Modify the traffic signal and implement overlap phasing on the northbound right turn lane.*
- *Construct a southbound left turn lane.*
- *Construct a 3rd southbound through lane.*
- *Construct a southbound right turn lane.*
- *Construct a 2nd eastbound right turn lane and modify the traffic signal to implement overlap phasing.*
- *Construct two westbound left turn lanes.*

4.3.38 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Indian Street / Harley Knox Boulevard (Study Area Intersection 21):

- *Construct a 3rd northbound through lane.*
- *Construct a 2nd southbound left turn lane (same improvement required under Opening Year Conditions).*
- *Construct a southbound right turn lane and modify the traffic signal to implement overlap phasing (same improvement required under Opening Year Conditions).*
- *Construct a 2nd eastbound left turn lane (same improvement required under Opening Year Conditions).*
- *Construct a 2nd eastbound through lane (same improvement required under Opening Year Conditions).*

- *Construct a 3rd eastbound through lane.*
- *Construct a 3rd westbound through lane.*
- *Construct a westbound right turn lane and modify the traffic signal to implement overlap phasing.*

4.3.39 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of SR-60 Eastbound Off-Ramp / Sunnymead Boulevard (Study Area Intersection 24):

- *Restripe the southbound shared left-right turn lane as a 2nd left turn lane (same improvement required under Opening Year Conditions).*
- *Construct a southbound right turn lane (same improvement required under Opening Year Conditions).*

4.3.40 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvement at the intersection of Perris Boulevard / SR-60 Westbound Ramps (Study Area Intersection 25):

- *Construct a westbound left turn lane.*

4.3.41 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Sunnymead Boulevard (Study Area Intersection 26):

- *Construct a 2nd northbound left turn lane.*
- *Construct a northbound right turn lane.*
- *Construct a 3rd southbound through lane.*
- *Implement overlap phasing on the eastbound right turn lane (same improvement required under Opening Year Conditions).*
- *Construct two westbound right turn lanes and modify the traffic signal to implement overlap phasing.*

4.3.42 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of SR-60 Eastbound On-Ramp / Sunnymead Boulevard (Study Area Intersection 27):

- *Construct a roundabout (same improvement required under Opening Year Conditions).*
- *Construct a northbound left turn lane.*
- *Construct a 3rd eastbound through lane.*
- *Construct a 3rd westbound through lane.*

4.3.43 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Eucalyptus Avenue (Study Area Intersection 28):

- *Construct a 3rd northbound through lane.*
- *Construct a 3rd southbound through lane.*

4.3.44 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Cottonwood Avenue (Study Area Intersection 29):

- *Construct a 3rd northbound through lane.*
- *Construct a 3rd southbound through lane.*

4.3.45 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Alessandro Boulevard (Study Area Intersection 30):

- *Construct a 2nd northbound left turn lane.*
- *Construct a 3rd northbound through lane.*
- *Construct a 3rd southbound through lane.*
- *Construct a 2nd eastbound left turn lane.*
- *Construct a 3rd eastbound through lane.*
- *Construct a 2nd westbound left turn lane.*
- *Construct a westbound right turn lane.*
- *Modify the traffic signal and implement overlap phasing on the southbound and eastbound right turn lanes.*

4.3.46 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Cactus Avenue (Study Area Intersection 31):

- *Construct a 2nd northbound left turn lane.*
- *Construct a 3rd southbound through lane.*
- *Construct a 2nd eastbound left turn lane.*
- *Construct a 3rd eastbound through lane.*
- *Construct an eastbound right turn lane and modify the traffic signal to implement overlap phasing (same improvement required under Opening Year Conditions).*
- *Construct a westbound right turn lane.*

4.3.47 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / John F. Kennedy Drive (Study Area Intersection 32):

- *Construct a 2nd northbound left turn lane.*
- *Construct a northbound right turn lane.*
- *Construct a 2nd southbound left turn lane.*
- *Construct a 2nd westbound left turn lane.*
- *Construct a westbound right turn lane.*

4.3.48 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Gentian Avenue (Study Area Intersection 33):

- *Construct a northbound left turn lane.*
- *Construct an eastbound left turn lane.*
- *Construct an eastbound shared through-right turn lane.*
- *Construct a westbound left turn lane.*

4.3.49 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Santiago Drive (Study Area Intersection 36):

- *Install a traffic signal (same improvement required under Existing Plus Project and Opening Year Conditions).*
- *Construct a northbound right turn lane.*

4.3.50 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Iris Avenue (Study Area Intersection 37):

- *Construct a northbound left turn lane.*
- *Modify the traffic signal to implement overlap phasing on the northbound right turn lane.*
- *Construct a 2nd southbound left turn lane.*
- *Construct a southbound right turn lane and modify the traffic signal to implement overlap phasing.*
- *Construct a 2nd eastbound left turn lane.*
- *Construct a 3rd eastbound through lane.*
- *Construct an eastbound right turn lane and modify the traffic signal to implement overlap phasing.*
- *Construct a 2nd westbound left turn lane.*
- *Construct a 3rd westbound through lane.*
- *Construct a westbound right turn lane and modify the traffic signal to implement overlap phasing.*

4.3.51 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Krameria Avenue (Study Area Intersection 38):

- *Construct a 2nd northbound left turn lane.*
- *Construct a northbound right turn lane.*
- *Construct a 2nd southbound left turn lane.*
- *Construct a southbound right turn lane.*
- *Construct an eastbound left turn lane.*

- *Construct a 2nd eastbound through lane.*
- *Construct a 2nd westbound left turn lane.*
- *Construct a 2nd westbound through lane.*
- *Modify the traffic signal to implement protected left turn phasing for the eastbound and westbound approaches (same improvement required under Opening Year Conditions).*

4.3.52 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / San Michele Road (Study Area Intersection 39):

- *Construct a southbound right turn lane.*
- *Construct an eastbound right turn lane and modify the traffic signal to implement overlap phasing.*

4.3.53 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Nandina Avenue (Study Area Intersection 40):

- *Construct a 2nd eastbound left turn lane.*
- *Construct an eastbound right turn lane and modify the traffic signal to implement overlap phasing.*

4.3.54 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Harley Knox Boulevard (Study Area Intersection 41):

- *Construct a 2nd northbound through lane.*
- *Construct a 3rd northbound through lane.*
- *Construct a southbound left turn lane.*
- *Construct a 2nd southbound left turn lane.*
- *Construct a 2nd southbound through lane.*
- *Construct a 3rd southbound through lane.*
- *Modify the traffic signal and implement overlap phasing on the southbound right turn lane.*
- *Construct a 2nd eastbound left turn lane.*

- *Construct two eastbound through lanes.*
- *Construct a westbound left turn lane.*
- *Construct a westbound shared through-right turn lane.*
- *Construct a 2nd westbound through lane.*

4.3.55 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Perris Boulevard / Ramona Expressway (Study Area Intersection 42):

- *Construct a 3rd northbound through lane.*
- *Construct a 3rd southbound through lane.*
- *Modify the traffic signal and implement overlap phasing on the southbound right turn lane.*
- *Construct a westbound right turn lane and modify the traffic signal to implement overlap phasing.*

4.3.56 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Kitching Street / Cactus Avenue (Study Area Intersection 43):

- *Construct a 2nd northbound left turn lane.*
- *Construct a 2nd southbound through lane.*
- *Construct an eastbound right turn lane.*
- *Construct a westbound right turn lane.*

4.3.57 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Kitching Street / John F. Kennedy Drive (Study Area Intersection 44):

- *Construct two northbound left turn lanes.*
- *Construct a 2nd northbound through lane.*
- *Construct a southbound left turn lane.*
- *Construct a 2nd southbound through lane.*
- *Modify the traffic signal and implement protected left turn phasing for the northbound and southbound approaches.*

4.3.58 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Kitching Street / Iris Avenue (Study Area Intersection 45):

- *Construct a 2nd northbound left turn lane.*
- *Construct a northbound right turn lane and modify the traffic signal to implement overlap phasing.*
- *Construct a 2nd southbound left turn lane.*
- *Construct a southbound right turn lane.*
- *Construct a 2nd eastbound left turn lane.*
- *Construct a 3rd eastbound through lane.*
- *Construct an eastbound right turn lane.*
- *Construct a 2nd westbound left turn lane.*
- *Construct a 3rd westbound through lane.*

4.3.59 Prior to the issuance of building permits, the Project Applicant shall pay requisite fees toward the construction of the following improvements at the intersection of Lasselle Street / Iris Avenue (Study Area Intersection 46):

- *Construct an eastbound right turn lane and modify the traffic signal to implement overlap phasing.*
- *Construct a westbound right turn lane.*
- *Modify the traffic signal to accommodate overlap phasing on the westbound right-turn lane.*

Level of Significance After Mitigation: The Project would pay requisite fees toward the completion of improvements required to mitigate the intersection deficiencies identified in previous Table 4.3-15, as required by Mitigation Measures 4.3.21 through 4.3.59. Table 4.3-16 presents a comparison of General Plan Buildout + Project Conditions without and with the improvements listed above.

Table 4.3-16
General Plan Buildout + Project Conditions
Intersection LOS Without and With Recommended Improvements

ID#	Intersection	Traffic Control	Delay (Seconds)			Level of Service		
			AM	PM	SAT	AM	PM	SAT
1	I-215 SB Ramps at Cactus Avenue							
	Without improvements	TS	**30.6**	**131.1**	21.8	**F**	**F**	C
	With improvements	TS	6.9	19.2	13.1	A	B	B
2	I-215 NB Ramps at Cactus Avenue							
	Without improvements	TS	**>200.0**	**>200.0**	24.8	**F**	**F**	C
	With improvements	TS	26.1	29.4	17.0	C	C	B
3	Elsworth Street at Cactus Avenue							
	Without improvements	TS	**>200.0**	**>200.0**	**79.7**	**F**	**F**	**E**
	With improvements	TS	32.7	54.5	32.8	C	D	C
4	Frederick Street at Cactus Avenue							
	Without improvements	TS	41.9	**>200.0**	21.3	D	**F**	C
	With improvements	TS	38.2	21.2	19.0	D	C	B
5	Graham Street at Cactus Avenue							
	Without improvements	TS	**164.2**	**>200.0**	**112.5**	**F**	**F**	**F**
	With improvements	TS	45.9	31.7	28.2	D	C	C
6	Heacock Street at Alessandro Boulevard							
	Without improvements	TS	**80.3**	**108.3**	**60.1**	**F**	**F**	**E**
	With improvements	TS	52.5	42.5	49.8	D	D	D
7	Heacock Street at Cactus Avenue							
	Without improvements	TS	**91.6**	**120.7**	**89.0**	**F**	**F**	**F**
	With improvements	TS	45.8	51.7	48.2	D	D	D
9	Heacock Street at Gentian Avenue							
	Without improvements	CSS	**56.9**	**39.9**	**48.5**	**F**	**E**	**E**
	With improvements	TS	19.5	23.4	18.5	B	C	B
10	Webster Avenue at Harley Knox Boulevard							
	Without improvements	CSS	**63.7**	**>100.0**	32.6	**F**	**F**	D
	With improvements	TS	20.6	13.7	12.4	C	B	B
12	Indian Street at Alessandro Boulevard							
	Without improvements	TS	**74.4**	**109.9**	**128.3**	**E**	**F**	**F**
	With improvements	TS	53.5	51.8	49.9	D	D	D

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Table 4.3-16
General Plan Buildout + Project Conditions
Intersection LOS Without and With Recommended Improvements

ID#	Intersection	Traffic Control	Delay (Seconds)			Level of Service		
			AM	PM	SAT	AM	PM	SAT
13	Indian Street at Cactus Boulevard							
	Without improvements	TS	**39.5**	**120.4**	47.3	**D**	**F**	D
	With improvements	TS	38.8	48.3	38.2	D	D	D
14	Indian Street at John F. Kennedy Drive							
	Without improvements	TS	**39.4**	28.5	30.5	**D**	C	C
	With improvements	TS	33.2	28.1	29.3	C	C	C
15	Indian Street at Gentian Avenue							
	Without improvements	CSS	**97.9**	**>100.0**	**>100.0**	**F**	**F**	**F**
	With improvements	TS	31.7	21.1	23.2	C	C	C
17	Indian Street at Iris Avenue							
	Without improvements	TS	**83.1**	**98.6**	**56.9**	**F**	**F**	**D**
	With improvements	TS	51.5	48.1	35.7	D	D	D
18	Indian Street at Krameria Avenue							
	Without improvements	CSS	**>100.0**	**>100.0**	**>100.0**	**F**	**F**	**F**
	With improvements	TS	49.8	38.8	32.0	D	D	C
19	Indian Street at San Michele Road							
	Without improvements	AWS	**>100.0**	**>100.0**	**>100.0**	**F**	**F**	**F**
	With improvements	TS	44.9	51.6	37.7	D	D	D
20	Indian Street at Nandina Avenue							
	Without improvements	AWS	**>100.0**	**>100.0**	**>100.0**	**F**	**F**	**F**
	With improvements	TS	43.6	43.0	34.0	D	D	C
21	Indian Street at Harley Knox							
	Without improvements	TS	**>200.0**	**>200.0**	**114.8**	**F**	**F**	**F**
	With improvements	TS	52.2	54.1	32.4	D	D	C
24	SR-60 EB Off-Ramp at Sunnymead Boulevard							
	Without improvements	TS	22.3	**81.7**	31.2	C	**F**	C
	With improvements	TS	18.4	54.9	24.4	B	D	C
25	Perris Boulevard at SR-60 WB Ramps							
	Without improvements	TS	**51.3**	**48.3**	**65.2**	**F**	**F**	**F**
	With improvements	TS	36.4	31.6	41.7	D	C	D

Table 4.3-16
General Plan Buildout + Project Conditions
Intersection LOS Without and With Recommended Improvements

ID#	Intersection	Traffic Control	Delay (Seconds)			Level of Service		
			AM	PM	SAT	AM	PM	SAT
26	Perris Boulevard at Sunnymead Boulevard							
	Without improvements	TS	**124.5**	**113.7**	**154.6**	**F**	**F**	**F**
	With improvements	TS	37.8	40.4	47.9	D	D	D
27	SR-60 EB On-Ramp at Sunnymead Boulevard							
	Without improvements	CSS	**>100.0**	**>100.0**	**>100.0**	**F**	**F**	**F**
	With improvements	RA	4.1	4.9	6.0	A	A	A
28	Perris Boulevard at Eucalyptus Avenue							
	Without improvements	TS	**62.6**	**63.7**	**100.6**	**E**	**E**	**F**
	With improvements	TS	43.1	44.6	43.5	D	D	D
29	Perris Boulevard at Cottonwood Avenue							
	Without improvements	TS	**57.4**	**79.6**	**87.1**	**E**	**E**	**F**
	With improvements	TS	44.7	52.5	53.0	D	D	D
30	Perris Boulevard at Alessandro Boulevard							
	Without improvements	TS	**53.8**	**170.2**	**161.6**	**D**	**F**	**F**
	With improvements	TS	34.8	47.2	38.4	C	D	D
31	Perris Boulevard at Cactus Avenue							
	Without improvements	TS	**119.4**	**165.3**	**133.2**	**F**	**F**	**F**
	With improvements	TS	48.3	41.9	43.0	D	D	D
32	Perris Boulevard at John F. Kennedy Drive							
	Without improvements	TS	**143.7**	**77.3**	**64.0**	**F**	**F**	**F**
	With improvements	TS	53.3	40.1	37.4	D	D	D
33	Perris Boulevard at Gentian Avenue							
	Without improvements	TS	23.6	**63.7**	**29.6**	C	**F**	**F**
	With improvements	TS	26.6	41.9	31.9	C	D	C
36	Perris Boulevard at Santiago Drive							
	Without improvements	CSS	**>100.0**	**>100.0**	**>100.0**	**F**	**F**	**F**
	With improvements	TS	25.7	29.3	35.2	C	C	D
37	Perris Boulevard at Iris Avenue							
	Without improvements	TS	**98.1**	**128.1**	**>200.0**	**F**	**F**	**F**
	With improvements	TS	37.0	40.6	53.6	D	D	D

Table 4.3-16
General Plan Buildout + Project Conditions
Intersection LOS Without and With Recommended Improvements

ID#	Intersection	Traffic Control	Delay (Seconds)			Level of Service		
			AM	PM	SAT	AM	PM	SAT
38	Perris Boulevard at Krameria Avenue							
	Without improvements	TS	**160.8**	**>200.0**	**>200.0**	**F**	**F**	**F**
	With improvements	TS	38.5	43.1	41.7	D	D	D
39	Perris Boulevard at San Michele Road							
	Without improvements	TS	**117.3**	**162.2**	**104.1**	**F**	**F**	**F**
	With improvements	TS	41.5	54.3	34.7	D	D	C
40	Perris Boulevard at Nandina Avenue							
	Without improvements	TS	**105.8**	**>200.0**	**107.8**	**F**	**F**	**F**
	With improvements	TS	32.7	39.4	34.2	C	D	C
41	Perris Boulevard at Harley Knox Boulevard							
	Without improvements	TS	**>200.0**	**>200.0**	**>200.0**	**F**	**F**	**F**
	With improvements	TS	31.6	31.8	22.2	C	C	C
42	Perris Boulevard at Ramona Expressway							
	Without improvements	TS	**134.3**	**79.1**	**95.5**	**F**	**E**	**F**
	With improvements	TS	38.8	38.7	37.3	D	D	D
43	Kitching Street at Cactus Avenue							
	Without improvements	TS	**64.8**	**43.3**	**37.8**	**F**	**D**	**D**
	With improvements	TS	32.6	31.8	29.8	C	C	C
44	Kitching Street at John F. Kennedy Drive							
	Without improvements	TS	**>200.0**	**126.2**	**75.8**	**F**	**F**	**E**
	With improvements	TS	34.2	28.6	25.8	C	C	C
45	Kitching Street at Iris Avenue							
	Without improvements	TS	**119.6**	**157.3**	**70.4**	**F**	**F**	**F**
	With improvements	TS	28.1	34.7	24.6	C	C	C
46	Lasselle Street at Iris Avenue							
	Without improvements	TS	**57.8**	**68.2**	48.4	**E**	**F**	D
	With improvements	TS	43.0	51.2	33.0	D	D	C

Source: *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015.
Notes: **Bold**, shaded text indicates unacceptable levels of service.

As indicated at Table 4.3-16, completion of the improvements identified previously under the Existing Conditions and Opening Year analysis, together with additional improvements identified under Mitigation Measures 4.3.21 through 4.3.59 would achieve acceptable LOS conditions.

The Project Applicant would pay requisite fees toward the completion of improvements necessary to mitigate potentially significant cumulative intersection impacts anticipated to occur under General Plan Buildout + Project Conditions, thereby fulfilling the Project's proportional mitigation responsibilities. Notwithstanding, payment of fees does not ensure timely completion of required improvements. Pending completion of required improvements, intersection LOS impacts identified at Table 4.3-16 would be cumulatively significant and unavoidable.

Level of Significance After Mitigation: ***Cumulatively significant and unavoidable.***

Roadway Segment Capacity Analysis

Roadway segment functional performance is determined in this case by the performance of controlling intersections. To this end, peak hour assessment of intersections located on either side of potentially deficient Study Area roadway segments has been conducted to determine if peak hour traffic flows can be accommodated by the roadway segment in question. In summary, if it is determined that intersection peak hour traffic flows can be accommodated at the City's stated intersection LOS thresholds, then widening of connecting roadway segment(s) is typically not recommended.

The peak hour intersection analysis presented in the TIA substantiates that under General Plan Buildout + Project Conditions, Study Area intersections along potentially deficient roadway segments are anticipated to operate at acceptable LOS with the incorporation of the intersection improvements detailed in the EIR mitigation measures. In instances where the required intersection improvements include additional through lanes, correlating roadway segment lane improvements would be required for the roadway segments between the improved intersections. Absent required roadway

segment lane improvements, Project traffic impacts to roadway segments between those improved intersections which include additional through lanes would be considered potentially significant under General Plan Buildout + Project Conditions. Potentially affected roadway segments subject to these conditions are listed at Table 4.3-17.

Table 4.3-17
General Plan Buildout + Project Conditions
Roadway Segment Deficiencies

#	Roadway	Segment Limits	Unimproved Roadway Segment Configuration	Unimproved Roadway Segment Capacity-ADT	General Plan Buildout + Project Segment ADT	V/C	LOS	Acceptable LOS
11	Alessandro Blvd.	West of Heacock St	5D	46,900	54,384	**1.16**	**F**	**D**
12	Alessandro Blvd.	East of Heacock St	6D	56,300	48,192	0.86	D*	D
13	Alessandro Blvd.	West of Indian St	6D	56,300	48,192	0.82	D*	D
14	Alessandro Blvd.	East of Indian St	6D	56,300	43,096	0.77	C*	D
16	Alessandro Blvd.	East of Perris Blvd.	4D	37,500	46,096	**1.23**	**F**	**D**
18	Cactus Ave.	I-215 SB Ramps to NB Ramps	4D	37,500	47,000	**1.25**	**F**	**D**
19	Cactus Ave.	East of I-215 NB Ramps	5D	46,900	65,700	**1.40**	**F**	**D**
20	Cactus Ave.	West of Elsworth St	5D	46,900	63,400	**1.35**	**F**	**D**
21	Cactus Ave.	East of Elsworth St	6D	56,300	58,450	**1.04**	**F**	**D**
22	Cactus Ave.	West of Frederick St.	5D	56,300	60,581	**1.08**	**F**	**D**
23	Cactus Ave.	East of Frederick St.	5D	56,300	62,838	**1.12**	**F**	**D**
24	Cactus Ave.	West of Graham St.	5D	56,300	59,572	**1.06**	**F**	**D**
25	Cactus Ave.	East of Graham St.	5D	56,300	55,142	**0.98**	**F**	**D**
26	Cactus Ave.	West of Heacock St.	5D	56,300	50,768	**0.90**	**F**	**D**
27	Cactus Ave.	East of Heacock St.	4D	37,500	43,555	**1.16**	**F**	**C**
28	Cactus Ave.	West of Indian St.	4D	37,500	39,564	**1.06**	**F**	**C**

Table 4.3-17
General Plan Buildout + Project Conditions
Roadway Segment Deficiencies

#	Roadway	Segment Limits	Unimproved Roadway Segment Configuration	Unimproved Roadway Segment Capacity-ADT	General Plan Buildout + Project Segment ADT	V/C	LOS	Acceptable LOS
29	Cactus Ave.	East of Indian St.	4D	37,500	39,331	**1.05**	**F**	**C**
30	Cactus Ave.	West of Perris Blvd.	4D	37,500	37,000	**0.99**	**E**	**C**
31	Cactus Ave.	East of Perris Blvd.	4D	37,500	32,096	**0.86**	**D**	**C**
51	Iris Ave.	West of Indian St.	2U	12,500	15,951	**1.28**	**F**	**D**
52	Iris Ave.	East of Indian St.	3D	28,150	20,0576	0.73	C*	D
53	Iris Ave.	West of Perris Blvd.	4D	37,500	26,792	0.71	C*	D
54	Iris Ave.	East of Perris Blvd.	4D	37,500	27,571	0.74	C*	D
55	Iris Ave.	West of Kitching St.	4D	37,500	32,206	**0.86**	**D**	**C**
60	Krameria Ave.	West of Perris Blvd.	2U	12,500	12,689	**1.02**	**F**	**C**
61	Krameria Ave.	East of Perris Blvd.	4D	37,500	27,208	0.73	C*	D
63	San Michele Rd.	East of Indian St.	3D	28,150	23,496	0.83	D*	D
64	San Michele Rd.	West of Perris Blvd.	2U	18,750	23,596	**1.26**	**F**	**D**
70	Harley Knox Blvd.	West of Webster Ave.	2U	18,750	39,288	**2.10**	**F**	**D**
71	Harley Knox Blvd.	East of Webster Ave.	2U	18,750	39,576	**2.11**	**F**	**D**
72	Harley Knox Blvd.	West of Indian St.	3D	28,150	36,988	**1.31**	**F**	**D**
73	Harley Knox Blvd.	East of Indian St.	3D	28,150	34,694	**1.23**	**F**	**D**
74	Harley Knox Blvd.	West of Perris Blvd.	2D	18,750	29,694	**1.58**	**F**	**D**
89	Heacock St.	North of Gentian St.	3D	28,150	25,192	0.89	D*	D
90	Heacock St.	South of Gentian Ave.	2U	12,500	24,000	**1.92**	**F**	**D**

Table 4.3-17
General Plan Buildout + Project Conditions
Roadway Segment Deficiencies

#	Roadway	Segment Limits	Unimproved Roadway Segment Configuration	Unimproved Roadway Segment Capacity-ADT	General Plan Buildout + Project Segment ADT	V/C	LOS	Acceptable LOS
102	Indian St.	Santiago Drive to Iris Ave.	2U	12,500	17,294	**1.38**	**F**	**D**
103	Indian St.	South of Iris Ave.	2U	12,500	10,194	0.82	D*	D
104	Indian St.	North of Krameria St.	2U	12,500	13,368	**1.07**	**F**	**D**
105	Indian St.	South of Krameria St.	2U	12,500	18,872	**1.51**	**F**	**D**
106	Indian St.	North of San Michele Rd.	3D	28,150	23,076	0.82	D*	D
107	Indian St.	San Michele Rd. to Nandina Ave.	2D	18,750	36,880	**1.97**	**F**	**D**
108	Indian St.	South of Nandina Ave.	2D	18,750	42,480	**2.27**	**F**	**D**
109	Indian St.	North of Harley Knox Blvd.	2D	18,750	43,160	**2.30**	**F**	**D**
110	Indian St.	South of Harley Knox Blvd.	4D	37,500	29,596	0.79	C*	D
113	Perris Blvd.	South of Sunnymead Blvd.	4D	37,500	47,384	**1.26**	**F**	**D**
114	Perris Blvd.	North of Eucalyptus Ave.	4D	37,500	46,385	**1.24**	**F**	**D**
115	Perris Blvd.	South of Eucalyptus Ave.	4D	37,500	52,481	**1.40**	**F**	**D**
116	Perris Blvd.	North of Cottonwood Ave.	4D	37,500	50,578	**1.35**	**F**	**D**
117	Perris Blvd.	South of Cottonwood Ave.	4D	37,500	45,866	**1.22**	**F**	**D**
118	Perris Blvd.	North of Alessandro Blvd.	4D	37,500	47,866	**1.28**	**F**	**D**
119	Perris Blvd.	South of Alessandro Blvd.	4D	37,500	48,058	**1.28**	**F**	**D**

Table 4.3-17
General Plan Buildout + Project Conditions
Roadway Segment Deficiencies

#	Roadway	Segment Limits	Unimproved Roadway Segment Configuration	Unimproved Roadway Segment Capacity-ADT	General Plan Buildout + Project Segment ADT	V/C	LOS	Acceptable LOS
120	Perris Blvd.	North of Cactus Ave.	4D	37,500	44,155	**1.18**	**F**	**D**
135	Perris Blvd.	North of Harley Knox Blvd.	2D	18,750	53,868	**2.87**	**F**	**D**
138	Perris Blvd.	South of Ramona Expressway	5D	46,900	31,192	0.66	B*	D
140	Kitching St.	South of Cactus Ave.	2U	12,500	17,811	**1.42**	**F**	**C**
141	Kitching St.	North of John F. Kennedy Drive	2U	12,500	20,217	**1.62**	**F**	**C**
142	Kitching St.	South of John F. Kennedy Drive	2U	12,500	18,277	**1.46**	**F**	**C**

Source: *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015.

Notes: Bold text indicates deficient LOS based on calculated lane capacities.

* Roadway segment improvements would be required in order to provide compatible continuation of through lane improvements at controlling segment intersections.

Level of Significance: Potentially Significant. Absent required lane improvements, cumulative traffic impacts affecting the roadway segments listed at Table 4.3-17 under General Plan Buildout + Project Conditions would be potentially significant, and the Project's contributions to these impacts would be cumulatively considerable.

Mitigation Measures (General Plan Buildout, Roadway Segment Improvements):

4.3.59.1 Prior to the issuance of building permits, the Project Applicant shall pay requisite DIF/TUMF toward the construction of the improved roadway segment configurations listed at Table 4.3-18.

Table 4.3-18
General Plan Buildout + Project
Roadway Segment Improvements and Resulting LOS

Roadway Segment ID No.	Roadway	Segment Limits	Unimproved Roadway Segment Configuration	Improved Roadway Segment Configuration	Improved Segment Capacity-ADT	General Plan Buildout + Project Segment-ADT	V/C	LOS	Acceptable LOS
11	Alessandro Blvd.	West of Heacock St.	5D	**7D**	**65,700**	54,384	0.83	D	D
12	Alessandro Blvd.	East of Heacock St.	6D	**7D**	**65,700**	48,192	0.73	C*	D
13	Alessandro Blvd.	West of Indian St.	6D	**7D**	**65,700**	48,192	0.70	B*	D
14	Alessandro Blvd.	East of Indian St.	6D	**7D**	**65,700**	43,096	0.66	B*	D
16	Alessandro Blvd.	East of Perris Blvd.	4D	**6D**	**56,300**	46,096	0.82	D	D
18	Cactus Ave.	I-215 SB Ramps to NB Ramps	4D	**7D**	**65,700**	47,000	0.72	C	D
19	Cactus Ave.	East of I-215 NB Ramps	5D	**8D**	**75,100**	65,700	0.87	D	D
20	Cactus Ave.	West of Elsworth St.	5D	**8D**	**75,100**	63,400	0.84	D	D
21	Cactus Ave.	East of Elsworth St.	6D	**8D**	**75,100**	58,450	0.78	C	D
22	Cactus Ave.	West of Frederick St.	5D	**7D**	**75,100**	60,581	0.81	D	D
23	Cactus Ave.	East of Frederick St.	5D	**7D**	**75,100**	62,838	0.84	D	D
24	Cactus Ave.	West of Graham St.	5D	**7D**	**75,100**	59,572	0.79	C	D
25	Cactus Ave.	East of Graham St.	5D	**7D**	**75,100**	55,142	0.73	C	D
26	Cactus Ave.	West of Heacock St.	5D	**6D**	**56,300**	50,768	0.90	D	D
27	Cactus Ave.	East of Heacock St.	4D	**6D**	**56,300**	43,555	0.77	C	C
28	Cactus Ave.	West of Indian St.	4D	**5D**	**46,900**	39,564	**0.84**	**D**	C
29	Cactus Ave.	East of Indian St.	4D	**5D**	**46,900**	39,331	**0.84**	**D**	C
30	Cactus Ave.	West of Perris Blvd.	4D	**5D**	**46,900**	37,000	0.79	C	C
31	Cactus Ave.	East of Perris Blvd.	4D	**5D**	**46,900**	32,096	0.68	B	C
51	Iris Ave.	West of Indian St.	2U	**4D**	**37,500**	15,951	0.43	A	D
52	Iris Ave.	East of Indian St.	3D	**4D**	**37,500**	20,0576	0.55	A*	D

Table 4.3-18
General Plan Buildout + Project
Roadway Segment Improvements and Resulting LOS

Roadway Segment ID No.	Roadway	Segment Limits	Unimproved Roadway Segment Configuration	Improved Roadway Segment Configuration	Improved Segment Capacity-ADT	General Plan Buildout + Project Segment-ADT	V/C	LOS	Acceptable LOS
53	Iris Ave.	West of Perris Blvd.	4D	**6D**	**56,300**	26,792	0.48	A*	D
54	Iris Ave.	East of Perris Blvd.	4D	**6D**	**56,300**	27,571	0.49	A*	D
55	Iris Ave.	West of Kitching St.	4D	**6D**	**56,300**	32,206	0.57	A	C
60	Krameria Ave.	West of Perris Blvd.	2U	**4D**	**37,500**	12,689	0.34	A*	C
61	Krameria Ave.	East of Perris Blvd.	4D	**4D**	**37,500**	27,208	0.44	A	D
63	San Michele Rd.	East of Indian St.	3D	**4D**	**37,500**	23,496	0.63	B*	D
64	San Michele Rd.	West of Perris Blvd.	2U	**4D**	**37,500**	23,596	0.63	B	D
70	Harley Knox Blvd.	West of Webster Ave.	2U	**4D**	**37,500**	39,288	**1.05**	**F**	D
71	Harley Knox Blvd.	East of Webster Ave.	2U	**4D**	**37,500**	39,576	**1.06**	**F**	D
72	Harley Knox Blvd.	West of Indian St.	3D	**6D**	**56,300**	36,988	0.66	B	D
73	Harley Knox Blvd.	East of Indian St.	3D	**6D**	**56,300**	34,694	0.62	B	D
74	Harley Knox Blvd.	West of Perris Blvd.	2D	**4D**	**37,500**	29,694	0.79	C	D
89	Heacock St.	North of Gentian St.	3D	**4D**	**37,500**	25,192	0.67	B*	D
90	Heacock St.	South of Gentian Ave.	2U	**4D**	**37,500**	24,000	0.64	B	D
102	Indian St.	Santiago Dr. to Iris Ave.	2U	**4D**	**37,500**	17,294	0.46	A	D
103	Indian St.	South of Iris Ave.	2U	**4D**	**37,500**	10,194	0.27	A*	D
104	Indian St.	North of Krameria St.	2U	**4D**	**37,500**	13,368	0.36	A	D
105	Indian St.	South of Krameria St.	2U	**4D**	**37,500**	18,872	0.50	A	D
106	Indian St.	North of San Michele Rd.	3D	**4D**	**37,500**	23,076	0.62	B	D
107	Indian St.	San Michele Rd. to Nandina Ave.	2D	**5D**	**46,900**	36,880	0.79	C	D

Table 4.3-18
General Plan Buildout + Project
Roadway Segment Improvements and Resulting LOS

Roadway Segment ID No.	Roadway	Segment Limits	Unimproved Roadway Segment Configuration	Improved Roadway Segment Configuration	Improved Segment Capacity-ADT	General Plan Buildout + Project Segment-ADT	V/C	LOS	Acceptable LOS
108	Indian St.	South of Nandina Ave.	2D	**5D**	**46,900**	42,480	**0.91**	**E**	D
109	Indian St.	North of Harley Knox Blvd.	2D	**5D**	**46,900**	43,160	**0.92**	**E**	D
110	Indian St.	South of Harley Knox Blvd.	4D	**5D**	**46,900**	29,596	0.63	B	D
113	Perris Blvd.	South of Sunnymead Blvd.	4D	**6D**	**56,300**	47,384	0.84	D	D
114	Perris Blvd.	North of Eucalyptus Ave.	4D	**6D**	**56,300**	46,385	0.82	D	D
115	Perris Blvd.	South of Eucalyptus Ave.	4D	**6D**	**56,300**	52,481	**0.93**	**E**	D
116	Perris Blvd.	North of Cottonwood Ave.	4D	**6D**	**56,300**	50,578	0.90	D	D
117	Perris Blvd.	South of Cottonwood Ave.	4D	**6D**	**56,300**	45,866	0.81	D	D
118	Perris Blvd.	North of Alessandro Blvd.	4D	**6D**	**56,300**	47,866	0.85	D	D
119	Perris Blvd.	South of Alessandro Blvd.	4D	**6D**	**56,300**	48,058	0.85	D	D
120	Perris Blvd.	North of Cactus Ave.	4D	**6D**	**56,300**	44,155	0.78	C	D
135	Perris Blvd.	North of Harley Knox Blvd.	2D	**6D**	**56,300**	53,868	**0.96**	**E**	D
138	Perris Blvd.	South of Ramona Expy.	5D	**6D**	**56,300**	31,192	0.55	A	D
140	Kitching St.	South of Cactus Ave.	2U	**4D**	**37,500**	17,811	0.47	A	C
141	Kitching St.	North of John F. Kennedy Dr.	2U	**4D**	**37,500**	20,217	0.54	A	C

Table 4.3-18
General Plan Buildout + Project
Roadway Segment Improvements and Resulting LOS

Roadway Segment ID No.	Roadway	Segment Limits	Unimproved Roadway Segment Configuration	Improved Roadway Segment Configuration	Improved Segment Capacity-ADT	General Plan Buildout + Project Segment-ADT	V/C	LOS	Acceptable LOS
142	Kitching St.	South of John F. Kennedy Dr.	2U	**4D**	**37,500**	18,277	0.49	A	C

Source: *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015.
Notes: Bold text indicates deficient LOS based on calculated lane capacities.
* Roadway segment improvements would be required in order to provide compatible continuation of through lane improvements at controlling segment intersections.

Level of Significance After Mitigation

As indicated at Table 4.3-18, with completion of the required roadway segment improvements, LOS standards based solely on lane capacities would be achieved for all Study Area roadway segments, with the exception of roadway segments 28, 29, 70, 71, 108, 109, 115 and 135. Along roadway segments 28, 29, 70, 71, 108, 109, 115 and 135 cumulative daily traffic volumes under General Plan Buildout + Project Conditions would exceed calculated lane capacities even with implementation of required roadway segments improvements. Along these segments, however, the controlling intersections, as improved, would operate at acceptable LOS indicating that intervening roadway segments would also operate acceptably. On this basis, with the completion of the roadway segment improvements identified at Table 4.3-18, impacts to Study Area roadway segments would be less-than-significant under General Plan Buildout + Project Conditions. It is further noted that the "Improved Roadway Segment Configuration" identified at Table 4.3-18 is consistent with, or could be implemented within, correlating City of Moreno Valley General Plan Circulation Element roadway cross-sections.

The Project Applicant would pay requisite DIF/TUMF toward the completion of improvements necessary to mitigate potentially significant cumulative roadway segment impacts anticipated to occur under General Plan Buildout + Project Conditions, thereby fulfilling the Project's proportional mitigation responsibilities. Notwithstanding, payment of DIF/TUMF does not ensure timely completion of required improvements. Pending completion of the required improvements, Project-related impacts under General Plan Buildout + Project Conditions are recognized as

cumulatively significant and unavoidable at all Study Area roadway segments listed at Table 4.3-18.

Level of Significance After Mitigation: ***Cumulatively significant and unavoidable.***

Freeway Ramp Progression Analysis, General Plan Buildout Conditions

The queue length analysis performed for General Plan Buildout Conditions found that at the following location, potential ramp queues would exceed the ramp length and could result in a potential for periodic spill back onto I-215 mainline segments.

- I-215 NB Off-Ramp at Cactus Avenue (NB left-turn exceeds storage pocket length during weekday morning peak hour period).

This impact would occur with or without the addition of Project traffic. Project traffic would, however, contribute to potentially significant weekday morning peak hour queues at the I-215 NB Off-Ramp at Cactus Avenue. All other Study Area freeway ramps would operate acceptably and would not experience unacceptable queue lengths.

Level of Significance: Potentially Significant.

Mitigation Measure: Please refer to Mitigation Measure 4.3.4, presented previously.

As indicated at Mitigation Measure 4.3.4, the Project Applicant would pay requisite fees toward the completion of required at the I-215 Northbound Ramps at Cactus Avenue. Payment of fees would fulfill the Project's proportional mitigation requirements for cumulative queuing impacts affecting the I-215 Northbound Ramps at Cactus Avenue under General Plan Buildout + Project Conditions. The improvements identified at Mitigation Measure 4.3.4 would, when completed, alleviate the potential freeway ramp queuing issue at the I-215 Northbound Ramps at Cactus Avenue under General Plan Buildout + Project Conditions. However, the payment of fees by the Project Applicant does not ensure timely completion of required improvements. Pending completion of the required improvements, queuing impacts affecting impacts at the I-215 Northbound

Ramps at Cactus Avenue under General Plan Buildout + Project Conditions are cumulatively significant and unavoidable.

Level of Significance After Mitigation: ***Cumulatively significant and unavoidable.***

Mainline Freeway Segment and Merge/Diverge Analysis, General Plan Buildout Conditions

In consultation with the Lead Agency it was determined that freeway analysis (segment and merge/diverge analyses) was not needed beyond the Existing + Project scenario.

FEE COLLECTION AND ASSIGNMENT MECHANISMS

Required improvements are identified for each development/analytic scenario considered herein (Existing [2013] Conditions, Opening Year [2018] Conditions, and General Plan Buildout [Post-2035] Conditions). Requisite fees paid by the Project would be directed to fund the required improvements. Mitigation Measures 4.3.60 through 4.3.64 (below) establish the means for collection and assignment of Project fees, and complement the requirements for the physical improvements identified in previous Mitigation Measures 4.3.3 through 4.3.59.1. In this manner, Mitigation Measures 4.3.60 through 4.3.64 would further collection and assignment of traffic improvements fees to the extent practical, increasing the likelihood that required traffic improvements within the Study Area would be timely completed. Please refer also to the discussions of Project TUMF, DIF and Fair Share fee responsibilities presented within the Project TIA (EIR Appendix C).

4.3.60 Prior to the issuance of building permits, the Project Applicant shall participate in the City's DIF/TUMF programs and in addition shall pay the Project's fair share for the improvements identified at Mitigation Measures 4.3.3 through 4.3.59.1 in the amount(s) agreed to by the City and Project Applicant.

4.3.61 Certain of the improvements identified at Mitigation Measures 4.3.3 through 4.3.20 and 4.3.21 through 4.3.59 are proposed for intersections that are located within the City of Perris. Because the City of Moreno Valley does not have plenary control over

intersections that are located within the City of Perris, the City of Moreno Valley cannot guarantee that such improvements will be constructed. Thus, the following additional mitigation is required: The City of Moreno Valley shall participate in a multi-jurisdictional effort with the City of Perris to develop a study to identify fair share contribution funding sources attributable to and paid from private and public development to supplement other regional and State funding sources necessary to implement the improvements identified at Mitigation Measures 4.3.3 through 4.3.20 and 4.3.21 through 4.3.59 that are located in the City of Perris. 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 attributable to City of Perris facilities that are not attributable to development located within the City of Moreno Valley are not paying 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 agreed-upon 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. Because the City of Moreno Valley and the City of Perris are responsible to implement this mitigation measure, the Project Applicant shall have no compliance obligations with respect to this mitigation measure.

4.3.62 *Fair-share amount(s) agreed to by the City and Project Applicant for non-DIF improvements at intersections that are located within the City of Perris shall be paid by the Project Applicant to the City of Moreno Valley prior to the issuance of the Project's final certificate of occupancy. The City of Moreno Valley shall hold the Project Applicant's Fair Share Contribution in trust and shall apply the Project Applicant's Fair Share Contribution to any fee program adopted or agreed upon by the City of Moreno Valley and the City of Perris as a result of implementation of Mitigation Measure 4.3.61. If, within five (5) years of the date of collection of the Project Applicant's Fair Share Contribution, the City of Moreno Valley and the City of Perris do not comply with Mitigation Measure 4.3.61, then the Project Applicant's Fair Share Contribution shall be returned to the Project Applicant.*

4.3.63 *Certain of the improvements identified at Mitigation Measures 4.3.3 through 4.3.20 and 4.3.21 through 4.3.59 are proposed for intersections under Caltrans jurisdiction. Because the City of Moreno Valley does not have plenary control over intersections under Caltrans jurisdiction, the City of Moreno Valley cannot guarantee that such improvements will be constructed. Thus, the following additional mitigation is required: The City of Moreno Valley shall participate in a multi-jurisdictional effort with Caltrans to develop a study to identify fair share contribution funding sources attributable to and paid from private and public development to supplement other regional and State funding sources necessary to implement the improvements identified at Mitigation Measures 4.3.3 through 4.3.20 and 4.3.21 through 4.3.59 that are under Caltrans jurisdiction. 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 attributable to Caltrans facilities that are not attributable to development located within the City of Moreno Valley are not paying 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 agreed-upon 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. Because the City of Moreno Valley and Caltrans are responsible to implement this mitigation measure, the Project Applicant shall have no compliance obligations with respect to this mitigation measure.*

4.3.64 *Fair-share amount(s) agreed to by the City and Project Applicant for non-DIF improvements at intersections that are under Caltrans jurisdiction shall be paid by the Project Applicant to the City of Moreno Valley prior to the issuance of the Project's final certificate of occupancy. The City of Moreno Valley shall hold the Project Applicant's Fair Share Contribution in trust and shall apply the Project Applicant's Fair Share Contribution to any fee program adopted or agreed upon by the City of Moreno Valley and Caltrans as a result of implementation of Mitigation Measure 4.3.63. If, within five (5) years of the date of collection of the Project Applicant's Fair Share Contribution, the City of Moreno Valley and Caltrans do not comply with Mitigation Measure 4.3.63, then*

the Project Applicant's Fair Share Contribution shall be returned to the Project Applicant.

POTENTIAL POLICY CONSISTENCY IMPACTS

The Project is subject to plans, policies, guidelines, and regulations established by the City of Moreno Valley. As indicated in Table 4.3-19, the Project is consistent with, and appropriately responds to, applicable Transportation Objectives and Policies, and the circulation objectives included in the City's General Plan.

Table 4.3-19
General Plan Circulation Goals and Policies Consistency

Policies	Applicability/Consistency
Policy 5.1.2 Plan the circulation system to reduce conflicts between vehicular, pedestrian and bicycle traffic.	***Consistent.*** *As discussed within this Section, the final design of the Project site plan, including review of Project access improvements, will be subject to the review and approval of the City Engineer to ensure the safety of bicyclists and pedestrians in the Project vicinity.*
Objective 5.3 Maintain Level of Service "C" on roadway links, wherever possible, and LOS "D" in the vicinity of SR-60 and high employment centers.	***Consistent.*** *As discussed within this Section, the Project's evaluation of performance on roadway segments and intersections has used these standards to determine the significance of potential impacts.*
Policy 5.3.4 For planning purposes, utilize LOS standards shown on [General Plan] Table 5-1 to determine recommended roadway widths.	***Consistent.*** *The Project will be responsible for roadway improvements that are in compliance with the City of Moreno Valley's standards for width and configuration.*
Policy 5.3.5 Ensure that new development pays a fair share of costs to provide local and regional transportation improvements and to mitigate cumulative traffic impacts. For this purpose, require new developments to participate in the Transportation Uniform Mitigation Fee Program (TUMF), the Development Impact Fee Program (DIF), and any other applicable transportation fee programs and benefit assessment districts.	***Consistent.*** *As discussed within this Section, the Project will participate in the City's DIF and TUMF Programs, as well as any other applicable transportation fee programs and benefit assessment districts that are in place prior to Project development.*
Policy 5.3.6 Where new developments would increase traffic flows beyond LOS C (or LOS D, where applicable), require appropriate and feasible mitigation measures as a condition of approval. Such measures may include extra right-of-way and improvements to accommodate left-turn and right-turn lanes at intersections, or other improvements.	***Consistent.*** *As discussed within this Section, Project mitigation measures identify all improvements required due to Project-related traffic impacts, including cumulative impacts, at Study Area roadway segments and intersections.*

Table 4.3-19
General Plan Circulation Goals and Policies Consistency

Policies	Applicability/Consistency
Objective 5.4 Maximize efficiency of the regional circulation system through close coordination with state and regional agencies and implementation of regional transportation policies.	***Consistent.*** *Project-related improvements are subject to the City's coordination with Caltrans and the Riverside Transit Agency (RTA) at a minimum and will be implemented in a manner that maximizes transportation efficiencies wherever feasible.*
Policy 5.4.1 Coordinate with Caltrans and the Riverside County Transportation Commission (RCTC) to identify and protect ultimate rights-of-way, including those for freeways, regional arterial projects, transit, bikeways and interchange expansion.	***Consistent.*** *As noted within this Section, the Project will participate in the funding of regional and local improvements through the payment of TUMF, DIF and fair share fees. This funding will support the City's effort to coordinate and ultimately realize these improvements.*

Source: City of Moreno Valley General Plan, Circulation Element.

As outlined above, the Project would be implemented consistent with applicable provisions of the City's General Plan. Prior to the issuance of building permits, the City will review the final Project site plan and circulation designs to ensure consistency with applicable standards, design guidelines, and Municipal Code requirements. Based on the preceding analysis, the potential for the Project to conflict with any applicable circulation plan, policy, or regulation is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *The Project would conflict with an applicable congestion management program, including, but not limited to a level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.*

Impact Analysis: I-215 and SR-60 are the only facilities within the Study Area that are designated Riverside County Congestion Management Plan (CMP) components. The Riverside County Transportation Commission (RCTC) has adopted LOS "E" as the minimum standard along the CMP System of Highways and Roadways within the Study Area. The Project would generate less than 25 two-way trips affecting CMP

facilities and would not affect CMP facilities LOS. Therefore, the Project's impacts to the CMP facilities are considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or result in inadequate emergency access.*

Impact Analysis: To ensure appropriate design and implementation of all Project circulation improvements, the final design of the Project site plan, to include locations and design of proposed driveways, shall be reviewed and approved by the City Traffic Engineer. In addition, representatives of the City's Police and Fire Departments will review the Project's plans in regard to emergency access. Efficient and safe operations of the Project are provided by on-site and localized circulation and intersection improvements included as components of the Project, as described below.

Roadway Improvements

Site-adjacent roadway improvements proposed by the Project (illustrated previously at Figure 4.3-3) are described below.

Gentian Avenue is an east-west oriented roadway located along the Project's northern boundary. Gentian Avenue would be constructed at its ultimate half-section width as a modified Minor Arterial Highway (88-foot right-of-way) between the Project's western boundary and Perris Boulevard. Gentian Avenue will be constructed with a wide raised median in conjunction with a reduction in the number of through lanes (one lane in each direction) from the standard Minor Arterial Highway cross-section. Improvements along the Project's frontage (south side of Gentian Avenue) would be those required by final conditions of approval for the proposed Project and applicable City of Moreno Valley standards.

Perris Boulevard is a north-south oriented roadway located along the Project's eastern boundary. Perris Boulevard would be constructed at its ultimate half-section width as a Divided Six-Lane Arterial Highway (110-foot right-of-way) between Gentian Avenue and Santiago Drive. Improvements along the Project's frontage (west side of Perris Boulevard) would be those required by final conditions of approval for the proposed Project and applicable City of Moreno Valley standards.

Santiago Drive is an east-west oriented roadway located along the Project's southern boundary. Santiago Drive will be constructed at its ultimate half-section width as a Collector (66-foot right-of-way) between the Project's western boundary and Perris Boulevard. Improvements along the Project's frontage (north side of Santiago Drive) would be those required by final conditions of approval for the proposed Project and applicable City of Moreno Valley standards.

Site Access Improvements

Site access driveway improvements for the Project (illustrated previously at Figure 4.3-4) are described below.

Gentian Avenue / Driveway 1

- Install a stop control on the northbound approach and construct the intersection with the following geometrics:
  - Northbound Approach: One shared left-right turn lane.
  - Southbound Approach: N/A
  - Eastbound Approach: One shared through-right turn lane.
  - Westbound Approach: One shared left-through lane.

Santiago Drive / Driveway 2

- Install a stop control on the southbound approach and construct the intersection with the following geometrics:
  - Northbound Approach: N/A
  - Southbound Approach: One shared left-right turn lane.
  - Eastbound Approach: One shared left-through lane.

- Westbound Approach: One shared through-right turn lane.

Perris Boulevard / Gentian Avenue

- Maintain the existing traffic signal; however, install signal heads for the eastbound approach, and construct the intersection with the following geometrics:
  - Northbound Approach: One left turn lane (to provide a minimum of 300-feet of storage), two through lanes and one shared through-right turn lane.
  - Southbound Approach: One southbound left turn lane, two through lanes and one shared through-right turn lane.
  - Eastbound Approach: One left turn lane (to provide a minimum of 200-feet of storage) and a shared through-right turn lane.
  - Westbound Approach: One shared left-through-right turn lane.

Perris Boulevard / Driveway *3*

- Install a stop control on the eastbound approach and construct the intersection with the following geometrics:
  - Northbound Approach: Three through lanes.
  - Southbound Approach: Two through lanes and one shared through-right turn lane.
  - Eastbound Approach: One right turn lane.
  - Westbound Approach: N/A

Perris Boulevard / Driveway 4

- Install a stop control on the eastbound approach and construct the intersection with the following geometrics:
  - Northbound Approach: Three through lanes.
  - Southbound Approach: Two through lanes and one shared through-right turn lane.
  - Eastbound Approach: One right turn lane.
  - Westbound Approach: N/A

Perris Boulevard / Santiago Drive

- Install a traffic signal and construct the intersection with the following geometrics:
  - Northbound Approach: One left turn lane (to provide a minimum of 300-feet of storage), two through lanes and one shared through-right turn lane.
  - Southbound Approach: One left turn lane, two through lanes and one shared through-right turn lane.
  - Eastbound Approach: One left turn lane (to provide a minimum of 150-feet of storage) and a shared through-right turn lane.
  - Westbound Approach: One shared left-through-right turn lane.

Wherever necessary, roadways adjacent to the Project, site access points and site-adjacent intersections will be constructed to be consistent with or within the recommended roadway classifications and respective cross-sections in the City of Moreno Valley General Plan Circulation Element. Construction of on-site and site adjacent improvements shall occur in conjunction with adjacent Project development activity or as needed for Project access purposes.

Construction Traffic

Traffic operations during the construction phase of the Project may potentially result in traffic impacts related to construction employees, export of materials, import of construction materials, etc. It is anticipated that the following activities would generate traffic and may potentially result in construction-related traffic impacts:

- Employee trips;
- Export and import of construction materials; and
- Use of heavy equipment.

Each of these traffic generating activities is discussed below.

Employee Trips

Employee trips are based on the number of employees estimated to be on-site throughout the various stages of construction. Each employee is assumed to drive to and from the construction site alone each day. It has been assumed that employees will arrive up to 30 minutes prior to the workday and will leave up to 30 minutes after the workday ends. Parking for employees and non-employee vehicles can be accommodated through the construction of a portion of the proposed parking lot for the Project. It is anticipated that the majority of employees would arrive and depart from the site near the peak commute traffic periods (i.e., 7:00-9:00 a.m. and 4:00-6:00 p.m.) with a period of overlap. Based on the TIA, impacts of construction-related parking and employee traffic would be nominal.

Export and Import of Materials

Construction of the Project will require the export and import of construction materials. In order to minimize the impact of construction truck traffic to the surrounding roadway network, trucks shall utilize the most direct route between the site and the I-215 Freeway (Cactus Avenue to Perris Boulevard). The export and import of construction materials shall be limited to time frames specified by the City's Land Development Division, thereby minimizing potential effects on the surrounding roadway network. Please refer to Mitigation Measures 4.3.65 through 4.3.66 presented subsequently.

Heavy Equipment

Heavy equipment to be utilized on-site during construction includes, but is not limited to: flat beds, dozers, scrapers, graders, track hoes, dump trucks, forklifts, cranes, cement trucks, pavers, rollers, water trucks, rolling container trucks and bobcats. Heavy equipment will be delivered and removed from the site throughout the construction phase. As most heavy equipment is typically not an authorized vehicle to be driven on a public roadway, most of the equipment will be delivered and removed from the site via large flatbed trucks. It is anticipated that delivery of heavy equipment would not occur on a daily basis, but rather periodically throughout the construction phase based on need. Transport of heavy equipment shall be limited to time frames specified by the

City's Land Development Division, thereby minimizing potential effects on the surrounding roadway network. Transport of heavy equipment to and from the Project site would be subject to requirements of the Project Construction Traffic Management Plan, discussed below. Please refer also to Mitigation Measure 4.3.66.

Construction Traffic Management Plan

It is also recognized that temporary and short-term traffic detours and traffic disruption could result during Project construction activities. Management and control of construction traffic would be addressed through the preparation and submittal of a construction area traffic management plan, to be reviewed and approved by the City prior to or concurrent with Project building plan review(s), and prior to the issuance of building permits. The Project Construction Area Traffic Management Plan (Plan), required by Mitigation Measure 4.3.66, would at a minimum identify traffic controls for any street closures, detours, construction vehicle access routes, and hours of construction traffic and any known or probable disruptions to traffic circulation systems anticipated to occur during Project construction. The Plan would be a required component of all building plan/contract document packages.

Typical elements and information incorporated in the Project construction traffic management plan would include, but would not be limited to:

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

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

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

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

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

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

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

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

Level of Significance: Potentially Significant.

Mitigation Measures:

4.3.65 *Construction trucks shall utilize the most direct route between the site and the I-215 Freeway (Cactus Avenue to Perris Boulevard). Routes other than those identified on the City's Designated Truck Route Map shall be submitted to the City Public Works Department for review and approval.*

4.3.66 *The Project Applicant shall prepare a Construction Area Traffic Management Plan (Plan) to be reviewed and approved by the City Public Works Department. The Plan shall identify traffic controls; any street closures and/or detours, or other disruption to traffic circulation, as well as construction vehicle access routes, hours of construction traffic to include transport of equipment to and from the site as well as any planned import or export of soil; any pavement repairs or enhancements along proposed construction traffic*

routes; and other information and/or restrictions determined necessary by the Lead Agency. The Plan and its requirements shall be provided to all contractors as one component of building plan/contract document packages.

Level of Significance After Mitigation: Less-Than-Significant.

4.4 AIR QUALITY

4.4 AIR QUALITY

Abstract

This Section identifies and addresses potential air quality impacts that may result from construction and implementation of the Project. More specifically, the air quality analysis evaluates the potential for the Project to result in the following impacts:

- *Conflict with or obstruct implementation of the applicable air quality plan;*
- *Violate any air quality standard or contribute substantially to an existing or projected air quality violation;*
- *Expose sensitive receptors to substantial pollutant concentrations;*
- *Create objectionable odors affecting a substantial number of people; or*
- *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.*

On the basis of the analysis presented herein, even after the application of mitigation measures, the Project would generate operational-source emissions of oxides of nitrogen (NO_x) that would exceed applicable South Coast Air Quality Management District (SCAQMD) regional thresholds. This is a significant individual and cumulative air quality impact. Moreover, the Project is located within ozone and PM_{10}/$PM_{2.5}$ non-attainment areas (NO_x is a precursor to ozone and PM_{10}/$PM_{2.5}$). Project operational-source NO_x emissions exceedances would therefore

result in a cumulatively considerable net increase in criteria pollutants (ozone and PM_{10}/$PM_{2.5}$) for which the Project region is non-attainment. This is a cumulatively significant air quality impact.

Additionally, the Project would be considered inconsistent with the current Air Quality Management Plan (AQMP). This is a Project-level and cumulatively significant impact.

Other potential air quality impacts of the Project are either less-than-significant or can be reduced to levels that are less-than-significant with application of the mitigation measures described herein.

4.4.1 INTRODUCTION

This Section presents existing air quality conditions and identifies potential air quality impacts resulting from construction and operation of the Project. Local and regional climate, meteorology and air quality are discussed, as well as existing federal, state and regional air quality regulations. The information presented in this Section is summarized from the *Moreno Valley Walmart Air Quality Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014 and *Moreno Valley Walmart Air Toxics Health Risk Assessment, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014. The Project Air Quality Reports, including all supporting air quality modeling data, are presented in their entirety at EIR Appendix D.

4.4.2 AIR QUALITY FUNDAMENTALS

Air pollution comprises many substances generated from a variety of sources, both man-made and natural. Industrialization occurring in the twentieth century, and especially activities relying on the burning of fossil fuels, creates air pollution. Most air pollutant contaminants are actually wasted energy in the form of unburned fuels or by-products of the combustion process. Motor vehicles are by far the most significant source of air pollutants in urban areas, emitting photochemically reactive hydrocarbons (unburned fuel), carbon monoxide, and oxides of nitrogen. These primary pollutants

chemically react in the atmosphere with sunlight and the passage of time to form secondary pollutants such as ozone.

Although substantive air quality improvements have been made in California over the past twenty years, Southern California still experiences severe air pollution problems. As discussed in greater detail in the following paragraphs, oxidants and suspended particulates represent the major air quality problems within the South Coast Air Basin (SCAB, Basin) in which the Project site is located.

Air pollutants are generally classified as either primary or secondary pollutants. Primary pollutants are generated daily and emitted directly from the source, whereas secondary pollutants are created over time and occur within the atmosphere as chemical and photochemical reactions take place. Examples of primary pollutants include carbon monoxide (CO), oxides of nitrogen (NO_2 and NO), sulfur dioxide (SO_2), particulate matter (PM_{10} and $PM_{2.5}$), and various hydrocarbons or reactive organic gases (ROG). Examples of secondary pollutants include ozone (O_3), which is a product of the reaction between NO_x and ROG in the presence of sunlight. Other secondary pollutants include photochemical aerosols.

To aid in the review of discussions presented subsequently in this Section, recurring terms, abbreviations, and acronyms are defined as follows: PPM - Parts per Million; $\mu g/m^3$ - Micrograms Per Cubic Meter; PM_{10} - Particulate Matter Less Than 10 Microns In Diameter; $PM_{2.5}$ - Particulate Matter Less Than 2.5 Microns In Diameter.

4.4.2.1 Criteria Air Pollutants

Criteria air pollutants are those air contaminants for which air quality standards currently exist. Currently, state and federal air quality standards exist for ozone, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), suspended particulate matter (PM_{10} and $PM_{2.5}$), and lead. California has also set standards for visibility, sulfates, hydrogen sulfide, and vinyl chloride. Evaluated criteria air contaminants, or their precursors, typically also include reactive organic gases (ROG), oxides of nitrogen (NO_x), sulfur oxides (SO_x), and respirable particulate matter (PM_{10},

$PM_{2.5}$). Pollutant characteristics, mechanisms of pollutant origination and potential health effects of air pollutants are described below.

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless, toxic gas formed by incomplete combustion of fossil fuels. CO levels tend to be highest during the winter mornings, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, motor vehicles operating at slow speeds are the primary source of CO in the Basin. The highest CO concentrations are generally found near congested transportation corridors and intersections. Other sources include aircraft, off-road vehicles, stationary equipment (e.g., fuel-fired furnaces, gas water heaters, fireplaces, gas stoves, gas dryers, charcoal grills), and landscape maintenance equipment such as lawnmowers and leaf blowers.

A consistent association between increased ambient CO levels and higher-than-average rates of hospital admissions for heart diseases (such as congestive heart failure) has been observed. Carbon monoxide can cause decreased exercise capacity, and adversely affects conditions with an increased demand for oxygen supply (fetal development, chronic hypoxemia, anemia, and diseases involving the heart and blood vessels). Exposure to CO can cause impairment of time interval estimation and visual function.

Ozone

Ozone (O_3) is a highly reactive and unstable gas that is formed when volatile organic compounds (VOC) and oxides of nitrogen (NO_x), which are both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of the pollutant.

Short-term exposure to ozone can cause a decline in pulmonary function in healthy individuals including breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue and

immunological changes. Additionally, an increase in the frequency of asthma attacks, cough, chest discomfort and headache can result.

A correlation has been reported between elevated ambient ozone levels and increases in daily hospital admission rates and mortality as a result of long-term ozone exposure. A risk to public health implied by altered connective tissue metabolism and host defense in animals has also been reported.

Oxides of Nitrogen

Oxides of nitrogen (NO_x) serve as integral participants in the process of photochemical smog production. During combustion, oxygen reacts with nitrogen to produce NO_x. Two major forms of NO_x are nitric oxide (NO) and nitrogen dioxide (NO_2). Natural causal sources or originators of NO_x include lightning, soils, wildfires, stratospheric intrusion, and the oceans. Natural sources accounted for approximately seven percent of 1990 emissions of NO_x for the United States (EPA 1997). Atmospheric deposition of NO_x occurs when atmospheric or airborne nitrogen is transferred to water, vegetation, soil, or other materials. Acid deposition involves the deposition of nitrogen and/or sulfur acidic compounds that can harm natural resources and materials. The major source of NO_x in the Basin is on-road vehicles. Stationary commercial and service source fuel combustion are other contributors.

Exposure to NO_x may alter sensory responses or impair pulmonary function, and may increase incidence of acute respiratory disease including infections and respiratory symptoms in children. Difficulty in breathing in healthy individuals as well as bronchitic groups may also occur. NO_x is also a precursor to ozone and PM_{10}/$PM_{2.5}$. As noted above, health effects of ground-level ozone include: aggravated asthma; reduced lung capacity; increased respiratory illness susceptibility; increased respiratory and cardiovascular hospitalizations; and premature deaths.

Sulfur Dioxide

Sulfur dioxide (SO_2) is a colorless, pungent gas. At levels greater than 0.5 ppm, SO_2 has a strong odor. Sulfuric acid is formed from sulfur dioxide, which is an aerosol particle

component that affects acid deposition. Anthropogenic, or human-caused, sources include fossil-fuel combustion, mineral ore processing, and chemical manufacturing. Volcanic emissions are a natural source of sulfur dioxide. SO_2 is a precursor to sulfates and PM_{10}.

Health effects of SO_2 include higher frequencies of acute respiratory symptoms (including airway constriction in some asthmatics and reduction in breathing capacity leading to severe difficulties) and diminished ventilatory function in children. Very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.

Lead

Lead (Pb) is a solid heavy metal that can exist in air pollution as an aerosol particle component. An aerosol is a collection of solid, liquid, or mixed-phase particles suspended in the air. It was first regulated as an air pollutant in 1976. Leaded gasoline was first marketed in 1923 and was used in motor vehicles until around 1970. The exclusion of lead from gasoline helped to decrease emissions of lead in the United States from 219,000 to 4,000 short tons per year between 1970 and 1997. Lead-ore crushing, lead-ore smelting, and battery manufacturing are currently the largest sources of lead in the atmosphere in the United States. Other sources emanate from the dust of soils contaminated with lead-based paint and solid waste disposal.

Lead adversely affects the development and function of the central nervous system, leading to learning disorders, distractibility, lower IQ and increased blood pressure. An increase in blood lead levels may impair or decrease hemoglobin synthesis. Lead poisoning can cause anemia, lethargy, seizures, and death.

Lead concentrations once exceeded the state and federal air quality standards by a wide margin, but have not exceeded state or federal air quality standards at any regular monitoring station since 1982. Lead is no longer a gasoline additive, primarily accounting for reductions in airborne lead concentrations. Because airborne lead

concentrations are currently nominal, it is not a pollutant of concern within the Basin, and is therefore not discussed further in this Section.

Particulate Matter

Particulate matter is a generic term that defines a broad group of chemically and physically different particles (either liquid droplets or solids) that can exist over a wide range of sizes. Examples of atmospheric particles include those produced from combustion (diesel soot or fly ash), light (urban haze), sea spray (salt particles), and soil-like particles from re-suspended dust. Fugitive dust is defined as any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of human activities (Rule 403, Fugitive Dust, SCAQMD).

Within air quality analyses, particulate matter is categorized by diameter: PM_{10} and $PM_{2.5}$. PM_{10} refers to particulate matter that is 10 microns or less in diameter (1 micron is one millionth of a meter, or one micrometer [μm]). $PM_{2.5}$ refers to particulate matter that is 2.5 microns or less in diameter. The size of particles can determine the residence time of the material in the atmosphere. $PM_{2.5}$ has a longer atmospheric lifetime than PM_{10} and, therefore, can be transported over longer distances.

Particulate matter originates from a variety of stationary and mobile sources. Stationary sources that generate particulate matter include: fuel combustion for electric utilities, residential space heating, and industrial processes; construction and demolition; metals, minerals, and petrochemicals; wood products processing; mills and elevators used in agriculture; erosion from tilled lands; waste disposal and recycling. Mobile or transportation-related sources that generate particulate matter include highway vehicles, non-road vehicles and fugitive dust from paved and unpaved roads.

A consistent correlation between elevated ambient PM_{10} levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed.

Diesel Particulate Matter (DPM) is a mixture of many exhaust particles and gases that is produced when an engine burns diesel fuel. Many compounds found in diesel exhaust are carcinogenic, including sixteen compounds that are classified as possibly carcinogenic by the International Agency for Research on Cancer. DPM includes the particle-phase constituents in diesel exhaust. Some short-term (acute) effects of diesel exhaust include eye, nose, throat and lung irritation, as well as coughs, headaches, light-headedness and nausea. Diesel exhaust is a major source of ambient particulate matter pollution, and numerous studies have linked elevated particle levels in the air to increased hospital admission, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. DPM in the Basin poses the greatest cancer risk of all identified toxic air pollutants.

Reactive Organic Gases

Reactive Organic Gases (ROGs) (also termed Volatile Organic Compounds [VOCs]) are defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. It should be noted that there is no state or national ambient air quality standard for ROGs because they are not classified as criteria pollutants. They are regulated, however, because a reduction in ROG emissions reduces certain chemical reactions that contribute to the formulation of ozone. ROGs are also transformed into organic aerosols in the atmosphere, which contribute to higher PM_{10} and lower visibility. The major sources of ROGs in the Basin are on-road motor vehicles and solvent evaporation. ROGs are also an ozone precursor. As described above, health effects of ground-level ozone include: aggravated asthma; reduced lung capacity; increased respiratory illness susceptibility; increased respiratory and cardiovascular hospitalizations; and premature deaths.

Benzene is an ROG and a known carcinogen. Typical sources of benzene emissions include: gasoline service stations (fuel evaporation), motor vehicle exhaust, tobacco smoke, and oil and coal incineration. Benzene is also sometimes employed as a solvent for paints, inks, oils, waxes, plastic, and rubber. It is used in the extraction of oils from seeds and nuts. It is also used in the manufacture of detergents, explosives, dyestuffs,

and pharmaceuticals. Short-term (acute) exposure to high doses from inhalation of benzene may cause dizziness, drowsiness, headaches, eye irritation, skin irritation, and respiratory tract irritation, and at higher levels, unconsciousness can occur. Long-term (chronic) occupational exposure to high doses by inhalation has caused blood disorders, including aplastic anemia and lower levels of red blood cells.

4.4.3 SETTING

4.4.3.1 Local and Regional Climate

The Project site is located in the SCAB within the jurisdiction of SCAQMD. The SCAQMD was created by the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Act, the SCAQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and state air quality standards. The SCAQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-county Basin (Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino Counties), and the Riverside County portions of the Salton Sea Air Basin and Mojave Desert Air Basin.

The approximately 6,745-square-mile SCAB is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Los Angeles County portion of the Mojave Desert Air Basin is bounded by the San Gabriel Mountains to the south and west, the Los Angeles/Kern County border to the north, and the Los Angeles/San Bernardino County border to the east. The Riverside County portion of the Salton Sea Air Basin is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley.

Regional climate and variations in temperature, wind, humidity, precipitation, and amount of sunshine influence air quality within the SCAB. The annual average temperatures throughout the Basin vary from the low to mid 60s (degrees Fahrenheit). Due to a decreased marine influence, the eastern portion of the SCAB experiences greater variability in average annual minimum and maximum temperatures. January is

the coldest month throughout the SCAB, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the SCAB have recorded maximum temperatures above 100°F.

Although the climate of the SCAB can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of SCAB climate. Humidity restricts visibility in the SCAB, and the conversion of sulfur dioxide to sulfates is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity within the SCAB is 71 percent along the coast and 59 percent inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. It should be noted that these effects decrease with distance from the coast.

More than 90 percent of the SCAB's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to fourteen inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the 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. On the shortest day of the year there are approximately 10 hours of possible sunshine, and on the longest day of the year there are approximately 14-½ hours of possible sunshine.

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of the air pollutants. During the late autumn to early spring rainy season, the 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. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind.

Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Another characteristic wind regime in the SCAB is the "Catalina Eddy," a low level cyclonic (counterclockwise) flow centered over Santa Catalina Island which results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal areas.

In the 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 the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter, when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as NO_x and CO from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline.

4.4.3.2 Existing Air Quality

Existing air quality is monitored and evaluated in the context of National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). These Standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. For further information regarding NAAQS and CAAQS currently in effect, please refer to the Project Air Quality Impact Analysis at Table 2-1, *Ambient Air Quality Standards*; and http://www.arb.ca.gov/research/aaqs/aaqs.htm. The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the state and federal standards.

Regional Air Quality

The SCAQMD monitors levels of various criteria pollutants at 30 monitoring stations throughout the air district. In 2010, the federal and state standards were exceeded on one or more days for ozone, PM_{10}, and $PM_{2.5}$ at most monitoring locations. Attainment designations for the SCAB are provided at Table 4.4-1.

Table 4.4-1
SCAB Attainment Status

Criteria Pollutant	State Designation	Federal Designation
Ozone – 1 hour standard	Nonattainment	No Standard
Ozone – 8 hour standard	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide	Attainment	Attainment
Nitrogen Dioxide	Nonattainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Lead*	Nonattainment	Nonattainment

Source: *Moreno Valley Walmart Air Quality Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014.
Notes: * The State and Federal nonattainment designation for lead is only applicable for the Los Angeles County portion of the SCAB. The Basin is otherwise classified as attainment for lead.

Local Air Quality

Relative to the Project site, the nearest long-term air quality monitoring site for Ozone (O_3) and particulate matter ≤ 10 microns (PM_{10}) is the Perris monitoring station, located approximately 7.28 miles south of the Project site. Data for Carbon Monoxide (CO), Nitrogen Dioxide (NO_2), and Particulate Matter ≤ 2.5 Microns ($PM_{2.5}$) was obtained from the Metropolitan Riverside County 2 monitoring station. It should be noted that the Metropolitan Riverside County 2 monitoring station was utilized in lieu of the Perris monitoring station only in instances where data was not available from the Perris site.

The most recent three (3) years of data available is shown in Table 4.4-2 and identifies the number of days ambient air quality standards were exceeded for the study area, which is considered to be representative of the local air quality at the Project site. Additionally, data for SO_2 has been omitted as attainment is regularly met in the Basin and few monitoring stations continue to measure SO_2 concentrations.

Table 4.4-2
Area Air Quality Monitoring Summary 2011-2013

POLLUTANT	STANDARD	YEAR		
		2011	2012	2013
Ozone (O_3)				
Maximum 1-Hour Concentration (ppm)		0.125	0.111	0.108
Maximum 8-Hour Concentration (ppm)		0.112	0.093	0.090
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	44	28	--
Number of Days Exceeding State 8-Hour Standard	> 0.07 ppm	77	64	--
Number of Days Exceeding Federal 1-Hour Standard	> 0.12 ppm	2	0	0
Number of Days Exceeding Federal 8-Hour Standard	> 0.075 ppm	54	46	34
Number of Days Exceeding Health Advisory	≥ 0.15 ppm	0	0	0
Carbon Monoxide (CO)				
Maximum 1-Hour Concentration (ppm)		--	--	4.5
Maximum 8-Hour Concentration (ppm)		1.5	1.5	1.4
Number of Days Exceeding State 1-Hour Standard	> 20 ppm	--	--	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

Table 4.4-2
Area Air Quality Monitoring Summary 2011-2013

POLLUTANT	STANDARD	YEAR		
		2011	2012	2013
Nitrogen Dioxide (NO_2)				
Maximum 1-Hour Concentration (ppm)		0.057	0.060	0.053
Annual Arithmetic Mean Concentration (ppm)		0.017	0.017	--
Number of Days Exceeding State 1-Hour Standard	> 0.18 ppm	0	0	0
Particulate Matter ≤ 10 Microns (PM_{10})				
Maximum 24-Hour Concentration (μg/m^3)		65	62	70
Annual Arithmetic Mean (μg/m^3)		29.2	26.5	--
Number of Samples		60	60	57
Number of Samples Exceeding State Standard	> 50 μg/m^3	3	1	--
Number of Samples Exceeding Federal Standard	> 150 μg/m^3	0	0	0
Particulate Matter ≤ 2.5 Microns ($PM_{2.5}$)				
Maximum 24-Hour Concentration (μg/m^3)		51.6	30.2	33.4
Annual Arithmetic Mean (μg/m^3)		11.8	11.4	11
Number of Samples		112	104	84
Number of Samples Exceeding Federal 24-Hour Standard	> 35 μg/m^3	2	0	--

Source: *Moreno Valley Walmart Air Quality Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014.
Note: -- data not available

4.4.4 REGULATORY BACKGROUND

4.4.4.1 Federal Regulations

The U.S. Environmental Protection Agency (EPA) is responsible for setting and enforcing the NAAQS for O_3, CO, NO_x, SO_2, PM_{10}, and lead. The U.S. EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The U.S. EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of the California Air Resource Board (CARB).

The Federal Clean Air Act (CAA) was first enacted in 1955, and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the NAAQS, and specifies future dates for achieving compliance. The CAA also mandates that states submit and implement State Implementation Plans (SIPs) for local areas not meeting these standards. These plans must include pollution control measures demonstrating how standards would be met.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the Project site include Title I (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 lead. The NAAQS were amended in July 1997 to include an additional standard for O_3 and to adopt a NAAQS for $PM_{2.5}$. Table 4.4-1 (previously presented) provides the NAAQS within the Basin.

Mobile source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and nitrogen oxides (NO_x). NO_x is a collective term that includes all forms of nitrogen oxides (NO, NO_2, NO_3) which are emitted as byproducts of the combustion process.

4.4.4.2 California Regulations

The CARB, which became part of the California EPA in 1991, is responsible for ensuring implementation of the California Clean Air Act (AB 2595), responding to the federal CAA, and for regulating emissions from consumer products and motor vehicles. The California CAA mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the state ambient air

quality standards by the earliest practical date. The CARB established the CAAQS for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for sulfates, visibility, hydrogen sulfide, and vinyl chloride. However, at this time, 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.

Local air quality management districts, such as the SCAQMD, regulate air emissions from commercial and light industrial facilities. All air pollution control districts have been formally designated as attainment or 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. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;
- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g., motor vehicle use generated by residential and commercial development);
- A District-permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;
- Implementing reasonably available transportation control measures and assuring a substantial reduction in growth rate of vehicle trips and miles traveled;
- Significant use of low emissions vehicles by fleet operators;
- Sufficient control strategies to achieve a five percent or more annual reduction in emissions or 15 percent or more in a period of three years for ROGs, NO_x, CO and PM_{10}. However, air basins may use alternative emission reduction strategy

that achieves a reduction of less than five percent per year under certain circumstances.

4.4.4.3 Regional Air Quality Management Planning

Currently, the NAAQS and CAAQS are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy. Further discussion on the AQMP and Project consistency with the AQMP is provided subsequently at Section 4.4.6, *Potential Impacts and Mitigation Measures*.

4.4.5 STANDARDS OF SIGNIFICANCE

As identified within the *CEQA Guidelines*, air quality impacts would be considered potentially significant if the Project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard, including releasing emissions which exceed quantitative thresholds for ozone precursors;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

4.4.5.1 SCAQMD Thresholds

In order to determine whether or not a given project would cause a significant effect on air quality, the impact of the project must be determined by examining the types and levels of emissions generated and their impacts on factors that affect air quality. To accomplish this determination of significance, the SCAQMD has established air pollution thresholds against which a proposed project can be evaluated and assist lead agencies in determining whether or not the impacts of a project are significant. If the project's air pollutant emissions exceed applicable SCAQMD thresholds, then the impact should be considered significant. While the final determination of significance thresholds is within the purview of the lead agency pursuant to the State *CEQA Guidelines*, the SCAQMD recommends that its regional and local air quality thresholds for regulated pollutants (summarized below) be employed by lead agencies in determining whether criteria air pollutant emissions impacts generated by construction or operations of a given project are significant.

Regional Thresholds

The SCAQMD has developed regional significance thresholds for regulated pollutants, as summarized at Table 4.4-3. The SCAQMD's CEQA Air Quality Significance Thresholds (March 2011) indicate that any projects in the SCAB with daily emissions that exceed applicable thresholds should be considered as having an individually and cumulatively significant air quality impact. Conversely, projects in the SCAB with daily emissions not exceeding applicable thresholds should be considered as having an individually and cumulatively less-than-significant air quality impact.

Table 4.4-3
Maximum Daily Emissions Regional Thresholds

Pollutant	Construction	Operational
NO_x	100 lbs./day	55 lbs./day
VOC	75 lbs./day	55 lbs./day
PM_{10}	150 lbs./day	150 lbs./day
$PM_{2.5}$	55 lbs./day	55 lbs./day
SO_x	150 lbs./day	150 lbs./day
CO	550 lbs./day	550 lbs./day
Lead	3 lbs./day	3 lbs./day

Source: *Moreno Valley Walmart Air Quality Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014.

Carbon Monoxide Concentrations (CO "hot spots") Thresholds

CO "hot spots" are areas of carbon monoxide concentrations exceeding national or state air quality standards. CO hotspots typically occur as a result of excessive vehicular idling, often associated with traffic backups at underperforming intersections or congested roadway links. SCAQMD also recommends an evaluation of potential localized CO "hot spot" impacts for projects that may adversely affect, or substantially contribute to, level of service impacts along area roadway segments or at area intersections. Based on the SCAQMD's *CEQA Air Quality Handbook* (1993), a project's localized CO emissions impacts would be significant if they exceed the following California standards for localized CO concentrations:

- 1-hour CO standard of 20.0 parts per million (ppm);
- 8-hour CO standard of 9.0 ppm.

Localized Significance Thresholds (LSTs)

The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses. LSTs apply to carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter less than 10 microns (PM_{10}), and particulate matter less than 2.5 microns ($PM_{2.5}$). LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent

applicable national or state ambient air quality standard (NAAQS or CAAQS) at the nearest residence or sensitive receptor.

Health Risk Assessment (HRA) Thresholds

Carcinogenic Risks

The SCAQMD *CEQA Air Quality Handbook* (1993) states that emissions of Toxic Air Contaminants (TACs) are considered significant if a Health Risk Assessment shows an increased cancer risk of greater than ten incidents per million population. Consistent with the aforementioned SCAQMD *Handbook* cancer risk threshold, for the purposes of this analysis, an increase in cancer risk of ten incidents per million population is considered significant.

Noncarcinogenic Risks

Noncarcinogenic risks are numerically expressed as a Hazard Index (HI), with a threshold HI of 1.0. Noncarcinogenic Hazard Indices calculated to be less than 1.0 are considered less-than-significant.

4.4.6 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.4.6.1 Introduction

The following discussions focus on areas where it has been determined that the Project may result in potentially significant air quality impacts, pursuant to comments received through the NOP process, and based on the analysis presented within this Section and included within the EIR Initial Study. Under all air quality topical issues listed at *CEQA Guidelines* Appendix G, Project impacts were determined to be potentially significant warranting further analysis, and are discussed below. Please also refer to Initial Study Checklist Item III. "Air Quality."

4.4.6.2 Impact Statements

Following is an analysis of potential air quality impacts that are expected to occur as a result of the Project. Potential emissions are considered for Project construction and operation. For each topical discussion, potential impacts are evaluated under applicable criteria established above at Section 4.4.5, *Standards of Significance*.

Potential Impact: ***Conflict with or obstruct implementation of the applicable air quality plan.***

Impact Analysis: The Project site is located within the SCAB, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 12,000-square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what used to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the SCAG, county transportation commissions, and local governments, as well as state and federal agencies, to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, these state and federal air quality standards are exceeded in most parts of the Basin. In response, the SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) outlining strategies to achieve state and federal ambient air quality standards. AQMPs are periodically updated to reflect technological advances, recognize new or pending regulations, more effectively reduce emissions, accommodate growth, and minimize any negative fiscal impacts of air pollution control on the economy.

AQMP Consistency

The AQMP was last updated in 2012 and incorporates the latest scientific and technical information and planning assumptions, including the 2012 Regional Transportation Plan/Sustainable Communities Strategy (2012 RTP) and updated emission inventory methodologies for various source categories. Air quality conditions and trends

presented in the 2012 AQMP assume that regional development will occur in accordance with population growth projections identified by SCAG in its 2012 RTP.

The SCAG 2012 RTP in turn derives its assumptions, in part, from general plans of cities located within the SCAG region. Accordingly, if a project is consistent with the development and growth projections reflected in the adopted general plan, it is considered consistent with the growth assumptions in the 2012 AQMP. The 2012 AQMP further assumes that development projects within the region will implement appropriate strategies to reduce air pollutant emissions, thereby promoting timely implementation of the AQMP.

Criteria for determining consistency with the AQMP are identified at Chapter 12, Section 12.2 and Section 12.3 of the SCAQMD's *CEQA Air Quality Handbook* (1993), as listed below. Project consistency with, and support of these criteria is presented subsequently.

- **Criterion No. 1:** The project under consideration will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

- **Criterion No. 2:** The project under consideration will not exceed the assumptions in the AQMP in 2011 or increments based on the years of Project build-out phase.

Criterion No. 1: The violations that Criterion No. 1 refers to are the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). The CAAQS and NAAQS comprise Localized Significance Thresholds (LSTs). As discussed subsequently in this Section, the Project LST analysis substantiates that Project mitigated construction-source emissions would not exceed applicable LSTs. And even without mitigation, operational-source emissions would not exceed applicable LSTs. Further, the Project would implement applicable best available control measures (BACMs), and would comply with applicable SCAQMD rules, acting to

further reduce potential LST impacts. On this basis, the Project under consideration would not result in an increase in the frequency or severity of existing air quality violations, or cause or contribute to new violations.

With regard to timely attainment of AQMP air quality standards and interim emissions reductions standards, prior to 2013, the Project site's General Plan Land Use designation was Residential 5. The Residential 5 General Plan Land Use, which is reflected in the 2012 AQMP, would allow for single-family residential development of the subject site, not to exceed 5 dwelling units per acre. In 2013, as part of the larger Alessandro Boulevard Corridor Implementation Project, the City amended the General Plan Land Use designation and related Zone District for the Project site. Specifically, the Project site was re-designated from Residential 5 to Commercial; and the overlying Zone District was amended from Residential 5 (R5) to Community Commercial (CC).

Accordingly, the 2012 AQMP does not reflect the current land use designation for the Project site. Nor do the 2012 AQMP air quality standards and interim emissions reductions targets reflect the current Project site land use designation. For this reason, there lacks an opportunity to determine whether or not the Project would delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

In conclusion, the Project would not result increase the frequency or severity of existing air quality violations or cause or contribute to new violations. However, because the land use designation contained in the 2012 AQMP is not the current land use designation for the Project site, there is no opportunity to determine whether or not the Project would delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP. As the Project's potential to delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP is indeterminate and cannot be assured at this time, for the purposes of this analysis, the Project is considered to be inconsistent with Criterion No.1.

Criterion No. 2: Criterion No. 2 addresses consistency of a given project with approved local and regional land use plans, and associated potential AQMP implications. That is,

AQMP emissions models and emissions control strategies are based in part on land use data provided by local general plan documentation; and regional plans, which reflect and incorporate local general plan information. Projects that propose general plan amendments may increase the intensity of use and/or result in higher traffic volumes, thereby resulting in increased stationary area source emissions and/or vehicle source emissions when compared to the AQMP assumptions. However, if a given project is consistent with and does not otherwise exceed the growth projections in the applicable local general plan, then that project would be considered consistent with the growth assumptions in the AQMP.

As previously discussed, prior to 2013, the Project site's General Plan Land Use designation was Residential 5. The Residential 5 General Plan Land Use, which is reflected in the 2012 AQMP, would allow for single-family residential development of the subject site, not to exceed 5 dwelling units per acre. In 2013, as part of the larger Alessandro Boulevard Corridor Implementation Project, the City amended the General Plan Land Use designation and related Zone District for the Project site. Specifically, the Project site was re-designated from Residential 5 to Commercial; and the overlying Zone District was amended from Residential 5 (R5) to Community Commercial (CC). Accordingly, the 2012 AQMP does not reflect the most recent land use designation for the Project site. For this reason, there is no basis for a determination that the Project would not exceed the assumptions in the AQMP in 2011 or increments based on the years of Project build-out phase. Consequently, the commercial/retail development of the subject site as proposed by the Project is conservatively assumed to generate operational-source emissions not reflected within the current 2012 AQMP regional emissions inventory for the Basin.

Based on the preceding, the Project is considered to be inconsistent with AQMP Consistency Criterion No. 2 because the land use designation contained in the 2012 AQMP is not the current land use designation for the project site and, therefore, there is no basis for a determination that the Project would not exceed the assumptions in the AQMP in 2011 or increments based on the years of Project build-out phase.

Level of Significance: The Project would be inconsistent with AQMP Criterion No's. 1 and 2, resulting in a determination that impacts in this regard would be considered to be potentially significant.

Mitigation Measures: The Project would implement development-specific air quality Mitigation Measures 4.4.1 through 4.4.5 identified in this EIR, acting to reduce the Project's construction-source and operational-source air pollutant emissions. Emissions-reducing Project design and operational attributes and features identified in this EIR (please refer to EIR Section 3.0, *Project Description*) would further reduce the Project's potential air quality impacts.

The Project would be designed, constructed and operated consistent with General Plan Objectives and Policies addressing air quality considerations and acting to reduce pollutant emissions within the Basin, (please refer to City of Moreno Valley General Plan, page 9-32, Objective 6.7, and Policies 6.7.1 through 6.7.6). Further, location of the Project proximate to its patronage base, and with immediate access to an urbanized roadway system, would act to reduce vehicle miles traveled and associated mobile-source (vehicular) emissions within the Basin. Additionally, Project incorporation of contemporary energy-efficient technologies and operational programs, and compliance with SCAQMD emissions reductions and control requirements act to reduce stationary-source air emissions to the extent feasible.

In combination, Project air quality mitigation measures; Project conformance with General Plan Objectives and Policies addressing air quality and air pollutant emissions; and Project emissions-reducing design features, and operational programs are consistent with and support overarching AQMP air pollution reduction strategies. Project support of these strategies promotes timely attainment of AQMP air quality standards, and would bring the Project into conformance with the AQMP to the extent feasible.

AQMP Consistency Summary Conclusion

The Project would be inconsistent with AQMP Criterion No's. 1 and 2, resulting in a determination that impacts in this regard would be considered to be potentially significant. ***This is a Project-level and cumulatively significant impact.***

Level of Significance After Mitigation: ***Significant and Unavoidable.*** There are no mitigation measures available that would avoid or substantively reduce Project inconsistency with land uses and related emissions inventories reflected in the current AQMP.

Potential Impact: ***Violate any air quality standard or contribute substantially to an existing or projected air quality violation.***

Impact Analysis: The latest SCAQMD/California Air Pollution Control Officers Association (CAPCOA)-approved version of the California Emissions Estimator Model (CalEEMod, v2013.2.2) was utilized to estimate Project-related air pollutant emissions levels. Project emissions levels were then compared to applicable SCAQMD thresholds in order to determine if air quality standards would be violated; or if Project emissions would contribute substantially to existing or projected air quality violations. Unless otherwise noted, CalEEMod default values and assumptions were applied throughout.

<u>Regional Impacts</u>

Construction-Source Air Pollutant Emissions

Project construction is expected to commence in September 2016 and would last through June 2017. Typical Project construction activities (listed below) would generate emissions of CO, VOC, NO_x, SOx, PM_{10}, and $PM_{2.5}$.

- Demolition
- Mass Grading
- Building Construction
- Paving
- Architectural Coatings

Modeled construction-source emissions levels reflect peak levels of construction activity and equipment use, and also account for construction worker commutes and vendor deliveries. Estimated maximum daily Project construction-source emissions are summarized at Table 4.4-4.

Table 4.4-4
Construction-Source Emissions Summary
Maximum Daily (lbs./day)

Year	Pollutants					
	VOC	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
2016	10.77	133.06	89.07	0.17	25.07	13.09
2017	55.10	50.18	41.13	0.07	4.29	3.15
Maximum Daily Emissions	**55.10**	**133.06**	**89.07**	**0.17**	**25.07**	**13.09**
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	No	**YES**	No	No	No	No

Source: *Moreno Valley Walmart Air Quality Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014.

As indicated at Table 4.4-4, Project construction-source air pollutant emissions would exceed the applicable SCAQMD regional threshold for NO_x. This is a potentially significant impact.

Level of Significance: Potentially Significant.

Mitigation Measures:

4.4.1 *The following requirements shall be incorporated into Project plans and specifications in order to ensure implementation of SCAQMD Rule 403 and limit fugitive dust emissions:*

- *All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 miles per hour;*

- *The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the Project site are watered at least three (3) times daily during dry weather.*

Watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the mid-morning, afternoon, and after work is done for the day; and

- *The contractor shall ensure that traffic speeds on unpaved roads and Project site areas are reduced to 15 miles per hour or less.*

4.4.2 *Grading plans shall reference the requirement that a sign shall be posted on-site stating that construction workers need to shut off engines at or before five minutes of idling. This requirement is based on the California Air Resources Board regulation in Title 13, Chapter 10, Section 2485, Division 3 of the California Code of Regulations, which imposes a requirement that heavy duty trucks accessing the site shall not idle for greater than five minutes at any location. This measure applies to construction traffic.*

4.4.3 *During grading activity, all rubber tired dozers and scrapers (≥ 50 horsepower) shall be CARB Tier 3 Certified or better. Additionally, during grading activity, total horsepower output for all equipment shall not exceed 16,784 horsepower-hours per day; and the maximum (actively graded) disturbance area shall not exceed five (5) acres per day.*

Level of Significance After Mitigation: Less-Than-Significant. Table 4.4-5 summarizes Project construction-source emissions after the implementation of Mitigation Measures 4.4.1 through 4.4.3.

Table 4.4-5
Construction-Source Emissions Summary–With Mitigation
Maximum Daily (lbs./day)

Year	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
2016	6.70	92.60	71.30	0.17	13.85	7.19
2017	55.10	50.18	41.12	0.07	4.29	3.15
Maximum Daily Emissions	**55.10**	**92.60**	**71.30**	**0.17**	**13.85**	**7.19**
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded	No	No	No	No	No	No

Source: *Moreno Valley Walmart Air Quality Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014.

As indicated at Table 4.4-5, mitigated construction-source emissions would not exceed applicable SCAQMD regional thresholds.

Operational-Source Air Pollutant Emissions

Project operational activities associated with the proposed Project would result in emissions of ROG, NO_x, CO, SO_X, PM_{10}, and $PM_{2.5}$. Operational emissions would be expected from the following primary sources:

- Mobile Sources;
- Fugitive dust related to vehicular travel;
- Combustion emissions associated with natural gas and electricity use;
- Landscape maintenance equipment;
- Emissions from consumer products; and
- Architectural coatings.

Each of these operational emissions sources are described in the following paragraphs, and the estimated emissions from each source are summarized subsequently. Unless otherwise noted, CalEEMod default parameters were employed throughout.

Mobile Sources

The Project's operational-source air quality impacts derive primarily from mobile source emissions (air pollutants generated by Project traffic). Mobile source emissions impacts of the Project impacts are dependent on both overall daily vehicle trip generation and the effect of the Project on peak hour traffic volumes and traffic operations. Trip characteristics available from the Project Traffic Impact Analysis (Project TIA, EIR Appendix C) were utilized in this analysis.

Fugitive Dust Related to 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.

Combustion Emissions Associated with Natural Gas and Electricity

Electricity and natural gas are used by almost every development project. Criteria pollutants are emitted through the generation of electricity and the consumption of natural gas. Because electrical generating facilities for the Project area are located either outside the region, are separately evaluated under their own environmental analyses, and/or are offset through the use of pollution credits for generation within the SCAB, criteria pollutant emissions from offsite generation of electricity have been excluded from the analysis presented here. The emissions associated with natural gas use have been calculated using the CalEEMod model.

Landscape Maintenance Emissions

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project.

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. In the case of the commercial/retail uses proposed by the Project, no substantive on-site use of consumer products is anticipated.

Architectural Coatings

Over time, maintenance of Project facilities would require exterior application of architectural coatings. Such facility maintenance would generate air pollutant emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings.

Operational Emissions Summary

Maximum daily Project operational-source air pollutant emissions are summarized at Table 4.4-6. Applicable SCAQMD regional significance thresholds are also indicated.

Table 4.4-6
Operational-Source Emissions Summary
Maximum Daily Winter/Summer (lbs./day)

Emissions Sources	Pollutants					
	VOC	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Area Sources (Landscape and Building Maintenance, Consumer Products)	5.02	2.00e-4	0.02	--	8.00e-5	8.00e-5
Building Energy Consumption	0.01	0.10	0.09	6.10e-4	7.75e-3	7.75e-3
Mobile Sources	46.03	98.37	365.89	0.80	54.15	15.30
Maximum Daily Emissions	**50.11**	**98.47**	**366.00**	**0.80**	**54.16**	**15.31**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	No	**YES**	No	No	No	No

Source: *Moreno Valley Walmart Air Quality Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014.
Notes: Modeling results may not total 100% due to rounding. Scientific notation (e-3) expresses exponential quantities; e.g. 2.00e-4 = 2.00 $x10^{-4}$ = 2.00 x 0.0001 = 0.000200.

Level of Significance: Potentially Significant. As indicated at Table 4.4-6, Project operational-source emissions would exceed the applicable SCAQMD regional threshold for NO_x. This is a potentially significant impact. The following mitigation measures are incorporated, acting to reduce the Project operational-source NO_x threshold exceedance to the extent feasible. The mitigation measures listed would also broadly reduce the Project's other (already less-than-significant) operational-source air pollutant emissions.

Mitigation Measures:

4.4.4 *Prior to the issuance of building permits, the Project Applicant shall submit energy usage calculations showing that the Project is designed to achieve a minimum 10% efficiency beyond then incumbent California Building Code Title 24 requirements. Verification of increased energy efficiencies shall be shall be documented in Title 24 Compliance Reports provided by the Applicant, and reviewed and approved by the City prior to the issuance of building permits. Examples of measures that reduce energy consumption include, but*

are not limited to, the following (it being understood that the items listed below are not all required and merely present examples; the list is not all-inclusive and other features that achieve the required energy efficiency performance standard also are acceptable):

- *Increase in insulation such that heat transfer and thermal bridging is minimized;*
- *Limit air leakage through the structure and/or within the heating and cooling distribution system;*
- *Use of energy-efficient space heating and cooling equipment;*
- *Installation of electrical hook-ups at loading dock areas;*
- *Installation of dual-paned or other energy efficient windows;*
- *Use of interior and exterior energy efficient lighting that exceeds then incumbent California Title 24 Energy Efficiency performance standards;*
- *Installation of automatic devices to turn off lights where they are not needed;*
- *Application of a paint and surface color palette that emphasizes light and off-white colors that reflect heat away from buildings;*
- *Design of buildings with "cool roofs" using products certified by the Cool Roof Rating Council, and/or exposed roof surfaces using light and off-white colors;*
- *Installation of ENERGY STAR-qualified energy-efficient appliances, heating and cooling systems, office equipment, and/or lighting products.*

4.4.5 *Enhanced Water Conservation Required: Prior to the issuance of building permits, the Project Applicant shall prepare a Water Conservation Strategy demonstrating a minimum 30% reduction in outdoor water usage when compared to baseline water demand (total expected water demand without implementation of the Water Conservation Strategy).*[1] *Verification of decreased outdoor water usage shall be documented in CalGreen Code Compliance Worksheets provided by the Applicant, and reviewed and approved by the City prior to the issuance of building permits. Correlating documentation shall be incorporated in the Project landscape plans.*

[1] A reduction of 20% indoor water use shall be achieved pursuant to CalGreen Code performance standards for residential and non-residential land uses. Per CalGreen, the reduction shall be based on the maximum allowable water use per plumbing fixture and fittings as quantified in the California Building Standards Code.

The Project shall also implement the following:

- *Landscaping palette emphasizing drought tolerant plants;*
- *Use of water-efficient irrigation techniques;*
- *U.S. Environmental Protection Agency (EPA) Certified WaterSense labeled or equivalent faucets, high-efficiency toilets (HETs), and water-conserving shower heads.*

Level of Significance After Mitigation: Significant. Mitigated Project operational-source emissions are summarized at Table 4.4-7. Even with the application of mitigation, Project operational-source NO_x emissions (95.62 lbs./day) would exceed the applicable SCAQMD regional threshold for NO_x (55 lbs./day) by approximately 40.62 lbs./day. ***This is a significant impact.***

Table 4.4-7
Operational-Source Emissions Summary–With Mitigation
Maximum Daily Winter/Summer (lbs./day)

Emissions Sources	Pollutants					
	VOC	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Area Sources (Landscape and Building Maintenance, Consumer Products)	5.02	2.00e-4	0.02	--	8.00e-5	8.00e-5
Building Energy Consumption	0.01	0.10	0.08	5.60e-4	7.09e-3	7.09e-3
Mobile Sources	45.72	95.53	357.32	0.77	52.11	14.72
Maximum Daily Emissions	**50.74**	**95.62**	**357.42**	**0.77**	**52.12**	**14.73**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	No	**YES**	No	No	No	No

Source: *Moreno Valley Walmart Air Quality Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014.

Notes: Modeling results may not total 100% due to rounding. Scientific notation (e-3) expresses exponential quantities; e.g. 9.40e-4 = 9.40 $x10^{-4}$ = 9.40 x 0.0001 = 0.000940.

As set forth previously in this EIR, NO_x is a byproduct of fuel combustion and the primary source of NO_x emissions from the Project are a result of tail pipe emissions from vehicles accessing the site (approximately 99.9 percent of the Project operational NO_x emissions would be generated by Project traffic). Neither the Project Applicant nor the City has any regulatory control over tail pipe emissions from individual sources.

Rather, vehicle tailpipe source emissions are regulated by CARB and USEPA. The amount of NO_x emissions from vehicle sources has been reduced dramatically over the past years and is expected to further decline as clean vehicle and fuel technologies improve. The Project implements all feasible mitigation measures and complies with all applicable SCAQMD Rules directed toward reduction of NO_x emissions. No feasible mitigation measures exist that would further substantively reduce these emissions.

While Project operational-source NO_x emissions would exceed SCAQMD regional thresholds, Localized Significance Thresholds (LSTs) for NO_x emissions would not be exceeded. LSTs were developed in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4. More specifically, to address potential Environmental Justice implications of localized air pollutant impacts, the SCAQMD adopted LSTs indicating whether a project would cause or contribute to localized air quality impacts and thereby cause or contribute to potential localized adverse health effects. LSTs apply to carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter less than 10 microns (PM_{10}), and particulate matter less than 2.5 microns ($PM_{2.5}$). LSTs represent the maximum emissions from a project that would not cause or contribute to an exceedance of the most stringent National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). These Standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. Please refer also to subsequent discussions of the Project's potential localized emissions impacts.

Regional Air Quality Impact Summary

As substantiated in the preceding discussions, mitigated Project construction-source emissions would not exceed applicable SCAQMD regional thresholds. Mitigated Project construction-source emissions would not violate a regional air quality standard and would therefore be less-than-significant. However, even with the application of mitigation, Project operational-source NO_x emissions would exceed the applicable SCAQMD threshold. Project operational-source NO_x exceedances would therefore be considered significant.

Localized Impacts

Localized Significance Threshold (LST) Analysis

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, the NAAQS/CAAQS establish LSTs.

LSTs were developed in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4. More specifically, to address potential Environmental Justice implications of localized air pollutant impacts, the SCAQMD adopted LSTs indicating whether a project would cause or contribute to localized air quality impacts and thereby cause or contribute to potential localized adverse health effects. LSTs apply to carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter less than 10 microns (PM_{10}), and particulate matter less than 2.5 microns ($PM_{2.5}$). LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest residence or sensitive receptor. Though not required, lead agencies may employ LSTs as another indicator of significance in its air quality impact analyses.

The significance of localized emissions impacts depends on whether ambient levels in the vicinity of the 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 project 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, within the Study Area, are non-attainment pollutants.

Emissions Considered/Methodology

LSTs apply to carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter less than 10 microns (PM_{10}), and particulate matter less than 2.5 microns ($PM_{2.5}$). The Project's Air Quality Analysis utilizes the methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (Methodology) (SCAQMD, June 2003). The SCAQMD Methodology clearly states that "off-site mobile emissions from the Project should NOT be included in the emissions compared to LSTs." For purposes of the LST analysis, only CalEEMod "on-site" emissions were considered.

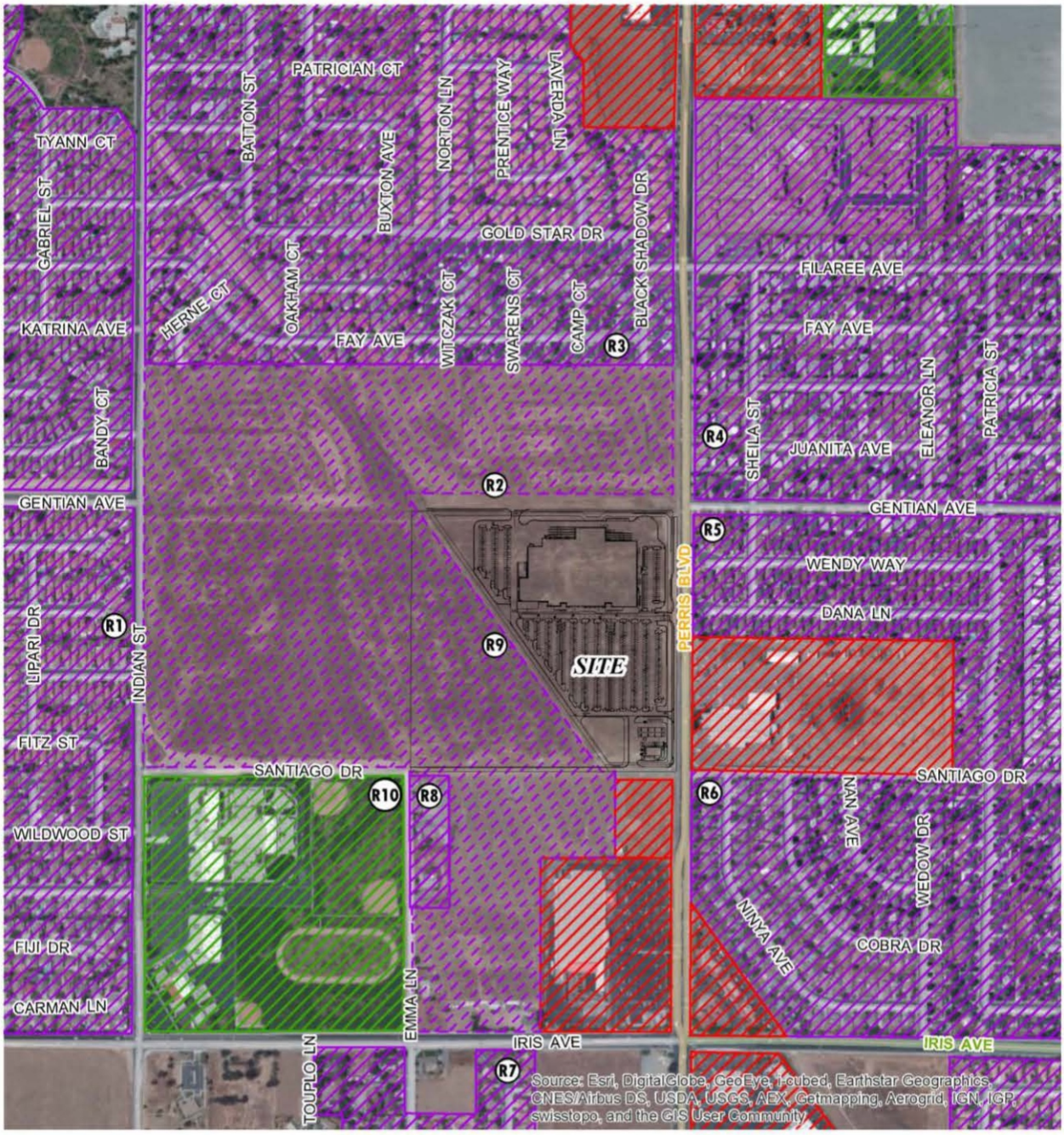
Receptors

Localized air quality impacts were evaluated at sensitive receptor land uses. The nearest sensitive receptor (residential) land uses are located westerly and northerly adjacent of the Project site. Sensitive receptor land uses, and their relation to the Project site are presented at Figure 4.4-1.

The Methodology explicitly states that "it is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters." Accordingly, LSTs for the residential land uses located westerly and northerly of the Project site were established at 25 meters.

Construction-Source Emissions LST Analysis

The Project LST analysis of construction-source emissions employs the SCAQMD LST "mass rate lookup tables." In summary, the "lookup tables" establish allowable emissions (lbs./day) as a function of receptor distance (meters) from a construction site boundary. Related, the SCAQMD has issued guidance on applying CalEEMod to LST analyses employing the lookup tables. In this regard, CalEEMod calculates construction emissions (off-road exhaust and fugitive dust) based on equipment daily operational hours and the estimated maximum daily soil disturbance for each piece of equipment.



Source: Urban Crossroads, Inc.

applied planning inc

Figure 4.4-1
Sensitive Receptor Land Uses

In order to compare CalEEMod reported emissions against the LST lookup tables, LST analyses should contain the following descriptors/parameters:

- The off-road equipment list (including type of equipment, horsepower, and hours of operation) assumed for the day of construction activity with maximum emissions;

- The maximum number of acres disturbed on the peak day using the equipment list from above and reflecting CalEEMod equipment use/acreage disturbance rates;

- Any emission control devices added onto off-road equipment; and

- Any specific dust suppression techniques used on the day of construction activity with maximum emissions.

CalEEMod calculates construction emissions based on daily equipment operational hours and the estimated maximum daily soil disturbance for each piece of equipment. The information at Table 4.4-8 is used to determine the maximum daily disturbed-acreage for comparison to LSTs. To ensure consistency with LST modeling of construction-source emissions provided herein, maximum use of Project construction equipment types and their hours of operation (during grading activity) will be limited through Mitigation Measures 4.4.1 through 4.4.3, and as indicated at Table 4.4-8.

Table 4.4-8
Construction-Source Emissions LST Analysis - Site Disturbance

Equipment Type	Quantity	Operating Hours (each piece of equipment) per Day	Acres Disturbed (each piece of equipment) per 8 Hour Period	Total Acres Disturbed (equipment type) per Day
Tractors	2	8	0.5	1
Graders	2	8	0.5	1
Rubber Tired Dozers	2	8	0.5	1
Scrapers	2	8	1	2
Total Acres Disturbed per Day (all equipment)				5.0
Applicable LST Mass Rate Look-up Table				5 Acres

Source: *Moreno Valley Walmart Air Quality Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014.

Table 4.4-9 summarizes maximum daily localized construction-source emissions impacts at the nearest sensitive receptor. As indicated, maximum daily construction-source emissions would exceed applicable LSTs for PM_{10} and $PM_{2.5}$. This is a potentially significant impact.

Table 4.4-9
Localized Construction-Source Emissions Summary
Maximum Daily Emissions (lbs./day)

	Pollutants			
	NO_x	**CO**	**PM_{10}**	**$PM_{2.5}$**
Maximum Construction-Source Emissions	**99.06**	**64.55**	**20.16**	**11.41**
SCAQMD Localized Threshold	270	1,577	13	8
Threshold Exceeded?	No	No	**YES**	**YES**

Source: *Moreno Valley Walmart Air Quality Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014.

Level of Significance: Potentially Significant.

Mitigation Measures: Please refer to previous Mitigation Measures 4.4.1 through 4.4.3.

Level of Significance After Mitigation: Less-Than-Significant. Table 4.4-10 identifies the maximum daily localized construction-source emissions impacts at the nearest receptor, as mitigated. With the implementation of Mitigation Measures 4.4.1 through 4.4.3, maximum-daily construction-source emissions would not exceed applicable LSTs.

Table 4.4-10
Localized Construction-Source Emissions Summary–With Mitigation
Maximum Daily Emissions (lbs./day)

	Pollutants			
	NO_x	**CO**	**PM_{10}**	**$PM_{2.5}$**
Maximum Construction-Source Emissions	**58.66**	**46.78**	**8.94**	**5.51**
SCAQMD Localized Threshold	270	1,577	13	8
Threshold Exceeded?	No	No	No	No

Source: *Moreno Valley Walmart Air Quality Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014.

Operational-Source Emissions LST Analysis

The LST analysis includes all on-site Project-related stationary (area) sources, and conservatively assumes an on-site travel distance of approximately 1 mile for each Project car and truck trip.[2] Modeling reflecting these assumptions, as summarized at Table 4.4-11, demonstrates that Project operational-source emissions would not exceed applicable LSTs.

Table 4.4-11
Localized Operational-Source Emissions Impacts Summary
Maximum Daily Emissions (lbs./day)

	Pollutants			
	NO_x	**CO**	**PM_{10}**	**$PM_{2.5}$**
Maximum Operational-Source Emissions	**5.02**	**18.40**	**2.72**	**0.77**
SCAQMD Localized Threshold	270	1,577	4	2
Threshold Exceeded?	No	No	No	No

Source: *Moreno Valley Walmart Air Quality Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014.

[2] The Project site measures approximately one-quarter mile along its longest (northwest to southeast) boundary. Internal trips lengths would therefore be substantively less than the one-mile distance assumed in the LST analysis.

Level of Significance: Less-Than-Significant.

CO "Hot Spot" Analysis

As discussed below, the Project would not result in potentially adverse localized CO concentrations or "hot spots." Further, detailed modeling of Project-specific carbon monoxide (CO) "hot spots" is not needed to reach this conclusion.

It has long been recognized that adverse localized CO concentrations ("hot spots") are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentrations in the Project vicinity have not violated applicable AAQS in the last three years of record. Please refer to Table 4.4-2, *Area Air Quality Monitoring Summary*.

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. When the SCAQMD *Handbook* was first prepared in 1993, the SCAB was designated nonattainment under the California AAQS and National AAQS for CO. As identified in the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan) and subsequently within the SCAQMD's 2003 AQMP, 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" analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon traffic periods. This hot spot analysis did not predict any violation of CO standards. It can, therefore, be reasonably concluded

that projects (such as the proposed Project) that are not subject to the extremes in vehicle volumes and vehicle congestion that was evidenced in the 2003 Los Angeles hot spot analysis (as shown in Table 4.4-13, none of the Project Study Area intersections would approach, much less exceed, traffic volumes and traffic congestion reflected in the 2003 Los Angeles hot spot analysis), would similarly not create or result in CO hot spots. Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts.

More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that 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—in order to generate a significant localized CO emissions impact.

Project peak hour traffic volumes traffic would not be sufficient to generate a CO hot spot either in the context of the 2003 Los Angeles hot spot study, or based on representative BAAQMD CO threshold considerations (please refer to Table 4.4-12). Therefore, CO hotspots are not an environmental impact of concern for the Project.

Table 4.4-12
TIA Study Area Intersection Maximum Peak Hour Traffic Volumes

Intersection Location	Northbound (AM/PM/SMD)	Southbound (AM/PM/SMD)	Eastbound (AM/PM/SMD)	Westbound (AM/PM/SMD)	Total (AM/PM/SMD)
I-215 NB Ramps & Cactus Avenue	336/188/125	80/87/231	1,260/2,625/1,187	3,055/2,778/1,573	4,731/5,238/3,116
Elsworth Street & Cactus Avenue	317/346/359	595/87/314	1,906/2,625/1,585	2,725/2,633/1,629	5,543/5,691/3,887
Graham Street & Cactus Avenue	398/421/281	387/806/593	1,576/2,737/1,597	2,476/1,857/1,764	4,837/5,821/4,235
Perris Boulevard & Sunnymead Boulevard	1,929/2,182/2,318	1,209/1,474/1,454	875/1,157/1,277	586/446/666	4,599/5,259/5,715

Source: *Moreno Valley Walmart Air Quality Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014.
Notes: SMD = Saturday Mid-Day

Level of Significance: Less-Than-Significant.

Toxic Air Contaminants (TAC) Health Risk Analysis

TACs of primary concern for the Project would be Diesel Particulate Matter (DPM) emissions generated by delivery trucks accessing the Project site. Project DPM sources are discussed below. Potential health risks of Project-related DPM emissions are described and evaluated subsequently.

Diesel Particulate Matter (DPM) Emissions

The Project would generate truck traffic (primarily delivery and service vehicles) a portion of which may be diesel-powered. Diesel emissions and DPM are known carcinogens and could increase area health risks. Accordingly, an analysis of potential long-term diesel exposure health risks is provided. To this end, the Project Health Risk Assessment (EIR Appendix D) characterizes and quantifies potential diesel emissions generated by, and health risk exposure resulting from, Project operations.

The average number of trucks accessing the Project site on a weekly basis is summarized at Table 4.4-13. Trucks accessing the Project would include 2-axle (small) delivery trucks; and larger semi-trailer trucks, with and without Transport Refrigeration Units (TRUs). On-site truck idling and associated generation of DPM emissions would occur as trucks enter and travel through the facility.

Table 4.4-13
Average Weekly Truck Deliveries-By Category

Description	Deliveries per Week
2-axle delivery trucks	48
Semi-trailer with TRU	15
Semi-trailer without TRU	29
Total Truck Deliveries/Week:	**92**

Source: *Moreno Valley Walmart Air Toxics Health Risk Assessment, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014.

The Project would be required to comply with CARB's on-site truck idling limit of 5 minutes. SCAQMD staff recommends that HRA's assume a minimum of 15 minutes of on-site truck idling (trucks without TRUs), which would take into account potential

protracted on-site idling which could occur at loading/unloading areas, or other areas or instances where on-site truck traffic movements may be impeded or delayed. Consistent with SCAQMD recommendations, the Project HRA analysis assumed on-site truck idling (other than for trucks with TRUs) for a period of 15 minutes.

As indicated above, some of the trucks accessing the site would have Transport Refrigeration Units (TRUs). DPM emission factors for, and total on-site DPM emissions generated by, trucks with TRUs are greater than for trucks without TRUs. This is because of increased energy demands of the refrigeration units, and requirements to keep items refrigerated throughout delivery and unloading processes. TRU emission factors were obtained from CARB's Staff Report: *Initial Statement of Reasons for Proposed Rulemaking 2011 Amendments for the Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities Where TRUs Operate.* Each TRU accessing the site was estimated to idle for 30 minutes with an average of 34 horsepower and 0.53 load factor consistent with CARB guidance.

Charbroiling Cooking Emissions

The cooking of meat creates fine particulate matter and volatile organic carbon emissions. Polycyclic Aromatic Hydrocarbons (PAHs), a group of over 100 chemicals, are key TACs from cooking operations. PAHs are formed by the incomplete combustion of coal, oil, petrol, wood, tobacco, charbroiled meats, garbage, or other organic materials. Exposure to PAHs usually occurs by breathing air contaminated by wild fires or coal tar, or by eating foods that have been grilled. Cancer is the major concern from exposure to PAH. Epidemiological studies have reported an increase in lung cancer in humans exposed to coke oven emissions, roofing tar emissions, and cigarette smoke; all of these mixtures contain PAH compounds. Two primary components of PAH are benzo[a]pyrene and naphthalene. Animal studies have reported respiratory tract tumors from inhalation exposure to benzo[a]pyrene and fore-stomach tumors, leukemia, and lung tumors from oral exposure to benzo[a]pyrene. Naphthalene is also a component of cooking emissions which can impact respiratory functions.

As summarized in the Project Description, a restaurant/food service use may be incorporated in the proposed Walmart Store. However, the exact type of restaurant or food use, menu items and/or cooking methods has yet-to-be determined. Accordingly, the Project HRA considered and evaluated TAC emissions generated by cooking of varying menu items (beef, poultry with skin, poultry without skin, and pork); and employing a range of cooking methods (charbroilers, under-fired broilers, and griddles). Charbroiling emissions rates and emission pollutant categories are available from *Guidance for Air Dispersion Modeling* (SJVAPCD, 2006. The *Guidance's* "Facility type 3" was selected and modeled since it represents the greatest emission rate and would establish a likely maximum impact condition. Please refer to the Project HRA (EIR Appendix D) for more detailed calculations and methodology information.

Gasoline Service Station TAC emissions:

Gasoline service stations result in emissions of the TACs benzene, ethyl benzene, and naphthalene. These TACs may be released during fuel delivery and dispensing. The quantity and concentration of TACs potentially resulting from commercial gasoline stations is directly related to fuel throughput. Site-specific information on the annual throughput for gasoline at the Project's proposed gasoline service station is not available at this time. To establish a likely maximum impact scenario for this TAC source, an upper-bound estimate of 4,400 gallons per day was modeled utilizing a volume source over the proposed gasoline service stations canopy[3].

Carcinogenic and Chronic Illness Impacts

The SCAQMD *CEQA Air Quality Handbook* (1993) states that emissions of TACs are considered significant if a Health Risk Assessment shows an increased cancer risk of greater than ten incidents per million population. Consistent with the aforementioned SCAQMD *Handbook* cancer risk threshold, for the purposes of this analysis, an increase in cancer risk of ten incidents per million population is considered significant. Also

[3] California Energy Almanac. Overview of Transportation Energy. *Fuel Use in California.* The California daily average commercial gasoline station throughput, based on approximately 9,700 gasoline service stations, is approximately 4,400 gallons per day. Web. July 29, 2014. <http://www.energyalmanac.ca.gov/transportation/summary.html#fuel)>

germane to the Project HRA, specific guidance in determining health risks from diesel emissions is provided in *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis* (SCAQMD) 2003.

Health risks associated with exposure to carcinogenic compounds are defined in terms of the probability of developing cancer as a result of exposure to a chemical at a given concentration. The cancer risk probability is determined by multiplying the chemical's annual concentration by its unit risk factor (URF). The URF is a measure of carcinogenic potential of a chemical when a dose is received through the inhalation pathway, and represents an upper-bound estimate of the probability of contracting cancer as a result of continuous exposure to an ambient concentration of one microgram per cubic meter ($\mu g/m^3$) over a 70-year lifetime. The URFs utilized in this analysis were obtained from the California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (OEHHA). Please refer also to the Project HRA presented at EIR Appendix D for greater detail regarding calculated TAC exposures and resulting health TAC-source cancer risks. Project-related TAC-source cancer risks were evaluated for three exposure scenarios: "Residential," "Worker" and "School Site/School Child." OEHHA-recommended exposure parameters for each scenario are summarized at Table 4.4-14.

Table 4.4-14
OEHHA Recommended Exposure Scenario Parameters

Exposure Parameter	Units	Residential	Worker	School Site/Child
Frequency	days/year	350	245	180
Duration	years	70	40	9
Inhalation Rate	m^3/day	21.14	10.43	40.67
Body Weight	kilograms	70	70	18
Averaging Time	days	25,550	25,550	25,550
Exposure Time	hours/day	24	12	10

Source: *Moreno Valley Walmart Air Toxics Health Risk Assessment, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014.

Carcinogenic Risk Exposure: Quantification Results

The Project HRA results for residential, worker, and school site carcinogenic risk exposures are summarized below. Please refer also to the Project HRA (EIR Appendix D) for detailed exposure modeling inputs and results.

Residential Exposures

For the Residential Exposure Scenario, the Project HRA indicates that TAC emissions generated by the Project will have a less-than-significant health risk at the maximally impacted residential land use. That is, at the maximally exposed individual receptor (MEIR), the maximum risk is estimated to be 4.71 in one million, which does not exceed the SCAQMD TAC-source cancer risk threshold of ten in one million.

Worker Exposures

For the Worker Exposure Scenario, the Project HRA indicates that TAC emissions generated by the Project will have a less-than-significant health risk at the maximally impacted worker location. That is, for the maximally exposed individual worker (MEIW), the maximum risk is estimated to be 0.99 in one million, which does not exceed the SCAQMD TAC-source cancer risk threshold of ten in one million.

School Site Exposures

For the School Child Exposure Scenario, the Project HRA indicates that TAC emissions generated by the Project will have a less-than-significant health risk at the maximally impacted school site. That is, for the maximally exposed individual school child (MEISC), the maximum risk is estimated to be 0.03 in one million, which does not exceed the SCAQMD TAC-source cancer risk threshold of ten in one million.

Non-Carcinogenic Risk

An evaluation of the potential non-carcinogenic effects of chronic exposure to TACs was also conducted. Adverse health effects are evaluated by comparing a compound's annual concentration with its toxicity factor or Reference Exposure Level (REL). RELs employed in the Project HRA were obtained from the California Environmental

Protection Agency, Office of Environmental Health Hazard (OEHHA); http://www.oehha.org/risk/chemicaldb/index.asp. Noncarcinogenic risks are numerically expressed as a Hazard Index (HI), with a threshold HI of 1.0. Noncarcinogenic Hazard Indices calculated to be less than 1.0 are considered less-than-significant.

Non-Carcinogenic Risk Exposure: Quantification Results

TAC non-carcinogenic risk exposures were quantified consistent with applicable SCAQMD methodology, and are expressed relative to Hazard Index threshold of 1.0. As noted above, non-carcinogenic Hazard Indices calculated to be less than 1.0 are considered less-than-significant. The Project HRA results for residential, worker, and school non-carcinogenic risk exposures are summarized below.

Residential Exposures

At the MEIR, the calculated HI is estimated to be 0.42, which would not exceed the applicable threshold of 1.0, and is therefore less-than-significant.

Worker Exposures

At the MEIW, the calculated HI is estimated to be 0.50, which would not exceed the applicable threshold of 1.0, and is therefore less-than-significant.

School Site Exposures

At the MEISC, the calculated HI is estimated to be 0.024, which would not exceed the applicable threshold of 1.0, and is therefore less-than-significant.

Cumulative TAC Impacts

Background

The South Coast Air Quality Management District (SCAQMD)[4] has conducted an analysis of the cumulative effects of TACs within the South Coast Air Basin (Basin). This cumulative analysis, *Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES-III)*, expresses cumulative TAC impacts in terms of potential increased cancer risks.[5] *MATES-III* estimates that the Basin-wide average excess cancer risk level resulting from exposure to cumulative TACs is approximately 1,200 incidents per one million population. Related, *MATES-III* estimates the cumulative TAC-source cancer risk for the localized area encompassing the Project site at 587 incidents per million population.[6] Diesel Particulate Matter (DPM)-source cancer risks, are reflected in the area's ambient cumulative cancer risk along with all other TAC-source risks, and accounts for the predominance (83.6%) of the total risk shown in *MATES-III*.

Ambient TAC Impacts Presumed Cumulatively Significant

The SCAQMD has established a significance threshold for incremental project-level TAC impacts. Specifically, if a given project would generate TACs resulting in or causing an increase in cancer risks of ten or more incidents per million population, that project's incremental cancer risk would be considered significant. This same significance threshold (ten in one million) is applied by SCAQMD in determining whether a given project's incremental contribution to ambient TAC-source cancer risks is cumulatively considerable. The SCAQMD has not however established a significance threshold for ambient cumulative TAC impacts affecting the Basin. Likewise, the City of

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[4] SCAQMD is the Responsible Agency providing guidance on applicable air quality analysis methodologies and air quality-related issues.

[5] Cancer risk refers to the probability of contracting cancer associated with exposure to a substance. It is expressed as the chance per million of a cancer case occurring. A risk of one per million, for example, would mean that in a population of one million individuals exposed over a 70-year lifetime, one additional cancer case would be expected.

[6] SCAQMD 2008, *MATES-III* Carcinogenic Interactive Map–http://www3.aqmd.gov/webappl/matesiii/ Localized background TAC-source cancer risk estimates are extrapolated from TAC monitoring data collected at ten fixed sites within the South Coast Air Basin. *MATES-III* extrapolates cancer risk levels throughout the Basin at 1.25 mile by 1.25 mile grids.

Moreno Valley (the Lead Agency) has no adopted cumulative TAC impacts significance threshold.

Absent an established threshold for cumulative TAC impacts, the following discussion assesses whether, in the light of other available existing information, the ambient cumulative TAC-source impacts affecting the Basin and the area encompassing the Project site could be characterized as significant.

As noted previously, *MATES-III* estimates the average ambient cumulative TAC-source cancer risk for the Basin at 1,200 incidents per million population; in the localized area encompassing the Project site, the risk is estimated at 587 incidents per million population. Either of these existing cumulative TAC-source cancer risk levels (1,200 per million, or 587 per million) far exceeds the ten in one million cancer risk at which project-level TAC-source cancer risks would be determined significant employing SCAQMD thresholds.

Comparing the ambient cumulative TAC-source cancer risk (587 per million locally, or 1,200 per million Basin-wide) to the SCAQMD's established threshold for project-level TAC-source cancer risks (ten in one million), the ambient cumulative TAC-source cancer risk is approximately 59 to 120 times greater than the incremental risk at which project-level TAC-source cancer risks would be considered significant.

Although there is not yet an established significance threshold for ambient cumulative TAC impacts, given the magnitude by which the ambient cumulative condition exceeds SCAQMD's established project-level significance threshold (ambient cumulative TAC conditions are 59 to 120 times greater than the project-level threshold), the ambient cumulative condition would likely exceed whatever significance threshold may be established for cumulative impacts affecting the Basin. On this basis, and absent a prevailing threshold adopted by the Lead or Responsible Agency, ambient cumulative TAC impacts are presumed to be significant.

Related Projects Contribution to Cumulative TAC Impacts

In addition to the *MATES-III* cumulative TAC-source cancer risk noted above, other new or proposed potential TAC-generating projects (related projects) in the Study Area could contribute to cumulative TAC impacts. These related projects, due to their recency and/or tentative nature, are not reflected in the cumulative TAC impacts identified in the *MATES-III* study.

In consultation with the Lead Agency, related TAC-generating projects located within a one-quarter mile radius of the Project were identified and are reflected in this cumulative TAC analysis. The one-quarter mile radius encompassed within the cumulative TAC analysis reflects CARB and South Coast District analyses indicating an 80-percent drop-off in TAC concentrations at approximately 1,000 feet from the TAC source under consideration (California Air Resources Board. *Air Quality and Land Use Handbook: A Community Health Perspective.* 2005.) Beyond 1,000 feet, the TAC emissions would be reduced and diffused such that they would not substantively and discernibly contribute to or interact with TAC emissions from other distinct sources. The one-quarter mile (1,320 feet) Study Area radius employed in the Project HRA therefore encompasses and extends beyond the distance at which related projects would generate TACs that would likely interact with TACs generated by the proposed South Moreno Valley Walmart Project. No new or proposed TAC-generating projects are located within a one-quarter mile radius of the Project site.

Project Contribution to Cumulative TAC Impacts

Project-source TACs would incrementally increase the background cancer risk by a maximum of 4.71 incidents per million population. The applicable SCAQMD significance threshold for Project-level TAC-source cancer risk impacts is ten incidents per million population. Similarly, SCAQMD significance thresholds state that project contributions to cumulative TAC-source cancer risks would be cumulatively considerable if greater than ten incidents per million population would occur. The 4.71 incidents per million population increment resulting from the Project is therefore not significant, nor cumulatively considerable.

Summary and Conclusions

To provide context for, and quantify cumulative TAC effects within the Study Area, the Project TAC-source cancer risk, was added to the total background risk derived by the *MATES-III* study, yielding a maximum potential cumulative TAC-source risk affecting the Study Area. As indicated at Table 4.4-15, the maximum potential cumulative cancer risk within the Study Area is estimated at 601.71 incidents per million.

Table 4.4-15
Study Area Cumulative Cancer Risk

Cumulative Impact Scenario	Risk Sources			Maximum Cumulative Risk
	Background TACs	Related Projects TACs	Project TACs	
	Cancer Risk Per Million Population			
Cumulative Impact Without Project	597	---	---	**597**
Cumulative Impact With Project	597	---	4.71	**601.71**

Source: *Moreno Valley Walmart Air Toxics Health Risk Assessment, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014.
Notes: Background TAC risk from: *MATES-III* Carcinogenic Risk Interactive Map (http://www2.aqmd.gov/webappl/matesiii/) (SCAQMD 2008).

The *MATES-III* ambient cumulative TAC impact represents approximately 99.9 percent of the total cumulative impact identified at Table 4.4-15; and due to its magnitude when compared to project-level TAC impact significance thresholds, is presumed to be cumulatively significant. The Project would incrementally contribute to this presumably significant cumulative impact. However, the Project's incremental contribution of 4.71 incidents per million population does not exceed, or even approach the established SCAQMD threshold (ten incidents per million population) at which project-level TAC contributions would be determined cumulatively considerable. On this basis, the Project TAC emissions impacts are not considered cumulatively considerable.

Localized Air Quality Impact Analysis Summary

As substantiated by the preceding discussions, maximum Project construction-source and operational-source emissions would not exceed applicable SCAQMD LSTs at the nearest sensitive receptor. Nor would the Project create or result in localized CO hot

spots. Further, Project TACs would not result in or cause potentially significant health risks, either at the project-level or cumulatively. On this basis, the potential for the Project's localized emissions to violate any air quality standard or contribute substantially to an existing or projected air quality violation is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: ***Expose sensitive receptors to substantial pollutant concentrations.***

Impact Analysis: Sensitive receptors can include uses such as long-term health care facilities, rehabilitation centers, and retirement homes. Residences, schools, playgrounds, child care centers, and athletic facilities can also be considered as sensitive receptors. As concluded in the above discussion of Localized Air Quality Impacts, the sensitive receptors nearest the Project site would not be subject to emissions exceeding SCAQMD LSTs. Nor would the Project create or result in localized CO hot spots. The Project HRA, summarized herein, substantiates that the Project would not generate or result in localized concentrations of TACs that would create or result in potentially significant health risks. On this basis, the potential for the Project to expose sensitive receptors to substantial pollutant concentrations is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: ***Create objectionable odors affecting a substantial number of people.***

Impact Analysis: The potential for the Project to generate objectionable odors has also been considered. Land uses generally associated with odor complaints include:

- Agricultural uses (livestock and farming);
- Wastewater treatment plants;
- Food processing plants;
- Chemical plants;

- Composting operations;
- Refineries;
- Landfills;
- Dairies; and
- Fiberglass molding facilities.

The Project does not propose land uses or activities typically associated with emitting objectionable odors. The Project may, however, generate localized odors due to construction equipment exhaust, application of asphalt and architectural coatings during construction activities, fast-food and restaurants using charbroilers and other cooking facilities, and the temporary storage of typical solid waste (refuse). Standard construction materials use storage and disposal requirements would minimize odor impacts from construction. Moreover, any construction-source odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction.

With regard to Project operations, Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with City solid waste regulations. Further, any other odors that may be generated during Project operations would disperse rapidly and would likely be limited to the immediate vicinity of the odor source. The Project would also be required to comply with SCAQMD Rule 402, acting to minimize potential occurrences of public nuisance odors.

As supported by the preceding discussion, the potential for the Project to create objectionable odors affecting a substantial number of people is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: ***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.

Impact Analysis: The Project area is designated as an extreme non-attainment area for ozone, a serious non-attainment area for PM_{10}, and a non-attainment area for $PM_{2.5}$. Germane to these regional non-attainment conditions, the Project-specific evaluation of emissions presented previously demonstrates that the Project's construction-source emissions would not exceed regional significance thresholds with implementation of Mitigation Measures 4.4.1 through 4.4.3. Project construction-source emissions would therefore not contribute to a cumulatively considerable net increase for PM_{10}, $PM_{2.5}$, or the ozone precursors VOC and NO_x within the encompassing non-attainment areas.

However, even after application of all feasible mitigation, Project operational-source NO_x would exceed applicable SCAQMD regional thresholds. The fact that the Project generates long-term emissions of the ozone and PM_{10}/$PM_{2.5}$ precursor NO_x in excess of applicable SCAQMD thresholds indicates that the Project impact is significant on an individual basis and would therefore contribute to cumulatively significant air quality impacts within a non-attainment area. On this basis, Project operational-source emissions of NO_x in exceedance of applicable SCAQMD regional thresholds would result in a cumulatively considerable net increase of in criteria pollutants within a non-attainment area. This is a potentially significant cumulative air quality impact. Please refer also to the discussion of cumulative air quality impacts presented at EIR Section 5.0, *Other CEQA Considerations.*

Level of Significance: Potentially Significant.

Mitigation Measures: Please refer to Mitigation Measures 4.4.4 and 4.4.5.

Level of Significance After Mitigation: ***Significant.*** Mitigation Measures 4.4.4 through 4.4.5 would reduce Project operational-source NO_x emissions to the extent feasible. Operational-source NO_x emission exceedances would persist however, and would be cumulatively considerable even with the application of mitigation. Please refer also to previous discussions regarding Project operational-source NO_x emissions.

4.5 GLOBAL CLIMATE CHANGE AND GREENHOUSE GAS EMISSIONS

4.5 GLOBAL CLIMATE CHANGE AND GREENHOUSE GAS EMISSIONS

Abstract

This Section identifies and addresses potential global climate change (GCC) and air greenhouse gas (GHG) emissions impacts that may result from construction and implementation of the Project. More specifically, the analysis evaluates the potential for the Project to cause or result in the following impacts:

- *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases; or*
- *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.*

Based the analysis presented within Moreno Valley Walmart Greenhouse Gas Analysis, City of Moreno Valley *(Urban Crossroads, Inc.) August 27, 2014, and summarized herein, the Project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases; or generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. The Project's potential GHG emissions impacts are therefore determined to be less-than-significant.*

4.5.1 INTRODUCTION

Global Climate Change (GCC) is defined as the change in average meteorological conditions on the Earth with respect to temperature, precipitation, and storms. Scientific evidence suggests that GCC is the result of increased concentrations of greenhouse gases in the atmosphere, including carbon dioxide, methane, nitrous oxide, and fluorinated gases. Most scientists believe that recent increases in greenhouse gases resulting from human activity and industrialization have accelerated and amplified GCC effects.

An individual development proposal, such as the Project considered herein, cannot generate enough greenhouse gas emissions to effect a discernible change in the global climate. However, the Project may contribute to GCC through its increment of greenhouse gases in combination with the cumulative increase in greenhouse gases from all other sources, which when taken together constitute potential influences on global climate change. This Section summarizes the potential for the Project to have a significant effect upon the environment as a result of its potential contribution to global climate change. Detailed analysis of the Project's potential GHG/GCC impacts is presented in *Moreno Valley Walmart Greenhouse Gas Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 27, 2014 (Project GHG Emissions Analysis); EIR Appendix E.

4.5.2 EXISTING CONDITIONS

4.5.2.1 Global Climate Change

GCC refers to the change in average meteorological conditions with respect to temperature, wind patterns, precipitation and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO_2 (Carbon Dioxide), N_2O (Nitrous Oxide), CH_4 (Methane), hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. These particular gases are important due to their residence time (duration) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the atmosphere, but prevent heat from escaping, thus warming the atmosphere. GCC can occur naturally as it has in the past with the previous ice ages. According to the CARB, the climate change that is currently in effect differs from previous

climate changes in both rate and magnitude (CARB, 2004, *Technical Support document for Staff Proposal Regarding Reduction of Greenhouse Gas Emissions from Motor Vehicles*).

4.5.2.2 Greenhouse Gases

Gases that trap heat in the atmosphere are often referred to as greenhouse gases. Greenhouse gases are released into the atmosphere by both natural and anthropogenic (human) activity. Without the natural greenhouse gas effect, the average temperature would be approximately 61˚Fahrenheit (F) cooler than it is currently. The accumulation of these gases in the atmosphere is considered to be the cause for the observed increase in the Earth's temperature.

Although California's rate of growth of greenhouse gas emissions is slowing, the state is still a substantial contributor. In 2004, the state is estimated to have produced 492 million gross metric tons of carbon dioxide equivalent greenhouse gas emissions. For the purposes of this analysis, Project-related emissions of carbon dioxide, methane, and nitrous oxide were evaluated because these gases are the primary contributors to global climate change from development projects. Emissions from Project facilities and stationary sources as well as emissions generated by Project-related vehicular traffic were included in the evaluation of potential GHG emissions impacts.

Greenhouse gases have varying global warming potential (GWP) values; GWP values represent the potential of a gas to trap heat in the atmosphere. Carbon dioxide is utilized as the reference gas for GWP, and thus has a GWP of 1. The atmospheric lifetime and GWP of greenhouse gases that would be generated by the Project are summarized at Table 4.5-1.

Table 4.5-1
Global Warming Potentials and Atmospheric Lifetimes

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100 year time horizon)
Carbon Dioxide	50 - 200	1
Methane	12 (+/-3)	21
Nitrous Oxide	120	310

Source: *Moreno Valley Walmart Greenhouse Gas Analysis* (Urban Crossroads, Inc.) August 27, 2014.

The following discussions summarize and describe commonly occurring greenhouse gases, their sources, and general characteristics.

Water Vapor

Water vapor (H_2O) is the most abundant, important, and variable greenhouse gas in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere, it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. A climate feedback is an indirect, or secondary, change, either positive or negative, that occurs within the climate system in response to a forcing mechanism. The feedback loop in which water is involved is critically important to projecting future climate change.

As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to 'hold' more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop." The extent to which this positive feedback loop will continue is unknown as there are also dynamics that hold the positive feedback loop in check. For example, increased atmospheric water vapor translates to increased cloud cover and increased reflection of incoming solar radiation (thus diminishing potential radiant heating of the Earth's surface).

The main source of water vapor is evaporation from the oceans (approximately 85 percent). Other sources include: evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.

Carbon Dioxide

Carbon dioxide (CO_2) is an odorless and colorless GHG. Outdoor levels of carbon dioxide are not high enough to result in negative health effects. Carbon dioxide is emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. Carbon dioxide is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks.

Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO_2 concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30 percent. Left unchecked, the concentration of carbon dioxide in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources.

Methane

Methane (CH_4) is an extremely effective absorber of radiation, though its atmospheric concentration is less than carbon dioxide and its lifetime in the atmosphere is brief (10-12 years), compared to other GHGs. No health effects are known to occur from exposure to methane.

Methane has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropogenic sources include fossil-fuel combustion and biomass burning.

Nitrous Oxide

Nitrous oxide (N_2O), also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's Lesions (brain damage).

Concentrations of nitrous oxide also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb). Nitrous oxide is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant (i.e., in whipped cream bottles), in potato chip bags to keep chips fresh, in rocket engines, and in race cars.

Chlorofluorocarbons

Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the Earth's surface).

CFCs have no natural source, but were first synthesized in 1928. They were used for refrigerants, aerosol propellants and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and was extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

Hydrofluorocarbons

Hydrofluorocarbons (HFCs) are synthetic, man-made chemicals that are used as a substitute for CFCs. Among the constituents classified as greenhouse gases, they are one of three groups with the highest global warming potential. The HFCs with the greatest

measured atmospheric abundances are (in order), HFC-23 (CHF_3), HFC-134a (CF_3CH_2F), and HFC-152a (CH_3CHF_2). Prior to 1990, the only significant emissions were of HFC-23. HFC-134a emissions are increasing due to its use as a refrigerant. The U.S. EPA estimates that concentrations of HFC-23 and HFC-134a are now about 10 parts per trillion (ppt) each; and that concentrations of HFC-152a are about 1 ppt. No health effects are known to result from exposure to HFCs, which are manmade for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through chemical processes in the lower atmosphere. Not until the PFCs reach the mesosphere, about 60 kilometers above Earth, do very high-energy ultraviolet rays from the sun destroy them. 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. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing.

Sulfur Hexafluoride

Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated (23,900). The U.S. EPA indicates that concentrations in the 1990s were about 4 ppt. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

4.5.2.3 Greenhouse Gases Emissions Inventories

Global

Worldwide anthropogenic GHG emissions are tracked by the Intergovernmental Panel on Climate Change for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). This GHG emission data for Annex I nations is available through 2011. Global GHG emissions are summarized at Table 4.5-2. As indicated, global emissions totaled approximately 25,285,543 gigagrams (Gg) Carbon Dioxide Equivalent

(CO_2e) for the Year 2011. The GHG emissions in more recent years may differ from the inventories presented in Table 4.5-2; however, the data is representative of currently available inventory data.

United States

As identified in Table 4.5-2, the United States, as a single country, was the number two producer of GHG emissions in 2011. The primary greenhouse gas emitted by human activities in the United States was CO_2, representing approximately 83 percent of U.S. total greenhouse gas emissions. Carbon dioxide from fossil fuel combustion accounted for approximately 78 percent of U.S. GHG emissions.

Table 4.5-2
Global GHG Emissions by Major GHG Source Countries

Source Countries	GHG Emissions (Gg CO_2e)
China	8,715,307
United States	6,665,700
European Union (27 member countries)	4,550,212
Russian Federation	2,320,834
India	1,725,762
Japan	1,307,728
Total	**25,285,543**

Source: *Moreno Valley Walmart Greenhouse Gas Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 27, 2014.

State of California

CARB compiles GHG inventories for the State of California. CARB GHG inventory data indicates that in 2008 (the most recent inventory of record) California emitted 474 Million Metric Ton of Carbon Dioxide Equivalent ($MMTCO_2e$) including emissions resulting from imported electrical power in 2008. 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 number one) with emissions of 417 $MMTCO_2e$ excluding emissions related to imported power.

4.5.2.4 Effects of Global Climate Change

Climate

The California Environmental Protection Agency (CalEPA) published a report titled "Scenarios of Climate Change in California: An Overview" (Climate Scenarios Report) in February 2006 (California Climate Change Center 2006). The Climate Scenarios Report is generally instructive about the potential effects of GCC within California.

The Climate Scenarios Report uses 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 (3.0-5.5°F); medium warming range (5.5-8.0°F); and higher warming range (8.0-10.5°F). The Climate Scenarios Report then presents an analysis of future climatic conditions in California under each warming range, that while uncertain, are descriptive of potential impacts of global climate change trends in California.

In addition, most recently on August 5, 2009, the State's Natural Resources Agency released a public review draft of its "California Climate Adaptation Strategy" report that 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. This report responds to the Governor's Executive Order S-13-2008 that called on state agencies to develop California's strategy to identify and prepare for expected climate impacts.

According to the reports, substantial temperature increases arising from increased GHG emissions could potentially result in a variety of impacts to the people, economy, and environment of California associated with a projected increase in extreme conditions, with the severity of the impacts depending upon actual future emissions of GHGs and associated warming. Under the emissions scenarios of the Climate Scenarios Report, the impacts of global warming in California have the potential to include, but are not limited to, the following areas.

Public Health

Higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation could increase from 25 to 35 percent under the lower warming range to 75 to 85 percent under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending on wind conditions. The Climate Scenarios Report indicates that large wildfires could become more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming range scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures could increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

Water Resources

A vast network of man-made reservoirs and aqueducts captures and transports water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

If temperatures continue to increase, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. Under the lower warming range scenario, snowpack losses could be only half as large as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter

climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation. It could also adversely affect winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there may be years with marginal insufficient snow for skiing and snowboarding, as was evidenced during the 2013–2014 period.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta – a major fresh water supply.

Agriculture

Increased temperatures could cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25 percent of the water supply they need. Although higher CO_2 levels can stimulate plant production and increase plant water-use efficiency, California's farmers could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate O_3 pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits, and nuts.

In addition, continued GCC could shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion could occur in many species while range contractions may be less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging gaps. Continued GCC could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

Forests and Landscapes

GCC has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including: precipitation, winds, temperature, terrain, and vegetation, future risks would likely not be uniform throughout the state. For example, wildfires in northern California could increase by up to 90 percent due to decreased precipitation.

Moreover, continued GCC has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60 to 80 percent by the end of the century as a result of increasing temperatures. The productivity of the state's forests has the potential to decrease as a result of GCC.

Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state's coastal regions. Under the higher warming range scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Increased sea level elevations of this magnitude would inundate low-lying coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. Under the lower warming range scenario, sea level could rise 12 to 14 inches.

4.5.2.5 GHG Health Effects

Health effects of greenhouse gases are summarized below.

Water Vapor

There are no known direct health effects related to water vapor at this time. However, water vapor can be a transport mechanism for other pollutants to enter the human body.

Carbon Dioxide

According to the National Institute for Occupational Safety and Health (NIOSH) high concentrations of carbon dioxide can result in health effects such as: headaches, dizziness, restlessness, difficulty breathing, sweating, increased heart rate, increased cardiac output, increased blood pressure, coma, asphyxia, and/or convulsions. It should be noted that current concentrations of carbon dioxide in the earth's atmosphere are estimated to be approximately 370 ppm, while the actual reference exposure level (level at which adverse health effects typically occur) is at exposure levels of 5,000 ppm averaged over 10 hours in a 40-hour workweek and short-term reference exposure levels of 30,000 ppm averaged over a 15-minute period (NIOSH 2005).

Methane

Methane is extremely reactive with oxidizers, halogens, and other halogen-containing compounds, may displace oxygen in an enclosed space and act as an asphyxiant (Occupational Safety and Health Administration (OSHA) 2003).

Nitrous Oxide

Nitrous Oxide is often referred to as laughing gas; it is a colorless GHG. The health effects associated with exposure to elevated concentrations of nitrous oxide include dizziness, euphoria, slight hallucinations, and in extreme cases of elevated concentrations nitrous oxide can also cause brain damage (OSHA 1999).

Fluorinated Gases (HFCs, PFCs, SF_6)

High concentrations of fluorinated gases can also result in adverse health effects such as asphyxiation, dizziness, headache, cardiovascular disease, cardiac disorders, and in extreme cases, increased mortality (NIOSH 1989, 1997).

4.5.2.6 GCC Regulatory Setting

Western Regional Climate Action Initiative (WCI)

The Western Regional Climate Action Initiative (WCI) is a partnership among seven states, including California, and four Canadian provinces to implement a regional, economy-wide cap-and-trade system to reduce global warming pollution. The WCI will cap GHG emissions from the region's electricity, industrial, and transportation sectors with the goal of reducing the heat trapping emissions that cause global warming to 15 percent below 2005 levels by 2020. When the WCI adopted this goal in 2007, it estimated that this would require 2007 levels to be reduced worldwide between 50 and 85 percent by 2050. California is working closely with the other states and provinces to design a regional GHG reduction program that includes a cap-and-trade approach.

EPA Actions and the Clean Air Act

On December 7, 2009, the U.S. Environmental Protection Agency (EPA) issued an Endangerment Finding under Section 202(a) of the Clean Air Act, 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 Clean Air Act. To date, the EPA has not promulgated regulations on GHG emissions, but it has already begun to develop them.

Previously, the EPA had not regulated GHGs under the Clean Air Act 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*, 549 U.S. 497 (1997), however, the U.S. Supreme Court held that GHGs are pollutants under the Clean Air Act 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 Representatives 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 GCC 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 unintended reduction of GHG emissions. In order to manage the state's energy needs and promote energy efficiency, AB 1575 created the California Energy Commission (CEC) in 1975.

Vehicle Standards

Other regulations have been adopted to address vehicle standards including United States Environmental Protection Agency (USEPA) and National Highway Traffic Safety Administration (NHTSA) joint rulemaking for vehicle standards:

- On March 30, 2009, the NHTSA issued a final rule for model year 2011;

- On May 7, 2010, the USEPA and NHTSA issued a Supplemental Notice of Intent announcing plans to propose stringent, coordinated federal GHG and fuel economy standards for model year 2017-2025 light-duty vehicles;

- On August 9, 2011 USEPA and NHTSA issued a Supplemental Notice of Intent announcing plans to propose stringent, coordinated federal GHG and fuel economy standards for model year 2017-2025 light-duty vehicles. The NHTSA intends to set standards for model years 2022-2025 in a future rulemaking;

- In addition to the regulations applicable to cars and light-duty trucks, on August 9, 2011, the USEPA and the NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks, which applies to vehicles from model year 2014-2018.

Energy Independence and Security Act

On December 19, 2007, the Energy Independence and Security Act of 2007 (EISA, Act) was signed into law. Among other key measures, the Act would aid in the reduction of national GHG emissions, both mobile and non-mobile.

Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Guidelines on GHG

Draft guidance prepared by the CEQ addresses consideration and evaluation of GHGs and GCC within NEPA analyses. The guidance recommends that proposed federal actions that are reasonably expected to directly emit 25,000 metric tons of CO_2e/year should prepare a quantitative and qualitative NEPA analysis of direct and indirect GHG emissions.

The draft guidance provides reporting tools and instructions on how to assess the effects of climate change. The draft guidance does not apply to land and resource management actions, nor does it propose to regulate GHGs. Although CEQ has not yet issued final guidance, various NEPA documents are beginning to incorporate the approach recommended in the draft guidance.

California Title 24 Energy 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 Energy Commission's most recent

standard, 2013 Building Energy Efficiency Standard, is 25 percent more efficient than previous standards for residential construction and 30 percent better for nonresidential construction. The Standards, which took effect on January 1, 2014, offer builders better windows, insulation, lighting, ventilation systems and other features that reduce energy consumption in homes and businesses.

Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CALGreen Code). The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality." The CALGreen Code is not intended to substitute or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC). Unless otherwise noted in the regulation, all newly constructed buildings in California are subject to the requirements of the CALGreen Code.

CALGreen contains both mandatory and voluntary measures, for Non-Residential land uses there are 39 mandatory measures including, but not limited to: exterior light pollution reduction, wastewater reduction by 20 percent, and commissioning of projects over 10,000 square feet. There are two tiers of voluntary measures for Non-Residential land uses for a total of 36 additional elective measures.

The 2013 CALGreen includes additions and amendments to the water efficiency standards for non-residential buildings in order to comply with the reduced flow rate table. The 2013 CALGreen has also been rewritten to clarify and definitively identify the requirements and applicability for residential and nonresidential buildings.

California Assembly Bill No. 1493 (AB 1493)

California Assembly Bill 1493 requires CARB to develop and adopt the nation's first greenhouse gas emission standards for automobiles. The Legislature declared in AB 1493 that global warming was a matter of increasing concern for public health and environment in California; and stated that technological solutions to reduce greenhouse gas emissions would stimulate the California economy and provide jobs.

To meet the requirements of AB 1493, CARB approved amendments 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 Sections 1900 (13 CCR § 1900) and 1961 (13 CCR § 1961) and adoption of Section 1961.1 (13 CCR § 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.

In December 2004 a group of car dealerships, automobile manufacturers, and trade groups representing automobile manufacturers filed suit against CARB to prevent enforcement of 13 CCR § 1900 and 13 CCR § 1961 as amended by AB 1493 and 13 CCR § 1961.1 (*Central Valley Chrysler-Jeep v. Witherspoon* (2006) 456 F.Supp.2d 1160). The suit, heard in the U.S. District Court for the Eastern District of California, contended that California's implementation of regulations that in effect regulate vehicle fuel economy violates various federal laws, regulations, and policies. In January 2007, the judge hearing the case accepted a request from the State Attorney General's office that the trial be postponed until a decision is reached by the U.S. Supreme Court on a separate case addressing greenhouse gases. As discussed above, in the Supreme Court Case, *Massachusetts v. Environmental Protection Agency*, the primary issue in question is whether the federal CAA provides authority for the EPA to regulate CO_2 emissions. In April 2007, the U.S. Supreme Court ruled in Massachusetts' favor, holding that greenhouse gases are air pollutants under the CAA. On December 11, 2007, the judge in the *Central Valley Chrysler-Jeep* case rejected each plaintiff's arguments and ruled in California's favor. On December 19, 2007, the USEPA

denied California's waiver request. California filed a petition with the Ninth Circuit Court of Appeals challenging USEPA's denial on January 2, 2008.

Subsequently, the USEPA and the U.S. Department of Transportation agreed to adopt a federal program to reduce greenhouse gases and improve fuel economy, respectively, from passenger vehicles in order to achieve equivalent or greater greenhouse gas benefits as the AB 1493 regulations for the 2012–2016 model years. Manufacturers agreed to ultimately drop current and forego similar future legal challenges, including challenging a waiver grant, which occurred on June 30, 2009. The State of California committed to (1) revise its standards to allow manufacturers to demonstrate compliance with the fleet-average GHG emission standard by "pooling" California and specified State vehicle sales; (2) revise its standards for 2012–2016 model year vehicles so that compliance with USEPA-adopted GHG standards would also comply with California's standards; and (3) revise its standards, as necessary, to allow manufacturers to use emissions data from the federal Corporate Average Fuel Economy (CAFE) program to demonstrate compliance with the AB 1493 regulations. Both of these programs are aimed at light-duty auto and light-duty trucks.

Executive Order S-3-05

Executive Order S-3-05 proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra's snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the Executive Order established total greenhouse gas emission targets. Specifically, emissions are to be reduced to the 1990 level by 2020, and to 80 percent below the 1990 level by 2050. The Executive Order directed the Secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce greenhouse gas emissions to the target levels. The Secretary also is required to submit biannual reports to the Governor and state Legislature describing: (1) progress made toward reaching the emission targets; (2) impacts of global warming on California's resources; and (3) mitigation and adaptation plans to combat these impacts. To comply with the Executive Order, the Secretary of the CalEPA created a Climate Action Team (CAT) made up of members from various state agencies and commission. CAT released its

first report in March 2006. The report proposed to achieve the targets by building on voluntary actions of California businesses, local government and community actions, as well as through state incentive and regulatory programs.

California Assembly Bill 32 (AB 32)

California Assembly Bill 32 **(**AB 32), the California Climate Solutions Act of 2006, requires that statewide GHG emissions be reduced to 1990 levels by the year 2020. As of 2012, this reduction is being accomplished through an enforceable phased statewide cap on GHG emissions. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 indicates further that regulations adopted in response to AB 1493 should address GHG emissions from vehicles. Assembly Bill 32 contingencies also include provisions stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires that CARB adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrives 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 includes 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 CO_2 equivalent ($MMTCO_2e$; emission sources by sector were: transportation, 35 percent; electricity generation, 26 percent; industrial, 24 percent; residential, 7 percent; agriculture, 5 percent; and commercial, 3 percent). Accordingly, 427 $MMTCO_2e$ was established as the emissions limit for 2020. In comparison, CARB's estimate for baseline GHG emissions was 473 MMT for 2000 and 532 MMT for 2010. "Business as usual" conditions (without the 28.4 percent reduction 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 plants, 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 (CARB Scoping Plan, Scoping Plan) to reduce GHG emissions to 1990 levels. The Scoping Plan's recommendations for reducing GHG emissions to 1990 levels by 2020 include emission reduction measures, including a cap-and-trade program linked to Western Climate Initiative partner jurisdictions, green building strategies, recycling and waste-related measures, as well as Voluntary Early Actions and Reductions. In order to achieve 2020 greenhouse gas emissions reductions targets, the CARB Scoping Plan indicates that implementation of individual measures should have been initiated no later than January 1, 2012.

While local government operations were not accounted for in achieving the 2020 emissions reduction, local land use changes are projected to achieve approximately 3 percent of the 2020 GHG emissions reduction goal. In recognition of the critical role local governments will play in successful implementation of AB 32, CARB is recommending GHG reduction goals of 15 percent of 2006 levels by 2020 to ensure that municipal and community-wide emissions match the state's reduction target. According to the Measure Documentation Supplement to the Scoping Plan, 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 $MMTCO_2e$ (or approximately 1.2 percent of the GHG reduction target).

California Senate Bill No. 1368

In 2006, the State Legislature adopted Senate Bill 1368 (SB 1368), which was subsequently signed into law by the Governor. SB 1368 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. Coal-fired plants cannot meet this standard because such plants emit roughly twice as much carbon as combined cycle natural gas power plants.

Accordingly, the new law will effectively prevent 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.

CEQA Guidelines

CEQA Guidelines Section 15064.4(a) states "A lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use . . .; or (2) Rely on a qualitative analysis or performance based standards."

CEQA emphasizes 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* Section 15130(f)).

Section 15064.4(b) of the *CEQA Guidelines* provides direction for lead agencies for assessing the significance of impacts of GHG emissions:

1. The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;

2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; or

3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

4.5.3 GCC Significance Thresholds and Performance Standards

CEQA Guidelines

The *CEQA Guidelines* do not identify a threshold of significance for GHG emissions, nor do they prescribe assessment methodologies or specific mitigation measures. Rather, the *CEQA Guidelines* call for a "good-faith effort, based on available information, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project." The *CEQA Guidelines* encourage lead agencies to consider many factors in performing a CEQA analysis and preserve lead agencies' discretion to make their own determinations based upon substantial evidence. The *CEQA Guidelines* also encourage public agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses. *CEQA Guidelines'* suggested Environmental Checklist GHG topical issues have been incorporated into the analytic discussions presented subsequently within this Section.

Executive Order S-01-07

Executive Order S-01-07 establishes a statewide goal to reduce the carbon intensity of California's transportation fuel by at least ten percent by 2020. The Order also requires that a California-specific Low Carbon Fuel Standard be established for transportation fuels.

Senate Bills 1078 and 107 and Executive Order S-14-08

SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. Executive Order S-14-08 expanded the state's Renewable Energy Standard to 33 percent renewable power by 2020.

Senate Bill 375

SB 375, signed in September 2008 (Chapter 728, Statutes of 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) prescribing land use allocations in that MPO's regional transportation plan (RTP). The California Air Resources Board, 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.

GHG reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies would affect the target reduction strategies The California Air Resources Board is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet their assigned GHG reduction targets, transportation projects will not be eligible for funding programmed after January 1, 2012.

SB 375 also extends the minimum time period for the regional housing needs allocation cycle from five years to eight years for local governments located within an MPO that meets certain requirements. City or county land use policies (including general plans) consistency with the regional transportation plan (and associated SCS or APS) is not required. However, new provisions of CEQA would incentivize (through streamlining and other provisions) qualified projects that are consistent with an approved SCS or APS, categorized as "transit priority projects."

The Southern California Association of Governments (SCAG) is required by law to update the Southern California Regional Transportation Plan (RTP) every four years. On April 4, 2012, the Regional Council of the SCAG adopted the *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS): Towards a Sustainable Future*. The RTP/SCS incorporates land use and housing policies to meet the GHG emissions targets established by the CARB.

South Coast Air Quality Management District Recommendations

In April 2008, the South Coast Air Quality Management District (SCAQMD), in order to provide guidance to local lead agencies on determining the significance of GHG emissions identified in CEQA documents, convened a "GHG CEQA Significance Threshold Working Group." The goal of the working group is to develop and reach consensus on an acceptable CEQA significance threshold for GHG emissions that would be utilized on an interim basis until CARB (or some other state agency) develops statewide guidance on assessing the significance of GHG emissions under CEQA.

Initially, SCAQMD staff presented the working group with a significance threshold that could be applied to various types of projects—residential; non-residential; industrial; etc. However, the threshold is still under development. In December 2008, staff presented the SCAQMD Governing Board with a significance threshold for stationary source projects where it is the lead agency. This threshold uses a tiered approach to determine a project's significance, with 10,000 metric tons of carbon dioxide equivalent ($MTCO_2e$) as a screening numerical threshold for stationary sources. More importantly, it should be noted that when setting the 10,000 $MTCO_2e$ threshold, the SCAQMD did not consider mobile sources (vehicular travel); rather the threshold is based mainly on stationary source generators such as boilers, refineries, power plants, etc. Therefore, it would be misleading to apply this threshold, developed without consideration for mobile sources, to a Project where the majority of emissions are related to mobile sources. Moreover, by its terms, the threshold applies only to projects where the SCAQMD is the lead agency, and would therefore not be applicable here. There is no SCAQMD threshold that can be applied to this Project.

In September 2010, the Working Group released additional revisions which recommended a threshold of 3,500 $MTCO_2e$ for residential projects, 1,400 $MTCO_2e$ for commercial projects, and 3,000 $MTCO_2e$ for mixed use projects. Additionally the working group identified a project-level efficiency target of 4.8 $MTCO_2e$ per service population as a 2020 target and 3.0 $MTCO_2e$ per service population as a 2035 target. The recommended plan-level target for 2020 was 6.6 $MTCO_2e$ and the plan level target for 2035 was 4.1 $MTCO_2e$. The SCAQMD has not announced when staff is expecting to present a finalized version of these thresholds to the Governing Board; thus, these proposed thresholds are not applicable to the proposed project. The SCAQMD has also adopted Rules 2700, 2701, and 2702 that address GHG reductions; however, these rules are currently applicable to boilers and process heaters, forestry, and manure management projects, none of which are germane to the Project considered herein.

To date, the SCAQMD and CARB have not established quantified GHG emissions significance thresholds for projects being evaluated under CEQA. For the purposes of this analysis, the Project's GHG emissions have been compared with a "Business as Usual" (BAU) scenario to determine whether the development is likely to be consistent with the CARB Scoping Plan which was designed to implement AB 32 in California.

CARB Business as Usual (BAU) GHG Emissions Scenario

The Business as Usual (BAU) GHG Emissions Scenario as defined by the California Air Resource Board's (CARB) is an estimate of the emissions expected to occur in the year 2020 if none of the foreseeable measures included in the *First Update to the Climate Change Scoping Plan* (CARB) May 2014 (Scoping Plan) were implemented (see Page 92, 6th paragraph of *First Update to the Climate Change Scoping Plan – May 2014)*. CARB also defines "business-as-usual" to mean "the normal course of business or activities for an entity or a project before the imposition of greenhouse gas emissions reduction requirements or incentives." [1]

[1] ARB: *Preliminary Draft Regulation for a California Cap-and-Trade Program*, Section 95802 (a)(18), Dec., 2009; page 7.

Similarly, the California Air Pollution Control Officers Association (CAPCOA) acknowledges that the "business-as-usual" scenario is the estimate of emissions that would occur in the absence of measures to reduce emissions. CAPCOA goes on to further state that "business-as-usual" is the projection of GHG emissions at a future date based on current technologies and regulatory requirements in absence of other reductions.[2] In this case, the base BAU scenario would reflect emissions that would be generated by the Project absent implementation of AB32, which is effectively a 2005 year emissions profile since AB32 was adopted in 2006. Additionally, CARB's emissions baseline period in its scoping plan reflects the average emissions from 2002 to 2004.[3] Use of 2005 year emission factors from a greenhouse gas standpoint is appropriate since the emission factors in 2005 would reflect what would happen in 2020 if the Scoping Plan measures were not implemented.

Since the adoption of the CEQA Guidelines regulating GHG emissions, local agencies have adopted the BAU threshold approach. The rationale behind the BAU threshold is *CEQA Guidelines* Section 15064.4(b)(3), which provides that, when determining the significance of GHG emissions, a lead agency may consider whether a project complies with the regulations or requirements adopted pursuant to a statewide plan intended to reduce or mitigate GHG. CARB's Climate Change Scoping Plan, developed as part of CARB's mandate to implement AB 32, is one such plan.

Consistent with AB 32, the Scoping Plan mandates a reduction in California's GHG emissions to 1990 levels by 2020 and sets forth strategies for GHG reductions to reach this target through a combination of regulations, market mechanisms and other actions. To achieve the reduction goal established in AB 32, the Scoping Plan projected the reasonable expected GHG emissions growth by 2020 absent such reduction strategies (i.e., the previously-noted CARB BAU scenario) and then calculated the GHG emission reductions that are anticipated to occur as a result of implementing the Scoping Plan strategies.

[2] CAPCOA: "Model Policies for Greenhouse Gases in General Plans," Jun., 2009, page 15.

[3] ARB: "Climate Change Scoping Plan: a framework for change," Dec., 2008; page 11.

The BAU threshold has been upheld in three recent court cases. See *Citizens for Responsible Equitable Environmental Development v. City of Chula Vista* (2011) 197 Cal.App.4th 327; *North Coast Rivers Alliance v. Marin Municipal Water District* (2013) 216 Cal.App.4th 614, 650-654; and *Friends of Oroville v. City of Oroville* (2013) 219 Cal.App.4th 832, 841 ("City properly adopted Assembly Bill 32's reduction targets for GHG emissions as the threshold-of-significance standard in determining whether the Project's GHG emissions constituted a significant environmental impact").

The analysis presented herein substantiates that the Project GHG emissions would be reduced consistent with AB 32 emissions reductions targets when compared with the BAU scenario as defined by CARB, and Project GHG emissions impacts would therefore be less-than-significant.

***CEQA Guidelines* GHG Emissions Significance Factors**

Irrespective of the use of the BAU threshold, this EIR independently contains substantial evidence supporting the conclusion that the Project's GHG emissions impacts are less-than-significant.

CEQA Guidelines at § 15064.4(a) states that "[a] lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which methodology to use . . . ; and/or (2) Rely on a qualitative analysis or performance based standards." Additionally, *CEQA Guidelines* at § 15064.4(b) state that a lead agency should take into account the following three factors in assessing the significance of impacts from greenhouse gas emissions.

- Factor No.1 is the extent to which the project under consideration may increase or reduce GHG emissions as compared to the existing environmental setting.
- Factor No. 2 is whether the project emissions would exceed a threshold of significance that the lead agency determines applies to the project.

- Factor No. 3 is the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.

The regulations or requirements referred to in Factor No. 3 must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. See *CEQA Guidelines* § 15064.4(b)(1)-(3)).

The *CEQA Guidelines* also state that a lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of GHGs associated with a project. Because the methodologies for performing this assessment are anticipated to evolve over time, a lead agency has discretion to determine, in the context of a particular project, whether to use a model or methodology to quantify greenhouse gas emissions and/or rely on qualitative or other performance based standards for estimating the significance of greenhouse gas emissions. See *CEQA Guidelines* § 15064.4(b). Analyzing these three factors under *CEQA Guidelines* § 15064.4, the Project's GHG emissions impacts are less-than-significant.

City of Moreno Valley

General Plan

Although the City of Moreno Valley General Plan does not identify specific GHG or climate change policies, Objectives 6.6 and 6.7, as well as Policies 6.7.5 and 6.7.6[4], identified in the General Plan's Safety Element act to reduce or control criteria pollutant emissions and in so doing would also reduce GHG emissions. These measures address the siting of development projects, the reduction of pollutant emissions, and compliance with existing air quality regulations. The Project is consistent with these measures.

[4] City of Moreno Valley General Plan, Chapter 9, "Goals and Objectives", page 9-32.

City of Moreno Valley GHG Emissions Reduction Programs and Regulations

The *Final City of Moreno Valley Greenhouse Gas Analysis* (Atkins) February 2012 identifies programs and regulations to reduce GHG emissions from community sources and municipal operations. Project consistency with and support of applicable policies and requirements identified in the Analysis are summarized at Table 4.5-3.

Table 4.5-3
Project Consistency with
City of Moreno Valley GHG Emissions Reduction Programs and Regulations

Number	Program/Regulation	Remarks
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.	**Consistent.** As identified in the Project Description (EIR Section 3.0) and pursuant to EIR Mitigation Measure 4.4.4, the Project would implement energy efficient designs representing a minimum 10% improvement on incumbent Title 24 standards. Energy efficient designs implemented by the Project would reduce operational source air pollutant emissions collectively, including GHG emissions.
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.	**Consistent.** Shade trees would be provided in the Project parking areas acting to reduce potential heat islands. Parking lot shading also acts to reduce vehicle air conditioning demands and related vehicle fuel consumption.
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.	**Consistent.** The Project would at a minimum, conform to water use efficiencies established under the California Green Building Standards Code More specifically, the Code at Chapter 5, Division 5.3, Section 5.303.2 requires that indoor water use be reduced by 20%. Section 5.304.3 requires irrigation controllers and sensors. Moreover, pursuant to EIR Mitigation Measure 4.4.5, the Project would implement a Water Conservation Strategy demonstrating a minimum 30% reduction in outdoor water usage when compared to baseline water demands.

Sources: GHG Emissions Reduction Programs and Regulations from *Final City of Moreno Valley Greenhouse Gas Analysis;* Remarks–Applied Planning, Inc.

4.5.4 Impact Statements

Potential Impact: ***Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases; or generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.***

Impact Analysis:

CEQA Guidelines Section 15064.4 (b) (1) states that a Lead Agency may employ a model or methodology of its choice to quantify greenhouse gas emissions associated with a project. The SCAQMD-approved California Emissions Estimator Model (CalEEMod, Model) is accepted by the Lead Agency for modeling of GHG emissions, and was employed in the analysis of potential Project GHG emissions impacts. CalEEMod calculates air pollutant/GHG emissions from direct and indirect sources, and quantifies pollutant/GHG emissions reductions achieved from mitigation measures. The Model includes and evaluates GHG emissions from the following source categories: construction, area, energy, mobile, waste, and water. Considerations applicable to each of these categories are summarized in the following paragraphs.

Construction-Source GHG Emissions

Project construction activities would generate GHG emissions of CO_2 and CH_4. Construction-source GHG emissions are quantified and amortized over the life of the Project. To this end, and consistent with SCAQMD-recommended methodology, GHG emissions generated by Project construction activities were totaled and then divided by 30, reflecting an assumed 30-year Project life. The resulting quotient was then summed with annual operational phase GHG emissions under the "Business As Usual" and Project scenarios presented below.

Operational-Source GHG Emissions

Operational activities associated with the proposed Project will generate CO_2, CH_4, and N_2O emissions due to area sources; building energy use; water supply, treatment and

distribution (water use); solid waste management; and mobile-source (vehicular) energy consumption.

Area Sources

Area sources (generalized activities associated with landscape and building maintenance) would generate GHG emissions over the life of the Project.

Building Energy Use

GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO_2 and other GHGs directly into the atmosphere; these emissions are considered direct emissions. GHGs are also emitted during the generation of electricity from fossil fuels; these emissions are considered to be indirect emissions.

Water Supply, Treatment and Distribution (Water Use)

Indirect GHG emissions result from the production of electricity used to convey, treat and distribute water and wastewater. The amount of electricity required is determined by the volume of water used, as well as the sources of the water.

Solid Waste Management

Commercial land uses will result in the generation and disposal of solid waste. A large percentage of this waste will be diverted from landfills by a variety of means, such as reducing the amount of waste generated, recycling, and/or composting. The remainder of the waste not diverted will be disposed of at a landfill. GHG emissions from landfills are associated with the anaerobic breakdown of material.

Mobile-Source Emissions

GHG emissions would also be generated by Project-related mobile sources. These mobile source emissions will result from the typical daily operation of motor vehicles by visitors, employees, and customers. Project mobile source emissions are dependent on overall daily vehicle trip generation. Trip characteristics available from the Project TIA (EIR Appendix C) were utilized in this analysis.

GHG Emission Reduction Targets

The CARB Scoping Plan BAU Scenario reflects development of the Project site absent design features, operational programs, mitigation measures, and state requirements established by AB 32 which would collectively act to reduce GHG emissions.

The CARB Scoping Plan considers statewide GHG emissions, and indicates that statewide AB 32 compliance would be achieved provided there is a minimum 28.5 percent reduction in statewide BAU GHG emissions, when considering the time frame 1990 to 2020.

Project GHG emission levels that are consistent with the above-noted CARB Scoping Plan GHG emission reduction targets would be considered compliant with AB 32, and potential Project GHG emissions/GCC impacts would be considered less-than-significant.

Annual GHG emissions that would be generated by the Project under BAU Scenario assumptions and that would result pursuant to GHG emission reductions achieved through the Project design and operational programs in combination with state policies and requirements (Project Scenario) are summarized in Table 4.5-4. GHG emission reductions by source/measure are summarized in Table 4.5-5.

Table 4.5-4
GHG Emissions Summary, BAU Scenario vs. Project Scenario

Emission Source	Annual Emissions (CO_2e-metric tons per year)	
	BAU Scenario	Project Scenario
Construction	22.22	22.22
Area	5.60e-3	5.39e-3
Energy Consumption	940.70	559.26
Mobile Sources	11,237.36	7,742.99
Solid Waste Management	370.79	370.79
Water Use	98.54	58.92
Totals	**12,669.62**	**8,754.18**
Project Scenario Reduction in BAU GHG Emissions	**(3,915.44 CO_2e)/30.90%**	

Source: *Moreno Valley Walmart Greenhouse Gas Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 27, 2014.

Table 4.5-5
GHG Emissions Reductions by Source and Reduction Measure
BAU Scenario vs. Project Scenario

GHG Source	GHG Emissions (CO_2e-Metric Tons per Year)				
	BAU GHG Emissions	**GHG Reduction resulting from *State Measures***	**GHG Reduction resulting from *Project Design, and EIR AQ Mitigation Measures***	**Total GHG Reduction**	**Net Project GHG Emissions Reduction vs. BAU Scenario**
Construction	22.22	0.00	0.00	0.00	22.22
Area Sources	0.01	0.00	0.00	0.00	0.01
Energy Use	940.70	330.71 *- Renewable Portfolio Standards* *- 2013 Title 24 Requirements*	50.73 *- Project Design Feature (Exceed Title 24 by 10%)*	381.44	559.26
Mobile Sources (Traffic)	11,237.36	3,208.07 *- Pavley Fuel Efficiency Standards (AB 1493)* *- Title 17 California Code of Regulations (Low Carbon Fuel Standard)*	286.30 *- Project Design Features (Increase Diversity / Implement a Pedestrian Network / Traffic Calming Measures)*	3,494.38	7,742.98
Solid Waste Management	370.79	0.00	0.00	0.00	370.79
Water Use	98.54	20.95 *- Renewable Portfolio Standards*	18.67 *- Project Design Feature (20% indoor/ 30% outdoor reduction in water use)*	39.62	58.92
Total	**12,669.62**	**3,559.73**	**355.70**	**3,915.44**	**8,754.18**

Source: *Moreno Valley Walmart Greenhouse Gas Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 27, 2014.

The Project GHG emissions would be reduced consistent with AB 32 emissions reductions targets when compared with the BAU scenario as defined by CARB, and Project GHG emissions impacts would therefore be less-than-significant.

Project GHG Emissions Less-Than-Significant in Context of *CEQA Guidelines* GHG/GCC Significance Factors

Moreover, the following discussions present substantial evidence supporting the conclusion that the Project's GHG emissions impacts are less-than-significant based on *CEQA Guidelines* § 15064.4(b) GHG/GCC Significance Factors.

FACTOR NO. 1: *The extent to which the Project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.*

The City determines compliance with this measure based on a qualitative review of a project's GHG emissions, the extent to which a project may result in increased or decreased energy efficiency. Future development projects are expected to result in increased GHG emissions if they substantially increase electricity and natural gas consumption.

The Project would incorporate energy efficient/energy-conserving Project design features that would reduce GHG emissions when compared to baseline Title 24 compliant design requirements. Many of the Project design features are consistent with GHG reduction strategies developed by groups and public agencies, such as ARB, CAPCOA and the California Attorney General Office. All new Walmart stores employ 85-90 percent recycled steel, reducing off-site energy consumption associated with mining activities and steel manufacturing. Walmart employs a centralized energy management system (EMS) to monitor and system control the heating, air conditioning, refrigeration and lighting systems for all stores from Walmart's corporate headquarters. The EMS enables Walmart to constantly monitor and control the expanded store's energy usage, analyze refrigeration temperatures, observe HVAC and lighting performance, and adjust system levels from a central location 24 hours per day, seven days per week. Energy usage for the entire store will be monitored and controlled in this manner. Skylights will provide natural daylighting resulting in reduced requirements for interior artificial light sources, with corollary reductions in electrical lighting power consumption.

While the above design features and operational programs are specific to the Project's proposed Walmart Store, it is anticipated that other uses implemented under the Project would, if for no other than economic reasons, employ energy conserving and energy efficient designs. As identified in the Project Description (EIR Section 3.0) and pursuant to EIR Mitigation Measure 4.4.4, the Project in total would implement energy efficient designs representing a minimum 10% improvement on incumbent Title 24 standards.

Energy efficient designs implemented by the Project would reduce operational source air pollutant emissions collectively, including GHG emissions.

FACTOR NO.2: *Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.*

Project GHG emissions would not exceed a threshold of significance that the lead agency determines applies to the Project. To the contrary, the Project is consistent with the City's General Plan and the City's GHG Emissions Reduction Program and Regulation. Furthermore, the Project is consistent with the numerous regulations that are being adopted pursuant to AB 32, Executive Order S-3-05, and others. The Project supports and would not conflict with AB 32 and Executive Order S-3-05 goals and objectives. As addressed directly above, development of the Project includes several features which will not hinder attainment of the state's goals of reducing greenhouse gas emissions to 1990 levels by 2020 and an 80 percent reduction below 1990 levels by 2050. The Project will further new contemporary energy-efficient designs, and implementation of energy efficient facilities, appliances, and operational efficiencies. Moreover, the Project includes several sustainability measures that are consistent with recommendations by key climate change constituencies. See generally EIR Section 3.0 *Project Description*, and specifically, Section 3.4.10 *Energy Efficiency/Sustainability*. Please refer also to EIR Mitigation Measure 4.4.4.

The Project would also constitute development within an established community and would not be opening up a new geographical area for development such that it would draw mostly new trips, or substantially lengthen existing trips. Rather, the Project would provide an opportunity for nearby residents to shop closer to home. While the Project may increase vehicle miles traveled (VMT) for some customers, most of the trips would be coming from within the immediate area. Given the location of other comparable stores within more distant portions of the region, customers that would previously have traveled to these locations will now have a store closer to their home. Accordingly, the Project would tend to reduce vehicular-source GHG emissions by reducing vehicle trip lengths

and regional VMT when compared to continued travel patterns outside of the City to access the retail opportunities and amenities otherwise provided by the Project.

FACTOR NO.3: *The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable, notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.*

The SCAQMD has not formally adopted a significance threshold for GHG emissions generated by a project, or a uniform methodology for analyzing impacts related to GHG emissions or global climate change. However, the City of Moreno Valley has adopted a climate action plan or other similar plan regulating the emission of greenhouse gases. The Project is consistent and complies with the City of Moreno Valley GHG Emissions Reduction Programs and Regulations. See generally R2 and R3 reduction measures contained within Section 4, *City of Moreno Valley GHG Emissions Reduction Programs and Regulations* of the *Final City of Moreno Valley Greenhouse Gas Analysis* (Atkins) February 2012. The referenced Section 4 outlines measures furthering reductions in community-wide GHG emissions. Project consistency and compliance with applicable City GHG Emissions Reduction Programs and Regulations are reflected in the discussions presented herein (please refer also to previous Table 4.5-3).

As substantiated in the preceding discussions, the Project complies with the regulations or requirements adopted to implement all applicable plans for the reduction or mitigation of greenhouse gas emissions. As a result of the analysis presented herein, and irrespective of the use of the BAU threshold, the Project GHG emissions impacts would be less-than-significant.

Summary and Conclusions

The analysis demonstrates that the Project is consistent with, or otherwise not in conflict with, recommended measures and actions in the CARB Scoping Plan. The Scoping Plan establishes strategies and measures that would achieve GHG reductions goals set forth in the Global Warming Solutions Act of 2006 (AB 32). More specifically, the CARB Scoping Plan calls for an approximately 28.5 percent reduction in GHG emissions when compared to BAU conditions. As substantiated herein, with the incorporation of certain Project design features and mitigation measures included as part of Section 4.4, *Air Quality*, Project GHG emissions would be reduced by approximately 30.9 percent when compared to the BAU scenario. This reduction exceeds the 28.5 percent reduction target based on CARB's AB 32 analysis, and supports the conclusion that Project GHG emissions would not, directly or indirectly, have a significant impact on the environment.

The Project is further determined to be in concert with AB 32 and international efforts to address global climate change and would reflect specific local requirements that would substantially lessen cumulative GHG emissions impacts. The proposed South Moreno Valley Walmart Project would therefore also fulfill the description of mitigation found in *CEQA Guidelines* §15130(a) (3) and §15183.5. The Project's incremental contribution to GHG emissions impacts would therefore not be cumulatively considerable.

The preceding discussions substantiate further that the Project complies with the regulations or requirements adopted to implement all applicable plans for the reduction or mitigation of greenhouse gas emissions. As a result of the analysis presented herein, and irrespective of the use of the BAU threshold, the Project GHG emissions impacts would be less-than-significant.

As supported by the preceding discussions, the potential for the Project to: conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases or; generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment is considered less-than-significant.

Level of Significance: Less-Than-Significant.

4.6 NOISE

4.6 NOISE

Abstract

This Section assesses whether the Project would substantially increase ambient noise levels, or expose land uses to noise, groundborne noise, or groundborne vibration levels exceeding established standards. In this regard, potential impacts considered within this Section include:

- *Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;*
- *A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project;*
- *A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project; or*
- *Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels.*

As presented in the following analyses, potential noise impacts of the Project are determined to be less-than-significant, or can be mitigated to levels that are less-than-significant.

4.6.1 INTRODUCTION

This Section presents the noise setting, methodology, standards of significance, and potential noise impacts associated with the Project. Where impacts are determined to be potentially significant, mitigation measures are proposed to avoid or reduce the severity of impacts. The information presented herein has been summarized from the *Moreno Valley Walmart Noise Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) February 10, 2015 (Project Noise Study). The Project Noise Study in its entirety is presented at EIR Appendix F.

4.6.2 SETTING

Following are discussions of noise fundamentals applicable to the Project, together with assessments of existing ambient noise levels and noise sources in the Project vicinity.

4.6.2.1 Fundamentals of Noise

Noise levels are measured on a logarithmic scale in decibels which are then weighted and added over a 24-hour period to reflect not only the magnitude of the sound, but also its duration, frequency, and time of occurrence. In this manner, various acoustical scales and units of measurement have been developed, including: equivalent sound levels (Leq), day-night average sound levels (Ldn) and community noise equivalent levels (CNEL).

"A-weighted" decibels (dBA) approximate the subjective response of the human ear to a broad frequency noise source by discriminating against the very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. The decibel scale has a value of 0.0 dBA at the threshold of hearing and 120 dBA at the threshold of pain. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. Thus, a 1.0 decibel increase is just audible, whereas a 10 decibel increase means the sound is perceived as being twice as loud as before. Examples of the decibel level of various noise sources are provided in the following Figure 4.6-1.

TYPICAL NOISE LEVELS AND THEIR SUBJECTIVE LOUDNESS AND EFFECTS

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140	INTOLERABLE OR DEAFENING	HEARING LOSS
NEAR JET ENGINE		130		
		120		
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110		
LOUD AUTO HORN		100	VERY NOISY	
GAS LAWN MOWER AT 1m (3 ft)		90		
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80		SPEECH INTERFERENCE
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70	LOUD	
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60		
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE	
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		SLEEP DISTURBANCE
QUIET SUBURBAN NIGHTTIME	LIBRARY	30	FAINT	NO EFFECT
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20		
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0		

SOURCE: NOISE TECHNICAL SUPPLEMENT BY CALTRANS

Source: Urban Crossroads, Inc.

appliedplanning inc

Figure 4.6-1
Typical Noise Levels

Noise Rating Schemes

Equivalent sound levels are not measured directly but, rather, are calculated from sound pressure levels typically measured in dBA. The equivalent sound level (Leq) is the constant level that, over a given time period transmits the same amount of acoustic energy as the actual time-varying sound. Equivalent sound levels are the basis for both the Ldn and CNEL scales.

Day-night average sound levels (Ldn) are a measure of the cumulative noise exposure of the community. The Ldn value results from a summation of hourly noise levels over a 24-hour time period with an increased weighting factor applied to the nighttime period between 10 p.m. and 7 a.m. This noise rating scheme takes into account those subjectively more annoying noise events which occur during normal sleep hours.

Community noise equivalent levels (CNEL) also carry a weighting penalty for noise that occurs during the nighttime hours. In addition, CNEL levels include a penalty for noise events that occur during the evening hours between 10 p.m. and 7 a.m. Because of the weighting factors applied, CNEL values at a given location will always be larger than Ldn values, which in turn will exceed Leq values. However, CNEL values are typically within one decibel of corresponding Ldn values.

Sound Propagation

For a "line source" of noise such as a heavily traveled roadway, noise levels attenuate by a nominal value of 3.0 decibels for each doubling of distance between the noise source and the noise receiver. The nominal value of 3.0 dBA with doubling applies to sound propagation from a line source: (1) over the top of a barrier greater than three meters in height; or (2) where there is a clear unobstructed view of the highway, the ground is hard, no intervening structures exist and the line-of-sight between the noise source and receiver averages more than three meters above the ground.

Notwithstanding, environmental factors such as wind conditions, temperature gradients, characteristics of the ground (hard or soft) and the air (relative humidity), and the presence of vegetation combine to typically increase the attenuation achieved

outside laboratory conditions to approximately 4.5 decibels per doubling of distance. The increase in noise attenuation in exterior environments is particularly true: (1) for freeways with an elevated or depressed profile or exhibiting expanses of intervening buildings or topography; (2) where the view of a roadway is interrupted by isolated buildings, clumps of bushes, scattered trees; (3) when the intervening ground is soft or covered with vegetation; or (4) where the source or receiver is located more than three meters above the ground.

In an area which is relatively flat and free of barriers, the sound level resulting from a single "point source" of noise drops by six decibels for each doubling of distance or 20 decibels for each factor of ten in distance. This applies to fixed noise sources and mobile noise sources which are temporarily stationary, such as an idling truck or other heavy duty equipment operating within a confined area (such as industrial processes or construction).

Noise Barrier Attenuation

Noise barriers are most effective when placed close to the noise source or receptor. Noise barriers, however, do have limitations. For a noise barrier to be effective, it must be high enough and long enough to block the view of the noise source. Noise barriers along roadways/freeways can reduce traffic noise levels by 10 to 15 dBA.

Vibration

Vibration is generally defined as the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is termed structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or man-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 often described in units of velocity (inches per second), and discussed in decibel (dB) units in order to compress the range of numbers required to describe vibration. The vibration velocity level is denoted as VdB in this document.

Vibration impacts are generally associated with activities such as train operations, construction activities, and heavy truck movements.

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. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest in evaluation of potential ground-borne vibration is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings.

4.6.2.2 Factors Affecting Motor Vehicle Noise

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 Federal Highway Administration (FHWA), the level of traffic noise depends on three primary factors: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the vehicle mix within the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and a greater number of trucks. A doubling of the traffic volume, assuming that the speed and vehicle mix do not change, results in a noise level increase of 3 dBA. The vehicle mix on a given roadway may also have an effect on community noise levels. As the number of medium and heavy trucks increases and becomes a larger percentage of the vehicle mix, adjacent noise level impacts will increase.

To account for the ground-effect attenuation (absorption), two types of site conditions are commonly used in traffic noise models, soft site and hard site conditions. Soft site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. A drop-off rate of 4.5 dBA per doubling of distance is typically observed over soft ground with landscaping, as compared with a 3.0 dBA

drop-off rate over hard ground such as asphalt, concrete, stone and very hard packed earth. The Project Noise Study indicates that, generally, soft site conditions better reflect the predicted noise levels. In addition, Caltrans' research has shown that the use of soft site conditions is more appropriate for the application of the FHWA traffic noise prediction model used in this analysis.

4.6.2.3 Community Responses to Noise

Approximately ten percent of the population has a very low tolerance for noise, and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints will occur. Another 25 percent of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment.

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. An increase or decrease of 1.0 dBA or less generally cannot be perceived except in carefully controlled laboratory experiments. A 3.0 dBA increase may be perceptible outside of the laboratory. An increase of 5.0 dBA is often necessary before any noticeable change in community response would be expected.

Community responses to noise may range from registering a complaint by telephone or letter, to initiating court action, depending upon each individual's susceptibility to noise and personal attitudes about noise. Several factors are related to the level of community annoyance including:

- Fear associated with noise-producing activities;
- Noise receptor's perception that they are being unfairly treated;
- Attitudes regarding the usefulness of the noise-producing activity;
- Receptor's belief that the noise source can be controlled.

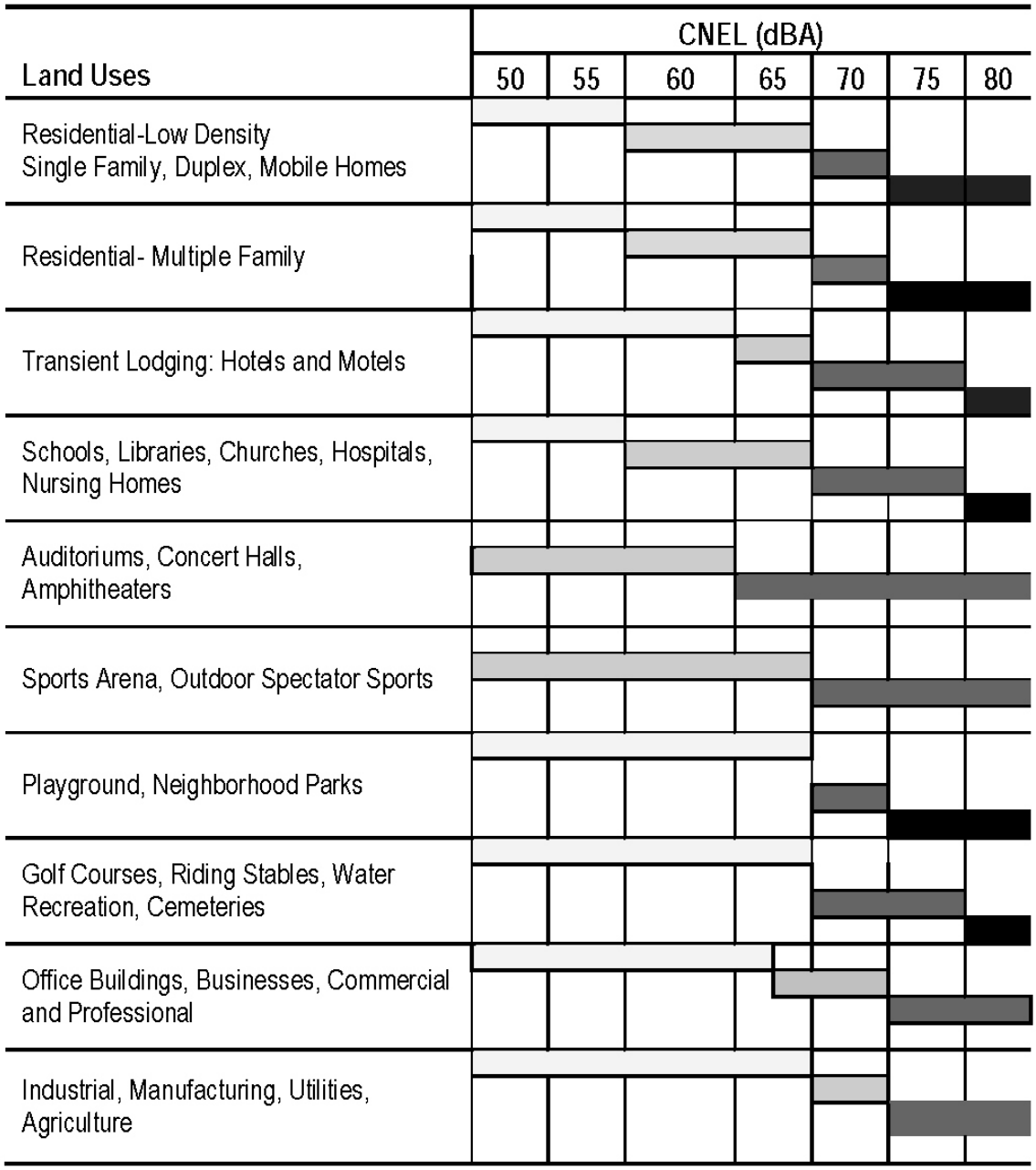
Recent studies have shown that changes in long-term noise levels are noticeable, and are responded to by people. For example, about ten percent of the people exposed to

traffic noise of 60 Ldn will report being highly annoyed with the noise, and each increase of one Ldn is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 Ldn or aircraft noise exceeds 55 Ldn, people begin complaining. Group or legal actions to stop the noise should be expected to begin at traffic noise levels approaching 70 Ldn and at aircraft noise levels approaching 65 Ldn.

4.6.2.4 Land Use Compatibility with Noise

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches and residences are more sensitive to noise intrusion than are commercial or industrial activities. As ambient noise levels affect the perceived amenity or liveability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process. Related, the State of California Office of Planning and Research (OPR) General Plan Guidelines provides guidance for preparation of General Plan Noise Elements, including consideration of the appropriateness of new development within varying noise environments. The objective of the OPR Land Use/Noise Compatibility Guidelines is to provide communities with a means of judging the acceptability of noise environments for various land uses. For ease of reference, the land use/noise compatibility matrix provided in the OPR General Plan Guidelines is reproduced at Figure 4.6-2.[1]

[1] State of California Office of Planning and Research General Plan Guidelines 2003, Governor's Office of Planning and Research, Appendix C, "Noise Element Guidelines."



Explanatory Notes

Normally Acceptable: Specified land use is satisfactory based on the assumption that any buildings involved are of conventional construction, without special noise insulation requirements.

Conditionally Acceptable: New construction should be undertaken only after a detailed analysis of the noise reduction requirements and needed noise insulation features are included in the design.

Normally Unacceptable: New construction should be discouraged, unless a detailed analysis of noise reduction requirements is made and needed insulation features are fully included in the design.

Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: OPR General Plan Guidelines

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Figure 4.6-2
Land Use and Noise Compatibility Table

4.6.2.5 Sensitive Receptors

Land uses classified as noise-sensitive by the State of California include: schools, hospitals, rest homes, long-term care centers, and mental care facilities. Some jurisdictions also consider day care centers, single-family dwellings, mobile home parks, churches, libraries, and recreation areas to be noise-sensitive. Moderately noise-sensitive land uses typically include: multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs.

Land uses which are considered relatively insensitive to noise include business, commercial, and professional/office developments. Land uses that are typically not substantively affected by noise include: industrial, manufacturing, utilities, agriculture, natural open space, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

Sensitive receptors in the vicinity of the Project site include single-family residential land use located to the north, east, southeast, southwest, and west. Additionally, March Middle School is located approximately 1,100 feet southwesterly of the Project site. Properties immediately to the north and west of the site are currently vacant, but are residentially zoned. The closest existing noise-sensitive receptors are single-family residences, located easterly of the Project site, across Perris Boulevard. Sensitive receptors proximate to the Project site are indicated at Figure 4.6-3 (Receptor R1, R2, etc.)

4.6.2.6 Current Noise Exposure

To assess existing ambient noise conditions in the Project vicinity, noise levels were measured over a "Long-Term"(LT) 24-hour period at the locations indicated at Figure 4.6-4 (LT-1, LT-2, etc.). Noise-monitored locations are representative of sites that may be affected by Project-generated noise. The results of the noise level measurements are presented in Table 4.6-1, which identifies the hourly daytime (7 a.m. to 10 p.m.) and nighttime (10 p.m. to 7 a.m.) noise levels at each noise level measurement location.

N

NOT TO SCALE

Source: Google Earth; Applied Planning, Inc.

applied planning inc

Figure 4.6-3
Sensitive Receptors

LEGEND:

LONG-TERM NOISE MEASUREMENT LOCATION

N

NOT TO SCALE

Source: Urban Crossroads

applied planning inc

Figure 4.6-4
Noise Measurement Locations

Table 4.6-1
Long-Term Ambient Noise-Level Measurements

Monitoring Location	Description	Hourly Noise Level		CNEL
		Daytime (7a.m. to 10 p.m.)	Nighttime (10 p.m. to 7a.m.)	
LT-1	Located east of the Project site in front of the backyard wall of homes located on Ninya Avenue.	70.2	68.4	74.9
LT-2	Located east of the Project site in front of the backyard wall of homes located on Wendy Way.	71.7	70.4	77.0
LT-3	Located north of the Project site in front of the backyard wall of homes located on Fay Avenue.	44.1	41.0	48.3
LT-4	Located west of the Project site north of the baseball diamond at the March Middle School.	46.7	41.9	49.2
LT-5	Located west of the Project site and Indian Street in front of the backyard of homes on Electra Court.	69.0	66.7	72.4

Source: *Moreno Valley Walmart Noise Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) February 10, 2015.

- Located in front of the backyard wall of homes along Ninya Avenue, location LT-1 represents the off-site unmitigated exterior noise levels in front of the backyard wall at the southeast corner of the Project site. Based on the noise level measurements, the existing daytime hourly ambient noise levels ranged from 68.7 to 72.3 dBA Leq resulting in an energy (logarithmic) average daytime noise level of 70.2 dBA Leq. During the nighttime hours, the measured ambient noise levels ranged from 61.7 to 71.9 dBA Leq producing an energy (logarithmic) average nighttime noise level of 68.4 dBA Leq. The 24-hour noise level calculated at this location is 74.9 dBA CNEL, which is considered *normally unacceptable*[2] for single-family residential land use.

- Location LT-2 represents the adjacent residential homes located east of the Project site, across Perris Boulevard on Wendy Way. The hourly noise levels measured at location LT-2 ranged from 69.9 to 72.7 dBA Leq during the daytime hours and from 62.9 to 74.3 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 71.7 dBA Leq with an average nighttime noise level of 70.4 dBA Leq. The overall unmitigated exterior

[2] OPR General Plan Guidelines, Appendix C, Figure 2.

noise level is 77.0 dBA CNEL which is considered *normally unacceptable* for residential land use.

- Location LT-3 represents the area north of the Project site near the adjacent residential land use with a combination of fencing materials (wood and chain-link). At location LT-3, the homes are located some distance from the traffic noise level impacts of Indian Street and Perris Boulevard. As a result, the background ambient noise levels ranged from 41.4 to 50.0 dBA Leq during the daytime hours to levels of 39.0 to 43.3 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 44.1 dBA Leq with an average nighttime noise level of 41.0 dBA Leq. The overall unmitigated exterior noise level of 48.3 dBA CNEL is considered *normally acceptable* for noise-sensitive land uses

- To represent the existing ambient noise levels near March Middle School and Rainbow Ridge Elementary School, noise level measurement location LT-4 was placed northerly of the school sites' baseball diamond. The existing daytime hourly noise levels were measured at 42.0 to 54.2 dBA Leq with the nighttime hours ranging from 37.6 to 47.4 dBA Leq. The energy (logarithmic) average daytime noise level was calculated at 46.7 dBA Leq with an average nighttime noise level of 41.9 dBA Leq. At this location, the 24-hour noise level was calculated at 49.2 dBA CNEL, which is considered *normally acceptable* for noise-sensitive land uses.

- Located west of the Project site in an existing residential community, location LT-5 represents the off-site noise levels west of the site, across Indian Street. Based on the noise level measurements, the existing daytime hourly ambient noise levels ranged from 65.4 to 74.2 dBA Leq resulting in an energy (logarithmic) average daytime noise level of 69.0 dBA Leq. During the nighttime hours, the measured ambient noise levels ranged from 58.2 to 73.6 dBA Leq producing an energy (logarithmic) average nighttime noise level of 66.7 dBA Leq. The overall unmitigated exterior noise level is 72.4 dBA CNEL which is considered *normally*

unacceptable for noise-sensitive land uses. However, with the existing six-foot high masonry perimeter sound wall and typical noise insulation features with standard building construction, residential uses located across Indian Street are likely considered *conditionally acceptable* within their current noise environment.

4.6.3 EXISTING POLICIES AND REGULATIONS

To limit exposure to potentially intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Vehicular traffic generally produces an average sound level that remains fairly constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies and local general plans generally establish noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources typically resides within local municipal codes and associated noise control ordinances.

4.6.3.1 State of California

Overview

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared according to guidelines adopted by the Governor's Office of Planning and Research. One of the primary functions of general plan noise elements is to limit the exposure of the community to excessive noise levels. General plan noise elements also allow communities to plan for and locate land uses within appropriate noise environments. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

California Building Code

The State of California's noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, and the California Building Code. These noise standards are applied to new construction in California for the purpose of controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are located near major transportation noise sources, and where such noise sources create an exterior noise level of 60 dBA CNEL or higher. Acoustical studies that accompany building plans must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL.

4.6.3.2 City of Moreno Valley Noise Standards

City of Moreno Valley General Plan

The City of Moreno Valley General Plan Safety Element provides background information regarding noise and noise fundamentals. City General Policies (City of Moreno Valley General Plan, pp.9-31, 9-32) act to ensure that when exterior noise levels exceed 65 dBA CNEL at sensitive receptors, mitigation is provided to ensure that interior noise levels of 45 dBA CNEL are maintained. General Plan Policies in this regard are consistent with, and support, California Building Code interior noise standards.

City of Moreno Valley Municipal Code

Stationary/Area-Source Noise

Maximum allowable stationary/area-source noise levels are regulated pursuant to the City of Moreno Valley Municipal Code, Chapter 11.80 Noise Regulation (Sections 11.80.010 through 11.80.060).

To conform with applicable provisions of the Municipal Code, the maximum allowable noise generated by area/stationary sources (including noise generated by on-site construction activities) when measured at 200 feet from any property line, would not exceed 65dBA Leq during daytime hours (8 a.m. to 10 p.m. the same day); and would not exceed 60 dBA Leq during nighttime hours (10:01 p.m. to 7:59 a.m. the following day).

As a subset of its stationary/area-source noise regulations, the City Municipal Code establishes additional restrictions on construction-source noise. More specifically, Municipal Code Section 11.80.030.D.7, "Construction and Demolitions," provides the following:

> "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 eight p.m. and seven 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."

Vibration Standards

Construction activity can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected structures and soil type. Construction vibration is generally associated with pile driving and rock blasting. Other construction equipment (air compressors, light trucks, hydraulic loaders, etc.) generates little or no ground vibration. Occasionally large bulldozers and loaded trucks can cause perceptible vibration levels at close proximity. The United States Department of Transportation Federal Transit Administration (FTA) provides guidelines for maximum-acceptable vibration criteria for different types of land uses. These guidelines allow up to 80 VdB for residential uses and buildings where people normally sleep. The FTA guidelines of 80 VdB for sensitive land uses provide the basis for determining the relative significance of potential vibration impacts.

4.6.4 STANDARDS OF SIGNIFICANCE

Based on the noise criteria presented above, and direction provided within the CEQA Guidelines as implemented by the City of Moreno Valley, Project noise impacts would be considered potentially significant if the Project is determined to result in or cause the following conditions:

- Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;

- A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project;

- A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project;

- Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels;

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the Project area to excessive noise levels; or

- For a project within the vicinity of a private airstrip, expose people residing or working in the Project area to excessive noise levels.

4.6.4.1 Noise Impact Significance Criteria

For each of the standards of significance listed at Section 4.6.4 where it has been determined that the Project may result in potentially significant impacts, noise impact significance criteria germane to the Project are discussed below.

- ***Potential to expose persons to, or generate, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.***

Project Stationary/Area-Source Noise Exceeding City Standards Would be Considered Potentially Significant

The City of Moreno Valley Municipal Code Chapter 11.80 Noise Regulation, Table 11.80.030-2 "Maximum Sound Levels for Source Land Uses" (reproduced at Table 4.6-2) establishes the maximum acceptable noise levels that can be generated by stationary/area noise sources as received at off-site land uses.

Table 4.6-2
Maximum Sound Levels (In dBA(A)) for Source Land Uses

Residential		Commercial	
Daytime	**Nighttime**	**Daytime**	**Nighttime**
60	55	65	60

Source: City of Moreno Valley Municipal Code Chapter 11.80 Noise Regulation, Table 11.80.030-2
Notes: Nighttime: 10:01 p.m. to 7:59 a.m. the following day; Daytime: 8 a.m. to 10 p.m. the same day.

The City Municipal Code also establishes additional restrictions on construction-source noise. More specifically, Municipal Code Section 11.80.030.D.7, "Construction and Demolitions," provides the following:

> "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 eight p.m. and seven 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."

Project Vehicular-Source Noise Exceeding City Standards would be Considered Potentially Significant

City General Policies (City of Moreno Valley General Plan, pp.9-31, 9-32) establish parameters for vehicular source noise along City roadways. In this regard, City General

Plan Policies act to ensure that when exterior noise levels exceed 65 dBA CNEL at sensitive receptors mitigation is provided to ensure that interior noise levels of 45 dBA CNEL are maintained. Project vehicular-source noise that would cause or result in noise levels exceeding 65 dBA CNEL would potentially expose persons to noise levels in excess of standards established in the local general plan, and would therefore be potentially significant.

Summary

Project stationary/area-source noise exceeding Municipal Code Noise Regulations identified at Table 11.80.030-2; or that would violate provisions of Municipal Code Section 11.80.030.D.7, "Construction and Demolitions" would potentially expose persons to, or generate, noise levels in excess of standards established in the local noise ordinance, and would therefore be potentially significant.

Additionally, Project vehicle-source noise that would result in exposure of land uses to noise levels greater than 65 dBA CNEL as established under City General Plan Policies, would potentially expose persons to, or generate, noise levels in excess of standards established in the local general plan, and would therefore be potentially significant.

- ***Potential to result in or cause a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project; or***

- ***Potential to result in or cause a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.***

Perceptible Project Stationary/Area-Source Noise Exceeding Maximum Acceptable Ambient Conditions Would be Considered Substantial and Potentially Significant

For the purposes of this analysis, the City's "Maximum Sound Levels for Source Land Uses" (65 dBA daytime/60 dBA nighttime) is also defined as the maximum acceptable ambient condition when considering stationary/area-source noise impacts. In this regard, the maximum acceptable ambient noise conditions established in this analysis

reflect local standards for acceptable noise conditions; correlate with Policies established in the City General Plan; and are consistent with applicable California Office of Planning and Research (OPR) Land Use/Noise Compatibility Guidelines.[3]

When ambient noise conditions are within acceptable parameters (65 dBA daytime/60 dBA nighttime) and perceptible (3.0 dBA or greater) Project stationary/area-source noise (whether temporary/periodic or permanent) would individually or in combination with ambient noise levels, exceed 65 dBA daytime/60 dBA nighttime, Project-source increases in ambient conditions could adversely affect area land uses, and land use/noise compatibility standards may not be maintained. Perceptible Project stationary/area-source noise that would cause ambient conditions to exceed 65 dBA daytime/60 dBA nighttime would on this basis be considered substantial and potentially significant.

Perceptible Project Vehicular-Source Noise Exceeding Maximum Acceptable Ambient Conditions Would be Considered Substantial and Potentially Significant

Similarly, when considering vehicular-source noise, the City's 65 dBA CNEL standard reflected in the City General Plan is defined as the maximum acceptable ambient condition when considering vehicular-source noise impacts. When ambient noise conditions are within acceptable parameters (65 dBA CNEL) and perceptible (3.0 dBA or greater) Project vehicular-source noise would, individually or in combination with ambient conditions, exceed 65 dBA CNEL, Project-source increases in ambient conditions could adversely affect area land uses, and land/use noise compatibility standards may not be maintained. Perceptible Project vehicular-source noise that would cause ambient conditions to exceed 65 dBA CNEL would on this basis be considered substantial and potentially significant.

[3] OPR General Plan Guidelines, Appendix C, Figure 2.

When Noise Levels Exceed Maximum Acceptable Ambient Conditions, Project Stationary/Area-Source Noise Increases of 1.5 dBA or Greater Would be Considered "Substantial" and Potentially Significant

If, however, ambient conditions already exceed minimum acceptable standards, subsequent increases in noise levels may be considered substantial as they would contribute to already deficient conditions. Neither the City nor the State have established a quantified incremental increase in noise levels that could be considered "substantial" in instances where ambient conditions may already be considered unacceptable. Guidance in this regard is, however, provided at the federal level through the Federal Interagency Committee on Noise (FICON).[4] In this regard, FICON guidance facilitates assessment of project-generated increases in noise levels that take into account ambient noise conditions. Although the FICON guidance was specifically developed to assess aircraft noise impacts, this guidance is broadly relevant to all environmental noise assessments in determining perceived effects of noise. Germane to this analysis, the FICON guidance indicates that when ambient noise conditions are at or above normally acceptable standards, increases in noise of 1.5 dBA or greater would contribute to existing deficiencies, potentially resulting in increased community annoyance, citizen complaints, and potential litigation.

FICON guidance as applied within this analysis would indicate that when ambient conditions equal or exceed the City's maximum acceptable standards for stationary/area-sources (65 dBA daytime/60 dBA nighttime), Project stationary/area-source noise increases of 1.5 dBA or greater in ambient conditions could result in increased community annoyance, citizen complaints, and potential litigation. For the purposes of this analysis then, when ambient conditions equal or exceed maximum acceptable standards for stationary/area-sources, Project stationary/area-source noise increases of 1.5 dBA more in ambient conditions would therefore be considered substantial and therefore potentially significant.

[4] *Federal Agency Review of Selected Airport Noise Analysis* (Federal Interagency Committee on Noise) 1992.

When Noise Levels Exceed Maximum Acceptable Ambient Conditions, Project Vehicular-Source Noise Increases of 1.5 dBA or Greater Would be Considered Substantial and Potentially Significant

Similarly, when ambient noise conditions are at or above the City's normally acceptable standards for vehicular sources (65 dBA CNEL), Project vehicular-source increases of 1.5 dBA or greater in ambient conditions would contribute to existing deficiencies, and could result in increased community annoyance, citizen complaints, and potential litigation. For the purposes of this analysis then, when ambient conditions equal or exceed maximum acceptable standards for vehicular sources, Project vehicular-source noise increase of 1.5 dBA more in ambient conditions would therefore be considered substantial and therefore potentially significant.

Summary

A substantial temporary or permanent increase in ambient noise conditions would occur if Project-source noise would:

- Result in an perceptible increase in noise levels (3.0 dBA or greater) that would cause the maximum acceptable ambient condition (65 dBA daytime/60 dBA nighttime for stationary/area-sources; 65 dBA CNEL for vehicular sources) to be exceeded; or
- Result in an increase of 1.5 dBA in ambient conditions when the noise environment at receptor land uses already exceeds the maximum acceptable ambient noise condition (65 dBA daytime/60 dBA nighttime for stationary/area-sources; 65 dBA CNEL for vehicular sources).

- ***Potential to expose persons to, or generate, excessive groundborne vibration or groundborne noise levels.***

Received vibration levels exceeding the FTA maximum acceptable vibration standard of 80 vibration decibels (VdB) for sensitive land uses would be considered excessive, and therefore potentially significant.

4.6.5 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.6.5.1 Introduction

The following discussions focus on areas where it has been determined that the Project may result in potentially significant noise/vibration impacts, based on the analysis presented within this Section and included within the EIR Initial Study (EIR Appendix A). Of the CEQA threshold considerations identified above at 4.6.4, and as substantiated in the Initial Study, the Project's potential impacts under the following topics are determined to be less-than-significant, and are not further discussed in this Section:

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the Project area to excessive noise levels.

- For a project within the vicinity of a private airstrip, expose people residing or working in the Project area to excessive noise levels.

Please refer also to Initial Study Checklist Item XII., "Noise."

4.6.5.2 Impact Statements

The discussion of potential noise and vibration impacts is presented under the following topical headings:

- Construction-Source Noise;
- Vehicular-Source Noise;
- Operational/Area-Source Noise; and
- Vibration.

For each topical discussion, potential impacts are evaluated under applicable criteria established above at Section 4.6.4, *Standards of Significance*.

CONSTRUCTION-SOURCE NOISE

Potential Impact: *Would Project construction activities and associated noise result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Impact Analysis: Construction-source noise represents a temporary impact on ambient noise levels. Noise generated by construction equipment, including trucks, power tools, concrete mixers and portable generators can reach high levels. Project construction is expected to occur in four stages listed below.

- Grading;
- Utilities/underground;
- Curb, gutter, flatwork and parking lot; and
- Building/painting.

Maximum noise levels associated with each stage of Project construction is considered in this analysis.

Construction Equipment Noise Generation

In January 2006, the Federal Highway Administration (FHWA) published the Roadway Construction Noise Model (RCNM) that includes a national database of construction equipment reference noise emission levels. The RCNM equipment database provides a comprehensive list of the noise generating characteristics for specific types of construction equipment. In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation. The usage factor is a key input variable of the RCNM noise prediction model that is used to calculate the average Leq noise levels using the Lmax noise levels measured at a distance of 50 feet.

Noise levels generated by heavy construction equipment can range from approximately 70 dBA to in excess of 100 dBA when measured at 50 feet. However, these noise levels diminish with distance from the construction site at a rate of 6 dBA per doubling of distance. For example, a noise level of 78 dBA measured at 50 feet from the noise source to the receptor would be reduced to 72 dBA at 100 feet from the source to the receptor, and would be further reduced to 66 dBA at 200 feet from the source to the receptor.

Construction-Source Noise at Off-site Receptors

Project construction-source noise levels that would be received at proximate noise receptor locations (R1 through R11 described below) were modeled employing the RCNM protocols. Anticipated construction-source noise levels that would be received at off-site land uses are presented at Table 4.6-3.

- Located approximately 750 feet north of the Project site, location R1 represents the existing single-family residential dwellings along Fay Avenue.

- Location R2 represents the existing single-family residential dwellings along Fay Avenue located roughly 710 feet north of the Project site.

- Location R3 represents the existing single-family residential dwellings situated approximately 1,540 feet west of the Project site.

- Location R4 represents March Middle School located approximately 1,180 feet southwest of the Project site.

- At a distance of approximately 750 feet southwest of the Project site, location R5 represents the existing single-family residential dwelling along Emma Lane.

- At a distance of 470 feet south of the Project site, location R6 describes the existing Home Depot located west of Perris Boulevard and north of Iris Avenue.

- Location R7 represents the single-family land use located approximately 250 feet southeast of the Project site.

- Located approximately 2,020 feet west of the Project site, location R8 represents the existing single-family residential homes on Indian Street.

- Location R9 represents the existing single-family residential dwellings located across Perris Boulevard, approximately 100 feet east of the Project site.

- Located approximately 110 feet southwest of the Project site, location R10 represents the future development of single-family residential tract homes on an existing vacant lot.

- Location R11 represents the future development of single-family residential tract homes on an existing vacant lot, approximately 130 feet north of the Project site.

Table 4.6-3
Construction-Source Noise Levels
Received at Off-site Land Uses

Noise Receptor	Noise Level (dBA Leq) at Receptor					Potentially Significant?
	Grading	Utilities	Curbs	Building	Maximum	
R1	59.7	54.4	52.3	54.2	59.7	No
R2	59.2	53.9	51.8	53.7	59.2	No
R3	53.0	47.7	45.6	47.5	53.0	No
R4	60.8	55.5	53.4	55.3	60.8	No
R5	64.7	59.4	57.3	59.2	64.7	No
R6	63.3	58.0	55.9	57.8	63.3	No
R7	68.8	63.4	61.4	63.3	68.8	***Yes***
R8	50.6	45.3	43.2	45.1	50.6	No
R9	76.7	71.4	69.3	71.2	76.7	***Yes***
R10	81.4	76.1	74.0	75.9	81.4	***Yes***
R11	80.0	74.6	72.6	74.4	80.0	***Yes***

Source: *Moreno Valley Walmart Noise Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) February 10, 2015.

As indicated in Table 4.6-3, maximum construction-source noise levels at receptor locations R7, R9, R10, and R11 would exceed the City's daytime standard of 65 dBA, and would therefore be potentially significant. By ordinance, construction activities that could generate substantive noise are restricted to the hours of 7 a.m. through 8 p.m.

This could potentially allow substantive construction noise generating activities between 7 a.m. and 8 a.m., within the 10 p.m. to 8 a.m. "nighttime" period defined in the City Noise Ordinance. To ensure that Project construction activities do not adversely affect ambient noise conditions during the ordinance-defined nighttime hour of 7 a.m. to 8 a.m., and ensure compliance with provisions of Municipal Code Section 11.80.030.D.7, "Construction and Demolitions," noise-generating Project construction activities would be prohibited between the hours of 8 p.m. to 8 a.m.

Level of Significance: Potentially Significant.

Mitigation Measures:

4.6.1 *Install temporary noise control barriers that provide a minimum noise level attenuation of 17 dBA when Project construction activities occur within 200 feet of existing residential structures or other off-site sensitive receptor land uses that are occupied or actively utilized. The noise control barrier must present a solid face from top to bottom. The noise control barrier must be high enough and long enough to block the view of the noise source. Unnecessary openings shall not be made.*

- *The noise barriers must be maintained and any damage promptly repaired. Gaps, holes, or weaknesses in the barrier or openings between the barrier and the ground shall be promptly repaired.*
- *The noise control barriers and associated elements shall be completely removed and the site appropriately restored upon the conclusion of the construction activity.*

4.6.2 *For other than grading activities, noise-generating Project construction activities shall not occur between the hours of 8 p.m. to 8 a.m. Grading operations shall be limited to between the hours of 8a.m. and 6 p.m. weekdays, and 8 a.m. to 4 p.m. on weekends and holidays, or as otherwise approved by the City Engineer.*

4.6.3 *During all Project site construction, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained*

mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from off-site noise sensitive receptors nearest the Project site.

4.6.4 *The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and off-site noise sensitive receptors nearest the Project site during all Project construction activities.*

4.6.5 *The construction contractor shall prohibit haul truck deliveries to the Project site, including transportation of heavy construction equipment, consistent with timeframe limitations specified for general construction equipment operations, other than grading, (i.e., deliveries are prohibited between the hours of 8 p.m. to 8 a.m.) The Project Applicant shall prepare a haul route exhibit for review and approval by the City Planning Division prior to commencement of construction activities. The haul route exhibit shall design delivery routes to minimize the exposure of sensitive land uses or residential dwellings to delivery truck-related noise.*

4.6.6 *The construction contractor shall post a publicly visible sign with Contractor and City telephone numbers and persons to contact regarding noise complaints. The construction manager, within 72 hours of receipt of a noise complaint, shall either take corrective actions or, if immediate action is not feasible, provide a plan of corrective action to address the source of the noise complaint. Plan(s) for corrective action shall be submitted to City for approval, and shall be implemented within 24 hours of City approval. Pending City approval, offending construction activities shall cease, or the source of objectionable noise shall otherwise be terminated.*

Level of Significance after Mitigation: Less-Than-Significant. Table 4.6-4 presents construction-related noise levels received at receptor locations R7, R9, R10, and R11, after the incorporation of Mitigation Measures 4.6.1 through 4.6.6. As shown, the Project's mitigated noise levels would not exceed the City of Moreno Valley's daytime standard of 65 dBA. The potential for mitigated Project construction-source noise to result in exposure of persons to, or generation of, noise levels in excess of standards established in the local noise ordinance, is therefore less-than-significant.

Table 4.6-4
Mitigated Construction-Source Noise Levels

Noise Receptor	Unmitigated Peak Noise Level (dBA Leq)	Temporary Barrier Noise Attenuation (dBA)	Mitigated Project Peak Noise Level (dBA Leq)
R7	68.8	-17.0	51.8
R9	76.7	-17.0	59.7
R10	81.4	-17.0	64.4
R11	80.0	-17.0	63.0

Source: *Moreno Valley Walmart Noise Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) February 10, 2015.

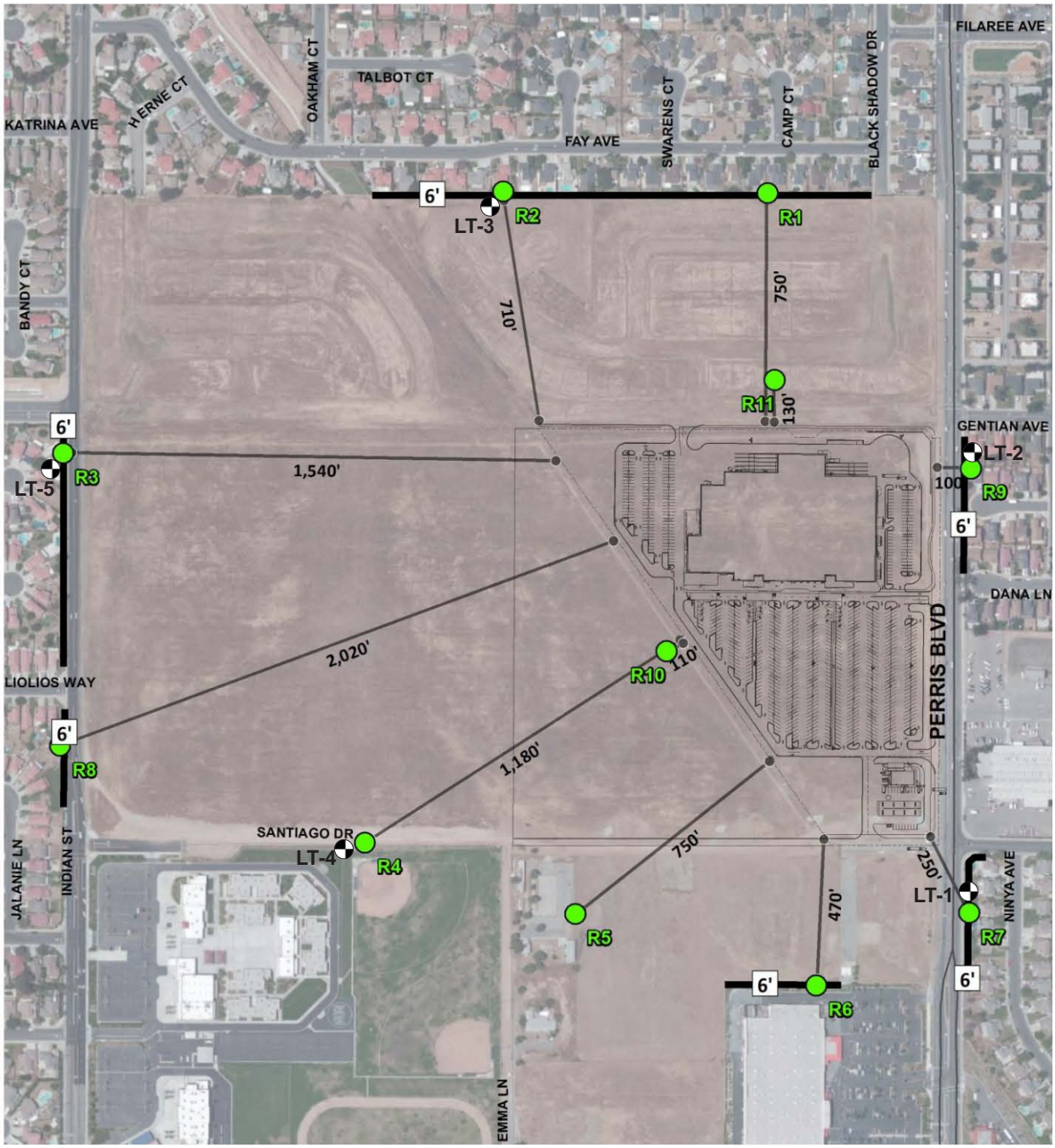
Potential Impact: *Would Project construction activities and associated noise result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?*

Impact Analysis: Construction noise is not considered a source of permanent noise increases, and associated threshold questions are not germane.

Level of Significance: Less-Than-Significant.

Potential Impact: *Would Project construction activities and associated noise result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?*

Impact Analysis: As indicated at Table 4.6-5, without mitigation, Project construction-source noise by itself and in combination with ambient conditions, would exceed the maximum acceptable ambient condition (65 dBA daytime) at receptor locations R7, R9, R10, and R11. Representative ambient daytime noise conditions identified at Table 4.6-5 are based on and interpreted from the long term noise measurements identified previously at Table 4.6-1, and the noise measurement locations identified at previous Figure 4.6-4. Figure 4.6-5 identifies ambient noise measurement locations in the context of construction-source noise receptor locations evaluated in the Project Noise Impact Analysis.



LEGEND:

- Noise Receiver Locations
- Distance from noise receiver to Project site boundary (in feet).
- LONG-TERM NOISE MEASUREMENT LOCATION
- 6' Noise Barrier Height (in feet)
- Existing Barrier Location

N

NOT TO SCALE

Source: Urban Crossroads, Inc.

applied planning inc

Figure 4.6-5
Construction-Source Noise Receptors and Monitoring Locations

As indicated at Table 4.6-5, at Receptors R7 and R9, the ambient condition already exceeds the maximum acceptable condition (65 dBA) and unmitigated Project construction-source noise would contribute more than 1.5 dBA to ambient conditions, and would be considered a substantial increase in ambient conditions, and therefore potentially significant. At Receptors R10 and R11, the ambient condition is within acceptable parameters (less than 65 dBA) and received Project construction-source noise would be perceptible (greater than 3.0 dBA) and would cause the maximum acceptable ambient condition (65 dBA) to be exceeded. This also would be considered a substantial increase in ambient conditions, and therefore potentially significant. In other instances where the ambient plus Project construction noise would exceed the 65 dBA daytime maximum acceptable condition (i.e., Receptors R3 and R8), ambient noise levels already exceed the maximum acceptable condition, and Project contributions to ambient noise levels would be less than 1.5 dBA. In these instances, the Project's increase in ambient noise conditions would therefore be less-than-significant.

Table 4.6-5
Construction-Source Noise Levels
Relative to Ambient Conditions

Receptor ID No.	Ambient Daytime Condition (dBA Leq)	Representative Ambient Noise Measurement Location	Maximum Construction-source Noise Level (dBA Leq) at Receptor	Ambient Plus Project Maximum	Potentially Significant?
R1	44.1	LT-3	59.7	59.8	No
R2	44.1	LT-3	59.2	59.4	No
R3	69.0	LT-5	53.0	69.1	No
R4	46.7	LT-4	60.8	61.0	No
R5	46.7	LT-4	64.7	64.8	No
R6	46.7	LT-4	63.3	63.4	No
R7	70.2	LT-1	68.8	72.6	***Yes***
R8	69.0	LT-5	50.6	69.1	No
R9	71.7	LT-2	76.7	77.9	***Yes***
R10	46.7	LT-4	81.4	81.4	***Yes***
R11	44.1	LT-3	80.0	80.0	***Yes***

Source: *Moreno Valley Walmart Noise Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) February 10, 2015.

Level of Significance: Potentially Significant.

Mitigation Measures: Please refer to Mitigation Measures 4.6.1 through 4.6.6, presented previously.

Level of Significance after Mitigation: Less-Than-Significant. As indicated at Table 4.6-6, mitigated Project construction-source noise levels at potentially affected receptors would not exceed acceptable ambient conditions. Further, in all instances, Project construction noise as mitigated would contribute less than 1.5 dBA to ambient conditions. As mitigated, the potential for Project construction-source noise to result in a substantial temporary increase in ambient noise levels in the Project vicinity above levels existing without the Project is therefore less-than-significant.

Table 4.6-6
Mitigated Construction-Source Noise Levels
Relative to Ambient Conditions

Receptor ID No.	Ambient Daytime Condition (dBA Leq)	Representative Ambient Noise Measurement Location	Unmitigated Peak Noise Level (dBA Leq)	Temporary Barrier Noise Attenuation (dBA)	Mitigated Project Maximum	Ambient Plus Mitigated Project Maximum	Significant?
R7	70.2	LT-1	68.8	-17.0	51.8	70.3	No
R9	71.7	LT-2	76.7	-17.0	59.7	72.0	No
R10	46.7	LT-4	81.4	-17.0	64.4	64.5	No
R11	44.1	LT-3	80.0	-17.0	63.0	63.0	No

Source: *Moreno Valley Walmart Noise Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) February 10, 2015.

VEHICULAR-SOURCE NOISE

Potential Impact: *Would Project vehicular-source noise result in exposure of persons to, or generation of, noise levels in excess of standards established in the City's General Plan or Noise Ordinance, or other applicable standards of other agencies?*

Impact Analysis: To assess impacts resulting from Project-related vehicular source noise, the Project Noise Study developed contours for 105 roadway segments in the Project vicinity based on roadway average daily trip (ADT) estimates, Project trip generation, and distribution as presented in *Moreno Valley Walmart Traffic Impact*

Analysis, City of Moreno Valley, California (Urban Crossroads, Inc.) February 10, 2015 (Project TIA, EIR Appendix C).

The noise contours were used to assess the Project's vehicular-source noise impacts at land uses adjacent to roadways conveying Project traffic. Based on the vehicular-source noise impact significance criteria described in Section 4.6.4, Project vehicle-source noise that would result in exposure of land uses to noise levels greater than 65 dBA CNEL would potentially expose persons to, or generate, noise levels in excess of standards established in the local general plan, and would therefore be potentially significant. Noise contours were developed for all 105 roadway segments[5] under the following traffic scenarios:

- Existing Without/With Project: This scenario refers to the present-day ambient noise conditions without the Project and with the construction of the Project. Without the Project, unmitigated exterior noise levels are expected to range from 53.6 to 70.2 dBA CNEL. With the addition of Project traffic, noise levels are expected to range from 54.0 to 70.3 dBA CNEL. Overall the Project is expected to generate an unmitigated maximum exterior noise level increase of up to 1.2 dBA CNEL. In no instances would perceptible Project vehicular-source noise result in or cause noise levels along potentially affected roadway segments to transition from an acceptable ambient noise environment (<65 dBA CNEL) to a noise environment greater than 65 dBA CNEL.

- Year 2018 Without/With Project: This scenario corresponds to 2018 conditions, and includes all cumulative projects identified in the Traffic Impact Analysis. Year 2018 ambient exterior noise levels are expected to range from 54.8 to 72.5 dBA CNEL. Year 2018 with Project conditions noise levels are expected to range from 55.0 to 72.5 dBA CNEL. The Project is expected to generate an unmitigated exterior noise level increase of up to 1.0 dBA CNEL under Year 2018 conditions. In no instances would perceptible Project vehicular-source noise result in or

[5] Please refer to the Noise Impact Analysis (EIR Appendix F), Tables 7-7 through 7-9 for a detailed listing of all 105 roadway segments under each scenario.

cause noise levels along potentially affected roadway segments to transition from an acceptable ambient noise environment (<65 dBA CNEL) to a noise environment greater than 65 dBA CNEL.

- Year 2035 Without/With Project: This scenario corresponds to 2035 conditions, and includes all cumulative projects identified in the Traffic Impact Analysis. Year 2035 ambient exterior noise levels are expected to range from 56.8 to 73.0 dBA CNEL. With the addition of the Project, noise levels are expected to range from 57.2 to 73.0 dBA CNEL. The Project is expected to generate an unmitigated exterior noise level increase of up to 0.8 dBA CNEL. In no instances would perceptible Project vehicular-source noise result in or cause noise levels along potentially affected roadway segments to transition from an acceptable ambient noise environment (<65 dBA CNEL) to a noise environment greater than 65 dBA CNEL.

Summary

In no instances would perceptible Project vehicular-source noise result in or cause noise levels along potentially affected roadway segments to transition from an acceptable ambient noise environment (<65 dBA CNEL) to a noise environment greater than 65 dBA CNEL. On this basis, Project vehicular-source noise would not result in exposure of persons to, or generation of, noise levels in excess of standards established in the City's General Plan, and potential impacts in this regard would be less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Would Project vehicular source noise result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?*

Impact Analysis: Vehicular-source noise is addressed as a permanent source of noise, rather than a temporary or periodic source of noise increases. As such, associated threshold questions are not germane.

Level of Significance: Less-Than-Significant.

Potential Impact: *Would Project vehicular-source noise result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?*

Impact Analysis: Project vehicular-source noise contributions to ambient noise conditions throughout the Study Area would be less than 1.5 dBA CNEL. Project vehicular-source noise would not be perceptible and would not cause or result in noise levels of 65dBA CNEL or greater within the Study Area. As such, Project vehicular-source noise would not result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project, and impacts in this regard are therefore less-than-significant.

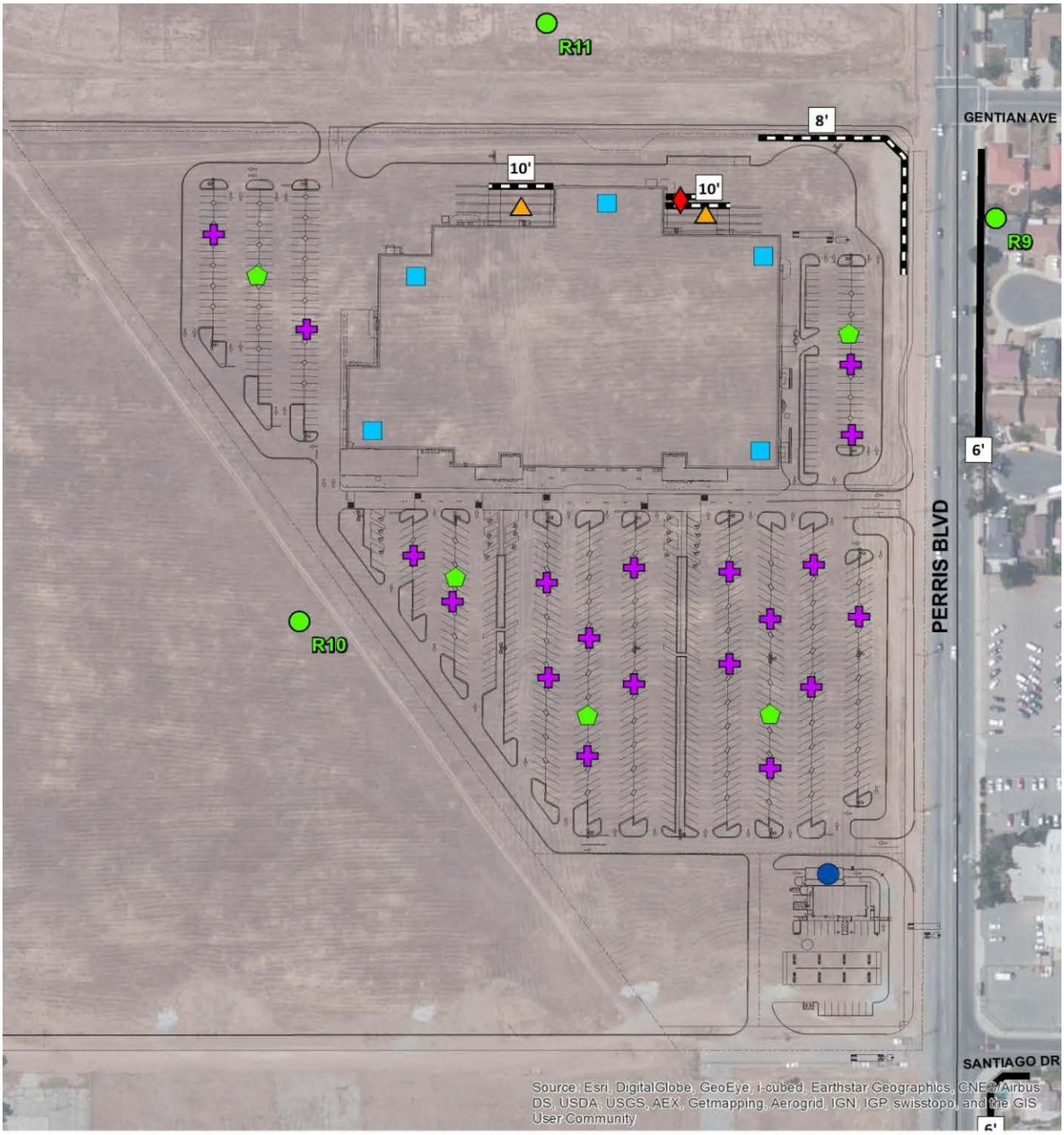
Level of Significance: Less-Than-Significant.

OPERATIONAL STATIONARY/AREA-SOURCE NOISE

Operational stationary/area-source noise generators resulting from the Project would include: loading docks, roof-top air condenser units, shopping cart corrals, parking lot activities, trash compactors, and car wash activities. General locations of these noise generators are illustrated in Figure 4.6-6.

Reference Noise Levels

Operational stationary/area-source noise levels that would be generated by the Project are based on reference noise level measurements collected from similar types of uses/activities, including loading docks, trash compactors, air conditioning units, shopping cart corrals, parking lot activities, and drive-through car wash. Reference noise levels from these sources (discussed below) were then applied to the Project in context, and resulting noise levels that would be received at off-site land uses were estimated.



LEGEND:

- Air Condensing Unit
- Loading Dock
- Parking Lot
- Shopping Cart Corral
- Car Wash
- Trash Compactor
- Noise Receiver Locations
- 10' Noise Barrier Height (in feet)
- Proposed Barrier Location
- Existing Barrier Location

N

NOT TO SCALE

Source: Google Earth; Applied Planning, Inc.

applied planning inc

Figure 4.6-6
Operational Noise Source Locations

Loading Docks

As part of its operations, the proposed South Moreno Valley Walmart will include truck doors and loading facilities. Loading docks will be located along the store's northerly (rear) elevation to accommodate truck and vendor deliveries. Truck deliveries may occur 24 hours per day, and would consist of both semi-trucks (larger deliveries would be accomplished by way of 3+ axle tractor-trailer combinations with trailers up to 53 feet in length), and small to medium size (two-axle) trucks.

The loading docks would be constructed to allow trailers to seal to the docks, thereby directing the unloading noise into the store, rather than onto neighboring uses. The loading dock areas would also be screened by a proposed 10-foot high wall as shown in Figure 4.6-5. In order to evaluate the noise impacts associated with the delivery truck tractor trailer unloading/loading activities, reference noise level measurements were taken at the Huntington Beach Walmart located at the southwest corner of Goldenwest Street and Edinger Avenue by Urban Crossroads, Inc. on April 14th, 2011.

The primary noise generated by tractor trailer unloading is the noise of the truck arriving, backing into the dock area, detaching the cab, attaching the cab to the empty trailer, and exiting the loading dock. Because the trailer seals to the loading dock, employees unload the tractor trailer from the inside of the store. The receiving crew places a 20' long rolling conveyor assembly inside the trailer to roll merchandise (on pallets or in boxes) into the store. The unmitigated noise level was measured at 77.3 dBA Leq at a distance of 20 feet from the tractor trailer. Delivery truck activities will last an average of 3-6 minutes per truck, depending on whether or not the loading bay is empty at the time of arrival. In the event idling does occur, idling time would be limited to no more than 5 minutes under California State law (Cal Code Regs. 2485). Delivery trucks are generally equipped with an engine shutdown system that automatically turns off the engine after 5 minutes of idling. In order to analyze a worst-case condition for noise impacts related to delivery, it is assumed that there would be a maximum of three delivery trucks coming to the loading docks and completing delivery activities within a 1-hour period for both daytime and nighttime hours. For the purpose of this noise analysis, a maximum average delivery time of 6 minutes per delivery is used for a total of 18 minutes of activity during the peak noise hour.

Trash Compactors

In order to assess the impacts created by the trash compactors planned on the Project site, reference noise levels were gathered from the Irvine Walmart Supercenter located on 16555 Von Karman Avenue, by Urban Crossroads, Inc. on Thursday, January 23rd, 2014. The unmitigated exterior noise levels were measured at 75.5 dBA Leq at a distance of 5 feet from the compactor. A review of the site plan shows a proposed trash compactor located behind the planned 10-foot high screen wall. It is expected the trash compactor will operate for a maximum of 20 minutes during typical hourly daytime and nighttime conditions.

Air Conditioning Units

In order to assess the impacts created by the roof-top air conditioning units at the planned Project site, reference noise levels measurements were taken at the Rancho Cordova Walmart on October 13th, 2010. Located at 10655 Folsom Boulevard in the City of Rancho Cordova, the noise level measurements describe a cluster of mechanical rooftop condensers. The cluster consists of two Krack MXE-04 4-fan units and one MXE-02 2-fan unit. At a distance of 5 feet for the cluster of rooftop condensers, the exterior noise levels were measured at 81.9 dBA Leq. For the purpose of this noise analysis, the air condenser units were observed to be located on the roof at a noise elevation of 25 feet and are estimated to operate for approximately 30 minutes during typical daytime and nighttime conditions. The potential noise attenuation provided by a parapet wall was not included as part of this analysis.

Shopping Cart Corrals

To evaluate the noise level impacts from shopping carts placed by customers into assigned shopping cart areas, Urban Crossroads collected noise level measurements at the Laguna Niguel Walmart located at 27470 Alicia Parkway on May 30th, 2012. At a distance of 5 feet from the noise source, the noise associated with the placement of the shopping carts into the corral was measured at 72.9 dBA Leq. The noise impacts are mainly due to the metal shopping carts crashing into other carts already placed in the corral as well as striking the side rails. This noise impact analysis includes the noise level impacts associated with the adjacent shopping cart corrals with noise impacts

expected for approximately 20 minutes an hour for the typical daytime and nighttime conditions.

Parking Lot Activities

To determine the noise level impacts associated with parking lot noise, Urban Crossroads collected reference noise level measurements at the Laguna Niguel Walmart located at 27470 Alicia Parkway on May 30th, 2012. The 15-minute noise level measurement indicates that the parking lot activity generates a noise level of 60.1 dBA Leq at a distance of 5 feet. The parking lot noise levels are mainly due to cars pulling in and out of spaces, car alarms sounding, and customers moving shopping carts. Noise associated with parking lot activity is expected during the typical daytime and nighttime conditions for the entire hour (60 minutes).

Car Wash

To describe the potential noise level impacts associated with the planned car wash at the southeast corner of the Project site, a reference noise level measurement was collected on November 8th, 2013 at the Plano Trabuco Shell Gas Station car wash. The reference noise level measurement includes one complete car wash cycle. The high powered blowers that are used to dry the car at the end wash cycle represent the primary source of car wash noise. At a distance of 10 feet from the exit tunnel and blowers, a reference noise level of 76.5 dBA Leq was measured. Noise associated with car wash activity is expected during the typical daytime and nighttime conditions for approximately 30 minutes an hour.

Table 4.6-7 presents the reference noise levels used to estimate the Project operational noise impacts. It is important to note that the following projected noise levels assume the worst-case noise environment with the loading docks, roof-top air condenser units, shopping cart corrals, parking lot, trash compactors and car wash activities all operating simultaneously. In reality, these noise level impacts will vary throughout the day.

Table 4.6-7
Reference Noise Level Measurements

Noise Sources	Duration (mm:ss)	Distance From Source (Feet)	Noise Source Height (Feet)	Hourly Activity (Minutes)	Hourly (Leq dBA)
Loading Dock Activity	1:00	20.0	8.0	18	77.3
Trash Compactor	2:22	5.0	5.0	20	75.5
Air Conditioning Units	1:00	5.0	25.0	30	81.9
Shopping Cart Corral	0:16	5.0	3.0	20	72.9
Parking Lot Activity	15:00	5.0	4.0	60	60.1
Car Wash Activity	8:43	10.0	9.0	30	76.5

Source: *Moreno Valley Walmart Noise Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) February 10, 2015.

Project Operational Stationary/Area-Source Noise Levels

Based upon the reference noise levels, estimates of Project operational stationary/area-source noise levels that would be received at off-site locations were developed. Received noise levels reflect distance-related noise attenuation resulting from the separation between Project noise sources and receiver locations. In this regard, noise levels attenuate (or decrease) at a rate of 6 dB for each doubling of distance from a point source.

Table 4.6-8 presents total operational noise levels that would be received at a distance of 200 feet from the noise source.[6]

[6] City Noise Ordinance Standards are based on noise levels received at 200 feet from the Project boundaries. By estimating noise levels at 200 feet from the noise source, rather than at 200 feet from the Project boundary, the Project noise analysis is analytically conservative. In practice, the additional distance between the Project noise source and off-site receptors would further attenuate the estimated noise levels reflected in this analysis. The analysis of code compliance is further conservative in that unobstructed line-of-sight between noise sources and receptors is assumed, and does not reflect relative orientation of sources-receptors, or the presence of intervening structures, such as the screenwalls that would be constructed by the Project.

Table 4.6-8
Operational Stationary/Area Source Noise Levels at 200 Feet from Noise Source

Noise Source	Reference Noise Level (dBA Leq)	Distance Attenuation at 200 feet (dBA Leq)	Hourly Activity (Minutes)	Hourly Activity Adjustment (dBA Leq)	Calculated Noise Level at 200 Feet (dBA Leq)
Loading Dock Activity	77.3	-20.0	18	-5.2	52.1
Trash Compactor	75.5	-32.0	20	-4.8	38.7
Air Conditioning Units	81.9	-32.0	30	-3.0	46.8
Shopping Cart Corral	72.9	-32.0	20	-4.8	36.1
Parking Lot Activity	60.1	-32.0	60	0.0	28.1
Car Wash Activity	76.5	-26.0	30	-3.0	47.5
Combined Noise Level	---	---	---	---	54.4

Source: *Moreno Valley Walmart Noise Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) February 10, 2015.

Potential Impact: *Would Project operational stationary/area-source noise result in exposure of persons to, or generation of, noise levels in excess of standards established in the City's General Plan or Noise Ordinance?*

Table 4.6-8 indicates that the unmitigated hourly noise levels for each noise source are expected to range from 28.1 dBA Leq for parking lot activities to 52.1 dBA Leq for loading dock activities. When combined, the Project operational noise levels at a distance of 200 feet are estimated at 54.4 dBA Leq. At a distance of 200 feet, Project operational stationary/area-source noise levels would not exceed 65 dBA Leq daytime and/or 60 dBA Leq nighttime standards established under the City Municipal Code. On this basis, Project operational stationary/area-source noise would not result in exposure of persons to, or generation of, noise levels in excess of standards established in the City's Noise Ordinance. Impacts in this regard would therefore be less-than-significant.

Level of Significance: Less-Than-Significant. As substantiated in the preceding discussion, Project operational stationary/area-source noise levels received at off-site locations would not exceed applicable Municipal Code noise standards. Applicable Municipal Code noise standards correlate with and support General Plan Noise policies and standards. The potential for Project operations to result in exposure of persons to, or generation of, noise levels in excess of standards established in the City's General Plan or Noise Ordinance is therefore considered less-than-significant.

Potential Impact: *Would Project operational noise result in a substantial permanent, temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?*

Impact Analysis: Evaluation of the potential for Project operational/area source noise to temporarily or permanently result in a substantial in increase ambient noise levels without the Project is reflected by relative change in average day/night conditions due to Project operations/site activities. To this end, Table 4.6-9 presents unmitigated Project operational stationary/area-source noise levels that would be received at proximate receptors. Table 4.6-9 indicates that noise levels received at proximate off-site locations are expected to range from 27.9 dBA Leq at receptor location R8 to 47.1 dBA Leq at receptor location R11.

Table 4.6-9
Operational Noise Level Projections at Proximate Receptor Locations

	Noise Level at Receptor										
Noise Source	**R1**	**R2**	**R3**	**R4**	**R5**	**R6**	**R7**	**R8**	**R9**	**R10**	**R11**
Loading Dock Activity	34.3	31.5	26.1	33.7	34.7	28.6	29.7	25.4	41.2	42.0	43.0
Trash Compactor	20.8	16.9	11.8	19.4	20.7	15.1	16.0	11.2	26.7	27.0	24.4
Air Conditioning Units	29.3	26.5	21.6	30.5	31.9	25.5	27.0	21.4	37.9	43.9	44.6
Shopping Cart Corral	16.9	17.1	11.8	20.1	23.0	18.1	20.2	11.0	27.6	37.2	27.6
Parking Lot Activity	8.6	8.4	3.5	11.9	14.6	9.4	11.3	2.8	20.6	27.4	19.8
Car Wash Activity	23.0	21.5	19.3	29.3	32.9	30.9	34.2	19.9	28.6	35.6	31.7
Combined Project Noise Level at Receptor	*35.9*	*33.2*	*28.3*	*36.6*	*38.3*	*33.8*	*36.3*	*27.9*	*43.3*	*47.0*	*47.1*

Source: *Moreno Valley Walmart Noise Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) February 10, 2015.
[1] Received noise levels reflect noise attenuation due to source–receptor separation, and attenuation provided by Project screenwalls.

Noise levels that would be experienced at area receptors when Project-source noise is added to ambient daytime and nighttime conditions are presented at Table 4.6-10 and 4.6-11, respectively. Representative ambient daytime/nighttime noise conditions identified at Tables 4.6-10 and 4.6-11 are based on and interpreted from the long term noise measurements identified previously at Table 4.6-1, and the noise measurement locations identified at Figure 4.6-4. Figure 4.6-7 identifies ambient noise measurement locations in the context of operational-source noise receptor locations evaluated in the Project Noise Impact Analysis.

Table 4.6-10
Project Operational Stationary/Area-Source Noise Daytime Ambient Conditions

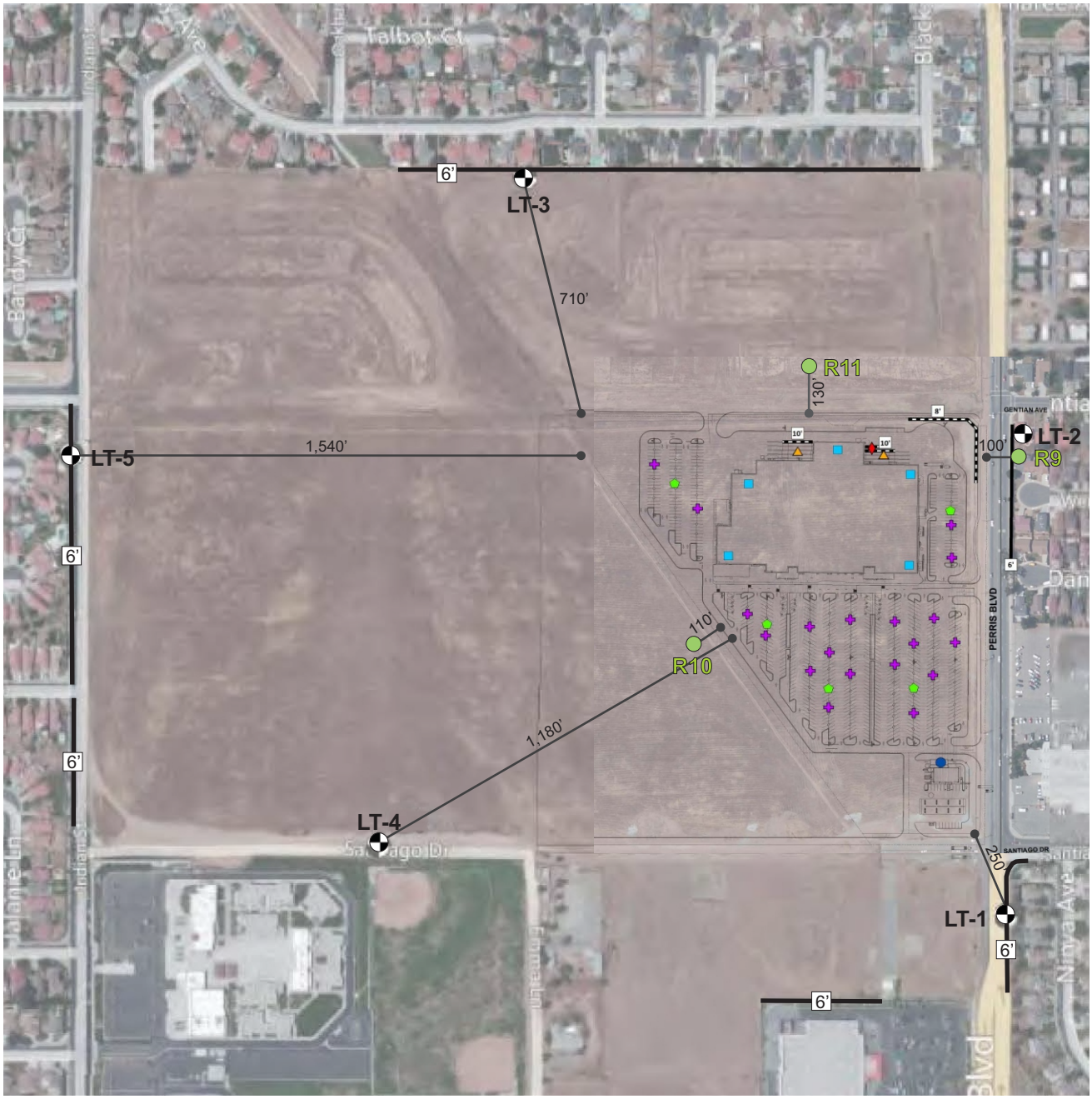
Receptor ID No.	Project-source Noise Level at Receptor (dBA Leq)	Daytime Ambient Noise Levels (dBA Leq)	Representative Ambient Noise Measurement Location	Combined Project and Ambient Noise Levels (dBA Leq)	Project Contribution (dBA Leq)	Potentially Significant Impact?
R1	35.9	44.1	LT-3	44.7	0.6	No
R2	33.2	44.1	LT-3	44.4	0.3	No
R3	28.3	69.0	LT-5	69.0	0.0	No
R4	36.6	46.7	LT-4	47.1	0.4	No
R5	38.3	46.7	LT-4	47.3	0.6	No
R6	33.8	46.7	LT-4	46.9	0.2	No
R7	36.3	70.2	LT-1	70.2	0.0	No
R8	27.9	69.0	LT-5	69.0	0.0	No
R9	43.3	71.7	LT-2	71.7	0.0	No
R10	47.0	46.7	LT-4	49.9	3.2	No
R11	47.1	44.1	LT-3	48.9	4.8	No

Source: *Moreno Valley Walmart Noise Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) February 10, 2015.
[1] Received noise levels reflect noise attenuation due to source–receptor separation, and attenuation provided by Project screenwalls.

Table 4.6-11
Project Operational Stationary/Area-Source Noise Nighttime Ambient Conditions

Receptor	Project-source Noise Level at Receptor (dBA Leq)	Ambient Noise Levels (dBA Leq)	Representative Ambient Noise Measurement Location	Combined Project and Ambient Noise Levels (dBA Leq)	Project Contribution (dBA Leq)	Potentially Significant Impact?
R1	35.9	41.0	LT-3	42.2	1.2	No
R2	33.2	41.0	LT-3	41.7	0.7	No
R3	28.3	66.7	LT-5	66.7	0.0	No
R4	36.6	41.9	LT-4	43.0	1.1	No
R5	38.3	41.9	LT-4	43.5	1.6	No
R6	33.8	41.9	LT-4	42.5	0.6	No
R7	36.3	68.4	LT-1	68.4	0.0	No
R8	27.9	66.7	LT-5	66.7	0.0	No
R9	43.3	70.4	LT-2	70.4	0.0	No
R10	47.0	41.9	LT-4	48.2	6.3	No
R11	47.1	41.0	LT-3	48.0	7.0	No

Source: *Moreno Valley Walmart Noise Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) February 10, 2015.
Notes: Received noise levels reflect noise attenuation due to source–receptor separation, and attenuation provided by Project screenwalls.



LEGEND:

- Air Condensing Unit
- Loading Dock
- Parking Lot
- Shopping Cart Corral
- Car Wash
- Trash Compactor
- Noise Receiver Locations
- 10' Noise Barrier Height (in feet)
- Proposed Barrier Location
- Existing Barrier Location
- LONG-TERM NOISE MEASUREMENT LOCATION

N

NOT TO SCALE

Source: Google Earth; Urban Crossroads, Inc.; Applied Planning, Inc.

applied planning inc

Figure 4.6-7
Operational-Source Noise Receptors and Monitoring Locations

As indicated in Tables 4.6-10 and 4.6-11, the Project would contribute operational stationary/area-source noise levels of up to 4.8 dBA Leq (daytime) and 7.0 dBA Leq (nighttime) at nearby receptor locations. However, in no instance would Project operational stationary area-source noise cause or result in exceedance of the maximum acceptable ambient condition (65 dBA daytime/60 dBA nighttime).

Nor would Project operational stationary/area-source noise result in an increase of 1.5 dBA or greater in instances where noise levels without the Project already exceed the maximum acceptable ambient condition. On this basis, Project operational stationary/area-source noise would not result in a substantial temporary/periodic, or permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project, and impacts in these regards are less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Would the Project result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise?*

Impact Analysis: The following discussions address the Project's potential to generate groundborne vibration, also referred to as groundborne noise, resulting from Project construction and operations.

Construction

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that groundborne vibration from Project construction activities would cause only intermittent, localized intrusion. The Project's construction activities most likely to cause vibration impacts are:

- Heavy Construction Equipment: Although all heavy mobile construction equipment has the potential of causing at least some perceptible vibration while operating close to building, the vibration is usually short-term and is not of sufficient magnitude to cause building damage. It is not expected that heavy

equipment such as large bulldozers would operate close enough to any residences to cause a vibration impact.

- Trucks: Trucks hauling building materials to construction sites can be sources of vibration intrusion if the haul routes pass through residential neighborhoods on streets with bumps or potholes. Repairing the bumps and potholes generally eliminates the problem.

Groundborne vibration levels resulting from construction activities occurring within the Project site were estimated using data published by the Federal Transit Administration (FTA). Construction activities that would occur within the Project site are expected to include grading and excavation, which would have the potential to generate low levels of groundborne vibration. Using the vibration source level of construction equipment provided by the FTA, it is possible to estimate the Project vibration impacts. Table 4.6-12 presents the expected Project-related vibration levels at each of the 11 sensitive receiver locations.

Table 4.6-12
Construction Equipment Vibration Levels

Receiver	Distance to Property Line	Receiver Vibration Levels (VdB)					Significant Impact
		Small Bulldozer	Jackhammer	Loaded Trucks	Large Bulldozer	Peak Vibration	
R1	710′	14.4	35.4	42.4	43.4	43.4	No
R2	750′	13.7	34.7	41.7	42.7	42.7	No
R3	1,540′	4.3	25.3	32.3	33.3	33.3	No
R4	1,180′	7.8	28.8	35.8	36.8	36.8	No
R5	750′	13.7	34.7	41.7	42.7	42.7	No
R6	470′	19.8	40.8	47.8	48.8	48.8	No
R7	250′	28.0	49.0	56.0	57.0	57.0	No
R8	2,020′	0.8	21.8	28.8	29.8	29.8	No
R9	100′	39.9	60.9	67.9	68.9	68.9	No
R10	110′	38.7	59.7	66.7	67.7	67.7	No
R11	130′	36.5	57.5	64.5	65.5	65.5	No

Source: *Moreno Valley Walmart Noise Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) February 10, 2015.

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 ranging from 100 to 2,020 feet from the Project site, construction vibration levels are expected to range from 0.8 to 68.9 VdB. Using the construction vibration assessment methods provided by the FTA, construction of the Project will not include nor require equipment, facilities, or activities that would result in a perceptible human response (annoyance).

Based on the preceding, Project construction is not expected to generate vibration levels exceeding the FTA maximum acceptable vibration standard of 80 VdB. Further, impacts at the closest sensitive receptor are unlikely to be sustained during the entire construction period, but will occur rather only during the times that heavy construction equipment is operating proximate to the Project site perimeter. Moreover, construction at the Project site will be restricted to daytime hours consistent with City requirements thereby eliminating potential vibration impact during the sensitive nighttime hours.

Operations

Delivery trucks accessing the site could result in some level of vibration. Truck vibration levels are dependent on vehicle characteristics, load, speed, and pavement condition. Although the human threshold of perception for vibration is around 65 VdB, human response to vibration is not usually significant unless the vibration exceeds 70 VdB. Even at normal traffic speeds, vibration levels for heavy trucks do not typically exceed 65 VdB. Since delivery trucks entering/exiting the Project site will be travelling at very low speeds, it is anticipated that the vibration will not approach 65 VdB.

Commercial developments, such as the Project, typically do not operate machinery on-site that could create significant long-term vibration impacts.

Summary

Since the nearest receptors are located a minimum of 100 feet from the nearest point of construction activities, impacts from construction-related groundborne vibration are anticipated to be less-than-significant.

Similarly, operational activities that would result from Project implementation would not include or require equipment, facilities, or activities that would result in perceptible groundborne vibration. Based on the preceding discussion, the potential for the Project to result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise is less-than-significant.

Level of Significance: Less-Than-Significant.

4.7 HYDROLOGY/WATER QUALITY

4.7 HYDROLOGY/WATER QUALITY

Abstract

This Section of the EIR addresses potential impacts of the Project related to hydrology and water quality. The analysis presented herein focuses on the potential for the Project to:

- *Violate any water quality standards or waste discharge requirements;*
- *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion or siltation on- or off-site;*
- *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site;*
- *Create or contribute runoff water that would exceed the capacity of the existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or*
- *Otherwise substantially degrade water quality.*

Best Management Practices recommended as part of the Project's Drainage Study and Preliminary Water Quality Management Plan (included in EIR Appendix G) have been restated within this Section as Mitigation Measures, in order to ensure their monitored implementation. As supported by the analysis presented in this Section, the above-noted potential hydrology/water quality impacts are determined to be less-than-significant as mitigated.

4.7.1 INTRODUCTION

This Section evaluates potential impacts of the Project on hydrology and water quality. Information contained in this Section has been summarized or excerpted from the *Preliminary Drainage Study, Walmart Store 4059-00, NWC Perris Blvd and Santiago Drive, Moreno Valley, CA* (Kimley-Horn & Associates, Inc.) October 15, 2013 (Project Drainage Study); and *Project Specific Water Quality Management Plan for Moreno Valley Walmart Store 4059-00* (Kimley-Horn and Associates, Inc.) July 3, 2013 (Project WQMP). These reports are included as EIR Appendix G. Additional source and background information was obtained from the South Moreno Valley Walmart Site Plan Concept; the City of Moreno Valley General Plan; the Santa Ana Regional Water Quality Control Board (SARWQCB); and the California State Water Resources Control Board (SWRCB).

4.7.2 SETTING

The hydrologic setting described below establishes the baseline against which the Project's potential hydrology/water quality impacts were evaluated. Please refer to EIR Section 3.0, "Project Description," for a general discussion of the Project's regional and vicinity setting.

4.7.2.1 Regional Hydrology

The majority of the City, including the Project site, drains into the San Jacinto River. The San Jacinto River drains approximately 540 square miles to the Railroad Canyon Reservoir (Canyon Lake) which discharges into Lake Elsinore, which discharges into a tributary of the Santa Ana River.

The Riverside County Flood Control and Water Conservation District (RCFCWCD) is the agency responsible for the regional flood control system. The RCFCWCD has prepared three Master Drainage Plans (Sunnymead Area, West End, and Moreno), each of which covers a different portion of the City. Three major storm drains (Sunnymead, Kitching, and Perris Valley) serve the City. These channels generally flow north to south. These channels drain to the San Jacinto River, Canyon Lake and ultimately to Lake Elsinore.

4.7.2.2 Surface Water

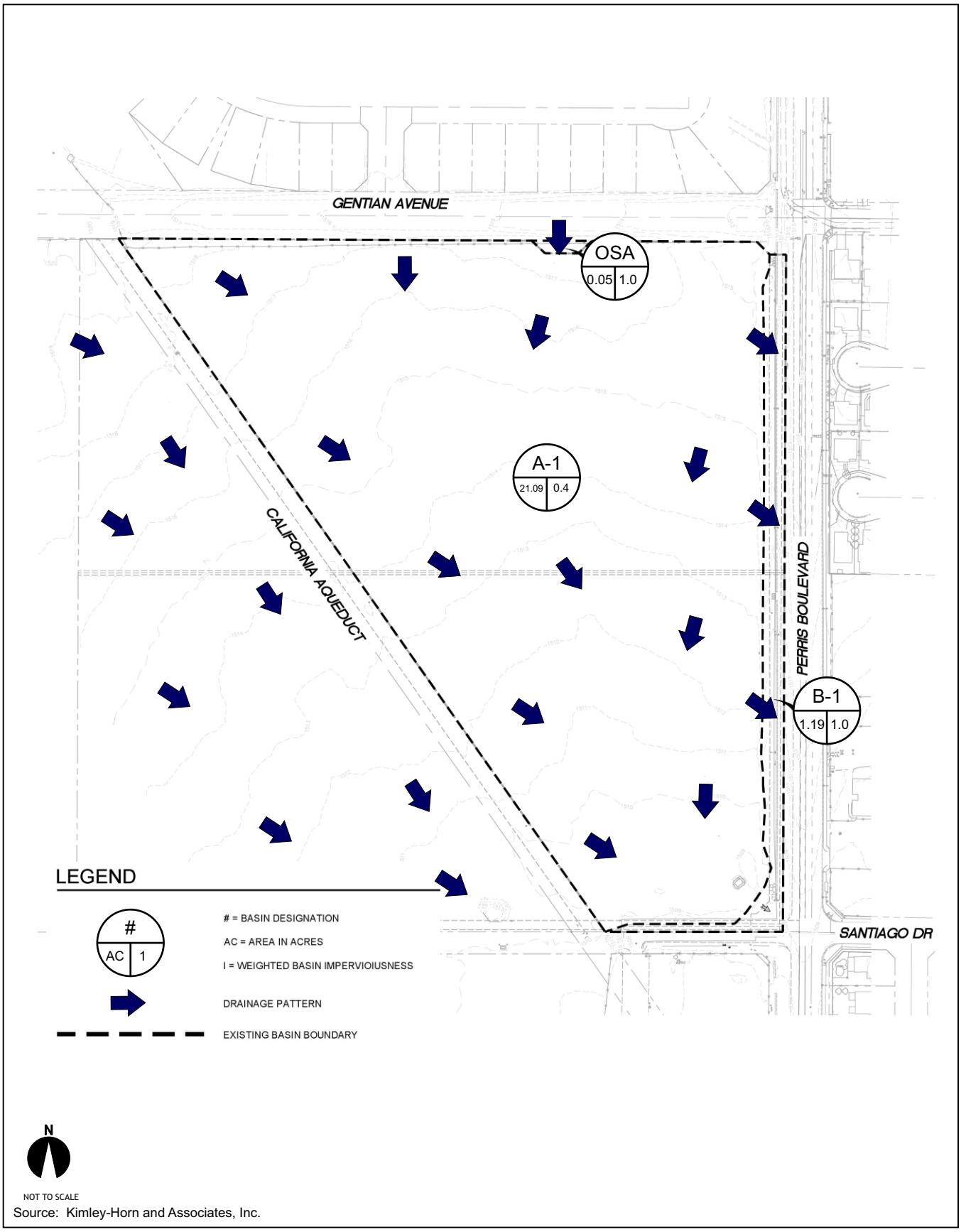
Surface water quality in the planning area is regulated by the Santa Ana Regional Water Quality Control Board (SARWQCB) Region 8. The SARWQCB Basin Plan (Basin Plan) establishes water quality standards for all the ground and surface waters of the region. The Santa Ana Region includes the upper and lower Santa Ana River watersheds, the San Jacinto River watershed, and several other small drainage areas.

4.7.2.3 Groundwater

The majority of the City lies in the Perris North Groundwater Basin and the easternmost portion of the planning area lies within the San Jacinto Groundwater Basin. According to the Geotechnical Investigation prepared for the Project site, groundwater depth is anticipated to range from approximately 100 feet to 160 feet below ground surface. The California State Department of Water Resources (DWR) has estimated the groundwater basins in the vicinity of the City to have capacity for approximately one million acre-feet of water. It is estimated that the basins currently store approximately 620,000 acre-feet (AF) of water.

4.7.2.4 Existing Onsite Drainage

The Project site is vacant and slopes from the northwest to the southeast. No storm drainage system or treatment facilities accommodate the site. The Project Drainage Study indicates that, currently, runoff sheet flows onto adjacent Perris Boulevard and Santiago Drive. Figure 4.7-1 illustrates the existing onsite drainage conditions.



Source: Kimley-Horn and Associates, Inc.

Figure 4.7-1
Existing On-Site Drainage

4.7.3 HYDROLOGY/WATER QUALITY POLICIES AND REGULATIONS

Applicable federal, state, and local policies and regulations which act to reduce potential hydrologic impacts and/or act to protect and preserve water quality are summarized below.

4.7.3.1 Federal Water Pollution Control Act, Federal Clean Water Act (CWA)

The principal law governing pollution of the nation's surface waters is the Federal Water Pollution Control Act, or Clean Water Act (CWA), which was substantially revised by amendments in 1972 that created the bulk of the current statutory scheme. The CWA requires states to adopt water quality standards. To achieve its objectives, the CWA is based on the concept that all discharges into the nation's waters are unlawful, unless specifically authorized by a permit. Moreover, the CWA states that discharge of pollutants into waters of the United States from any point source is unlawful unless the discharge complies with the National Pollution Discharge Elimination System (NPDES) permit.

The NPDES is a national program under Section 402 of the CWA. The CWA establishes the framework for regulating municipal and industrial (point sources) stormwater discharges under the NPDES program. In California, the NPDES program is administered through the nine Regional Water Quality Control Boards, including the SARWQCB. Locally, the SARWQCB is responsible for determining the City of Moreno Valley's compliance with the water quality requirements of the CWA.

Non-point pollution sources are also regulated by the SARWQCB through the General Construction Activity Storm Water NPDES permits, which are issued for stormwater discharges. Construction activities that are subject to this general permit include clearing, grading, and disturbances to the ground such as stockpiling or excavation that result in soil disturbances. Stormwater pollution prevention plans (SWPPPs) are required for the issuance of a construction NPDES permit and typically include both structural and non-structural Best Management Practices (BMPs) to reduce water quality impacts. The Project will implement and comply with applicable provisions of the Federal Water Pollution Control Act, and Federal Clean Water Act.

4.7.3.2 State of California and Riverside County

At the federal level, the CWA allows the Environmental Protection Agency (EPA) to delegate its NPDES system permitting authority to states with an approved regulatory program. The CWA authorizes discharge of pollutants into waters of the State by issuance of NPDES permits. Moreno Valley, Riverside County and 23 other cities and agencies obtained a joint NPDES permit from the SARWQCB. As a co-permittee, the City has the following obligations and responsibilities:

- Conduct storm drain system inspections;
- Conduct and coordinate with the County any surveys and characterizations needed to identify the pollutant sources and drainage areas;
- Implement management programs, monitoring programs and implementation plans;
- Enact legislation and ordinances as necessary to establish legal authority;
- Pursue enforcement actions as necessary to ensure compliance with the stormwater management programs and the implementation plans; and
- Respond to emergency situations (e.g., accidental spills, leaks, illegal discharges and illicit connections) to prevent or reduce the discharge of pollutants to storm drain systems and streams.

Regulated entities acting as co-permittees must obtain coverage under an NPDES stormwater permit and implement construction SWPPPs, and operational Water Quality Management Plans (WQMPs), both using BMPs that effectively reduce or prevent the discharge of pollutants into receiving waters. The NPDES permit imposes various requirements of the discharger. In general, provided the discharger complies with such requirements, the discharger is deemed to be in compliance with the CWA and the Permit. Most of the requirements imposed by the Permit consist of BMPs, which are construction and operational discharge control practices and mechanisms that have been deemed to achieve compliance with the CWA requirements. Additional details regarding the required SWPPP and WQMP are provided below.

Storm Water Pollution Prevention Plan (SWPPP)

In December 1999, the State Water Resources Control Board (SWRCB) issued an NPDES General Permit for the discharge of stormwater associated with construction activities. Federal regulations promulgated by USEPA (40 CFR Parts, 9, 122, 123, and 124) expanded the NPDES stormwater program to include stormwater discharges from MS4s and construction sites that were smaller than those previously included in the program. Accordingly, SWRCB issued a NPDES General Permit for the discharge of stormwater associated with construction activities. The existing state NPDES Permit (Order No. 99-08-DWQ, General Permit No. CAS000002, Permit) was administratively expanded in accordance with 40 CFR Part 122-124. This Permit addresses stormwater discharges associated with construction activities. The Permit is applicable to all of California, which is inclusive of the City of Moreno Valley and the Project site.

Requirements of this Permit include a mandate that all dischargers shall develop and implement an SWPPP in accordance with Section A of the NPDES General Permit. Pursuant to NPDES General Permit Section A, SWPPP requirements: all pollutant sources shall be identified; BMPs shall be implemented in order to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the construction site during construction; and a maintenance schedule for BMPs installed during construction shall be implemented. BMPs shall be described for control of discharges from waste handling and disposal areas and methods of on-site storage and disposal of construction materials and construction waste.

An effective combination of erosion and sediment control on all disturbed areas during the rainy season must be implemented. The SWPPP shall include a description of the erosion control practices. The SWPPP shall include descriptions of the BMPs to reduce pollutants in stormwater discharges subsequent to Project construction. The beneficial uses of the receiving waters are protected through implementation of these BMPs.

BMP stormwater pollutant source controls are articulated in the NPDES Permit, and include such measures as first flush diversion, detention/retention basins, infiltration trenches/basins, porous pavement, oil/grease separators, grass swales, education

programs, and maintenance practices. The NPDES permitting program also includes measures to reduce the release of pollutants such as sediment, construction materials, or accidental spillage of polluting materials during construction. Consistent with provisions of the NPDES Permit, the City of Moreno Valley requires implementation of development-specific SWPPPs and incorporation of BMPs that reduce, to the extent practicable, stormwater and urban runoff pollutant discharges to the waters of Southern California.

Water Quality Management Plan (WQMP)

The Project is also required to develop and implement a WQMP addressing potential operational stormwater pollutant discharges over the life of the Project. As with the Project SWPPP, the Project's mandated WQMP will act to control potential discharge of pollutants, prevent sewage spills, and avoid discharge of sediments into streets, stormwater channels, or waterways. A copy of the draft WQMP prepared for the Project site has been included in EIR Appendix G.

Typical SWPPP and WQMP elements include:

- Introduction and Purpose
- Compliance Requirements and Certifications
- Facility Information/Pollution Prevention Team Members
- Site Map
- List of Significant Materials
- Potential Stormwater Pollutants and Sources
- Best Management Practices
- Summary of Pollutants, Sources, and BMPs
- Annual Comprehensive Site Evaluation
- Definitions
- State Notice of Intent Form and Instructions

4.7.3.3 Porter-Cologne Water Quality Act

Section 303 of the federal CWA and the State's Porter-Cologne Water Quality Act establish applicable water quality objectives for ground and surface waters in the State. In general, protection and maintenance of surface water quality is the combined

responsibility of the applicable Regional Water Quality Control Board, water supply and wastewater management agencies, and City and County governments.

The RWQCB has purview over point and non-point sources of pollution. Point source water pollutants consist of controlled wastewater releases that are commonly generated by activities that use water to collect pollutants and transport them from the processing facility. When such wastewater discharges are proposed, the applicant must obtain a set of Waste Discharge Requirements from the RWQCB which serve to control water pollution to a non-significant level from such point sources.

Non-point sources of water pollution consist of surface runoff from a site or area during or following a storm where the source of pollution cannot be traced to a specific location. Typical non-point water pollution sources consist of agricultural fields with sediment and fertilizers, construction sites with sediment and debris, and roads with oil, tire particles, and debris common to roads. The Project will implement and comply with applicable Porter-Cologne water quality protection policies and mandates.

4.7.3.4 Santa Ana Watershed Project Authority, Water Resources Plan

The Santa Ana Watershed Project Authority (SAWPA) was formed to find a mutually beneficial way of protecting water quality in the Santa Ana Watershed. Orange County Water District, Inland Empire Utilities Agencies, San Bernardino Valley Municipal Water District, Western Municipal Water District, and Eastern Municipal Water District represent all the major areas of water use in the Santa Ana Watershed formed SAWPA. The Eastern Municipal Water District (EMWD) serves the City of Moreno Valley. SAWPA operates a desalter that removes contaminants from groundwater to make the water suitable for use.

4.7.3.5 Moreno Valley Municipal Code

All required Project storm drain facilities will be funded, designed, implemented, and maintained consistent with City of Moreno Valley policies and requirements as outlined in the City Municipal Code. General requirements are outlined below. Please

refer also to the City of Moreno Valley Municipal Code available at the following website: http://qcode.us/codes/morenovalley/.

More specifically, Municipal Code Title 8, "Buildings and Construction," Chapter 8.10, "Stormwater/Urban Runoff Management and Discharge Controls," identifies the following requirements for new development.

> 8.10.050 Reduction of pollutants in stormwater.
>
> C. New Development and Redevelopment. New development or redevelopment projects shall control stormwater runoff so as to prevent any deterioration of water quality that would impair subsequent or competing uses of the water. The city engineer shall identify the BMPs [Best Management Practices] that may be implemented to prevent such deterioration and shall identify the manner of implementation. The BMPs may, among other things, require new developments or redevelopments to do any of the following:
>
> 1. Increase permeable areas by leaving highly porous soil and low lying areas undisturbed; by incorporating landscaping, green roofs and open space into the project design; by using porous materials for or near driveways, drive aisles, parking stalls and low volume roads and walkways; and by incorporating detention ponds and infiltration pits into the project design.
>
> 2. Direct runoff to permeable areas by orienting it away from impermeable areas to swales, berms, green strip filters, gravel beds, rain gardens, pervious pavement or other approved green infrastructure and French drains; by installing rain-gutters oriented towards permeable areas; by modifying the grade of the property to divert flow to permeable areas and minimize the amount of stormwater runoff leaving the property; and by designing curbs, berms or other structures such that they do not isolate permeable or landscaped areas.

3. Maximize stormwater storage for reuse by using retention structures, subsurface areas, cisterns, or other structures to store stormwater runoff for reuse or slow release.

4. Rain gardens may be proposed in-lieu of a water quality basin when applicable and approved by the city engineer.

4.7.4 PROJECT DRAINAGE IMPROVEMENTS

4.7.4.1 Overview

At present, stormwater runoff from the majority of the Project site sheet flows across the site to Perris Boulevard and Santiago Drive. Under post-development conditions, the Project stormwater management system would convey and discharge stormwater runoff in a manner comparable to pre-development discharge patterns.

4.7.4.2 Project Drainage Concept

On-site runoff would be collected by roof drains to be located on the Walmart rooftop, curb inlets, catch basins, and a truck well drain (with inlet filter) to be located in the northerly portion of the site, along the buildings rear façade.

These flows would be directed to a 1.12-acre infiltration basin to be located at the site's southerly boundary, via an underground storm drain system. An infiltration basin is a flat earthen basin designed to capture the design capture volume (V_{BMP}). The stormwater infiltrates through the bottom of the basin into the underlying soil over a 72-hour drawdown period. Flows exceeding V_{BMP} must discharge to a downstream conveyance system where trash and sediment accumulate within the forebay as stormwater passes into the basin. Infiltration basins are highly effective in removing all targeted pollutants from stormwater runoff.

This basin is triangular in shape, and will serve as both a water quality basin and a flood control basin. The basin has been designed with a total capacity of 4.12 acre-feet, with a 2" aggregate lining to address erosion and allow settlement of silt. As discussed

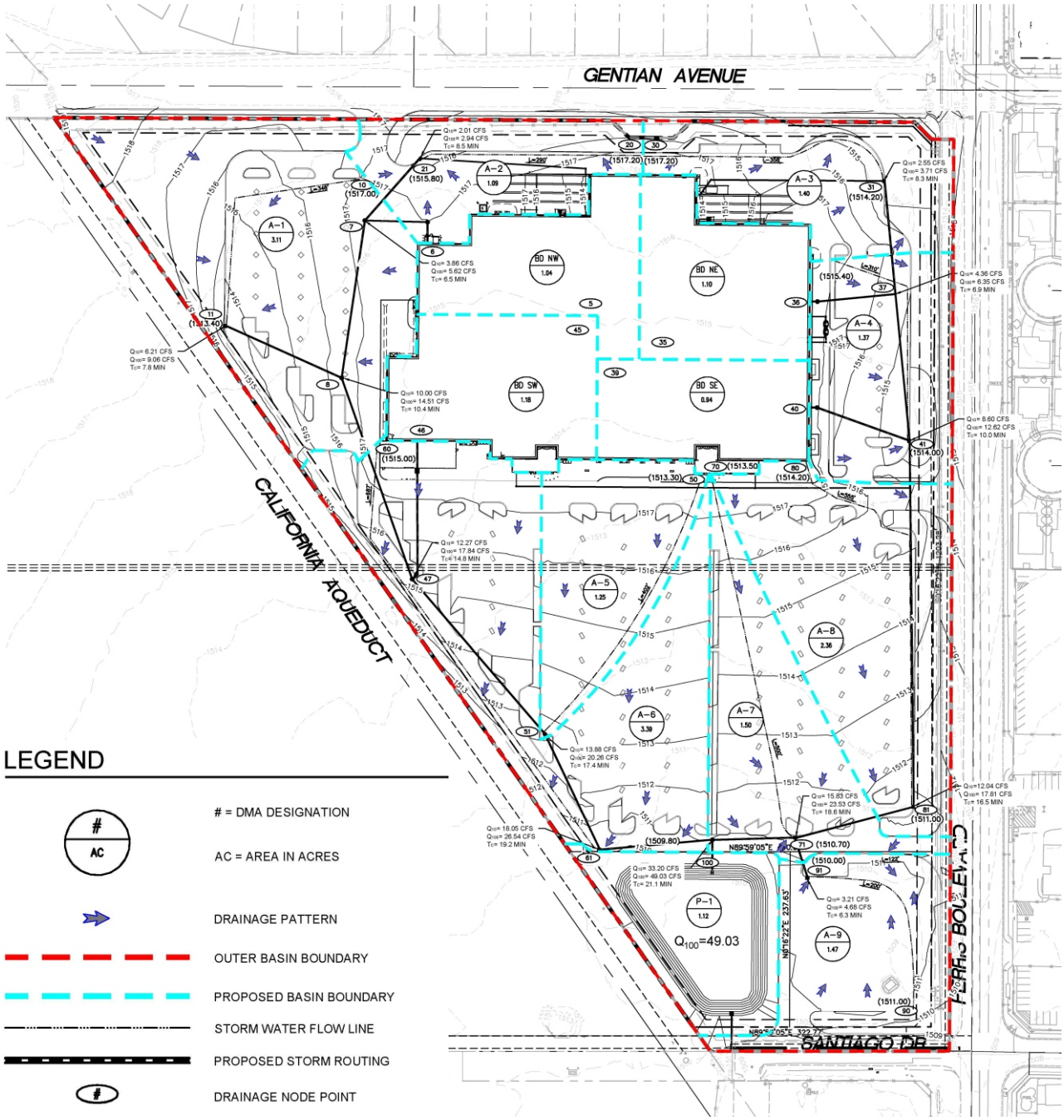
within EIR Section 4.8, *Geology and Soils*, the upper soils of the Project site exhibit the potential for collapse. As such, two double chamber dry wells will also be located under the basin at depths that have sufficient infiltration rates. The basin has been designed consistent with the Riverside County Low Impact Development Design BMP Handbook and the City's Water Quality Basin Civil Design Guidelines. The Project Drainage Study determined that the storage capacity and discharge relationship of the basin is adequate, even during a 100-year 24-hour storm event.

The basin would drain to a new 39-inch storm drainage line (portion of RCFCWCD Master Drainage Plan [MDP] M-2 Line, RCFCWCD MDP M-2 Line) to be installed within Santiago Drive. This new 39-inch RCFCWCD MDP M-2 Line would extend easterly from the Project onsite infiltration basin to Perris Boulevard. The RCFCWCD MDP M-2 Line would then continue southerly along Perris Boulevard until it reaches Iris Avenue, where the RCFCWCD MDP M-2 line would increase to 45-inches, and would extend approximately 1,200 feet easterly along Iris Avenue where it would tie into the existing 48-inch RCP M-2 Line near the Wedow Drive/Iris Avenue intersection.

The RCFCWCD MDP M-2 Line provides a restriction on the amount of flows that can be accommodated. Consistent with this restriction, discharges from the Project detention basin would be limited to 26.00 cubic feet per second (cfs). An outfall structure would be constructed within the Project stormwater detention basin to ensure this peak discharge rate is not exceeded.

All of the above-noted RCFCWCD MDP M-2 Line improvements would be constructed by the Project, or would otherwise be assured via Project Conditions of Approval to be in place and operational prior to issuance of the first Certificate of Occupancy for the Project.

The post-development drainage of the site is presented at Figure 4.7-2 and the locations of proposed drainage facilities are illustrated at Figure 4.7-3.



Source: Kimley-Horn and Associates, Inc.

applied planning inc

Figure 4.7-2
Post-Development Drainage

Existing

Proposed

N

NOT TO SCALE

Source: Teshima Design Group; Kimley-Horn and Associates, Inc.; Applied Planning, Inc.

applied planning inc

Figure 4.7-3
Proposed Drainage Facilities

4.7.5 STANDARDS OF SIGNIFICANCE

Consistent with the standards of significance outlined in the *CEQA Guidelines*, hydrology/water quality impacts would be considered potentially significant if the Project would:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of the pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- Substantially alter the existing drainage pattern of the 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;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
- Create or contribute runoff water which would exceed the capacity of the existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;

- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;

- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or

- Cause or result in inundation by seiche, tsunami, or mudflow.

4.7.6 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.7.6.1 Introduction

The following discussions focus on topical areas and issues where it has been determined pursuant to the EIR Initial Study/NOP processes, that the Project may result in or cause potentially significant hydrology/water quality impacts. Of the CEQA threshold considerations identified above at Section 4.7.5, and as substantiated in the Initial Study (EIR Appendix A), the Project's potential impacts under the following topics are determined to be less-than-significant, and are not further substantively discussed here:

- 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 the 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);

- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;

- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;

- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or

- Inundation by seiche, tsunami, or mudflow.

All other CEQA topics concerning the Project's potential impacts to hydrology/water quality are discussed below. Please also refer to Initial Study Checklist Item IX., "Hydrology and Water Quality."

4.7.6.2 Impact Statements

Potential Impact: *Would the Project violate any water quality standards or waste discharge requirements?*

Impact Analysis: The Project is mandated to acquire all necessary permits, and comply with City of Moreno Valley and RWQCB requirements for the Santa Ana Region, acting to preclude, or substantively reduce the potential of the Project to violate any water quality standards or waste discharge requirements. More specifically, consistent with established building code regulations, a site-specific drainage study reflecting precise pad locations, proposed drainage structures, detention facilities, etc., is required prior to the issuance of building permits. The preliminary Drainage Study and WQMP for the Project have been included in EIR Appendix G.

The Project will connect to the existing sanitary sewer system serving the Project area, and does not propose or require septic systems or other alternative treatment of wastewater. Further, the Project's plans for connection to existing sanitary sewer infrastructure facilities are subject to review and approval by the City and EMWD. The Project Applicant will also be required to apply for service and pay a mandated Connection Fee and ongoing Service Fees. Fees paid by the Project will be applied toward maintenance and expansion of City and EMWD conveyance and treatment facilities. Wastewater generated by the Project is typical of commercial generators and

wastewater resulting from the Project uses will not require treatment beyond that provided by existing EMWD facilities.

Moreover, the Project will be developed and operated in compliance with City/SARWQCB regulations and water quality standards. More specifically, the Project will provide connection to, and interface with, existing and proposed drainage systems in the least invasive manner possible. Design, configuration, and locations of proposed drainage system improvements will be reviewed and approved by the City prior to, or concurrent with, application for grading permits.

Preliminary landscape plans for the Project show pervious areas, such as end planters, fingers, and perimeter planters to enhance on-site capture and absorption of storm flows. The Project's infiltration basin will also provide for elimination/reduction of pollutant discharges, including capture and treatment of dry weather and first flush runoff in a manner consistent with City and SARWQCB policies and requirements.

All stormwater discharges shall comply with applicable provisions of the RCFCWCD NPDES permit. Consistent with SARWQCB, RCFCWCD and City requirements, waste materials will not be discharged to drainage areas, streambeds, or streams. Appropriate BMPs will be employed throughout construction processes, thereby controlling potential discharge of pollutants, preventing sewage spills, and avoiding discharge of sediments into streets, stormwater channels, or waterways. Selected BMPs will act to:

- Control and prevent potential contaminant spills;
- Prevent runoff from off-site areas from flow across the construction site(s);
- Slow runoff rates across the site;
- Provide soils stabilization; and
- Remove sediment from on-site runoff before it leaves the site.

Similarly, the Project's mandated WQMP will act to control potential discharge of pollutants, prevent sewage spills, and avoid discharge of sediments into streets, stormwater channels, or waterways due to operational activities over the life of the Project. All required drainage improvements will be designed and implemented to the satisfaction of the City and SARWQCB. Please refer also to the Project WQMP included at EIR Appendix G.

Based on the preceding discussion, the potential for the Project to violate any water quality standards or waste discharge requirements is determined to be less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding or substantial erosion or siltation on- or off-site; or create or contribute runoff water which would exceed the capacity of the existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or otherwise substantially degrade water quality.*

Impact Analysis:

Project Stormwater Management System Addresses Potential Post-Development Hydrologic Impacts

The Project incorporates all necessary drainage and stormwater management systems, and will comply with all stormwater system design, construction, and operational requirements mandated under the City Municipal Code and within regulations established by other agencies, such as the SARWQCB and California Department of Water Resources. In combination, the Project's stormwater management components, and compliance with regulatory requirements act to preclude potentially adverse drainage and stormwater runoff impacts.

At present, stormwater runoff from the majority of the Project site sheet flows across the site to Perris Boulevard and Santiago Drive. Under post-development conditions, the Project stormwater management system would convey and discharges stormwater runoff in a manner comparable to pre-development discharge patterns.

As previously described, on-site runoff would be collected by roof rains to be located on the Walmart rooftop, curb inlets, catch basins, and a truck well drain (with inlet filter) to be located in the northerly portion of the site, along the buildings rear façade. These flows would be directed to the infiltration basin to be located at the site's southerly boundary, via an underground storm drain system.

The basin would drain to a new 39-inch storm drainage line (portion of Riverside County Flood Control and Water Conservation District [RCFCWCD] Master Drainage Plan [MDP] M-2 Line, RCFCWCD MDP M-2 Line) to be installed within Santiago Drive. This new 39-inch RCFCWCD MDP M-2 Line would extend easterly from the Project onsite infiltration basin to Perris Boulevard. The RCFCWCD MDP M-2 Line would then continue southerly along Perris Boulevard until it reaches Iris Avenue, where the RCFCWCD MDP M-2 line would increase to 45-inches, and would extend approximately 1,200 feet easterly along Iris Avenue where it would tie into the existing 48-inch RCP M-2 Line near the Wedow Drive/Iris Avenue intersection.

The RCFCWCD MDP M-2 Line provides a restriction on the amount of flows that can be accommodated. Consistent with this restriction, discharges from the Project detention basin would be limited to 26.00 cubic feet per second (cfs). An outfall structure would be constructed within the Project stormwater detention basin to ensure this peak discharge rate is not exceeded.

All of the above-noted RCFCWCD MDP M-2 Line improvements would be constructed by the Project, or would otherwise be assured (via Project Conditions of Approval or other means established by the Lead Agency) to be in place and operational prior to issuance of the first Certificate of Occupancy for the Project.

The Project stormwater management system will be developed and operated in compliance with City/SARWQCB regulations and water quality standards. The Project will provide connection to existing and proposed drainage systems in the least invasive manner possible. Design, configuration, and locations of proposed drainage system improvements will be reviewed and approved by the City/RWQCB prior to, or concurrent with, application for grading permits.

Implementation of the Project stormwater management system would maintain existing drainage patterns and would not increase runoff in a manner which would exceed the capacity of the existing or planned stormwater drainage systems.

Project SWPPP and Compliance with Regulatory Requirements Address Construction-Source Water Quality Impacts

During site preparation activities prior to construction, existing groundcover will be removed from the site, exposing the Project area to increased wind and water erosion potentials. Further, construction site runoff may carry increased loads of sediment, heavy metals and petroleum hydrocarbons (from machinery) which could degrade water quality. In accordance with NPDES requirements, the Project Applicant will be required to prepare a construction activities erosion control plan to alleviate potential sedimentation and stormwater discharge contamination impacts of the Project.

The Applicant shall also be responsible for compliance with the General Construction NPDES permit from the SARWQCB by filing a Notice of Intent to Commence Construction Activities. Under the General Construction Permit, discharge of materials other than stormwater is prohibited. The Applicant shall prepare, retain at the construction site, and implement a SWPPP which identifies the sources of sediments and other pollutants that affect the quality of stormwater discharge, and implement practices to reduce sediment and other pollutants to stormwater discharge. The SWPPP also identifies both construction and post-construction BMPs to reduce sediments and other pollutants.

Implementation of the Project SWPPP and compliance with applicable NPDES and SARWQCB requirements, as required by Mitigation Measure 4.7.1, below, will ensure that potential construction-source water quality impacts of the Project are reduced below the level of significance.

Project WQMP and Compliance with Regulatory Requirements Address Operational-Source Water Quality Impacts

Over the life of the Project, contaminants such as oil, fuel and grease that are spilled or left behind by vehicular traffic, collect and concentrate on paved surfaces. During storm events, these contaminants are washed into the storm drain system and may potentially degrade receiving water quality. Stormwater runoff from paved surfaces within the developed Project area could carry a variety of urban wastes, including greases and oils and small amounts of metals which are common by-products of vehicular travel. In addition, storm runoff will likely contain residual amounts of fertilizers and plant additives washed off from landscaped areas within the Project site.

Recognizing the potential hazards of such urban runoff, the EPA has issued regulations which require municipalities to participate in the NPDES. As part of this program, the SARWQCB has issued an NPDES permit for urban runoff to the RCFCWCD, and the City of Moreno Valley has been established as a co-permittee. Compliance with the provisions specified in the NPDES permit ensures proper management and disposal of urban runoff from the Project.

The Project Applicant shall be responsible for obtaining a General Permit for stormwater discharge from the SARWQCB, in accordance with the Notice of Intent instructions. Under the General Permit, discharge of materials other than stormwater is prohibited. In support of the above requirements, the Project Applicant shall also develop and implement a Project-specific WQMP addressing all post-construction pollutant discharges. A draft of the Project WQMP is included at EIR Appendix G. As required under Mitigation Measure 4.7.2, below, the Project will be required to submit a final WQMP prior to the issuance of grading permits.

Based on compliance with applicable NPDES requirements, and implementation of the Project WQMP to include any additional requirements stipulated by the City and/or SARWQCB as required under Mitigation Measure 4.7.2, the potential for the Project to result in a potential for discharge of stormwater pollutants from post-construction activities; otherwise result in any other potential impacts to stormwater runoff from post-construction activities; or otherwise substantially degrade water quality would be reduced below the level of significance.

Mitigation Measures:

4.7.1 Prior to the issuance of grading permits, the Project Applicant shall submit a Stormwater Pollution Prevention Plan (SWPPP) to the City of Moreno Valley, Riverside County Flood Control and Water Conservation District, and Santa Ana Regional Water Quality Control Board for review and approval. The SWPPP shall identify Best Management Practices (BMPs) intended to prevent the release of sediment and pollutants into downstream waterways. Examples of construction BMPs to be incorporated in the Project include, but are not limited to, the following:

- *Silt Fences;*
- *Check Dams;*
- *Gravel Bag Berms;*
- *Street Sweeping and Vacuuming;*
- *Sand Bag Barriers;*
- *Storm Drain Inlet Protection;*
- *Wind Erosion Control;*
- *Stabilized Construction Entrance/Exit; and*
- *Entrance/Outlet Tire Wash.*

Post-construction BMPs to reduce sediments and other pollutants include, but are not limited to, the following:

- *Providing permanent cover to stabilize the disturbed surfaces after construction has been completed;*

- *Incorporating structural BMPs (e.g., grease traps, debris, screens, continuous deflection separators, oil/water separators, drain inlet inserts) into the Project's design to provide detention and filtering of contaminants in urban runoff prior to discharge to stormwater facilities;*
- *Precluding non-stormwater discharges to the stormwater system; and*
- *Performing monitoring of discharges to the stormwater system.*

4.7.2 *Prior to the issuance of grading permits, the Project Applicant shall submit a final Water Quality Management Plan (WQMP) to the City of Moreno Valley, Riverside County Flood Control and Water Conservation District, and Santa Ana Regional Water Quality Control Board for review and approval. The WQMP shall identify Best Management Practices (BMPs) addressing all post-construction pollutant discharges. Examples of BMPs included in the Project's Preliminary WQMP include the following:*

Source Control/Non-Structural BMPs

- *Education of property owners, operators, tenants, occupants, or employees;*
- *Street Sweeping of Private Streets and Parking Lots;*
- *Drainage facility inspection and maintenance;*
- *Roof Runoff Controls;*
- *Efficient Irrigation;*
- *Protection of Slopes and Channels;*
- *Storm Drain stenciling and signage;*
- *Trash Storage Areas and Litter Control;*
- *Irrigation system and landscape maintenance; and*
- *Loading dock drainage controls.*

Site Design/Structural BMPs

- *Maximize permeable areas;*
- *Minimize street, sidewalk, and parking lot aisle widths;*
- *Maintain natural drainage patterns;*
- *Incorporate drought-tolerant landscaping;*

- *On-site ponding areas or retention facilities to increase opportunities for infiltration;*
- *Convey roof runoff to landscaping/permeable areas prior to discharge to storm drains;*
- *Drain sidewalks and walkways to adjacent landscaped areas; and*
- *Integration of landscaping and drainage designs.*

Conclusion

Based on the detailed, site-specific hydrologic modeling presented in EIR Appendix G, the Project's proposed drainage facilities entail those improvements necessary to adequately collect and convey on- and off-site stormwaters, as well as increased stormwater runoff resulting from development of the Project site. With the implementation of Mitigation Measures 4.7.1 and 4.7.2, the potential for the Project to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; result in substantial erosion or siltation on- or off-site; create or contribute runoff water which would exceed the capacity of the existing or planned stormwater drainage systems, or provide substantial additional sources of polluted runoff; or otherwise substantially degrade water quality is determined to be less-than-significant.

Level of Significance after Mitigation: Less-Than-Significant.

4.8 GEOLOGY AND SOILS

4.8 GEOLOGY AND SOILS

Abstract

This Section addresses the potential for the Project to result in substantial geotechnical hazards or soils-related impacts. More specifically, this analysis presented here focuses on whether the Project would result in, or be subjected to any of the following:

- *Location on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse; or*

- *Location on expansive soil, as defined in Table 18-1-B of the California Building Code (2010), creating substantial risks to life or property.*

Other potential CEQA geologic, seismic, and soils considerations at the subject site and/or affecting the Project are determined to be less-than-significant as discussed within the Initial Study (EIR Appendix A, Checklist Item VI., "Geology and Soils.")

Geologic, soils, and geotechnical conditions affecting the subject site and Project are described and evaluated within: Draft Geotechnical Engineering Investigation, Proposed Walmart Store No. 85313, Southwest Corner of Gentian Avenue and Perris Boulevard, Moreno Valley, Riverside County, California *(Moore Twining Associates, Inc.), November 30, 2012 (Project Geotechnical Investigation, Investigation). The Project Geotechnical Investigation (EIR Appendix H) concludes that the subject site is suitable for development of the Project, provided that recommendations of the Investigation are implemented during Project design and construction. The Project Geotechnical Investigation conclusions and recommendations in total are incorporated by reference, and specific recommendations are restated as EIR Mitigation Measures to ensure their monitored implementation. As supported by the analysis presented in*

this Section, potential geology and soils impacts of the Project are determined to be less-than-significant with incorporation of proposed mitigation.

4.8.1 INTRODUCTION

This Section examines underlying soil conditions and geologic characteristics of the Project site, and evaluates potential related impacts affecting design, construction, and operation of the Project. The subsequent discussions provide an assessment of potential seismologic hazards, notably faults and primary and secondary earthquake hazards which may affect the proposal. Influences such as topography and soil types are also discussed as these factors substantively influence potential erosion and landslide hazard characteristics of the subject property.

The discussion in this Section is summarized from the Moreno Valley General Plan and *Draft Geotechnical Engineering Investigation, Proposed Walmart Store No. 85313, Southwest Corner of Gentian Avenue and Perris Boulevard, Moreno Valley, Riverside County, California* (Moore Twining Associates, Inc.), November 30, 2012. The Project Geotechnical Investigation is included in its entirety at EIR Appendix H.

4.8.2 SETTING

Following are discussions of the Project's geologic setting, prevalent site soils, geotechnical considerations, and seismic design considerations. Please refer also to the Project Geotechnical Investigation.

Surface Conditions

The Project site slopes gently to the southeast, with an elevation range of approximately 1,509 to 1,519 feet above mean sea level. The site is vacant, and mostly covered by low lying weeds and brush. The Geotechnical Investigation noted a pile of concrete and brick debris and a concrete washout pit located on-site.

Soil Types

The near surface soils encountered generally consisted of medium dense clayey sands extending from the ground surface to about 3½ feet below site grade (BSG). Loose to

medium dense silty sands with varying amounts of gravel generally extended from 3½ feet BSG to depths of about 5 to 13½ feet BSG. The silty sands were underlain by interbedded layers of poorly graded sands, clayey sands, sandy lean clays, and silty sands with occasional layers of sandy silts extending to the maximum depth explored of 51½ feet BSG. A thin (six-inch) fill soil consisting of silty sand with concrete and asphalt debris was encountered in the northeast portion of the site and the southeast portion of the proposed detention basin.

Faulting and Seismicity

The site is not located in an Alquist-Priolo Earthquake Fault Zone. The nearest known active or potentially active fault is the San Jacinto-San Jacinto Valley fault, located about 5.6 miles northeast of the site. The anticipated maximum magnitude of earthquake for the site is 7.6.

Expansive Soils

The California Building Code establishes methodologies and guidelines for identification of expansive soils, and establishes responsive design standards which act to avoid potentially adverse effects of expansive soils on facilities. Over time, expansive soils will experience cyclic drying and wetting as the dry and wet seasons pass. Expansive soils experience volumetric changes (shrink/swell) as the moisture content of the clayey soils fluctuate. These shrink/swell cycles can impact foundations and lightly loaded slabs-on-grade when not designed for the anticipated expansive soil pressures.

On-site expansion index testing was performed in accordance with ASTM D4829 "Standard Test Method for Expansion Index of Soils." The results of the expansion index tests, conducted on samples collected from the ground surface to a depth of about 3½ feet BSG, indicated a very low expansion potential within near surface soils. However, due to the expansive nature of the deeper clay soils which were generally encountered at depths of approximately 8½ feet BSG and deeper, these soils are not recommended for use as engineered fill within the upper 4 feet BSG in the area of the building pad, nor within the upper 2 feet below pavement areas.

Collapsible Soils

Collapsible soils typically have low moisture contents, are loosely consolidated, and are deposited by aeolian (wind driven) or debris flow processes. Collapse type settlements in soils can occur where densification of the soils results from wetting due to rainfall or other water sources.

The potential for collapse type soil settlement was evaluated based on the results of consolidation tests. Consolidation tests indicated that the near surface silty sands and clayey sands within the upper approximately 10 feet have a moderate collapse potential. The near surface soils within the upper approximately 10 feet across the site are generally anticipated to possess similar collapse potential characteristics. Accordingly, improvements supported on the existing native soils would be subject to potential excessive collapse settlement.

In order to reduce the potential for excessive settlement of foundations due to collapse type soil movements, the Geotechnical Investigation recommends over-excavation and compaction of the upper near surface soils in the building pad areas to support foundations on engineered fill. Drought tolerant landscaping and low flow irrigation systems are also recommended for the site. Infiltration of stormwater into the near surface soils is not recommended at this site.

Liquefaction

Liquefaction typically occurs when a site is located in a zone with seismic activity, cohesionless onsite soils, groundwater within 50 feet of the surface, and relative soil densities of less than about 70 percent. Groundwater at the subject site was not encountered in the borings conducted as part of the Geotechnical Investigation. Based on the depth to groundwater measured in a nearby well, groundwater is expected to range from 100 feet to 160 feet below the current ground surface. On this basis, the Project Geotechnical Investigation concluded that the potential for liquefaction at the site is low.

Seismic Settlement

The analysis of settlement conducted as part of the Geotechnical Investigation concluded that on-site soils underlying the proposed development are not subject to significant seismic settlement.

Landslides

The relatively flat nature of the Project site and immediately surrounding properties precludes the potential for internal landsliding to occur.

4.8.3 GEOLOGY/SOILS/SEISMIC POLICIES AND REGULATIONS

Following are summary descriptions of geology/soils/seismic policies and regulations applicable to the Project. In many instances, compliance with existing policies and regulations eliminates, or substantially reduces, potential aesthetic and environmental effects. Existing policies and regulations, to some extent, also indicate community and regional values and prerogatives relative to aesthetic concerns.

4.8.3.1 City of Moreno Valley General Plan and Development Review Processes

The City of Moreno Valley, through its Planning Department and Building & Safety Department, implements General Plan Goals and Policies addressing geology, soils, and seismic conditions through established development permit review processes. To these ends, City staff ensures that site and development-specific geotechnical investigations are completed where appropriate, and that requirements and recommendations of these investigations are incorporated in construction plans, are followed through during construction processes, and are functionally complete before buildings are occupied and/or infrastructure systems or other improvements are accepted. In the case of the Project considered here, to the satisfaction of the City, recommendations and requirements of *Draft Geotechnical Engineering Investigation, Proposed Walmart Store No. 85313, Southwest Corner of Gentian Avenue and Perris Boulevard, Moreno Valley, Riverside County, California* (Moore Twining Associates, Inc.), November 30, 2012, will be incorporated in the final project design and construction. In all instances, the City

ensures that, at a minimum, applicable provisions of the California Building Code are incorporated throughout development design and implementation.

4.8.4 STANDARDS OF SIGNIFICANCE

Appendix G of the *CEQA Guidelines* indicates a Project will have a potentially significant geology and soils impact if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving: rupture of a known earthquake fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction or landslides;

- Result in substantial soil erosion or the loss of topsoil;

- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;

- Be located on expansive soil, as defined in Table 18-1-B of the California Building Code (2010), creating substantial risks to life or property; or

- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

4.8.5 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.8.5.1 Introduction

As substantiated previously within this Section and supported by analysis in the Initial Study, the Project's potential to: expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving rupture of a known

earthquake fault, strong seismic shaking, landslides, seismic-related ground failure, including liquefaction; result in substantial soil erosion or the loss of topsoil; or have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available, are determined to be less-than-significant. Please refer also to EIR Appendix A, Initial Study Checklist Item VI., "Geology and Soils."

The following discussions focus on those areas where it has been determined that the Project may result in potentially significant impacts. Topical areas addressed include:

- Potential location of the Project on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse; or

- Potential location of the Project on expansive soil, as defined in Table 18-1-B of the California Building Code (2010), thereby creating substantial risks to life or property.

4.8.5.2 Impact Statements

Potential Impact: *Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? Would the Project be located on expansive soil, as defined in Table 18-1-B of the California Building Code (2010)*[1]*, thereby creating substantial risks to life or property?*

[1] The 2013 *CEQA Guidelines* Appendix G maintains a reference to the 1994 UBC. Currently applicable expansive soils criteria are included in the 2010 CBC.

Impact Analysis: Summarizing the Project Geological Investigation:

- The site is not located in an Alquist-Priolo Earthquake Fault Zone.
- Near-surface soils were determined to have a very low expansion potential. However, deeper clay soils were determined to have an expansive nature.
- Improvements supported on the existing native soils would be subject to potential excessive collapse settlement.
- The potential for on-site liquefaction at the site is low.
- On-site soils underlying the proposed development are not subject to significant seismic settlement.

The Project Geotechnical Investigation presents recommendations and performance standards to address any potential on-site geological hazards, and concludes that the Project site is acceptable for the development of the proposed Project, contingent on these recommendations and standards. To ensure the timely monitored implementation of such recommendations, they are incorporated in the EIR Mitigation Monitoring Program as presented below.

Level of Significance: Potentially Significant.

Mitigation Measure:

4.8.1 *Design and development of the Project shall comply with recommendations and performance standards identified within the Final Geotechnical Investigation. Where the Project Geotechnical Investigation is silent, requirements of the California Building Code as adopted and implemented by the City shall prevail.*

Level of Significance After Mitigation: Less-Than-Significant. Through established Site Plan, Building Permit, and Certificate of Occupancy requirements, the City will verify that required design and construction measures are incorporated throughout Project development and are functionally implemented in the completed structures and facilities. Accordingly, it is anticipated that any site-specific geologic constraints which may be encountered during the course of Project implementation can be mitigated to a less-than-significant level within the context of the findings and recommendations of the Project Geotechnical Investigation, and existing City/CBC seismic design regulations, standards, and policies.

4.9 BIOLOGICAL RESOURCES

4.9 BIOLOGICAL RESOURCES

Abstract

This Section identifies and addresses potential impacts to biological resources resulting from the Project. More specifically, the analysis presented here examines whether the Project would:

- *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 (CDFW, formerly California Department of Fish and Game) or U.S. Fish and Wildlife Service (USFWS);*

- *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;*

- *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means; or*

- *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites.*

Other potential CEQA biological resources considerations at the subject site and/or affecting the Project have been determined to be less-than-significant as discussed within the EIR Initial Study (EIR Appendix A, Checklist Item IV., "Biological Resources").

As supported by the analysis presented in this Section, with application of proposed mitigation measures, the Project's potential impacts to biological resources would be less-than-significant.

4.9.1 INTRODUCTION

Following are discussions of existing biological resources characteristics of the Project area, with focused consideration on species of special interest known to occur, or that could potentially occur on the Project site. Potential impacts to biological resources are identified, and mitigation of potentially significant impacts is proposed.

Information presented in this Section is summarized and excerpted from: *Gentian Walmart Project Site Biological Surveys* (Harmsworth Associates) August 13, 2014. This report is included in its entirety at EIR Appendix I.

4.9.2 METHODOLOGY

The habitat assessment and survey consisted of a general walk-around to all portions of the site, documenting site vegetation; habitats and evidence of wildlife presence. The survey methods consisted of scanning all open areas and suitable habitat with binoculars prior to walking through that area. Walking surveys through all suitable habitat areas were then conducted. Walking transects were spaced to ensure 100% visual coverage of the ground surface. The exact distance between biologists/transect lines varied depending on topography and vegetation but was generally no more than 75 feet. All open areas, banks, rodent burrows and any other area likely to support owl burrows were checked.

Focused burrowing owl surveys were conducted following the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) burrowing owl survey instructions and the Fish and Game methods (County of Riverside 2006 and CDFG 2012). All areas of potential burrowing owl habitat onsite (including areas of taller

grasses and weeds), and within 150 feet of the site boundaries, were surveyed a total of four times.

Surveys were conducted during the morning hours (from 1 hour before sunrise to 2 hours after sunrise). All surveys were conducted during good weather conditions (not too hot and no or only light winds).

4.9.3 SETTING

The following discussions provide the existing biologic setting for the Project site.

Vegetation Communities

The Project site is a vacant lot, which has been regularly disked and impacted by trails and foot traffic. The entire site consisted of one vegetation cover type, non-native grassland. This vegetation type describes areas dominated by non-native European annual grasses, with a large component of ruderal forbs. It is mapped as California annual grassland series. On the Project site, the non-native grassland is associated with areas of historic grazing, disking and off-road recreational vehicle use. Soils are generally deep, well-drained sand to fine sandy loam. Most areas of the Project site are sparsely vegetated with non-native grasses and weeds or completely devoid of vegetation due to recent disking, especially around the edges and adjacent dirt roads. Dominant species included cheatgrass (*Bromus tectorum*), soft chess (*Bromus hordeaceus*), barley (*Hordeum murinum*) and summer mustard (*Hirschfeldia incana*).

A complete list of plant species found on the Project site is provided in Table 4.9-1.

Table 4.9-1
Plant Species Detected at Project Site

Scientific Name	Common Name
ANGIOSPERMAE	FLOWERING PLANTS
AMARANTHACEAE	AMARANTH FAMILY
*Amaranthus albus**	Tumbling Pigweed
ASTERACEAE	SUNFLOWER FAMILY
Heterotheca grandiflora	Telegraph Weed

Table 4.9-1
Plant Species Detected at Project Site

Scientific Name	Common Name
*Lactuca serriola**	Prickly or Wild Lettuce
BORAGINACEAE	BORAGE FAMILY
Amsinckia intermedia (= A. menziesii var. e)	Common Fiddleneck
Cryptantha intermedia	Common Cat's-Eyes
BRASSICACEAE	MUSTARD FAMILY
Hirschfeldia incana	Shortpod or Summer Mustard
CHENOPODIACEAE	GOOSEFOOT FAMILY
Chenopodium album (= C. missouriense)*	Lamb's Quarter
*Salsola tragus**	Russian Thistle
EUPHORBIACEAE	SPURGE FAMILY
Croton setiger (= Eremocarpus setigerus)	Doveweed, Turkey Mullein
Euphorbia albomarginata (= Chamaesyce a.)	Rattlesnake Spurge
GERANIACEAE	GERANIUM FAMILY
*Erodium cicutarium**	Red-Stemmed Filaree
MALVACEAE	MALLOW FAMILY
*Malva parviflora**	Cheeseweed
POACEAE	GRASS FAMILY
*Avena fatua**	Wild Oat
*Bromus hordeaceus**	Soft Chess
*Bromus madritensis ssp. rubens**	Foxtail Chess or Red Brome
*Hordeum murinum ssp. leporinum**	Hare Barley or Foxtail Barley

Source: *Gentian Walmart Project Site Biological Surveys* (Harmsworth Associates) August 13, 2014.

Notes: * = non-native species; + = sensitive species

Wildlife

Wildlife was sparse due to the lack of native habitats and surrounding urban development. Species detected were typical of those found in disturbed and built-up areas and included mourning dove (*Zenaida macroura*), house finch (*Carpodacus mexicanus*) and California ground squirrel (*Spermophilus beecheyi*).

A complete list of wildlife species found on the Project site is provided in Table 4.9-2.

Table 4.9-2
Wildlife Species Detected at the Project Site

Family/Species Name	Common Name
AVES	BIRDS
ACCIPITRIDAE	HAWKS, OLD WORLD VULTURES & HARRIERS
Buteo jamaicensis	Red-tailed Hawk
FALCONIDAE	CARACARAS & FALCONS
Falco sparverius	American Kestrel
COLUMBIDAE	PIGEONS & DOVES
Columba livia	Rock Pigeon
Zenaida macroura	Mourning Dove
STRIGIDAE	TYPICAL OWLS
Athene cunicularia+	Burrowing Owl
TYRANNIDAE	TYRANT FLYCATCHERS
Sayornis saya	Say's Phoebe
Tyrannus vociferans	Cassin's Kingbird
Tyrannus verticalis	Western Kingbird
CORVIDAE	JAYS, MAGPIES & CROWS
Corvus brachyrhynchos	American Crow
Corvus corax	Common Raven
ALAUDIDAE	LARKS
Eremophila alpestris actia+	California Horned Lark
HIRUNDINIDAE	SWALLOWS
Stelgidopteryx serripennis	Northern Rough-Winged Swallow
Petrochelidon pyrrhonota	Cliff Swallow
STURNIDAE	STARLINGS & ALLIES
Sturnus vulgaris	European Starling
ICTERIDAE	BLACKBIRDS, ORIOLES & ALLIES
Sturnella neglecta	Western Meadowlark
FRINGILLIDAE	FRINGILLINE FINCHES
Carpodacus mexicanus	House Finch
LEPORIDAE	RABBITS & HARES
Sylvilagus audubonii	Desert Cottontail
SCIURIDAE	SQUIRRELS, CHIPMUNKS & MARMOTS
Spermophilus beecheyi	California Ground Squirrel

Source: *Gentian Walmart Project Site Biological Surveys* (Harmsworth Associates) August 13, 2014.

Notes: * = non-native species; + = sensitive species

Special Status Species

A few special status plant and wildlife species have been documented in the region but these records either pre-date the development of the City (pre-1950), or are from currently undeveloped areas in the region. None of the records are from the Project site.

No special status plant species[1] were detected at the site and there are no historic site records for any special status plant species. Focused surveys for rare plants are not required at this site under the MSHCP.

Two special status wildlife species[2], California horned lark (*Eremophila alpestris actia*) and burrowing owl (*Athene cunicularia*), were observed onsite.

A small flock of larks occurred in the non-native grassland at the site, but nesting was not confirmed. Horned larks are common in disturbed grassland areas.

Burrowing owls occur in shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), prairies, coastal dunes, desert floors, and some artificial, open areas as a yearlong resident. They require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows. As a critical habitat feature, they require the use of rodent or other burrows for roosting and nesting cover. They can also use pipes, culverts, and nest boxes.

A single burrowing owl was detected during the winter site visit, and suitable burrows were present onsite. However, burrowing owls were absent during the focused surveys conducted in spring. Breeding owls are presumed absent from the site.

[1] Special status plant species = federal or state listed threatened or endangered species, or proposed endangered, threatened, or candidate species, California Native Plant Society Species List (CNPS list 1-4), or otherwise sensitive species.

[2] Special status wildlife species = federal or state listed threatened or endangered species, or proposed endangered, threatened, or candidate species, or otherwise sensitive species.

Jurisdictional Waters/Wetlands

No drainages, wetlands, vernal pools or any areas potentially subject to the jurisdiction to the US Army Corps of Engineers 404 program or the California Department of Fish and Wildlife 1600 program occurred onsite.

4.9.4 EXISTING POLICIES AND REGULATIONS

4.9.4.1 Federal Endangered Species Act/California Endangered Species Act

The United States Congress passed the federal Endangered Species Act (ESA) in 1973 to protect those species that are endangered or threatened with extinction. The State of California enacted a similar law, the California Endangered Species Act (CESA) in 1984. The State and federal Endangered Species Acts are intended to operate in conjunction with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend. The USFWS is responsible for implementation of ESA, while the CDFW implements CESA. During Project review, each agency is given the opportunity to comment on the potential of the Project to affect listed plants and animals.

4.9.4.2 U.S. Army Corps of Engineers-Waters of the United States/Wetlands

The U.S. Army Corps of Engineers (ACOE, Corps) and the Regional Water Quality Control Board (RWQCB) regulate discharge of dredged or fill material into Waters of the United States under Section 404 and 401 of the Federal Clean Water Act (CWA), respectively. "Discharges of fill material" is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)]. Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows.

In 2006, the United States Supreme Court[3] found that wetlands were "waters of the United States" if they significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as navigable. Until this time, the Corps had typically regulated as waters of the United States, any body of water (navigable and non-navigable) displaying an ordinary high water mark (OHWM), defined as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area."

In June 2007, the ACOE issued guidelines responding to the Supreme Court's 2006 findings. This guidance states that the Corps will continue to assert jurisdiction over traditional navigable waters, wetlands adjacent to traditional navigable waters, relatively permanent non-navigable tributaries that have a continuous flow at least seasonally (typically three months), and wetlands that abut relatively permanent tributaries. The guidelines also state that ACOE will determine jurisdiction over non-navigable tributaries that are not relatively permanent and wetlands adjacent to non-navigable tributaries that are not relatively permanent only after making a significant nexus of water quality in traditional waters finding.

Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 C.F.R. §328.3(b)]. In order to be considered a jurisdictional wetland under Section 404, an area must possess three wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology. Each characteristic has a specific set of mandatory wetland criteria that must be satisfied in order for that particular wetland characteristic to be met.

[3] Consolidated cases *Rapanos v. United States* and *Carabell v. United States* (126 S. Ct. 2208), collectively referred to as "Rapanos."

4.9.4.3 CDFW Streambeds and Riparian Habitat

The California Department of Fish and Wildlife (CDFW, formerly California Department of Fish and Game) has jurisdiction under Section 1600 *et seq.* of the California Fish and Game Code over fish and wildlife resources of the state. Under Section 1602, a private party must notify the CDFW if a proposed project will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, except when the department has been notified pursuant to Section 1601." If an existing fish or wildlife resource may be substantially adversely affected by the activity, the CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the party, they may enter into an agreement with the CDFW identifying the approved activities and associated mitigation measures.

Additionally, CDFW, under Section 1600 of the California Fish and Game Code, regulates alterations to streambeds including adjacent riparian habitat areas. Typically, CDFW jurisdictional streambeds and riparian habitat are inclusive of Water of the United States and associated wetlands areas.

4.9.4.4 Regional Water Quality Control Board

For purposes of water quality certification pursuant to Section 401 of the Federal Clean Water Act, the Regional Water Quality Control Board (RWQCB) regulates all activities that are regulated by the Corps. The RWQCB also regulates "Waters of the State" pursuant to California's Porter-Cologne Water Quality Control Act. "Waters of the State" are defined by the Porter-Cologne Act as any surface or subsurface water or groundwater, including saline waters, within the boundaries of the State.

The RWQCB, under authority granted by the Porter-Cologne Water Quality Control Act, may choose to regulate discharges of dredge or fill materials by issuing or waiving (with or without conditions) Waste Discharge Requirements (WDRs), a type of state discharge permit, instead of taking a water quality certification action. Processing a WDR is similar to that of a Section 401 certification; however, the RWQCB has slightly

more discretion to add conditions to a project under the state's Porter-Cologne Act than under the Federal Clean Water Act. Recently the RWQCBs have used the WDR process to regulate discharge of dredge or fill to isolated waters that are not subject to Corps jurisdiction.

4.9.4.5 Western Riverside County Multiple Species Habitat Conservation Plan

The Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) is a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP), focusing on conservation of species and their associated habitat in western Riverside County. The goal of the MSHCP is to maintain biological and ecological diversity within a rapidly urbanizing region. The MSHCP is administered by the Riverside County Regional Conservation Authority (RCA).

The MSHCP allows participating jurisdictions within the plan area to incorporate projects onto the incidental "take" permit for all species covered by the MSHCP, including State and federally listed species as well as other identified sensitive species and/or their habitat. Each city or local agency imposes a Development Mitigation Fee for projects within their jurisdiction.

Payment of the mitigation fee and compliance with the requirements of the MSHCP are intended to provide full mitigation under CEQA, although certain areas within the MSHCP boundaries require additional surveys to determine the presence or absence of specific MSHCP-covered resources, including sensitive plants, burrowing owls, and riparian or riverine areas. Depending upon the outcome of the survey(s), the area could be considered occupied suitable habitat and, if it is unfeasible to conserve at least 90 percent of this area, then the applicant must submit an analysis supporting a Determination of Biologically Equivalent or Superior Preservation (DBESP). The DBESP discussion details the reasons that avoidance is not possible, quantifies unavoidable impacts, proposes project design features and mitigation measures that reduce indirect effects, and demonstrates that the project would be biologically equivalent or superior to avoidance.

4.9.4.6 Other Statutes, Codes, and Policies

In addition to formal listing under ESA and CESA, plant and wildlife species receive additional consideration during the CEQA process as discussed below.

Species of Special Concern

Species that may be considered for focused review are included on CDFW's list of "Species of Special Concern." Species of Special Concern are generally defined as those California species whose numbers, reproductive success, or habitat may be threatened.

CNPS-Listed Plants

The California Native Plant Society (CNPS) maintains a list of plant species native to California with nominal populations, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review.

Raptors and Migratory Birds

Raptors (birds of prey), migratory birds, and other avian species are protected by state and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior. Section 3503.5 of the California Fish and Game Code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes 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."

4.9.5 STANDARDS OF SIGNIFICANCE

CEQA has identified the following significance thresholds relative to biological resources. If the Project would result in any one of the following, its impacts to biological resources would be considered significant.

- 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 (CDFW, formerly CDFG) or United States Fish and Wildlife Service (USFWS);

- Have a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or California plans, policies or regulations or by the CDFW or USFWS;

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

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

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

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

4.9.5.1 Introduction

The following discussions focus on those areas where it has been determined that the Project may result in potentially significant biological resources impacts, based on the analysis presented within this Section and included within the EIR Initial Study (EIR Appendix A), and responses received pursuant to the EIR Notice of Preparation.

On this basis, the potential for the Project to conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan or with local policies or ordinances protecting biological resources is determined to be less-than-significant.

All other CEQA topics concerning the Project's potential impacts to biological resources are discussed below. Please refer also to EIR Appendix A, Initial Study Checklist Item IV., "Biological Resources."

4.9.5.2 Impact Statements

Potential Impact: *Would the Project substantially affect, either directly or through habitat modifications, 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 (CDFW) or United States Fish and Wildlife Service (USFWS)?*

Impact Analysis: As previously discussed, no special status plant species were found onsite during the biological survey. Thus, no significant impacts relative to special status plant species are anticipated as a result of site development.

Two special status wildlife species, California horned lark (*Eremophila alpestris actia*) and burrowing owl (*Athene cunicularia*), were observed onsite. A small flock of larks occurred in the non-native grassland at the site, but nesting was not confirmed. A single burrowing owl was detected during the winter site visit and suitable burrows were present onsite. However, burrowing owls were absent during the focused surveys conducted in spring. Potential impacts to these species are considered potentially significant.

Level of Significance Before Mitigation: Potentially Significant.

Mitigation Measures:

4.9.1 *Within 30 days prior to disturbance at the Project site, a pre-construction survey shall be conducted for burrowing owl (Athene cunicularia), and if owls are present, they can be relocated following accepted protocols to comply with the MSHCP. The findings of the survey shall be submitted to the California Department of Fish and Wildlife.*

4.9.2 *To avoid impacts to nesting birds and to comply with the federal Migratory Bird Treaty Act of 1918 (MBTA):*

- *If possible, all vegetation removal activities shall be scheduled from August 1 to February 15, which is outside the nesting season. This would ensure that no active nests would be disturbed and that removal could proceed rapidly.*

- *If vegetation is to be cleared during the nesting season (February 15 – July 31), all suitable habitat shall be thoroughly surveyed for the presence of nesting birds by a qualified biologist 72 hours prior to clearing. If any active nests are detected, the area shall be flagged and mapped on the construction plans along with a minimum 50-foot buffer and up to 300 feet for raptors, with the final buffer distance to be determined by the qualified biologist. The buffer area shall be avoided until the nesting cycle is complete or it is determined that the nest has failed. In addition, the biologist will be present on the site to monitor the vegetation removal to ensure that any nests, which were not detected during the initial survey, are not disturbed.*

Level of Significance after Mitigation: With application of mitigation, the potential for the Project to substantially affect, either directly or through habitat modifications, any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS is considered less-than-significant.

Potential Impact: *Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

Impact Analysis: No riparian habitat or other sensitive communities exist within the Project site. Nor does the Project propose uses or activities that would substantially or adversely affect any off-site riparian areas. On this basis, the Project's potential to substantially or adversely affect any riparian habitat or other sensitive natural community is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact: *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?*

Impact Analysis: No wetlands exist within the Project site. Nor does the Project propose uses or activities that would substantially and adversely affect any off-site wetlands areas. On this basis, the Project's potential to substantially and adversely affect federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruptions or other means, is determined to be less-than-significant.

Level of Significance: Less-Than-Significant.

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

Impact Analysis: Wildlife corridors are areas which animals can use to move from one patch of suitable habitat to another. These areas would be expected to have the least habitat fragmentation relative to surrounding areas. A wildlife corridor establishes

connectivity for animals to move, live, reproduce and respond to functional ecological processes during the course of a year to several years.

Wildlife crossings are generally small, narrow wildlife corridors that allow wildlife to pass through an obstacle or barrier such as a roadway to reach another patch of habitat. Wildlife crossings are manmade and include culverts, drainage pipes, underpasses, tunnels, and, more recently, crossings created specifically for wildlife movement over or under highways.

Both wildlife crossings and wildlife corridors function to prevent habitat fragmentation that would result in the loss of species that require large contiguous expanses of unbroken habitat and/or that occur in low densities.

Linkages are areas that provide for long term movement or interaction of wildlife to maintain natural evolutionary and ecological patterns. Linkages are fundamental for gene flow and large scale ecological processes. These areas are usually defined by the zones of "least resistance" for the genes of a given species to move or "flow" between core reserve populations.

During preparation of the MSHCP, wildlife corridors and habitat linkages throughout western Riverside County were analyzed extensively. No MSHCP wildlife habitat linkages or movement corridors were identified at the Project site. Nor does the Project propose facilities or activities that would substantively and adversely affect any offsite designated wildlife habitat linkage or movement corridor. Based on the preceding discussion, impacts to wildlife corridors, habitat linkages, or wildlife nursery sites that would occur as a result of the proposed Project are determined to be less-than-significant.

Level of Significance: Less-Than-Significant.

4.10 CULTURAL RESOURCES

4.10 CULTURAL RESOURCES

Abstract

This Section examines the potential for implementation of the South Moreno Valley Walmart Project to impact cultural and historic resources in the Project area. Of primary concern are the protection of historic cultural resources, and conservation of known or currently unknown (buried or undiscovered) archaeological and paleontological resources that may be present in locations proposed for future development. Specifically, this analysis seeks to determine whether the Project would result in any of the following:

- *Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5;*
- *Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5; or*
- *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.*

Information contained within this section is based upon A Phase I Cultural Resources Survey for the Proposed Walmart Supercenter on Approximately 22.28 Acres of Land in the City of Moreno Valley, Riverside County, California *(McKenna et al.) June 10, 2014 (Project Cultural Resources Investigation).*

In order to protect the location of sensitive cultural resources that may be identified as part of the Project Cultural Resources Investigation, a copy of the report has not been included in this EIR. Copies are available, upon request, at the City of Moreno Valley Planning Department. As

supported by the analysis presented in this Section, as mitigated, the Project's potential to impact cultural resources is determined to be less-than-significant.

4.10.1 INTRODUCTION

Cultural resources can be of scientific, aesthetic, educational, archaeological, architectural, or historical significance to the community. The following discussion identifies and classifies the significance of prehistoric and/or historic cultural resources which may exist on the subject site, and assesses the Project's potential to impact such resources.

4.10.2 SETTING

4.10.2.1 Regional[1]

The Project area is directly associated with the Moreno Valley and just northwest of the historic Rancho San Jacinto Nuevo y Potrero. The Moreno Valley is a northwestern extension of both the San Jacinto Valley and Perris Valley, and is associated with geology of the larger Perris Plain and extending west from the San Jacinto Mountains. The Moreno Valley (and San Jacinto Valley and Perris Plains) are described as:

> "... a broad, nearly flat surface dotted with bedrock hills ... this plain has an average elevation of about 520 meters (1700 feet) ... The numerous bedrock hills that interrupt its surface have been described as residual knobs of resistant rock, which survived prolonged erosion (monadnocks). It has been suggested that a surface of low relief was developed on the crystalline bedrock, leaving behind the scattered monadnocks."

The Moreno Valley is equated with the geomorphologic Peninsula Ranges of Southern California with Cretaceous and pre-Cretaceous materials that include limestone, schist, and gneiss. Igneous rock includes the intrusive gabbros, quartz diorite, tonalite, and/or granodiorite. Post-Cretaceous rocks include crystallines, sandstones, siltstones, and

[1] *Geology of California*, Robert M. Norris and Robert W. Webb, 1990.

conglomerates. Quaternary deposits include volcanics and coastal marine terraces. Located south and west of the San Jacinto Mountains, this general area is known to contain banded gneiss and quartz diorite, including great fossil landslides. Hot springs, in this case associated with the San Jacinto and Elsinore Fault Zones, were known and utilized by prehistoric and historic populations.

4.10.2.2 Project Site

The Project site is currently vacant, and exhibits evidence of disking and weed abatement. At the time of the site visit (May 2014), the surface was between 60 percent and 80 percent visible for inspection. The site is relatively flat, and does not contain evidence of exposed bedrock (no outcroppings or evidence of buried and broken bedrock). Furrows from the disking were evident, although the entire property had not been recently mowed. Vegetation consists of short, dry grasses and weeds. Historic agriculture and grazing activities have obliterated much of the native vegetation in this area. Onsite, the native floral and faunal environments have been eradicated and are no longer identifiable. Refuse in the form of modern debris (paper, plastic, pipe segments, etc.) were located onsite, mainly along the southern and eastern boundaries. The surrounding area has been developed over the past approximately 20 years with residential and commercial developments.

4.10.3 HISTORIC BACKGROUND

The Sonoran Desert is known to have been occupied during both the prehistoric and historic periods. As such, the resources were exploited and, in some cases, the terrain was altered or impacted by the human occupations. The current Project area is located within an area of Riverside County that borders the traditional and ethnographic boundaries of the Luiseño Native American populations. The Luiseño are more directly associated with coastal and inland areas of present-day Orange and southern Riverside counties and their inland cultural characteristics being similar to those of the Cahuilla, a population generally associated with areas northeast of the San Jacinto Mountains.

The Luiseño are described as hunters and gatherers who also lived in semi-sedentary villages, practiced a complex form of territoriality and exploitation, and are known throughout Southern California for their rock art. Exchange between the Luiseno and Cahuilla has been documented. In context, the Project area is considered a Luiseño area, though evidence of a Cahuilla presence may be identified.

Moreno Valley can be tentatively associated with numerous Native American villages and/or settlements. The Luiseño relied on intermittent drainages and springs for fresh water sources and villages were established near the natural springs. Smaller encampments were founded in other areas. Trails, temporary small camp sites, and other limited use areas have been recorded throughout the Valley and attest to the wide-spread use of the Valley by prehistoric man.

The Luiseño practiced a relatively complex social organization based on lineages and clans. Individual clans occupied village sites and exploited individualized territories. Interactions provided exchange in the forms of trade, marriage alliances, and social/ceremonial contact. Marriage occurred between moieties, thereby avoiding marriages between blood relatives. Clan associations were more directly related to the exploitation of resources, trade, and social interaction. Analysis of ethnographic data and archaeological data has resulted in the development of various chronologies for the Sonoran Desert, as follows.

Table 4.10-1
Chronology of the Sonoran Desert (1)

Time Period	Known as	Characteristics
10,000 to 6,000 B.C.	The Lake Mojave/San Dieguito Complex and/or Western Lithic Co-Tradition	Characterized by the presence of projectile points, large knives, chopping tools, scraper planes, and scrapers. Items associated with vegetal food processing and hunting and the presence of coniferous woodland and pluvial lakes.
6,000 B.C.-A.D. 500	Archaic or Pinto Armagosa periods	Characterized by diagnostic projectile points, leaf shaped blades, choppers, and scraper planes. Some sites exhibit a small assemblage of milling stones. A shift in climate and vegetation led to a shift in exploitation with an emphasis on vegetal resources.

Table 4.10-1

Chronology of the Sonoran Desert (1)

Time Period	Known as	Characteristics
A.D. 500 to Historic	unnamed	Characterized by the presence of the bow and arrow (as opposed to darts), ceramics, and cremations. Milling tools increase, including mortars and pestles. There is evidence of limited agriculture and the appearance of Shoshonean-speakers displacing local Hokan-speaking populations

Source: A *Phase I Cultural Resources Survey for the Proposed Walmart Supercenter on Approximately 22.28 Acres of Land in the City of Moreno Valley, Riverside County, California* (McKenna et al.) June 10, 2014.

More recent archaeological investigations in portions of the San Jacinto Valley areas suggest Native Americans can be identified in the area as early as 8,000 to 9,000 B.P. Such studies have resulted in the development of a revised general chronological sequence for these inland areas of Southern California, as follows:

Table 4.10-2

Chronology of the Sonoran Desert (2)

Time Period	Known as
11,000-8,000 B.P.	Pleistocene/Early Holocene (Early Man) Period
8,000-5,500 B.P.	San Dieguito Period
5,500-1,500 B.P.	Millingstone/La Jolla-Pauma/Archaic/Encinitas Period
1,500-300 B.P.	Late Prehistoric/Luiseño Period

Source: A *Phase I Cultural Resources Survey for the Proposed Walmart Supercenter on Approximately 22.28 Acres of Land in the City of Moreno Valley, Riverside County, California* (McKenna et al.) June 10, 2014.

The "historic" Period of California history begins in 1769 and the initiation of the Mission system in San Diego and the subsequent establishment of Missions throughout Alta California. Missionization was followed by many years of sporadic settlement by Spanish populations traveling from Mexico and into Alta California. Spanish explorers, such as Pedro Fages and Juan Bautista de Anza, traveled through the San Jacinto Plains as early as 1772-1774. However, no European settlement occurred in the vicinity until after 1800.

The first European-American settlers in western Riverside County arrived in the late 1860s and were generally concentrated in the area of San Jacinto, the oldest non-Native community in the general area. A land boom swept through much of Southern California in the 1880s and other settlements (e.g. Perris, Hemet, and Valle Vista) appeared. With respect to the Moreno Valley:

> "MORENO. When this town was first platted in 1890, the Bear Valley and Alessandro Development Co., owners of the land, announced that it would be named New Haven [RP&H Oct. 11, 1890], but on November 1, 1890, The Citrograph carried a small item that stated simply, "The new town at this end of Alessandro Valley has had its name changed from New Haven to Moreno (Spanish for Brown)" ... there was no one living there at that time, the land still being prepared ...
>
> "Moreno post office was established on February 19, 1891 ... Moreno was called "the new town on the Alessandro tract at the upper end of the Perris Valley" ... The surrounding farmland became known as MORENO VALLEY."[2]

The settlement within the Moreno Valley was sporadic and the City of Moreno Valley was not incorporated until 1984. Research through the Bureau of Land Management General Land Office records showed that this area of Riverside County was purchased in 1870. The land was later transferred to the Bear Valley and Alessandro Development Company. Alessandro was a reference to the "rich and fertile portion of the San Jacinto Valley", also purchased by the Bear Valley and Alessandro Development Company. When established, the area associated with the Bear Valley and Alessandro Development Company was part of San Bernardino County. With the division of San Bernardino County and the establishment of Riverside County in 1893, this area became part of Riverside County. The Project site is located within the southeastern quarter of Township 3 South, Range 3 West, Section 19. Research at the Riverside County Archives identified the following historical owners of the area:

[2] *Riverside County, California, Place Names: Their Origins and Their Names* (Jane Davies Gunther) 1984.

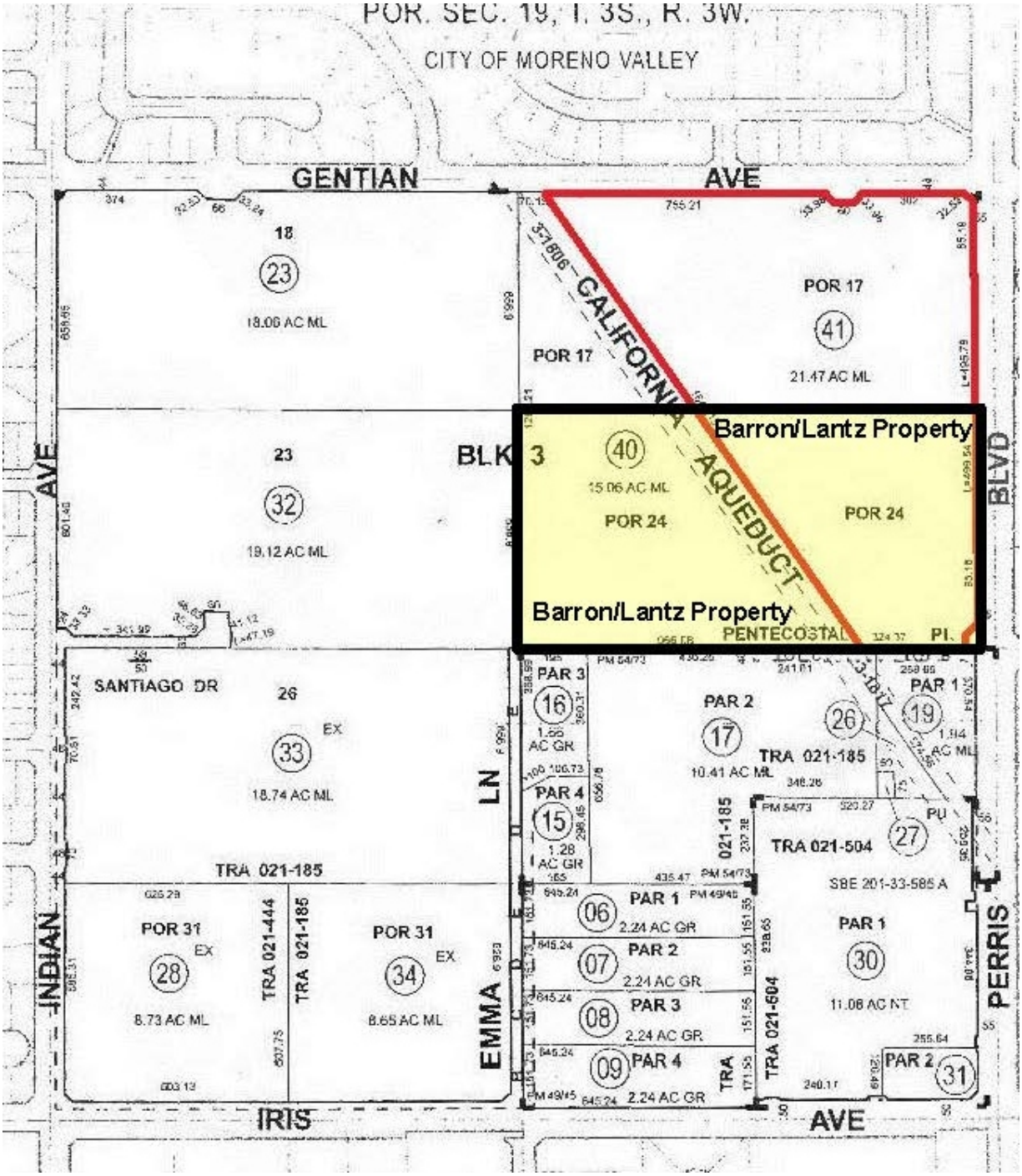
Table 4.10-3
Historical Property Ownership of the Project Site and Vicinity

1892-1896	Camillo Martin (Barn built in 1894; $50; land under grain)
1897-1913	Frances Martin (Barn = $50; land still under grain)
1914-1920	D.J. Wilson (Block 3, Lots 17 and 24; 20+/- acres each)
1920-1932	J.L. Beebe (Lot 17; no improvements; under grain)
1932-1947	Lindwill Trustees (Lot 17; no improvements; under grain)
1948-1970	W. & M. Lantz (Lot 17; no improvements; under grain)
1920-1945	Anna Simon (Lot 24; no improvements; under grain)
1946-1949	H. & E. Barron (Lot 24; $250 improvement; under grain)
1950-1970	W. & M. Lantz (Lot 24; $400 improvement; under grain)

Source: *A Phase I Cultural Resources Survey for the Proposed Walmart Supercenter on Approximately 22.28 Acres of Land in the City of Moreno Valley, Riverside County, California* (McKenna et al.) June 10, 2014.

The entire southeastern quarter of Section 19 was owned by Camillo (and Frances) Martin since some time prior to 1892 and the area was under grain. In 1894, the Martins built a simple barn on their property (somewhere within the 160 acres). In 1911, this area was referred to as the "Riverside Alfalfa Acres", owned by D.J. Wilson and Frances A. Martin. When the property was subdivided in 1912, Lots 17 and 24 were identified, but no reference to the barn is listed, indicating this structure was not within the northeastern quarter of the southeastern quarter (40 +/- acres). As shown at Figure 4.10-1, the Project site is located within portions of historical Lots 17 and 24.

Lots 17 and 24 were both sold to D.J. Wilson, who subsequently sold them in 1920 as separate holdings – Lot 17 (northern lot) to J.L. Beebe and Lot 24 (southern lot) to Anna Simon, respectively. Each continued to plant grain. Between 1932 and 1949, the properties remained separately owned. However, in 1950, W. and M. Lantz (owners of Lot 17 since 1948) purchased Lot 24, resulting in an overall holding of the northeastern quarter of the southeastern quarter of Section 19. Lot 24 has been associated with a 1949 improvement valued at $200 to $400 attributed to the Barrons. This improvement could be located in any portion of the approximately 20 acres of Lot 24.



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NOT TO SCALE

Source: McKENNA et al.

Figure 4.10-1
Historical Ownership of the Project Site

applied planning inc

Sometime after 1970, the California Aqueduct system was developed in Riverside County, resulting in an easement through Lots 17 and 24 and running southeast to northwest). Following lot line adjustments and numerical assignments, the portions of Lots 17 and 24 that make up the current Project site became known as Parcel 41, as shown at Figure 4.10-1. When defined, Parcel 41 consisted of 21.47 acres. The current Project site (22.28 acres) includes Parcel 41 and the current Santiago Drive right-of-way.

4.10.4 EXISTING POLICIES AND REGULATIONS

4.10.4.1 Federal

National Historic Preservation Act

The National Historic Preservation Act (NHPA) requires federal agencies to consider the effects of their undertakings on historic properties. Historic properties are cultural resources (e.g., archeological sites, historic built environment features, or Native American sites) that are listed, or determined to be eligible for listing, on the National Register of Historic Places. The implementing regulations of this mandate, found in the Code of Federal Regulations (36 CFR §800), outline an involved consultative process known as the Section 106 process.

American Indian Religious Freedom Act

The American Indian Religious Freedom Act, passed in 1978, serves to protect and preserve the traditional religious rights of American Indians, Eskimos, Aleuts, and Native Hawaiians. Before the Act was passed, certain federal laws interfered with the traditional religious practices of many American Indians.

Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act establishes a federal policy of respect for, and protection of, Native American religious practices. It also has provisions for allowing limited access to Native American religious sites. The Act provides for the repatriation of certain items from the federal government and certain

museums to the native groups to which they once belonged. The Act defines "cultural items," "sacred objects," and "objects of cultural patrimony," and establishes a means for determining ownership of these items. However, the provisions for repatriation only apply to items found on federal lands.

Executive Order 13007 and Executive Order 13084

Executive Order 13007 requires federal agencies with land management responsibilities to allow access to and use of Indian sacred sites on public lands, and to avoid adversely affecting these sites. Executive Order 13084 reaffirms the government-to-government relationship between the federal government and recognized Indian tribes, and requires federal agencies to establish procedures for consultation with tribes. These executive orders only apply to projects that include federal undertakings.

4.10.4.2 State

CEQA and the California Register of Historical Resources

Historical resources are recognized as part of the environment under the California Environmental Quality Act (CEQA). The California Register of Historical Resources (California Register) is the authoritative guide for the State's historical resources, and properties included in the California Register are considered significant for the purposes of CEQA. The California Register includes resources listed, or formally determined eligible for listing, on the National Register of Historic Places, and some California State Landmarks and Points of Historical Interest. Properties of local importance designated under a local preservation ordinance (local landmarks or landmark districts), or that have been identified in a local historical resources inventory, may be eligible for listing in the California Register and are presumed to be significant resources for the purposes of CEQA unless a preponderance of evidence indicates otherwise (Public Resources Code [PRC] § 5024.1, 14 CCR § 4850).

An archaeological site may be considered a historical resource if it has significance in the architectural, engineering, scientific, economic, agricultural, educational, social,

political, military, or cultural annals of California (PRC § 5020.1(j)), or if it meets the criteria for listing on the California Register (14 CCR § 4850).

The *CEQA Guidelines* direct lead agencies to evaluate an archaeological site to determine if it meets the criteria for listing in the California Register. If it does, potential adverse impacts must be considered. If an archaeological site is not a historical resource, but meets the definition of a "unique archaeological resource" as defined in PRC §21583.2, then it should be treated in accordance with the provisions of that section.

Substantial adverse change includes demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired (PRC § 5020.1(q)). While demolition and destruction would constitute significant impacts, it is sometimes more difficult to assess when change, alteration, or relocation results in a substantial adverse change. The *CEQA Guidelines* provide that a project that alters those physical characteristics of a historical resource that convey its significance (i.e., its character-defining features), can be considered to materially impair the resource's significance.

California Native American Graves Protection and Repatriation Act

The California Health and Safety Code, Division 7, Part 2, Chapter 5 (Sections 8010-8030) contains broad provisions for the protection of Native American cultural resources. The California Native American Graves Protection and Repatriation Act establishes policy to ensure that California Native American human remains and cultural items are treated with respect and dignity. The Act also provides the mechanism for disclosure and return of these items held by publicly funded agencies and museums in California. Additionally, the Act outlines the mechanism by which California Native American tribes not recognized by the federal government may file claims for human remains and cultural items held in agencies or museums.

California Public Resources Code

The California Public Resources Code contains several sections applicable to the preservation of cultural resources and human remains. These sections detail procedures to be followed whenever Native American remains are found, and delineate the unauthorized disturbance or removal of archaeological, historical, paleontological resources, or human remains as an act punishable by law (Sections 5020, 5097.5, 5097.9-5097.996, 7050.5, 7051).

California Code of Regulations

Under Title 14, Division 3, Section 4308, no person shall remove, injure, disfigure, deface, or destroy any object of archeological or historical interest or value.

Senate Bill 18 and Tribal Consultation Guidelines

Senate Bill 18 (SB 18) requires local agencies to consult with California Native American tribes regarding the preservation of, or mitigation of impacts to, Native American places, features, or objects. SB 18 applies to all federally recognized and non-federally recognized tribes in California and extends to projects on both private and public lands. Lead agencies must follow a ten-step process to ensure consultation with affected tribes. Lead agencies must follow this process when making certain planning decisions, such as adopting or amending General Plans or Specific Plan-level projects. SB 18 does not apply to other discretionary level projects, such as tentative maps, land use permits, or other local discretionary projects.

4.10.5 STANDARDS OF SIGNIFICANCE

Consistent with the standards of significance outlined in the *CEQA Guidelines*, Project-related impacts to cultural resources would be considered potentially significant if they cause or result in any of the following:

- Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5;

- Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5;

- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or

- Disturb any human remains, including those interred outside of formal cemeteries.

For the purposes of CEQA, an "important archaeological, historical, or paleontological resource" is defined as follows.

A) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources.

B) A resource included in a local register of historical resources, or identified as significant in an historical resource survey, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

C) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources, including the following:

1) A resource is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

2) A resource is associated with the lives of persons important in our past.

3) A resource embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values, or has yielded, or may be likely to yield, information important in prehistory or history.

4.10.6 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.10.6.1 Introduction

Based on the analysis included within the Initial Study, the following analysis is focused only on areas where it has been determined that the Project may result in potentially significant impacts. In this regard, as substantiated in the Initial Study, the Project's potential to disturb any human remains, including those interred outside of formal cemeteries was previously determined to be less-than-significant. Please refer to EIR Appendix A, Initial Study Checklist Item V., "Cultural Resources." All other potential cultural resources impacts of the Project are discussed below.

4.10.6.2 Impact Statements

Potential Impact: *Cause a substantial adverse change in the significance of an archaeological or historic resource as defined in §15064.5.*

Impact Analysis: No evidence of historic or prehistoric archaeological resources was identified during the recent survey. Modern materials included evidence of earlier staking, suggesting plans for development that were not realized. The soils were sufficiently disturbed by years of agriculture harvesting (grains) and more recent disking and weed abatement to suggest that buried resources might have been brought to the surface, if present.

Level of Significance: Less-Than-Significant.

Mitigation Measures: Although the likelihood for prehistoric and/or historic cultural resources to exist onsite is considered low, Mitigation Measures 4.10.1 and 4.10.2 have been incorporated to fully ensure the protection of cultural resources that may be present in a buried context within the Project area.

4.10.1 *If any prehistoric/historic archaeological resources are encountered during the initial grading and over-excavation phases of construction, the developer will retain a qualified archaeologist to monitor construction activities, and to take appropriate measures to avoid, protect or preserve these resources for study.*

4.10.2 *If significant Native American cultural resources are discovered for which a Treatment Plan must be prepared, the developer or archaeologist shall contact all appropriate Native American tribal representatives, as identified by the Native American Heritage Commission. If requested by the Tribe(s), the City, the developer, or the Project archaeologist, the City shall, in good faith, consult on the discovery and its disposition (e.g., avoidance, preservation, return of artifacts to tribe, etc.). A report of findings shall also be prepared by a qualified archaeologist, and shall include an itemized inventory of any specimens recovered. The report and confirmation of curation of any recovered resources from an accredited museum repository shall signify completion of the program to mitigate impacts to archaeological/historic resources. If disturbed resources are required to be collected and preserved, the Applicant shall be required to participate financially up to the limits imposed by Public Resources Code Section 21083.2.*

Level of Significance After Mitigation: Less-Than-Significant.

Potential Impact: *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.*

Impact Analysis: As noted previously within this Section, the site is relatively flat with no unique geologic features. The Project site consists of both younger and older

Quaternary deposits. Excavations within the Project site may impact the older alluvial deposits, which have been identified as sensitive for the presence of fossils in a buried context. Therefore, there is a potential for the Project to yield fossil specimens similar to those identified on other properties in the Moreno/San Jacinto/Perris Valleys areas. Although the recent field survey failed to identify any surface evidence of fossil specimens, the following Mitigation Measure 4.10.3 would protect paleontological resources that might occur within the Project site.

Level of Significance: Potentially Significant.

Mitigation Measure:

4.10.3 *Any excavation exceeding five feet below the current grade shall be monitored by a qualified paleontologist. If older alluvial deposits are encountered at shallower depths, monitoring shall be initialed once these deposits are encountered. A qualified paleontologist is defined as an individual with an M.S. or a Ph.D. in paleontology or geology who is familiar with paleontological procedures and techniques. A paleontological monitor may be retained to perform the on-site monitoring in place of the qualified paleontologist. The paleontological monitoring program should follow the local protocols of the Western Center (Hemet) and/or the San Bernardino County Museum and a paleontological monitoring plan should be developed prior to the ground altering activities. The extent and duration of the monitoring can be determined once the grading plan is understood and approved. The paleontological monitor shall have the authority to halt any Project-related activities that may be adversely impacting potentially significant resources. If paleontological resources are uncovered or otherwise identified, they shall be recovered, analyzed in accordance with standard guidelines, and curated with the appropriate facility (e.g. the Western Center at the Diamond Valley Reservoir, Hemet).*

Level of Significance After Mitigation: Less-Than-Significant.

5.0 OTHER CEQA CONSIDERATIONS

5.0 OTHER CEQA CONSIDERATIONS

This Section of the EIR addresses other environmental considerations and topics mandated under the California Environmental Quality Act (CEQA). These topics include Cumulative Impacts, Alternatives to the Project, Growth Inducement, Significant Environmental Effects of the Project, Significant and Irreversible Environmental Changes, and Energy Conservation.

5.1 CUMULATIVE IMPACT ANALYSIS

The *CEQA Guidelines* require that an EIR identify any significant cumulative impacts associated with a project [*CEQA Guidelines*, Section 15130 (a)]. When potential cumulative impacts are not deemed significant, the document should explain the basis for that conclusion. Cumulative impacts are "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." [*CEQA Guidelines*, Section 15355]. Thus, a legally adequate cumulative impact analysis is an analysis of a particular project viewed over time and with other related past, present, and foreseeable probable future projects, whose impacts might compound or interrelate with those of the Project considered here.

CEQA notes that the discussion of cumulative impacts should be guided by standards of practicality and reasonableness [*CEQA Guidelines*, Section 15130 (b)]. Only those projects whose impacts might compound or interrelate with those of the Project under consideration require evaluation. CEQA does not require as much detail in the analysis of cumulative environmental impacts as must be provided for the Project alone.

The *CEQA Guidelines* identify two basic methods for satisfying the cumulative impacts analysis requirement: the list-of-projects methodology, and the summary-of-projections methodology. Because each environmental resource is affected by its surroundings in

different manners, either of the two methodologies, or a combination of both, may be applied to the analysis of cumulative impacts to each resource. For example, because the approval process and construction phase of development typically takes at least one to two years, the list-of-projects method is likely to provide a more accurate projection of growth in the near term. This method may overstate potential cumulative impacts because the considered list-of-projects may include proposals that would never be developed. Similarly, because development proposals are rarely publicly known until within five years of the expected development, the summary-of-projections method provides a more accurate projection of growth over the long term. This method may not accurately predict growth in any given year, but aggregates various growth trends over the long term.

For each topical discussion presented herein the cumulative geographic context is identified, which in turn relates to the amount and type of growth that is anticipated to occur within the geographic area under consideration. Where appropriate to the analysis in question, cumulative impacts are assessed with reference to a list of off-site "related projects," as described at *CEQA Guidelines* §15130(b). In this manner, the EIR appropriately characterizes and evaluates potential cumulative impacts.

Consistent with direction provided in the *CEQA Guidelines,* related projects considered in these cumulative analyses are "only those projects whose impacts might compound or interrelate with those of the Project under consideration require evaluation." In this regard, it is recognized that within the context of the cumulative impacts analysis, varied criteria are employed in determining the scope and type of "cumulative projects" considered. For example, the analysis of cumulative traffic impacts evaluates the Project's traffic impacts in the context of other known or probable "related" development proposals that would discernibly affect traffic conditions within the Traffic Impact Analysis Study Area. As another example, cumulative air quality impacts are considered in terms of the Project's contribution to other air emissions impacts affecting the encompassing Air Basin.

The manner in which each resource may be affected also dictates the geographic scope of the cumulative impacts analysis. For example, cumulative traffic impacts would typically be localized to the vicinity of a given project site because after a relatively short distance, traffic patterns tend to normalize; whereas cumulative air quality impacts are more

appropriately analyzed with a Basin-wide approach because the Basin's meteorological and geographic conditions generally define the extent of cumulative air quality considerations. Similar considerations are discussed in evaluating potential cumulative impacts for each of the EIR's environmental topics (Land Use and Planning, Urban Decay, Traffic and Circulation, Air Quality, Global Climate Change and Greenhouse Gas Emissions, Noise, Hydrology/Water Quality, Geology and Soils, Biological Resources, and Cultural Resources).

Unless otherwise noted herein, the cumulative impact analysis ultimately evaluates effects of the Project within the context of anticipated buildout of the City as envisioned under the General Plan and related regional plans. Specific cumulative projects have also been identified where this information may be different, more detailed than that provided within the General Plan or applicable regional plans, or where such specific information otherwise benefits the cumulative impact analyses.

5.1.1 DISCUSSION OF CUMULATIVE IMPACTS

Section 15130(a) of the *CEQA Guidelines* notes that "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in section 15065(a) (3). Where a lead agency is examining a project with an incremental effect that is not 'cumulatively considerable,' a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable." Potential cumulative impacts for each of the EIR's environmental topics are presented below and include:

- Land Use and Planning;
- Urban Decay;
- Traffic and Circulation;
- Air Quality;
- Global Climate Change and Greenhouse Gas Emissions;
- Noise;
- Hydrology/Water Quality;
- Geology and Soils;

- Biological Resources; and
- Cultural Resources.

For other topical areas of consideration, Project impacts have been previously determined to be less-than-significant. Further, under these topics, there are no known or anticipated projects or conditions whose impacts might compound or interrelate with those of the Project, and thereby result in potentially significant cumulative impacts. No further substantive analysis is provided under these topics. Please refer also to the EIR Section 1.5, *Impacts Not Found to be Potentially Significant*.

5.1.1.1 Cumulative Impacts Related to Land Use and Planning

The cumulative impact area when considering potential cumulative land use and planning issues includes areas that are currently, or are anticipated to be, subject to provisions of the City General Plan, Zoning Ordinance, and/or Special Planning Documents (e.g., Specific Plans). The cumulative impact area includes incorporated areas of Moreno Valley and surrounding areas lying within the City's Sphere of Influence.

General Plan Considerations

The Project site's current General Plan Land Use designation is "Commercial" (C). Commercial/retail uses proposed by the Project are allowed under the site's Commercial General Plan Land Use designation, and would total approximately 185,761 square feet on approximately 20.25 net acres, yielding a FAR of approximately 0.21; and would not exceed the Commercial Land Use maximum allowable FAR of 1.00. Please refer also to the discussion of General Plan Land Use consistency presented at EIR Section 4.1, *Land Use and Planning*.

Zoning Considerations

Current zoning of the Project site is "Community Commercial" (CC). Uses and development proposed by the Project conform to and support the Community Commercial Zone district's intent to provide for the general shopping needs of area residents and workers with a variety of business, retail, personal and related or similar services. Please

refer also to the discussion of Zoning consistency presented at EIR Section 4.1, *Land Use and Planning*.

Summary

The Project uses and operations would conform to all governing land use plans, regulations and development standards. The Project's contributions to potential cumulative land use impacts related to General Plan and Zoning consistency is not considerable, and the cumulative effects of the Project are determined to be less-than-significant.

5.1.1.2 Urban Decay

The Project Urban Decay Study (*Urban Decay Study for Moreno Valley Walmart* [The Natelson Dale Group, Inc.] October 28, 2013; Draft EIR Appendix B) evaluates potential economic effects of the Project that could lead to store closures, long-term vacancies, and physical deterioration, which could constitute urban decay. [1] Specifically, urban decay may occur when businesses are closed and cannot be re-tenanted, creating permanent or long-term vacancies. These vacancies, in turn, may cause property owners to neglect their maintenance and repair responsibilities, thereby creating the deterioration of building, improvements and facilities.

Within the Project Urban Decay Study, economic effects of the Project are evaluated in the context of similar existing commercial/retail development and known or probable related commercial/retail projects. In this manner, incremental and cumulative economic effects of the Project, and related potential for the Project to cause or result in urban decay are evaluated.

The cumulative impact area for urban decay considerations is defined by the Trade Area in which the Project could have competitive economic effects, and thereby result in potential

[1] Urban decay is a potential consequence of a downward spiral of store closures, long-term vacancies and physical deterioration (Bakersfield Citizens for Local Control v. City of Bakersfield (2004) 124 Cal. App 4th 1184, p 2).

closures of businesses, long-term building vacancies; and ultimately, urban decay. The Project Urban Decay Study Trade Area boundaries are defined as follows:

- *Easterly Boundary* – The easterly boundary is represented by the Lake Perris State Recreation Area/Moreno Beach Drive in the City of Moreno Valley, which is between 2.0 and 3.0 miles from the Project site.

- *Westerly Boundary* – The westerly boundary is represented by Trautwein Road/Wood Road, partially located in the City of Riverside and in unincorporated Riverside County. The Trade Area westerly boundary is approximately 5.8 miles from the Project site.

- *Southerly Boundary* – The southerly boundary is represented by Cajalco Road/Ramona Expressway, extending across portions of the City of Perris and unincorporated portions of Riverside County. The Trade Area southerly boundary is approximately 3.5 to 4.0 miles from the Project site.

- *Northerly Boundary* – The northerly boundary parallels the southerly boundary and is generally represented by Alessandro Boulevard between Frederick Street and Nason Street, the boundary extends northerly to Cottonwood Avenue in the City of Moreno Valley. The northerly Trade Area boundary traverses the cities of Moreno Valley and Riverside, along with an unincorporated portion of Riverside County. It is approximately 1.6 to 2.0 miles from the Project site.

Known or probable related commercial/retail projects within the Trade Area are listed at Table 5.1-1.

Table 5.1-1
Trade Area Related Projects

	Area (Square Feet)			
Project/Location	**Non-Grocery**	**Grocery**	**Total**	**Status**
Winco Foods/ Alessandro Blvd. at Lasselle St.	44,560	95,440	140,000	City Application: PA 08-0079-0081– Approved
O'Reilly Automotive/ SWC JFK Drive at Perris Blvd.	7,453	0	7,453	Approved
Rancho Belago Plaza/ SWC JFK Dr. at Moreno Beach Dr.	14,000	0	14,000	Approved
12-pump gas station NEC Graham St. / Alessandro Blvd.	N/A	N/A	N/A	City Application: PA 09-0031– Approved
TOTAL	**207,233**	**143,740**	**350,973**	N/A

Source: *Urban Decay Study for Moreno Valley Walmart* (The Natelson Dale Group, Inc.) October 28, 2013.

The Project Urban Decay Study evaluates potential cumulative impacts of the Project within competing non-grocery retail and grocery market categories. The Study's conclusions regarding potential cumulative urban decay impacts within these market categories are summarized below.

Cumulative Impacts – Non-Grocery Retail Space

Table 5.1-2 summarizes projected non-grocery retail space demands within the Trade Area for the period 2013 through 2028. As indicated, demand for new non-grocery retail space in the Trade Area is projected to reach approximately 739,691 square feet in 2018 and 1.02 million square feet by 2028. As also indicated, even assuming completion of the Project and all related projects in the Trade Area, there would be an estimated net residual demand of 532,458 square feet for new Non-Grocery Retail Space in 2018; increasing to an estimated 811,666 square feet in 2028. Based on this residual near-term and long range demand for non-grocery retail space, it is unlikely that the cumulative effects of the Project in combination with other related projects would cause or result in closures of existing businesses or related long-term vacancies and potential urban decay.

Table 5.1-2
Trade Area Cumulative Demand for new Non-Grocery Retail Space (in square feet)

Retail Category	2013	2018	2020	2022	2024	2026	2028
General Merchandise, Apparel, Furniture, and Other/Specialty (GAFO)	382,658	449,372	477,439	506,327	536,066	566,676	598,180
Food Service and Drinking	17,409	41,580	51,750	62,216	72,991	84,082	95,496
Building Material & Garden Equipment & Supplies	112,737	128,449	135,059	141,862	148,866	156,075	163,494
Auto Parts	40,261	46,321	48,871	51,495	54,196	56,977	59,839
Services Space @ 10% of Total Space	61,452	73,969	79,235	84,656	90,235	95,979	101,890
Total Demand (square feet)	***614,517***	***739,691***	***792,354***	***846,556***	***902,354***	***959,789***	***1,018,899***
Square Feet Absorbed by Project	---	(141,220)	(141,220)	(141,220)	(141,220)	(141,220)	(141,220)
Square Feet Absorbed by Related Projects	---	(66,013)	(66,013)	(66,013)	(66,013)	(66,013)	(66,013)
Cumulative Square Feet Absorbed in Trade Area	---	(207,233)	(207,233)	(207,233)	(207,233)	(207,233)	(207,233)
Net Demand (square feet)	***614,517***	***532,458***	***585,121***	***639,323***	***695,121***	***752,556***	***811,666***

Source: *Urban Decay Study for Moreno Valley Walmart* (The Natelson Dale Group, Inc.) October 28, 2013.

Note: Totals may not sum due to rounding.

Cumulative Impacts – Commercial Gas Station Sales

On average, a commercial gasoline fueling station in California currently generates approximately $5.5 million in annual sales (Urban Decay Study, p. 12). Previous Table 5.1-1 identifies an additional 12-pump fueling station approved for development in the Trade Area. The combined sales from this station and the gasoline station proposed by the Project would therefore total approximately $11.0 million. The Trade Area's projected growth in gasoline sales demand is approximately $11.3 million between 2013 and 2018 (Urban Decay Study, pp. 12-13). As such, in the Project's opening year (2018) there would be sufficient demand to support the estimated sales of both projects. On this basis, the cumulative impacts resulting from the Project's fueling station/convenience store, along with the proposed 12-pump fueling station listed at Table 5.1-1 would not have substantial economic effects on existing fueling stations/convenience stores in the Trade Area. It is therefore unlikely that the cumulative effects of the Project fueling station/convenience market in combination with the approved fueling station project listed at Table 5.1-1 would

cause or result in closures of existing commercial gasoline service stations, or related long term vacancies and potential urban decay.

Cumulative Impacts – Supermarket Sales

In addition to the grocery component proposed by the Project's Walmart Store, there is one additional approved (but not yet developed) supermarket store in the Trade Area. More specifically, a Winco-anchored neighborhood shopping center was previously approved for development at the intersection of Alessandro Boulevard and Lasselle Street. However, the applicant for this proposal has no established timeline for further action on the project. Notwithstanding, this related project is reflected in the cumulative analysis of supermarket impacts, given that it is an approved project and could be developed at some future date.

Table 5.1-3 provides a summary of cumulative Supermarket Sales impacts within the Trade Area for the time period 2013 through 2028. Included are sales impacts resulting from the Project's proposed Walmart Store grocery component, and sales impacts that could result from the approved Winco supermarket. As indicated at Table 5.1-3, cumulative sales impacts of existing supermarkets, the proposed Walmart grocery component, and the pending Winco supermarket would yield Trade Area average supermarket sales of $333 per square foot in 2018, increasing to $392 per square foot in 2028.

Table 5.1-3
Trade Area Cumulative Supermarket Sales Impacts
(in thousands of constant dollars)

Description	2013	2018	2020	2022	2024	2026	2028
Total Food Sales Demand	$199,049	$213,975	$220,255	$226,718	$233,371	$240,220	$247,268
Estimated Supermarket Share	90%	90%	90%	90%	90%	90%	90%
Total Potential Supermarket Sales Demand	$179,144	$192,578	$198,229	$204,046	$210,034	$216,198	$222,541
Proposed Walmart Grocery Component Sales Demand*	$0	($24,150)	($24,150)	($24,150)	($24,150)	($24,150)	($24,150)
Net Sales Demand Available to Support Existing and Planned Trade Area Supermarkets	*$179,144*	*$168,428*	*$174,079*	*$179,896*	*$185,884*	*$192,048*	*$198,391*
Existing Supermarket Square Feet		410,830	410,830	410,830	410,830	410,830	410,830
Winco Supermarket project		95,000	95,000	95,000	95,000	95,000	95,000

Table 5.1-3
Trade Area Cumulative Supermarket Sales Impacts
(in thousands of constant dollars)

Description	2013	2018	2020	2022	2024	2026	2028
Existing and Planned Supermarket Square Feet	410,830	505,830	505,830	505,830	505,830	505,830	505,830
Potential Sales per Square Foot Existing and Planned Supermarkets	*$436*	*$333*	*$344*	*$356*	*$367*	*$380*	*$392*

Source: *Urban Decay Study for Moreno Valley Walmart* (The Natelson Dale Group, Inc.) October 28, 2013.
Notes: *Assumes sales of $500 per square foot x 48,300 sf (gross area) based on Walmart chain-wide averages. Typically, new stores operate below average sales volumes in the first few years after opening before achieving full potential stabilized sales volumes. Notwithstanding, to remain analytically conservative, the Walmart grocery component is assumed to reach its full sales potential in its opening year (2018).

Benchmark median supermarket sales nationally, and in the Western United States (Western Region), are estimated at $473 per square foot and $418 per square foot, respectively.[2] In 2018, with opening of the Project and assumed completion of the pending Winco supermarket, supermarket sales in the Trade Area would average $333 per square foot, or approximately 79.7 percent of the Western Regional supermarket benchmark median ($418 per square foot). Therefore, excluding the Project whose sales are already accounted for, approximately 79.7 percent of the 505,830 square feet of the Year 2018 "Existing Planned Supermarket Space" identified at Table 5.1-3 could be supported at $418 per square foot. This would indicate that, if employing Western Regional supermarket benchmark median as a theoretic "Break-Even Threshold," the Trade Area supermarket space retail category would be overbuilt by approximately 103,000 square foot in 2018. This could result in the closure of existing supermarkets within the Trade Area. Although this line of analysis suggests that there could be store closures, the following factors would argue against this scenario:

- **Benchmark Sales Volumes Do Not Establish Break-Even Thresholds**. National and Western regional supermarket median sales benchmarks ($473 per square foot and $418 per square foot, respectively) identified in the Urban Decay Study do not

[2] National and Western Regional median supermarket sales from Project Urban Decay Study, p. 11.

reflect break-even thresholds for supermarkets. That is, since the $473 and $418 per square foot factors are median sales figures, by definition half of all supermarkets are operating below these levels. In this latter regard, it is important to note that there is significant variability in sales volumes at individual supermarkets, and evidence suggests that a number of California stores (and entire chains) are operating at well below the noted $418 per square foot Western region median (Urban Decay Study, p. 17). More specifically, to further evaluate the "typical" sales volumes of California supermarkets, the Urban Decay Study employed a proprietary database (database) of chain-specific supermarket sales estimates provided by Trade Dimensions International, Inc., a market research branch of The Nielsen Company. The database, reflecting May 2011 data from more than 3,200 individual stores, includes sales estimates for 51 supermarket chains operating in California along with aggregate sales estimates for independent supermarkets. According to this database, average sales per square foot by chain range from $220 to $809 per square foot. For all chains combined, the median and average sales are $385 per square foot and $407 per square foot, respectively, with a standard deviation of $128 per square foot. Of the 51 grocery chains represented in the database (including the aggregated independent category), 29, or 57% of the total, generate average sales volumes below $418 per square foot. Further, more than half (55%) of the chains operate at sales volumes below $400 per square foot, while 41% operate below $350 per square foot (Urban Decay Study, p.17). The above discussion would indicate that even with cumulatively reduced sales volumes resulting from the Project and related development proposals in the Trade Area, existing Trade Area supermarkets would likely maintain sustainable operations.

- **Development of Related Projects May Not Occur**. Although an approved project, there are no known plans to develop the Winco-anchored shopping center project at this time. Rather than contribute to an oversupply of supermarket space within the Trade Area, as indicated by the project's current status (on hold), a more likely cumulative scenario for this development is that its implementation (or implementation of other similar proposals) would respond more closely to demonstrated demand. Under this scenario, there is less potential for overbuilt

conditions to occur in the supermarket category, and consequently a reduced potential for supermarket vacancies and resultant urban decay.

- **The Analysis Does Not Assume Trade Area Distinction**. Evaluating the aggregate square feet of supermarket space proposed in the Trade Area implicitly assumes that the pending Winco store's trade area is identical to the Trade Area of the proposed South Moreno Valley Walmart Project. However, the Winco store by virtue of its location at Alessandro Boulevard/Lasselle Street would have its own distinct trade area. More specifically, it is anticipated that this this store would draw a significant amount of market support from areas outside of the Project Trade Area, north of the Alessandro Boulevard/Cottonwood Avenue and east of Nason Street/Moreno Beach Drive. As such, the Winco project would not be limited to the same "pool" of demand identified in the Project Urban Decay Study. By accounting for the full sales impact of the Winco store within the Project Trade Area, the Winco store's contributions to cumulative sales impacts to the supermarket category have been conservatively overestimated.

Reuse Potentials of Existing Supermarket Buildings

As noted above, under a conservative maximum impact scenario, closure of supermarkets in the Trade Area could potentially result from cumulative market impacts. Notwithstanding, there are viable reuse options for each of the ten existing supermarkets in the Trade Area, indicating that regardless of which specific store(s) may be vulnerable to closure, the vacated space(s) would not likely remain untenanted in the long-term. That is, as indicated at previous Table 5.1-2, there is sufficient residual retail demand within the Trade Area to support some type of retail use of any potentially vacated supermarket(s). Accordingly, it is unlikely that even under worst-case assumptions, store closures resulting from cumulative market impacts would lead to urban decay.

Summary

Based on the preceding discussions, the potential for the Project's cumulative economic effects to result in adverse physical change (urban decay) is determined to be less-than-significant.

5.1.1.3 Cumulative Impacts Related to Traffic and Circulation

The cumulative impact area for traffic circulation impacts is defined by the Traffic Impact Study Area (Study Area), as described within *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015 (Project TIA, TIA).

The TIA Study Area (illustrated at EIR Figure 4.3-1) includes potentially affected facilities under the jurisdiction of the City of Moreno Valley, and certain facilities under the City of Perris. All potentially affected Caltrans and Congestion Management Program facilities are also included within the Study Area.

Cumulatively deficient conditions affecting certain of the Study Area traffic facilities would be considered significant. More specifically, absent recommended improvements, impacts would be cumulatively significant and unavoidable at Study Area Intersection No.s 1 through 7; 9, 10, 12 through 15; 17 through 21; 24 through 33; and 36 through 46.

As means of mitigating or avoiding Study Area cumulative traffic impacts, the Project Applicant would pay requisite fees (City of Moreno Valley Development Impact Fees [DIF]; Transportation Uniform Mitigation Fee [TUMF], and fair-share fees) to be employed by for the construction of area traffic improvements. Improvements required to mitigate potentially significant cumulative impacts would be implemented consistent with demonstrated demands and pursuant to priorities established through applicable jurisdictional capital improvements programs. In these regards, the City as the Lead Agency is considered authoritative in determining when and how City improvements should be programmed and implemented to ensure near-term and long-term adequacy of the City roadway system. Similarly, other jurisdictional authorities, e.g., Caltrans, City of Perris would determine appropriate programming and implementation of required improvements.

Additionally, the Project Applicant would construct all site adjacent and on-site improvements necessary to ensure that the circulation system directly serving the developed site is functional and safe. To these ends, the Project Applicant would construct the improvements summarized below:

- ***Gentian Avenue*** is an east-west oriented roadway located along the Project's northern boundary. Gentian Avenue would be constructed at its ultimate half-section width as a modified Minor Arterial Highway (88-foot right-of-way) between the Project's westerly boundary and Perris Boulevard. Gentian Avenue would be constructed with a wide raised median in conjunction with a reduction in the number of through lanes (one lane in each direction) from the standard Minor Arterial Highway cross-section. Improvements along the Project's frontage (southerly side of Gentian Avenue) would be completed pursuant to final Conditions of Approval for the Project, and would conform to applicable City of Moreno Valley design and construction standards.

- ***Perris Boulevard*** is a north-south oriented roadway located along the Project's easterly boundary. Perris Boulevard would be constructed at its ultimate half-section width as a Divided Six-Lane Arterial Highway (110-foot right-of-way) between Gentian Avenue and Santiago Drive. Improvements along the Project's frontage (westerly side of Perris Boulevard) would be completed pursuant to final Conditions of Approval for the Project, and would conform to applicable City of Moreno Valley design and construction standards.

- ***Santiago Drive*** is an east-west oriented roadway located along the Project's southerly boundary. Santiago Drive would be constructed at its ultimate half-section width as a Collector (66-foot right-of-way) between the Project's western boundary and Perris Boulevard. Improvements along the Project's frontage (northerly side of Santiago Drive) would be completed pursuant to final Conditions of Approval for the Project, and would conform to applicable City of Moreno Valley design and construction standards.

- ***Intersection Improvements***

  In addition to the above roadway section/frontage improvements, the Project includes the installation of traffic signals/new signal heads at the following intersections:

- Perris Boulevard and Santiago Drive – new signal (Intersection 36) and;
- Perris Boulevard and Gentian Avenue – new signal heads on the eastbound approach (Intersection 33).

All improvements listed above would be designed and implemented consistent with street section and right-of-way standard concepts presented in the City's General Plan Circulation Element. Actual improvements to be constructed within the public right-of-way would be subject to final conditions of approval for the Project, pursuant to all incumbent City traffic engineering and safety standards. Please refer also to EIR Section 3.0, Project Description, and the discussion of Project traffic improvements presented in the Project TIA, Section 1.6 "On-Site Roadway and Site Access Improvements." The Project TIA is presented at EIR Appendix C.

Cumulative Traffic Growth

The Project TIA comprehensively reflects anticipated cumulative traffic increases affecting the Study Area and addresses related potential cumulative traffic impacts. In these regards, future year traffic forecasts reflect five years of background (ambient) growth at two percent per year, intended to approximate regional traffic growth. This assumed growth factor is supported by information published by the Riverside County Center for Demographic Research (RCCDR) and used as the basis for completing the Western Riverside Council of Governments (WRCOG) TUMF Nexus Study – 2009 Program Update. More specifically, RCCDR projects the population of Western Riverside County to increase by 62% in the period between 2007 and 2035, a compounded rate of approximately 1.73% annually. During the same period, employment in Western Riverside County is expected to increase by 111% or 2.71% compounded annually. The use of a two percent growth rate would appear to be a reasonable and conservative estimate of overall population/employment growth of the region, and would translate approximately to growth in regional traffic volumes. Notably, and as a further analytically conservative measure, the assumed two percent annual background growth rate reflected in the TIA does not include traffic generated by the Project or traffic generated by other known or probable development ("cumulative projects") identified in the TIA. The TIA in essence double-counts this traffic as it is already reflected in the aforementioned RCCDR growth

estimates. The TIA's assumed ambient traffic growth rate of two percent would therefore tend to overstate rather than understate potential cumulative traffic impacts.

Under Project Opening Year (2018) Conditions, the total ambient growth from Existing (2013) Conditions analyzed in the TIA would therefore be approximately 10.4% (compounded growth of two percent per year over five years). This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by "cumulative development projects" that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies. Please refer to TIA Table 4-3 for a complete listing of all cumulative development considered within the analysis.

Cumulative Impacts

Intersections

Opening Year (2018) Cumulative Intersection LOS Impacts

Under Opening Year with Project conditions, Project traffic would contribute to potentially significant cumulative LOS impacts at the Study Area Intersections listed at Table 5.1-4, below:

Table 5.1-4
Opening Year (2018)
Cumulative Intersection LOS Impacts

Intersection ID No.	Intersection Location
1	I-215 SB Ramps / Cactus Av.
2	I-215 NB Ramps / Cactus Av.
3	Elsworth St. / Cactus Av.
4	Frederick St. / Cactus Av.
5	Graham St. / Cactus Av.
15	Indian St. / Gentian Av.
21	Indian St. / Harley Knox Bl.

Table 5.1-4
Opening Year (2018)
Cumulative Intersection LOS Impacts

Intersection ID No.	Intersection Location
24	SR-60 EB Off-Ramp / Sunnymead Bl.
26	Perris Bl. / Sunnymead Bl.
27	SR-60 EB On-Ramp / Sunnymead Bl.
31	Perris Bl. / Cactus Av.
36	Perris Bl. / Santiago Dr.
37	Perris Bl. / Iris Av.
38	Perris Bl. / Krameria Av.
41	Perris Bl. / Harley Knox Bl.
42	Perris Bl. / Ramona Expressway
43	Kitching St. / Cactus Av.
44	Kitching St. / John F. Kennedy Dr.

Source: *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015.

General Plan Buildout (2035) Cumulative Intersection LOS Impacts

Under General Plan Buildout with Project conditions, Project traffic would contribute to potentially significant cumulative LOS impacts at the following Study Area Intersections listed at Table 5.1-5.

Table 5.1-5
General Plan Buildout (2035)
Cumulative Intersection LOS Impacts

Intersection ID No.	Intersection Location
1	I-215 SB Ramps / Cactus Av.
2	I-215 NB Ramps / Cactus Av.
3	Elsworth St. / Cactus Av.
4	Frederick St. / Cactus Av.
5	Graham St. / Cactus Av.
6	Heacock St. / Alessandro Bl.
7	Heacock St. / Cactus Av.
9	Heacock St. / Gentian Av.
10	Webster Av. / Harley Knox Bl.
12	Indian St. / Alessandro Bl.

Table 5.1-5
General Plan Buildout (2035)
Cumulative Intersection LOS Impacts

Intersection ID No.	Intersection Location
13	Indian St. / Cactus Av.
14	Indian St. / John F. Kennedy Dr.
15	Indian St. / Gentian Av.
17	Indian St. / Iris Av.
18	Indian St. / Krameria Av.
19	Indian St. / San Michele Road
20	Indian St. / Nandina Av.
21	Indian St. / Harley Knox Bl.
24	SR-60 EB Off-Ramp / Sunnymead Bl.
25	Perris Bl. / SR-60 WB Ramps
26	Perris Bl. / Sunnymead Bl.
27	SR-60 EB On-Ramp / Sunnymead Bl.
28	Perris Bl. / Eucalyptus Av.
29	Perris Bl. / Cottonwood Av.
30	Perris Bl. / Alessandro Bl.
31	Perris Bl. / Cactus Av.
32	Perris Bl. / John F. Kennedy Dr.
33	Perris Bl. / Gentian Av.
36	Perris Bl. / Santiago Dr.
37	Perris Bl. / Iris Av.
38	Perris Bl. / Krameria Av.
39	Perris Bl. / San Michele Rd.
40	Perris Bl. / Nandina Av.
41	Perris Bl. / Harley Knox Bl.
42	Perris Bl. / Ramona Expressway
43	Kitching St. / Cactus Av.
44	Kitching St. / John F. Kennedy Dr.
45	Kitching St. / Iris Av.
46	Lasselle St. / Iris Av.

Source: *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015.

Mitigation

To mitigate incremental contributions to cumulative traffic impacts affecting Study Area intersections, the Project Applicant would pay requisite fees toward the construction of the necessary improvements.

Notwithstanding, payment of traffic impact fees does not ensure timely completion of those traffic improvements necessary to mitigate potentially significant cumulative traffic impacts affecting the study area. ***On this basis, pending completion of required improvements, the Project's contributions to Opening Year (2018) and General Plan Buildout (2035) cumulative LOS impacts at intersections identified above are considered cumulatively significant and unavoidable.***

Roadway Segments

Opening Year (2018) Cumulative Roadway Segment Impacts

Project-related impacts under Opening Year + Project Conditions are recognized as cumulatively significant and unavoidable at Study Area roadway segments listed at Table 5.1-6.

Table 5.1-6
Opening Year + Project
Roadway Segment Improvements and Resulting LOS

Roadway Segment ID No.	Roadway	Segment Limits
19	Cactus Avenue	East of I-215 NB Ramps
20	Cactus Avenue	West of Elsworth Street
21	Cactus Avenue	East of Elsworth Street
22	Cactus Avenue	West of Frederick Street
23	Cactus Avenue	East of Frederick Street
24	Cactus Avenue	West of Graham Street
25	Cactus Avenue	East of Graham Street
26	Cactus Avenue	West of Heacock Street

74	Harley Knox Boulevard	West of Perris Boulevard
140	Kitching Street	South of Cactus Avenue
141	Kitching Street	North of JFK Drive
142	Kitching Street	South of JFK Drive

Source: *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015.
Notes: Bold text indicates deficient LOS based on calculated lane capacities.
* Roadway segment improvements would be required in order to provide compatible continuation of through lane improvements at controlling segment intersections.

General Plan Buildout (2035) Cumulative Roadway Segment Impacts

Project-related impacts under General Plan Buildout +Project Conditions are recognized as cumulatively significant and unavoidable at Study Area roadway segments listed at Table 5.1-7.

Table 5.1-7
General Plan Buildout + Project
Roadway Segment Improvements and Resulting LOS

Roadway Segment ID No.	Roadway	Segment Limits
11	Alessandro Boulevard	West of Heacock Street
12	Alessandro Boulevard	East of Heacock Street
13	Alessandro Boulevard	West of Indian Street
14	Alessandro Boulevard	East of Indian Street
16	Alessandro Boulevard	East of Perris Boulevard
18	Cactus Avenue	I-215 SB Ramps to NB Ramps
19	Cactus Avenue	East of I-215 NB Ramps
20	Cactus Avenue	West of Elsworth Street
21	Cactus Avenue	East of Elsworth Street
22	Cactus Avenue	West of Frederick Street
23	Cactus Avenue	East of Frederick Street
24	Cactus Avenue	West of Graham Street
25	Cactus Avenue	East of Graham Street
26	Cactus Avenue	West of Heacock Street
27	Cactus Avenue	East of Heacock Street
28	Cactus Avenue	West of Indian Street
29	Cactus Avenue	East of Indian Street

Table 5.1-7
General Plan Buildout + Project
Roadway Segment Improvements and Resulting LOS

Roadway Segment ID No.	Roadway	Segment Limits
30	Cactus Avenue	West of Perris Boulevard
31	Cactus Avenue	East of Perris Boulevard
51	Iris Avenue	West of Indian Street
52	Iris Avenue	East of Indian Street
53	Iris Avenue	West of Perris Boulevard
54	Iris Avenue	East of Perris Boulevard
55	Iris Avenue	West of Kitching Street
60	Krameria Avenue	West of Perris Boulevard
61	Krameria Avenue	East of Perris Boulevard
63	San Michele Rd.	East of Indian Street
64	San Michele Rd.	West of Perris Boulevard
70	Harley Knox Boulevard	West of Webster Avenue
71	Harley Knox Boulevard	East of Webster Avenue
72	Harley Knox Boulevard	West of Indian Street
73	Harley Knox Boulevard	East of Indian Street
74	Harley Knox Boulevard	West of Perris Boulevard
89	Heacock Street	North of Gentian Street
90	Heacock Street	South of Gentian Avenue
102	Indian Street	Santiago Drive to Iris Avenue
103	Indian Street	South of Iris Avenue
104	Indian Street	North of Krameria Street
105	Indian Street	South of Krameria Street
106	Indian Street	North of San Michele Road
107	Indian Street	San Michele Road to Nandina Avenue
108	Indian Street	South of Nandina Avenue
109	Indian Street	North of Harley Knox Boulevard
110	Indian Street	South of Harley Knox Boulevard
113	Perris Boulevard	South of Sunnymead Boulevard
114	Perris Boulevard	North of Eucalyptus Avenue
115	Perris Boulevard	South of Eucalyptus Avenue
116	Perris Boulevard	North of Cottonwood Avenue

Table 5.1-7
General Plan Buildout + Project
Roadway Segment Improvements and Resulting LOS

Roadway Segment ID No.	Roadway	Segment Limits
117	Perris Boulevard	South of Cottonwood Avenue
118	Perris Boulevard	North of Alessandro Boulevard
119	Perris Boulevard	South of Alessandro Boulevard
120	Perris Boulevard	North of Cactus Avenue
135	Perris Boulevard	North of Harley Knox Boulevard
138	Perris Boulevard	South of Ramona Expressway
140	Kitching Street	South of Cactus Avenue
141	Kitching Street	North of John F. Kennedy Drive
142	Kitching Street	South of John F. Kennedy Drive

Source: *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015.
Notes: Bold text indicates deficient LOS based on calculated lane capacities.
* Roadway segment improvements would be required in order to provide compatible continuation of through lane improvements at controlling segment intersections.

Mitigation

To mitigate incremental contributions to cumulative traffic impacts affecting Study Area roadway segments, the Project Applicant would pay TUMF/DIF toward the construction of the necessary improvements.

Notwithstanding, payment of traffic impact fees does not ensure timely completion of those traffic improvements necessary to mitigate potentially significant cumulative traffic impacts affecting the study area. ***On this basis, pending completion of required improvements, the Project's contributions to Opening Year (2018) and General Plan Buildout (2035) cumulative impacts at roadway segments identified above are considered cumulatively significant and unavoidable.***

Freeway Facilities

The Project would contribute fewer than 25 two-way peak hour trips to Study Area freeway mainline and freeway merge diverge facilities. On this basis, the Lead Agency determined that no further analysis of potential Project impacts to Study Area freeway mainline and freeway merge diverge facilities was warranted. The Project would, however,

contribute to cumulative Opening Year and General Plan Buildout freeway ramp progression deficiencies affecting the I-215 Northbound Ramps at Cactus Avenue. The Project Applicant would pay requisite fees toward the completion of improvements at this location recommended pursuant to the EIR mitigation measures. Payment of fees does not, however, ensure timely completion of required improvements; and pending completion of the required improvements, ***Project-related freeway ramp progression impacts at the I-215 Northbound Ramps at Cactus Avenue are considered cumulatively significant and unavoidable under Opening Year and General Plan Buildout conditions.***

Site Access

Site access driveways, traffic controls, and on-site circulation improvement concepts proposed by the Project act to reduce potential access and on-site circulation impacts. Final site access and on-site circulation designs would incorporate any additional provisions or modifications suggested within the Project TIA, or as may otherwise be required by the City. City design review processes, and any resultant modifications incorporated in the Project Final Site Plan, would ensure that potential parking, site access, and internal circulation impacts are less-than-significant. On this basis, the Project's potential contribution to cumulative impacts in regard to site access are not considerable, and the cumulative effects of the Project are determined to be less-than-significant.

Summary

To mitigate incremental contributions to cumulative traffic impacts affecting facilities within the Study Area, the Project Applicant would pay requisite fees toward the construction of necessary improvements. Notwithstanding, payment of traffic impact fees does not ensure timely completion of those traffic improvements necessary to mitigate potentially significant cumulative traffic impacts affecting the Study Area. In these instances, while Project-specific traffic impacts would not be individually significant, they would be cumulatively significant. On this basis, pending completion of required improvements, the Project's contributions to Opening Year (2018) and General Plan Buildout (2035) cumulative traffic impacts at intersection and freeway locations identified within this Section are therefore considered cumulatively significant and unavoidable.

5.1.1.4 Cumulative Impacts Related to Air Quality

The cumulative impact area for air quality considerations is generally defined by the encompassing Air Basin and boundaries of the jurisdictional air quality management agency. In this case, the South Coast Air Basin (SCAB, Air Basin) and the South Coast Air Quality Management District (SCAQMD) respectively. Project emissions within the context of SCAQMD's regional emissions thresholds provide an indicator of potential cumulative impacts within the jurisdictional Air Basin. Due to the defining geographic and meteorological characteristics of the Air Basin, criteria pollutant emissions that could cumulatively impact air quality would be, for practical purposes, restricted to the Air Basin. Accordingly, the geographic area encompassed by the Air Basin is the appropriate limit for this cumulative Air Quality analysis.

Construction-Source Air Quality Impacts

As discussed at EIR Section 4.4, *Air Quality*, and EIR Appendix D, mitigated Project construction-source air quality impacts would be less-than-significant, and by SCAQMD criteria, not cumulatively considerable. The potential for Project construction-source emissions to result in or cause cumulatively significant air quality impacts is therefore considered less-than-significant.

Operational-Source Air Quality Impacts

Compliance with existing regulations and application of mitigation measures proposed in this EIR would act to minimize the Project's operational-source pollutant emissions levels. However, no feasible mitigation measures exist which would reduce these impacts to levels that are less-than-significant. Even with application of mitigation, Project operational-source nitrogen oxide (NO_x) emissions would exceed applicable SCAQMD regional thresholds. By SCAQMD criteria, cumulative impacts in these regards are similarly considered to be significant. Operational-source NO_x emissions regional threshold exceedances are therefore determined to be individually significant and cumulatively considerable.

Non-Attainment Impacts

The Project is located within ozone and $PM_{10}/PM_{2.5}$ non-attainment areas (NO_x is a precursor to ozone and $PM_{10}/PM_{2.5}$). Over the life of the Project, operational-source NO_x emissions exceedances would result in a cumulatively considerable net increase in criteria pollutants (ozone, PM_{10} and $PM_{2.5}$) for which the encompassing region is non-attainment. These are cumulatively significant air quality impacts.

Air Quality Management Plan (AQMP) Consistency Impacts

The Project would be inconsistent with AQMP Criterion No's. 1 and 2, resulting in a determination that impacts in this regard would be considered to be potentially significant. This is a Project-level and cumulatively significant impact.

CO Hotspot Impacts

The Project would generate additional vehicular traffic, and therefore would generate mobile source emissions that could cause or contribute to adverse CO concentrations (CO "hotspots"). Potential CO hotspot impacts were evaluated in the Project Air Quality Impact Analysis (EIR Appendix D), and were determined to be less-than-significant. By SCAQMD criteria, less-than-significant CO hotspot impacts at the Project level are not cumulatively considerable.

Toxic Air Contaminants (TACs) Emissions Impacts

Background

The South Coast Air Quality Management District (SCAQMD)[3] has conducted an analysis of the cumulative effects of Toxic Air Contaminants (TACs) within the South Coast Air Basin (Basin). This cumulative analysis, *Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES-III)*, expresses cumulative TAC impacts in terms of potential increased

[3] SCAQMD is the Responsible Agency providing guidance on applicable air quality analysis methodologies and air quality-related issues.

cancer risks.[4] *MATES-III* estimates that the Basin-wide average excess cancer risk level resulting from exposure to cumulative TACs is approximately 1,200 incidents per one million population. Related, *MATES-III* estimates the cumulative TAC-source cancer risk for the localized area encompassing the Project site at 587 incidents per million population.[5] Diesel Particulate Matter (DPM)-source cancer risks, are reflected in the area's ambient cumulative cancer risk along with all other TAC-source risks, and accounts for the predominance (83.6%) of the total risk shown in *MATES-III*.

Ambient TAC Impacts Presumed Cumulatively Significant

The SCAQMD has established a significance threshold for incremental project-level TAC impacts. Specifically, if a given project would generate TACs resulting in or causing an increase in cancer risks of ten or more incidents per million population, that project's incremental cancer risk would be considered significant. This same significance threshold (ten in one million) is applied by SCAQMD in determining whether a given project's incremental contribution to ambient TAC-source cancer risks is cumulatively considerable. The SCAQMD has not however established a significance threshold for ambient cumulative TAC impacts affecting the Basin. Likewise, the City of Moreno Valley (the Lead Agency) has no adopted cumulative TAC impacts significance threshold.

Absent an established threshold for cumulative TAC impacts, the following discussion assesses whether, in the light of other available existing information, the ambient cumulative TAC-source impacts affecting the Basin and the area encompassing the Project site could be characterized as significant.

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[4] Cancer risk refers to the probability of contracting cancer associated with exposure to a substance. It is expressed as the chance per million of a cancer case occurring. A risk of one per million, for example, would mean that in a population of one million individuals exposed over a 70-year lifetime, one additional cancer case would be expected.

[5] SCAQMD 2008, *MATES-III* Carcinogenic Interactive Map–http://www3.aqmd.gov/webappl/matesiii/ Localized background TAC-source cancer risk estimates are extrapolated from TAC monitoring data collected at ten fixed sites within the South Coast Air Basin. *MATES-III* extrapolates cancer risk levels throughout the Basin at 1.25 mile by 1.25 mile grids.

As noted previously, *MATES-III* estimates the average ambient cumulative TAC-source cancer risk for the Basin at 1,200 incidents per million population; in the localized area encompassing the Project site, the risk is estimated at 587 incidents per million population. Either of these existing cumulative TAC-source cancer risk levels (1,200 per million, or 587 per million) far exceeds the ten in one million cancer risk at which project-level TAC-source cancer risks would be determined significant employing SCAQMD thresholds.

Comparing the ambient cumulative TAC-source cancer risk (587 per million locally, or 1,200 per million Basin-wide) to the SCAQMD's established threshold for project-level TAC-source cancer risks (ten in one million), the ambient cumulative TAC-source cancer risk is approximately 59 to 120 times greater than the incremental risk at which project-level TAC-source cancer risks would be considered significant.

Although there is not yet an established significance threshold for ambient cumulative TAC impacts, given the magnitude by which the ambient cumulative condition exceeds SCAQMD's established project-level significance threshold (ambient cumulative TAC conditions are 59 to 120 times greater than the project-level threshold), the ambient cumulative condition would likely exceed whatever significance threshold may be established for cumulative impacts affecting the Basin. On this basis, and absent a prevailing threshold adopted by the Lead or Responsible Agency, ambient cumulative TAC impacts are presumed to be significant.

Related Projects Contribution to Cumulative TAC Impacts

In addition to the *MATES-III* cumulative TAC-source cancer risk noted above, other new or proposed potential TAC-generating projects (related projects) in the Study Area could contribute to cumulative TAC impacts. These related projects, due to their recency and/or tentative nature, are not reflected in the cumulative TAC impacts identified in the *MATES-III* study.

In consultation with the Lead Agency, related TAC-generating projects located within a one-quarter mile radius of the Project were identified and are reflected in this cumulative TAC analysis. The one-quarter mile radius encompassed within the cumulative TAC

analysis reflects CARB and South Coast District analyses indicating an 80-percent drop-off in TAC concentrations at approximately 1,000 feet from the TAC source under consideration (California Air Resources Board. *Air Quality and Land Use Handbook: A Community Health Perspective.* 2005.) Beyond 1,000 feet, the TAC emissions would be reduced and diffused such that they would not substantively and discernibly contribute to or interact with TAC emissions from other distinct sources. The one-quarter mile (1,320 feet) Study Area radius employed in the Project HRA therefore encompasses and extends beyond the distance at which related projects would generate TACs that would likely interact with TACs generated by the proposed South Moreno Valley Walmart Project. No new or proposed TAC-generating projects are located within a one-quarter mile radius of the Project site.

Project Contribution to Cumulative TAC Impacts

Project-source TACs would incrementally increase the background cancer risk by a maximum of 4.71 incidents per million population. The applicable SCAQMD significance threshold for Project-level TAC-source cancer risk impacts is ten incidents per million population. Similarly, SCAQMD significance thresholds state that project contributions to cumulative TAC-source cancer risks would be cumulatively considerable if greater than ten incidents per million population would occur. The 4.71 incidents per million population increment resulting from the Project is therefore not significant, nor cumulatively considerable.

Summary and Conclusions

To provide context for, and quantify cumulative TAC effects within the Study Area, the Project TAC-source cancer risk, was added to the total background risk derived by the *MATES-III* study, yielding a maximum potential cumulative TAC-source risk affecting the Study Area. As indicated at Table 5.1-8, the maximum potential cumulative cancer risk within the Study Area is estimated at 601.71 incidents per million.

Table 5.1-8
Study Area Cumulative Cancer Risk

Cumulative Impact Scenario	Risk Sources			Maximum Cumulative Risk
	Background TACs	Related Projects TACs	Project TACs	
	Cancer Risk Per Million Population			
Cumulative Impact Without Project	597	---	---	**597**
Cumulative Impact With Project	597	---	4.71	**601.71**

Source: *Moreno Valley Walmart Air Toxics Health Risk Assessment, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014.
Notes: Background TAC risk from: *MATES-III* Carcinogenic Risk Interactive Map (http://www2.aqmd.gov/webappl/matesiii/) (SCAQMD 2008).

The *MATES-III* ambient cumulative TAC impact represents approximately 99.9 percent of the total cumulative impact identified at Table 5.1-8; and due to its magnitude when compared to project-level TAC impact significance thresholds, is presumed to be cumulatively significant. The Project would incrementally contribute to this presumably significant cumulative impact. However the Project's incremental contribution of 4.71 incidents per million population does not exceed, or even approach the established SCAQMD threshold (ten incidents per million population) at which project-level TAC contributions would be determined cumulatively considerable. On this basis, the Project TAC emissions impacts are not considered cumulatively considerable.

5.1.1.5 Cumulative Impacts Related to GHG Emissions/Global Climate Change

CEQA emphasizes that the effects of greenhouse gas emissions are cumulative, and should be analyzed in the context of CEQA's requirements for cumulative impacts analysis. (*CEQA Guidelines* Section 15130(f)). In this regard, the Project Greenhouse Gas (GHG) Analysis (EIR Appendix E) is by its nature a cumulative analysis.

As demonstrated in the Project Greenhouse Gas Analysis and the information presented at EIR Section 4.5, *Global Climate Change and Greenhouse Gas Emissions*, the Project would not cause or result in a substantial increase in Greenhouse Gas (GHG) emissions when compared to the Business As Usual (BAU) scenario, and Project GHG emissions would not exceed a threshold of significance that the lead agency determines applies to the Project. The Project GHG analysis also demonstrates that the Project complies with regulations or

requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.

In this latter regard, the GHG Analysis demonstrates that Project-source GHG emissions represent an approximate 30.9 percent reduction in GHG emissions when compared to a BAU scenario. This is consistent with and supports California AB 32 Scoping Plan directives calling for an approximate 28.5 percent reduction in GHG emissions when compared to the BAU scenario. Further, the Project would conform to applicable City of Moreno Valley GHG Emissions Reduction Programs and Regulations (please refer to EIR Section 4.5, Table 4.5-3).

Further, irrespective of the use of the BAU threshold, substantial evidence exists supporting the conclusion that the Project's GHG emissions impacts are less-than-significant. To this end, the analysis at EIR Section 4.5 substantiates that the Project GHG emission would be less-than-significant when considered independently within in the context of applicable *CEQA Guidelines* GHG Emissions Significance Factors.

Based on the preceding, the Project's potential to contribute considerably (either individually or cumulatively) to a global climate change impact through GHG emissions is therefore considered less-than-significant.

5.1.1.6 Cumulative Impacts Related to Noise

As discussed within the EIR, the Project's mitigated construction-source noise levels received at nearby properties would conform to City noise standards, and would therefore be less-than-significant as mitigated. There are no known or probable off-site noise sources that would interact with, or compound, noise generated by Project construction activities and therefore determined to be cumulatively significant.

Further, Project construction-source noise in combination with ambient noise would not result in cumulatively significant noise impacts. In this latter regard, the peak mitigated Project construction-source noise levels when added to ambient conditions would

temporarily increase noise levels by less than 0.3 dBA and would not be discernible against background conditions.

Operational Noise - Area Sources

The Project's area-source operational noise levels are determined to be less-than-significant. There are no known or probable off-site noise sources that would interact with, or compound noise generated by Project operations, and therefore determined to be cumulatively significant.

Further, Project operational-source noise in combination with ambient noise would not result in cumulatively significant noise impacts. In this latter regard, the peak mitigated Project operational-source noise levels when added to ambient conditions would not exceed the maximum acceptable day/night ambient condition.

Operational Noise - Mobile Sources

Cumulative effects of vehicular-source noise are demonstrated by comparing noise levels under Opening Year (2018) conditions, to noise levels with the Project under General Plan Buildout (Post-2035) conditions. Cumulative vehicular-source noise impacts within the Project Noise Impact Analysis Study Area were estimated employing a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108.[6] Cumulative vehicular-source noise impacts are summarized at Table 5.1-9.

When considering the cumulative effects of vehicular-source noise, the City's 65 dBA CNEL standard reflected in the City General Plan is defined as the maximum acceptable ambient condition. When ambient noise conditions are within acceptable parameters (65 dBA CNEL) and cumulative effects of vehicular-source noise would exceed 65 dBA CNEL, cumulative increases in ambient conditions could adversely affect area land uses, and

[6] *Moreno Valley Walmart Noise Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) February 10, 2015.

land/use noise compatibility standards may not be maintained. Cumulative vehicular-source noise that would cause ambient conditions to exceed 65dBA CNEL would, on this basis, be considered potentially significant.

If, however, ambient baseline conditions already exceed minimum acceptable standards, subsequent increases in noise levels may be considered cumulatively significant as they would contribute to already deficient conditions. Neither the City nor the State have established a quantified incremental increase in noise levels that could be considered cumulatively significant where ambient conditions may already be considered unacceptable. Guidance in this regard is provided at the federal level through the Federal Interagency Committee on Noise (FICON).[7] In this regard, FICON guidance facilitates assessment of project-generated increases in noise levels that take into account ambient noise conditions. Although the FICON guidance was specifically developed to assess aircraft noise impacts, this guidance is broadly relevant to all environmental noise assessments in determining perceived effects of noise. Germane to this analysis, the FICON guidance indicates that when ambient noise conditions are at or above normally acceptable standards, increases in noise of 1.5 dBA or greater would contribute to existing deficiencies, potentially resulting in increased community annoyance, citizen complaints, and potential litigation.

FICON guidance, as applied within this analysis, would indicate that when ambient conditions equal or exceed the City's maximum acceptable standards for vehicular sources (65 dBA CNEL), cumulative increases of 1.5 dBA or greater in ambient conditions could result in increased community annoyance, citizen complaints, and potential litigation. For the purposes of this analysis then, when cumulative ambient noise conditions equal or exceed maximum acceptable standards for vehicular sources (65 dBA CNEL), cumulative noise increases of 1.5 dBA or greater would be cumulatively significant, and Project noise

[7] *Federal Agency Review of Selected Airport Noise Analysis* (Federal Interagency Committee on Noise) 1992.

that would contribute 1.5 dBA or more to cumulative noise conditions would be cumulatively considerable.

Table 5.1-9
Cumulative Traffic Noise Impacts

		2018 CNEL at 100 Feet (dBA)*			2035 CNEL at 100 Feet (dBA)*			Cumulative Increase 2018 w/o Project– 2035 w/Project
Roadway	**Segment**	**No Project**	**With Project**	**Project Addition**	**No Project**	**With Project**	**Project Addition**	
Sunnymead Blvd.	Perris Blvd. to SR-60 EB On-Ramp	67.5	67.6	0.0	68.9	68.9	0.0	0.0
Eucalyptus Ave.	East of Perris Blvd.	59.8	59.9	0.1	62.4	62.5	0.0	2.6
Cottonwood Ave.	West of Indian St.	62.4	62.4	0.1	64.0	64.0	0.1	1.6
Cottonwood Ave.	East of Indian St.	61.4	61.6	0.2	63.2	63.2	0.0	1.8
Cottonwood Ave.	West of Perris Blvd.	61.3	61.6	0.3	65.0	65.0	0.0	3.7
Cottonwood Ave.	East of Perris Blvd.	60.4	60.5	0.1	63.2	63.3	0.0	2.9
Alessandro Blvd.	West of Heacock St.	70.1	70.1	0.1	72.4	72.4	0.0	1.3
Alessandro Blvd.	***East of Heacock St.***	69.8	69.9	0.1	71.9	71.9	0.0	2.0
Alessandro Blvd.	***West of Indian St.***	69.4	69.5	0.1	71.7	71.7	0.0	2.3
Alessandro Blvd.	***East of Indian St.***	69.3	69.4	0.1	71.4	71.4	0.0	2.1
Alessandro Blvd.	***West of Perris Blvd.***	69.1	69.3	0.1	71.4	71.4	0.0	2.3
Alessandro Blvd.	***East of Perris Blvd.***	67.7	67.8	0.1	70.9	70.9	0.0	3.2
Cactus Ave.	***West of I-215 Freeway***	68.7	68.7	0.0	70.5	70.5	0.0	1.8
Cactus Ave.	I-215 SB Ramps to I-215 NB Ramps	70.6	70.6	0.0	71.0	71.0	0.0	0.4
Cactus Ave.	East of I-215 NB Ramps	71.3	71.3	0.0	72.4	72.4	0.0	1.1
Cactus Ave.	West of Elsworth St.	71.8	71.9	0.0	72.3	72.3	0.0	0.5
Cactus Ave.	East of Elsworth St.	72.3	72.3	0.0	72.7	72.7	0.0	0.4
Cactus Ave.	West of Frederick St.	72.4	72.5	0.0	72.8	72.9	0.0	0.5
Cactus Ave.	East of Frederick St.	72.5	72.5	0.0	73.0	73.0	0.0	0.5
Cactus Ave.	West of Graham St.	72.3	72.4	0.0	72.8	72.8	0.0	0.5
Cactus Ave.	East of Graham St.	71.3	71.4	0.0	72.4	72.5	0.0	1.2
Cactus Ave.	West of Heacock St.	70.9	70.9	0.1	72.1	72.1	0.0	1.2
Cactus Ave.	***East of Heacock St.***	68.7	68.8	0.1	70.6	70.6	0.1	1.9

Table 5.1-9
Cumulative Traffic Noise Impacts

		2018 CNEL at 100 Feet (dBA)*			2035 CNEL at 100 Feet (dBA)*			Cumulative Increase 2018 w/o Project–2035 w/Project
Roadway	Segment	No Project	With Project	Project Addition	No Project	With Project	Project Addition	
Cactus Ave.	*West of Indian St.*	68.3	68.4	0.1	70.2	70.2	0.1	1.9
Cactus Ave.	*East of Indian St.*	67.9	68.0	0.1	70.2	70.2	0.0	2.3
Cactus Ave.	*West of Perris Blvd.*	67.4	67.5	0.2	69.9	69.9	0.0	2.5
Cactus Ave.	*East of Perris Blvd.*	67.2	67.3	0.1	69.3	69.3	0.0	2.1
Cactus Ave.	*East of Kitching St.*	66.1	66.2	0.1	68.2	68.3	0.1	2.2
John F. Kennedy Dr.	*West of Heacock St.*	64.0	64.0	0.0	66.3	66.3	0.0	2.3
John F. Kennedy Dr.	East of Heacock St.	64.7	64.7	0.0	66.0	66.1	0.1	1.4
John F. Kennedy Dr.	*West of Indian St.*	64.6	64.7	0.1	67.2	67.3	0.1	2.7
John F. Kennedy Dr.	*East of Indian St.*	64.7	64.8	0.1	67.5	67.5	0.0	2.8
John F. Kennedy Dr.	*West of Perris Blvd.*	64.9	65.0	0.2	68.4	68.4	0.0	3.5
John F. Kennedy Dr.	*East of Perris Blvd.*	65.1	65.4	0.3	69.0	69.2	0.2	4.1
John F. Kennedy Dr.	*West of Kitching St.*	64.7	65.1	0.4	68.9	69.0	0.2	4.3
John F. Kennedy Dr.	*East of Kitching St.*	63.4	63.5	0.1	68.5	68.5	0.0	5.1
Gentian Ave.	West of Indian St.	54.8	55.0	0.2	56.8	57.2	0.4	2.4
Gentian Ave.	East of Perris Blvd.	55.0	55.3	0.3	59.4	59.5	0.1	4.5
Santiago Dr.	East of Perris Blvd.	55.7	55.9	0.3	59.1	59.3	0.1	3.6
Iris Ave.	West of Indian St.	61.1	61.2	0.1	62.7	62.7	0.0	1.6
Iris Ave.	*East of Indian St.*	65.7	65.8	0.1	67.4	67.4	0.0	1.7
Iris Ave.	*West of Perris Blvd.*	65.8	66.0	0.2	68.5	68.5	0.0	2.7
Iris Ave.	*East of Perris Blvd.*	66.7	67.0	0.3	68.5	68.7	0.2	2.0
Iris Ave.	*West of Kitching St.*	67.5	67.7	0.2	69.2	69.3	0.1	1.8
Iris Ave.	*East of Kitching St.*	68.5	68.7	0.2	71.1	71.2	0.1	2.7
Iris Ave.	*West of Lasselle St.*	68.0	68.2	0.2	70.8	70.9	0.1	2.9
Iris Ave.	*East of Lasselle St.*	68.7	68.8	0.1	71.4	71.4	0.0	2.7
Krameria Ave.	East of Indian St.	57.3	57.4	0.1	61.0	61.1	0.1	3.8
Krameria Ave.	West of Perris Blvd.	57.2	57.3	0.1	61.7	61.7	0.0	4.5
Krameria Ave.	*East of Perris Blvd.*	63.8	63.9	0.1	66.4	66.5	0.1	2.7

Table 5.1-9
Cumulative Traffic Noise Impacts

		2018 CNEL at 100 Feet (dBA)*			2035 CNEL at 100 Feet (dBA)*			Cumulative Increase 2018 w/o Project–2035 w/Project
Roadway	**Segment**	**No Project**	**With Project**	**Project Addition**	**No Project**	**With Project**	**Project Addition**	
Harley Knox Blvd.	West of Webster Ave.	67.2	67.2	0.0	67.9	67.9	0.0	0.7
Harley Knox Blvd.	East of Webster Ave.	67.2	67.2	0.1	67.9	68.0	0.1	0.8
Harley Knox Blvd.	West of Indian St.	69.2	69.3	0.1	69.9	69.9	0.1	0.7
Harley Knox Blvd.	***East of Indian St.***	65.3	65.5	0.2	69.6	69.7	0.0	4.4
Harley Knox Blvd.	***West of Perris Blvd.***	63.0	63.2	0.2	66.7	66.7	0.0	3.7
Ramona Expressway	West of Perris Blvd.	70.8	70.8	0.0	71.4	71.4	0.0	0.6
Ramona Expressway	East of Perris Blvd.	70.4	70.5	0.0	71.6	71.6	0.0	1.2
Frederick St.	North of Cactus Ave.	64.9	64.9	0.1	65.3	65.3	0.1	0.4
Heacock St.	North of Alessandro Blvd.	66.5	66.6	0.1	66.9	67.0	0.1	0.5
Heacock St.	***North of Cactus Ave.***	65.2	65.3	0.0	66.8	66.9	0.1	1.7
Indian St.	North of Cottonwood Ave.	60.1	60.2	0.1	61.7	61.7	0.1	1.6
Indian St.	North of Alessandro Blvd.	64.9	65.0	0.0	66.0	66.2	0.2	1.3
Indian St.	***North of Cactus Ave.***	65.2	65.3	0.1	66.8	67.0	0.3	1.8
Indian St.	***South of John F. Kennedy Dr.***	63.9	64.0	0.1	65.1	65.8	0.7	1.9
Indian St.	North of Gentian Ave.	59.2	59.3	0.1	61.2	62.0	0.8	2.8
Indian St.	South of Iris Ave.	57.8	58.0	0.2	60.4	60.8	0.3	3.0
Indian St.	North of Krameria Ave.	58.2	58.4	0.1	61.7	61.9	0.3	3.7
Indian St.	South of Krameria Ave.	56.0	56.1	0.1	63.3	63.4	0.2	7.4
Indian St.	***South of Harley Knox Blvd.***	63.1	63.2	0.1	69.0	69.0	0.0	5.9
Perris Blvd.	***North of SR-60 WB Ramps***	70.4	70.5	0.0	72.4	72.4	0.0	2.0
Perris Blvd.	SR-60 WB Ramps to Sunnymead Blvd.	70.9	71.0	0.0	71.3	71.3	0.0	0.4
Perris Blvd.	***South of Sunnymead Blvd.***	68.8	68.8	0.1	71.0	71.0	0.0	2.2
Perris Blvd.	***North of Eucalyptus Ave.***	68.1	68.2	0.1	70.9	70.9	0.0	2.8

Table 5.1-9
Cumulative Traffic Noise Impacts

		2018 CNEL at 100 Feet (dBA)*			2035 CNEL at 100 Feet (dBA)*			Cumulative Increase 2018 w/o Project–2035 w/Project
Roadway	Segment	No Project	With Project	Project Addition	No Project	With Project	Project Addition	
Perris Blvd.	*South of Eucalyptus Ave.*	67.9	68.0	0.1	71.4	71.5	0.0	3.6
Perris Blvd.	*North of Cottonwood Ave.*	68.6	68.7	0.1	71.2	71.3	0.0	2.7
Perris Blvd.	*South of Cottonwood Ave.*	68.1	68.4	0.3	70.8	70.9	0.1	2.8
Perris Blvd.	*North of Alessandro Blvd.*	67.8	68.1	0.3	71.0	71.1	0.1	3.3
Perris Blvd.	*South of Alessandro Blvd.*	67.8	68.3	0.5	71.0	71.1	0.1	3.3
Perris Blvd.	*North of Cactus Ave.*	67.5	68.0	0.5	70.6	70.7	0.1	3.2
Perris Blvd.	*South of Cactus Ave.*	68.5	69.2	0.7	71.9	72.0	0.1	3.5
Perris Blvd.	*North of John F. Kennedy Dr.*	68.0	68.8	0.8	71.6	71.7	0.1	3.7
Perris Blvd.	*South of John F. Kennedy Dr.*	68.8	69.7	0.9	72.2	72.4	0.2	3.6
Perris Blvd.	*North of Gentian Ave.*	68.3	69.2	1.0	71.9	72.2	0.2	3.9
Perris Blvd.	*Gentian Ave. to Dwy. 3*	68.2	69.2	0.9	71.8	72.1	0.3	3.9
Perris Blvd.	*Dwy. 3 to Dwy. 4*	68.2	68.9	0.7	71.8	72.0	0.3	3.8
Perris Blvd.	*Dwy. 4 to Santiago Dr.*	68.2	68.9	0.7	71.8	72.0	0.3	3.8
Perris Blvd.	*Santiago Dr. to Iris Ave.*	68.1	68.9	0.8	72.1	72.3	0.3	4.2
Perris Blvd.	*South of Iris Ave.*	68.2	68.6	0.4	71.8	71.9	0.1	3.7
Perris Blvd.	*North of Krameria Ave.*	67.9	68.4	0.4	72.0	72.2	0.1	4.3
Perris Blvd.	*South of Krameria Ave.*	68.1	68.5	0.4	72.0	72.2	0.1	4.1
Perris Blvd.	*North of San Michele Rd.*	68.4	68.7	0.3	72.0	72.1	0.1	3.7
Perris Blvd.	*San Michele Road to Nandina Ave.*	68.3	68.6	0.3	72.4	72.5	0.1	4.2
Perris Blvd.	*South of Nandina Ave.*	69.3	69.6	0.2	72.3	72.4	0.1	3.1
Perris Blvd.	*North of Harley Knox Blvd.*	66.9	67.1	0.2	69.2	69.3	0.1	2.4
Perris Blvd.	*South of Harley Knox Blvd.*	66.2	66.3	0.1	68.1	68.2	0.1	2.0
Perris Blvd.	*North of Ramona Expressway*	68.1	68.3	0.2	70.3	70.3	0.1	2.2

Table 5.1-9
Cumulative Traffic Noise Impacts

		2018 CNEL at 100 Feet (dBA)*			2035 CNEL at 100 Feet (dBA)*			Cumulative Increase 2018 w/o Project–2035 w/Project
Roadway	**Segment**	**No Project**	**With Project**	**Project Addition**	**No Project**	**With Project**	**Project Addition**	
Perris Blvd.	South of Ramona Expressway	69.1	69.2	0.0	70.0	70.0	0.0	0.9
Kitching St.	***North of Cactus Ave.***	63.2	63.3	0.1	66.6	66.7	0.1	3.5
Kitching St.	South of Cactus Ave.	60.4	60.6	0.2	63.1	63.2	0.1	2.8
Kitching St.	North of John F. Kennedy Drive	60.1	60.4	0.2	63.6	63.7	0.1	3.6
Kitching St.	South of John F. Kennedy Drive	60.7	60.8	0.1	63.3	63.3	0.0	2.6
Kitching St.	***North of Iris Ave.***	63.0	63.0	0.1	66.3	66.3	0.0	3.3
Kitching St.	***South of Iris Ave.***	61.7	61.8	0.0	65.6	65.7	0.0	4.0
Lasselle St.	***North of Iris Ave.***	67.3	67.4	0.0	68.9	69.0	0.0	1.7
Lasselle St.	South of Iris Ave.	68.7	68.8	0.0	69.7	69.7	0.0	1.0

Source: CNEL data from: *Moreno Valley Walmart Noise Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) February 10, 2015.
Notes: *May not sum to total due to rounding.

As indicated in Table 5.1-9, the total cumulative noise increase along roadways within the Study Area over the considered 17-year cumulative time frame would range from 0.0 dBA CNEL to 7.4 dBA CNEL. Study Area roadway segments affected by cumulatively significant vehicular-source noise impacts are indicated by ***bold italicized text***. Along these roadway segments, cumulative noise levels would transition from below the maximum acceptable ambient condition (65dBA CNEL) to above 65 dBA CNEL; or if the ambient noise levels already exceed 65 dBA CNEL, cumulative increases in the ambient conditions noise of 1.5 dBA CNEL or greater would occur. Along these segments, vehicular-source noise increases from Opening (2018) conditions to General Plan Buildout (Post-2035) conditions would be potentially cumulatively significant.

In all instances, the potentially significant cumulative vehicular-source noise impacts identified at Table 5.1-9 would occur irrespective of the Project, and the Project's incremental contributions would be less than 1.5 dBA, and would therefore not be cumulatively considerable. Nor would Project vehicular-source noise contributions to cumulative noise levels cause or result in a transition from below 65 dBA CNEL to above 65

dBA CNEL. On this basis, the Project's vehicular-source noise impacts are not cumulatively considerable.

Summary

Compliance with regulations and application of mitigation measures would reduce Project construction-source noise to levels that are less-than-significant, and would not be cumulatively considerable. Project stationary/area-source noise impacts would also be less-than-significant and not cumulatively considerable. Noise increases along certain roadway segments within the Study Area would be cumulatively significant over the time frame 2018 to 2035; however these impacts would occur irrespective of the Project, and the Project's contributions to these impacts would be less than 1.5 dBA CNEL, and therefore not cumulatively considerable.

5.1.1.7 Cumulative Impacts Related to Hydrology/Water Quality

The cumulative impact area for hydrology/water quality impact considerations is generally defined as the area encompassed by the jurisdictional Regional Water Quality Control Board (RWQCB), in this case the Santa Ana Regional Water Quality Control Board (SARWQCB). Local oversight is also provided by the City of Moreno Valley and Riverside County.

Development of the Project site would incrementally increase impervious surfaces within the cumulative impact area, with related potential increases in the rate and quantity of local stormwater discharges. However, as summarized at EIR Section 4.7, and presented in detail within the Project Drainage Study, (EIR Appendix G), the Project incorporates those stormwater management components, including drainage facilities, drainage swales/water quality management features, and structural and non-structural Best Management Practices, which collectively act to ensure that post-development stormwater discharge rates are adequately conveyed within available system capacities.

More specifically, on-site runoff would be collected by roof drains to be located on the Walmart rooftop, curb inlets, catch basins, and a truck well drain (with inlet filter) to be located in the northerly portion of the site, along the buildings rear façade. Developed

stormwaters within the Project site flows would be directed to a 1.12-acre infiltration basin to be located at the site's southerly boundary, via an underground storm drain system.

The stormwater system's infiltration basin would functions serve as both a stormwater quality treatment basin and a stormwater discharge control basin. The basin has been designed consistent with the Riverside County Low Impact Development Design BMP Handbook and the City's Water Quality Basin Civil Design Guidelines.

The basin would drain to a new 39-inch storm drainage line (portion of Riverside County Flood Control and Water Conservation District [RCFCWCD] Master Drainage Plan [MDP] M-2 Line, RCFCWCD MDP M-2 Line) to be installed within Santiago Drive. This new 39-inch RCFCWCD MDP M-2 Line would extend easterly from the Project onsite infiltration basin to Perris Boulevard. The RCFCWCD MDP M-2 Line would then continue southerly along Perris Boulevard until it reaches Iris Avenue, where the RCFCWCD MDP M-2 line would increase to 45-inches, and would extend approximately 1,200 feet easterly along Iris Avenue where it would tie into the existing 48-inch RCP M-2 Line near the Wedow Drive/Iris Avenue intersection.

The RCFCWCD MDP M-2 Line provides a restriction on the amount of flows that can be accommodated. Consistent with this restriction, discharges from the Project detention basin would be limited to 26.00 cubic feet per second (cfs). An outfall structure would be constructed within the Project stormwater detention basin to ensure this peak discharge rate is not exceeded.

All of the above-noted RCFCWCD MDP M-2 Line improvements would be constructed by the Project, or would otherwise be assured via Project Conditions of Approval to be in place and operational prior to issuance of the first Certificate of Occupancy for the Project.

In this manner, the Project's contributions to cumulative stormwater discharges are limited consistent with available stormwater system capacities, and the Project's contributions would not be cumulatively considerable.

The Project would implement stormwater quality treatment facilities and programs consistent with requirements and policies identified in the SARQWCB Basin Plan (Basin Plan). The Basin Plan, as implemented, ensures that cumulative water quality impacts within the SARQWCB jurisdictional area are less-than-significant.

Summary

The Project would comply with established stormwater management policies and regulations including, but not limited to, applicable provisions of the SARQWCB Basin Plan. Regulatory compliance, complemented by implementation of Project-specific stormwater management components, reduces the Project's potential contribution to cumulative hydrology/water quality impacts to levels that are not cumulatively considerable.

5.1.1.8 Cumulative Impacts Related to Geology and Soils

The Project site and all of Southern California lie within a seismically active area, generally subject to earthquake hazards, and in this sense, Southern California is considered the cumulative impact area for geology and soils considerations. As discussed at EIR Section 4.8, the Project's potential geology and soils impacts are determined to be less-than-significant as mitigated. No unique geologic features are present within the Project site or vicinity.

The Project would result in the construction of new commercial/retail land uses. Infrastructure improvements and utility extensions within the Project area would include: transportation system improvements, water, sewer, gas, electricity, and storm drainage facilities. Commercial communications services would also be provided to the Project.

Based on the creation and occupation of additional uses and implementation of supporting infrastructure described above within a generally active seismic area, the Project would therefore incrementally increase concentrations of persons, structures, and infrastructure systems on a previously undeveloped site within an earthquake-prone region. Within the cumulative impact area, increased exposure to seismic effects as a result of new development (including the Project) are reduced to levels that are less-than-significant

through application of development-specific mitigation measures, together with application of standard seismic design and engineering practices, requirements of the California Building Code (CBC) and State Seismic Mapping Act, and applicable local building standards. Similarly, potential cumulative impacts related to erosion, subsidence, shrinkage, expansion, and soil consolidation are mitigated through conformance with local, regional, state, and federal permitting and regulatory requirements. Locally and regionally, project-by-project compliance with seismic design and engineering standards, soil conservation and erosion protection is mandated through existing regulations and requirements as outlined above, thereby reducing potential cumulative geology and soils impacts within the region.

Summary

With the application of proposed mitigation, the Project's potential contribution to cumulative impacts in regard to geology and soils is not considerable, and the cumulative effects of the Project are determined to be less-than-significant.

5.1.1.9 Cumulative Impacts Related to Biological Resources

The cumulative impact areas for biological resources are generally defined by available habitat, species' range(s), physical constraints, and other limiting factors as discussed within the Project Biological Survey, EIR Appendix I. Biological resources occurring, or potentially occurring within the Project site, and any related potentially significant impacts and mitigation are summarized below.

Sensitive Plant Communities and Species

No special interest plant species were observed in surveys of the Project site. Nor do historic records indicate previous occurrence of special interest plant species within the Project site. Most areas of the Project site are sparsely vegetated with non-native grasses and weeds, or are completely devoid of vegetation due to recent disking.

The absence of any native habitat, extensive site disturbance, and lack of any historic presence indicate that no special interest plant species exist, or would likely occur on-site.

No potentially significant impacts to special interest plant species would result from implementation and operation of the Project, and no mitigation is required.

Wildlife Species

Two special status wildlife species, California horned lark (*Eremophila alpestris actia*) and burrowing owl (*Athene cunicularia*), were observed during site surveys. A small flock of larks occurred in the non-native grassland at the site, but nesting was not confirmed. A single burrowing owl was detected during the winter site visit and suitable burrows were present onsite. However, burrowing owls were absent during the focused surveys conducted in spring. Potential impacts to these species are considered potentially significant. No other special status wildlife species are resident to the Project site, or would otherwise be substantively affected by the Project. Mitigation for nesting birds and for protection of the burrowing is included in this EIR, reducing impacts to these potentially affected wildlife species to levels that are less-than-significant.

Jurisdictional Areas

No jurisdictional areas or wetlands occur within the Project site. No potentially significant impacts to jurisdictional areas would result from implementation and operation of the Project, and no mitigation is required.

Wildlife Movement Corridors

The Project site is bounded by traveled roadways and developed or developing properties. As such, the site does not represent a connecting link between significant habitat or wildlife areas. Based on its location within an urban context, the potential for the site to function as a significant wildlife movement corridor is considered low. No potentially significant impacts to wildlife movement corridors would result from implementation and operation of the Project, and no mitigation is required.

Nesting Birds

The Project site provides suitable habitat for ground-nesting birds. Nesting birds are universally protected under provisions of the Migratory Bird Treaty Act. The Project would comply with applicable provisions of the Act as specified in the mitigation measures

presented at EIR Section 4.9, *Biological Resources*. As mitigated, the Project's potential impacts to nesting birds are reduced to levels that are less-than-significant.

Summary

Mitigation proposed in the EIR reduces potential impacts to biological resources to levels that are less-than-significant. In this regard, mitigation of Project-specific biological resources impacts would also reduce the Project's potential incremental contributions to cumulative biological resources impacts within the region to levels that are not cumulatively considerable.

Based on the preceding discussion, the Project's potential contribution to cumulative impacts in regard to biological resources is not considerable, and the cumulative effects of the Project are determined to be less-than-significant.

5.1.1.10 Cumulative Impacts Related to Cultural Resources

The cumulative impact area for prehistoric, archaeological, and historic resources generally includes the City of Moreno Valley and surrounding areas of Riverside County. Impacts to any cultural resources within this area would be site-specific. Consistent with CEQA requirements, in the event that potentially significant cultural resources are encountered within the cumulative impact area, mitigation measures would be applied to ensure the preservation and protection of potentially significant resources. (*CEQA Guidelines* §15064.5. et al.) As discussed in EIR Section 4.10, the Project's potential impacts to cultural resources are determined to be less-than-significant as mitigated. In this regard, mitigation proposed for the Project (i.e., monitoring of construction activities for potential discovery of cultural resources) is typical of, and consistent with, mitigation required for construction within urban and suburban areas throughout the City of Moreno Valley and surrounding region. In this regard, mitigation of Project-specific cultural resources impacts would also reduce the Project's potential incremental contributions to cumulative cultural resources impacts within the region to levels that are not cumulatively considerable.

Summary

With the application of proposed mitigation measures, the Project's potential contribution to cumulative impacts in regard to cultural resources is not considerable, and the cumulative effects of the Project are determined to be less-than-significant.

5.2 ALTERNATIVES ANALYSIS

Pursuant to *CEQA Guidelines* Section 15126.6, an EIR must describe a range of reasonable alternatives to the Project, or to the location of the Project, which would feasibly attain the basic Project objectives, but would avoid or substantially lessen any of the significant environmental effects of the proposal. As further presented in the *CEQA Guidelines*, an EIR need not consider every conceivable alternative, but rather, the discussion of alternatives and their relative merits and impacts should be provided in a manner that fosters informed decision-making and public participation. To this end, the *CEQA Guidelines* indicate that the range of alternatives selected for examination in an EIR should be governed by "rule of reason," and requires the EIR to set forth only those alternatives necessary to permit an informed decision.

Consistent with the provisions of the *CEQA Guidelines*, the following analysis presents a reasonable range of alternatives to the Project that would potentially lessen its environmental effects while allowing for attainment of most of the basic Project Objectives. Supporting reasoning behind the selection of alternatives is presented together with a summary description of each alternative. The merits of the selected alternatives compared to the Project are described and evaluated.

The alternatives analysis concludes with identification of the environmentally superior alternative. If the environmentally superior alternative is the No Project Alternative, the *CEQA Guidelines* require that one of the remaining considered Alternatives be identified as the environmentally superior selection.

5.2.1 Alternatives Overview

Descriptions of, and the rationale underlying, the alternatives considered in this EIR are presented below. As provided for under CEQA, the ultimate rationale underlying the

development and selection of alternatives to the Project is the reduction or avoidance of otherwise resulting significant environmental impacts while allowing for attainment of most of the basic Project Objectives. Alternatives considered within this analysis include:

- No Project Alternative;
- No Build Alternative;
- Reduced Intensity Alternative;
- Alternative Site;
- "No Threshold Exceedance" Alternative for Traffic; and
- "NO_x Threshold Exceedance" Alternative for Air Quality.

These Alternatives are described in greater detail in Section 5.2.2, *Description of Alternatives*. To provide context for the subsequent consideration of Alternatives, significant Project impacts are summarized below in Table 5.2-1, and Project Objectives are subsequently restated.

Table 5.2-1
Summary of Significant and Unavoidable Impacts

Environmental Topic	Comments
Transportation/ Traffic	**Intersection Level of Service (LOS) Impacts/Roadway Segment Impacts** The Project Applicant would construct improvements and would, where applicable, pay requisite fees to be directed toward completion of necessary off-site traffic intersection and roadway segment improvements within the Study Area. Payment of fees does not assure timely implementation of required improvements. In instances where payment of fees is identified as mitigation, pending completion of required improvements, the Project's contributions to Opening Year (2018) and General Plan Buildout (Post-2035) Intersection Level of Service (LOS) Impacts/Roadway Segment impacts would be considered cumulatively significant. More specifically, absent recommended improvements, impacts would be cumulatively significant and unavoidable at Study Area Intersection No.s 1 through 7; 9, 10, 12 through 15; 17 through 21; 24 through 33; and 36 through 46. **Freeway Ramp Queuing Impacts** Within the Study Area, Under Opening Year and General Plan Buildout conditions, Project traffic would contribute ramp queuing deficiencies projected to occur at the I-215 Northbound Ramps at Cactus Avenue (Study Area Intersection No. 2). Improvements recommended to mitigate potentially significant intersection LOS conditions at this location would also address ramp queuing deficiencies; the Project Applicant would pay requisite fees directed toward the completion of these improvements. Nonetheless, payment of fees cannot assure timely implementation of the required improvements. Accordingly, pending completion of required

Table 5.2-1
Summary of Significant and Unavoidable Impacts

Environmental Topic	Comments
	improvements, the Project's contributions to Opening Year (2018) and General Plan Buildout (Post-2035) ramp queuing deficiencies projected to occur at the I-215 Northbound Ramps at Cactus Avenue would be considered cumulatively significant.
Air Quality	**NOx Regional Threshold Exceedance** Even after application of mitigation, Project operational-source emissions of nitrogen oxides (NO_x) would exceed applicable South Coast Air Quality Management District (SCAQMD) regional thresholds. This is a Project-level and cumulatively significant impact. **Contributions to Non-Attainment Conditions** Moreover, the Project is located within ozone and PM_{10}/$PM_{2.5}$ non-attainment areas (NO_x is a precursor to ozone, PM_{10}, and $PM_{2.5}$). Project operational-source NO_x emissions exceedances would therefore result in a cumulatively considerable net increase in criteria pollutants (ozone, PM_{10}, and $PM_{2.5}$) for which the Project region is non-attainment. These are cumulatively significant air quality impacts. **AQMP Inconsistency** The Project land uses are not reflected in land uses and development assumed in the South Coast Air Basin 2012 Air Quality Management Plan (AQMP); and on this basis, the Project is conservatively assumed to generate operational-source emissions not reflected within the current 2012 AQMP regional emissions inventory for the Basin. The Project is therefore considered to be inconsistent with the 2012 AQMP. This is a Project-level and cumulatively significant impact.

Project Objectives

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

- To capitalize on the site's location proximate to Perris Boulevard and its connection to local and regional transportation systems;
- To create a complementary mix of commercial/retail uses;
- To take advantage of available infrastructure; enhance and improve local infrastructure systems to the benefit of the Project and surrounding areas; and to maximize access opportunities for the convenience of patrons;

- To provide a commercial/retail development that meets the current unmet demand for goods and services from consumers residing in the trade area and future residential developments;

- To provide a commercial/retail shopping center that serves the local market area and beyond, and to attract new customers and retailers into the City of Moreno Valley;

- To provide goods and services at a local site, thereby reducing the number of trips currently being made to shop for these same goods and services at greater distances outside the City of Moreno Valley;

- To provide a convenient source of grocery and food items to serve the local community;

- To provide convenience-oriented retail sale of food, beverage, and related products and convenience-oriented services to the currently underserved area;

- Improve and maximize economic viability of the currently vacant and underutilized Project site and area through the establishment of a new commercial center;

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

- Expand and provide new retail options, with updated, modern and energy efficient buildings, proximate to local consumers by providing daytime and nighttime shopping opportunities in a safe and secure environment;

- Create additional employment-generating opportunities for the citizens of Moreno Valley and surrounding communities.

Please refer also to Draft EIR Section 3.5, *Project Objectives*.

5.2.2 Description of Alternatives

Alternatives to the Project that are considered in this analysis are described below.

5.2.2.1 No Project Alternative

Overview

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

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

No Project/No Build Alternative

In the case considered here, the subject site is a vacant and available property absent any significant environmental or physical constraints. Further, the Project site is fully served by proximate available utilities and supporting public services; and is provided appropriate

access. Areas around the subject site are developed with, or are being developed with urban uses.

The Project site's current General Plan Land Use designation is "Commercial" (C), and current zoning of the Project site is "Community Commercial" (CC). Given the subject site's Commercial General Plan Land Use designation and overlying Community Commercial zoning designation; availability of infrastructure/services, lack of environmental or physical constraints; and proximity of other urban development, it is considered unlikely that the subject site would remain vacant or in a "No Build" condition, and evaluation of a No Build condition would "analyze a set of artificial assumptions that would be required to preserve the existing physical environment." This is inconsistent with direction provided at *CEQA Guidelines*, Section 15126.6 (e)(3)(b), as presented above.

If however, a hypothetical No Project/No Build scenario were maintained, its comparative environmental impacts would replicate the existing conditions discussions for each of the environmental topics evaluated in this EIR; and comparative impacts of the Project would be as presented under each of the EIR environmental topics. In all instances, a No Build scenario would result in reduced environmental impacts when compared to the Project. A No Build condition would achieve none of the basic Project Objectives.

Evaluated No Project Alternative

In light of the preceding discussions, for the purposes of this Alternatives Analysis, and to provide for analysis differentiated from the Project, the No Project Alternative considered herein assumes development of the subject site with commercial/retail uses other than a "big-box" retailer such as the currently proposed Walmart. The No Project commercial/retail development would be allowed under the site's General Plan Commercial Land Use designation, and Community Commercial zoning designation. While any number of varying commercial/retail development scenarios could be implemented under the No Project Alternative, to differentiate the No Project Alternative from the Project, the No Project Alternative considered here assumes a mix of commercial/retail uses representative of a typical shopping center, at a development intensity equal to the Project, (a maximum of approximately 193,000 square feet on 20.25

net acres; FAR of approximately 0.21), but which specifically excludes any "big-box" or retail grocery uses.

Comparative No Project and Project Trip Generation

Arguably, the predominance of significant or potentially significant environmental impacts resulting from the Project or any development of the subject site is sourced back to trip generation and related traffic and air quality impacts. In this regard, a rough approximation of comparative environmental impacts of alternative development scenarios can be ascertained by reviewing comparative trip generation attributes of these scenarios.

Accordingly, as a point of departure, Table 5.2-2 summarizes and compares land uses and potential trip generation under the Project and No Project Alternative. Specific trip generation rates for the Project's commercial/retail land uses are obtained from the Project Traffic Impact Analysis (TIA), EIR Appendix C. Trip generation for the No Project Alternative assumes that the subject site is developed with a total of 193,000 square feet of shopping center uses. As indicated in Table 5.2-2, trip generation under the No Project Alternative would be reduced by approximately 31.7 percent when compared to the Project.

Table 5.2-2
Estimated Trip Generation Comparison
No Project Alternative and Project

Land Use Designation	ITE* Land Use Code	Daily Trip* Generation Factor	Project Building Area/Units	Project Daily Trip Generation	No Project Building Area	No Project Daily Trip Generation
Free-Standing Discount Superstore (Walmart)	813	50.75/TSF	189.52 TSF**	9,618*	---	---
Retail Shopping Center	820	42.7/TSF	---	---	193.00 TSF	8,241
Gas Station/Market/Car Wash	946	152.84/VFP	16 VFP*** 2.9 TSF	2,445	---	---
Total	**--**	**--**	**192.42 TSF/16 VFP**	**12,063**	**193.00TSF**	**8,241**

Sources: Project trip generation from *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015. No Project trip generation-Applied Planning, Inc.
Notes: * Land Use Codes and trip generation factors from Institute of Transportation Engineers (ITE), 9th Edition; assumes no internal capture or pass-by reduction. TSF-Thousand Square Feet; VFP-Vehicle Fueling Positions
** The TIA trip generation for Walmart reflects a nominally larger building footprint (189,520 sf) than is reflected in the current site plan concept (185,761 sf). Comparative analyses presented here are not affected.
*** The EIR analysis reflects a likely maximum impact scenario which assumes development of Parcel 2 with a commercial gas station (16 fueling points), convenience store, and commercial car wash. Alternatively, Parcel 2 may be developed with a fast food w/ drive through use of approximately 3,500 s.f., and 3,300 s.f. of retail uses.

The No Project Alternative's traffic impacts at Study Area facilities would likely be incrementally reduced when compared to the Project, as would the extent of required mitigation and associated share fee payments. As with the Project, payment of fees for necessary traffic improvements at Study Area locations would not ensure timely construction of those improvements. As such, under the No Project Alternative, absent physical construction of required circulation system improvements, potentially significant cumulative traffic impacts at Study Area locations would remain significant even after payment of mitigation fees. Significant traffic impacts occurring under the Project would therefore likely persist under the No Project Alternative.

Reduction in vehicular trips under the No Project Alternative would also reduce operational mobile-source air pollutant emissions. For purposes of comparison, the resulting decrease in mobile-source emissions is estimated to be roughly proportional to the reduction in trip generation (approximately 31.7 percent) indicated above. Table 5.2-3 provides a comparison of operational-source air pollutant emissions under the Project and No Project Alternative.

Table 5.2-3
Project and No Project Alternative
Operational-Source Emissions Comparison
(With Mitigation-Pounds per Day, Maximum Summer/Winter Emissions)

Emissions Sources	**VOC**	**NOx**	**CO**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
Project						
Area Sources (Landscape and Building Maintenance, Consumer Products)	5.02	2.00e-4	0.02	--	8.00e-5	8.00e-5
Building Energy Consumption	0.01	0.10	0.08	5.60e-4	7.09e-3	7.09e-3
Mobile Sources	45.72	95.53	357.32	0.77	52.11	14.72
Maximum Daily Emissions	**50.74**	**95.62**	**357.42**	**0.77**	**52.12**	**14.73**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	No	**YES**	No	No	No	No
No Project Alternative						
Area Sources (Landscape and Building Maintenance, Consumer Products)	5.02	2.00e-4	0.02	--	8.00e-5	8.00e-5
Building Energy Consumption	0.01	0.10	0.09	6.10e-4	7.75e-3	7.75e-3
Mobile Sources	28.76	60.01	224.75	0.48	32.78	9.26

Table 5.2-3
Project and No Project Alternative
Operational-Source Emissions Comparison
(With Mitigation-Pounds per Day, Maximum Summer/Winter Emissions)

Emissions Sources	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions	**33.79**	**60.11**	**224.86**	**0.48**	**32.79**	**9.27**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	No	**YES**	No	No	No	No

Sources: Project operational-source emissions estimates from: *Moreno Valley Walmart Air Quality Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014. No Project operational-source emissions estimates–Applied Planning, Inc.
Notes: Modeling results may not total 100% due to rounding. Scientific notation (e-4) expresses exponential quantities; e.g. 2.00e-4 = 2.00×10^{-4} = 2.00 x 0.0001 = 0.0002. For the purposes of this analysis area source emissions and building energy consumption emissions are assumed to be substantively constant under all development scenarios.

As indicated in Table 5.2-3, reduced trip generation under the No Project Alternative would translate to aggregate reductions in all operational-source air pollutant emissions otherwise occurring under the Project. However, operational-source NO_x emissions thresholds exceedances occurring under the Project would persist under the No Project Alternative.

5.2.2.2 Reduced Intensity Alternative

Reduced Intensity Alternative Scoped to Minimize Significant Air Quality Impacts
As noted previously in this Section, the Project would result in certain significant traffic and air quality impacts. As discussed below, there are no feasible alternatives that would completely avoid these impacts. The Reduced Intensity Alternative considered in this EIR would, however diminish the extent of these impacts.

Feasible reduced intensity alternatives would not substantively reduce the Project's significant traffic impacts and were therefore not further considered. More specifically, the Project's significant traffic impacts are cumulative in nature and are a byproduct of the urbanization of the City (including development of the Project site) as envisioned under the City General Plan. That is, development of the City consistent with the General Plan would generate additional traffic, the effects of which would result in interim areawide deficient operating conditions. Development and impact fees paid by new development proposals (including the proposed South Moreno Valley Walmart Project) provide the means to

resolve these deficiencies. Notwithstanding, interim deficient conditions affecting the existing roadway system are projected to occur pending completion of circulation system improvements commensurate with the development it is intended to support. In this regard, any development of the Project site consistent with the General Plan would generate additional traffic affecting the area roadway system, the effects of which would be cumulatively significant, and similar to those of the Project. A Reduced Intensity Alternative specifically directed toward substantively reducing or eliminating the Project's significant traffic impacts was therefore not considered further.

In light of the preceding considerations, the Reduced Intensity Alternative considered herein focuses on alternatives to the Project which would reduce or avoid certain significant air quality impacts. As previously discussed within this Section, and as detailed in EIR Section 4.4, *Air Quality*, operational-source air pollutants generated by the Project (due primarily to Project traffic and related mobile-source emissions) would exceed SCAQMD regional thresholds for NO_x. The Project's NO_x regional threshold exceedances are individually and cumulatively significant air quality impacts.

Further, the Project lies within a region that has been designated "non-attainment" for ozone, PM_{10} and $PM_{2.5}$. As such, the above-noted operational exceedances of NO_x (NO_x is a precursor to ozone, PM_{10}, and $PM_{2.5}$), in combination with emissions generated by other sources affecting the non-attainment areas, would result in a cumulatively considerable net increase in ozone, PM_{10}, and $PM_{2.5}$emissions within the region. These are cumulatively significant air quality impacts.

Project operational-source emissions exceedances of applicable SCAQMD regional thresholds are summarized below. Maximum daily summer/winter emissions estimates are presented.

- Total Mitigated Project Operational NO_x emissions = 95.62 pounds per day
  SCAQMD threshold = 55 pounds per day
  (SCAQMD threshold = 57.5 percent of Project NO_x emissions)

As indicated in the preceding calculations, to achieve the SCAQMD regional threshold for NO_x, operational-source NO_x emissions under the Reduced Intensity Alternative would need to be approximately 57.5 percent of NO_x emissions otherwise generated by the Project (a 42.5 percent net reduction in Project operational-source NO_x emissions).

Significant Air Quality Impacts Diminished by Reducing Project Traffic

Of the total operational-source NO_x emissions generated by the Project, approximately 99.9 percent (by weight) are due to Project-related traffic. As such, in order to achieve meaningful reductions in Project operational emissions, correlating reductions in Project traffic generation would be required.

The Project's operational-source air pollutant emissions could therefore likely be reduced to levels that are less-than-significant through a reduction in the Project scope that would sufficiently reduce Average Daily Trips (ADT) and associated vehicular emissions. Such a reduction in vehicular-source emissions would also decrease the Project's contributions to cumulative air quality impacts to levels that are less-than-significant.

In general terms then, the Project's operational-source NO_x emissions could be reduced by 42.5 percent through an approximate correlating reduction in total ADT, thereby achieving applicable SCAQMD NO_x thresholds.

The reduction in ADT and associated reductions in Project scope necessary to achieve applicable SCAQMD NO_x thresholds would be more substantive, and ultimately prohibitive. That is, the approximate 42.5 percent reduction in Project ADT necessary to achieve applicable SCAQMD NO_x thresholds would establish a total "trip budget" for the entire development at 6,936 ADT (0.575 x 12,063 Project ADT). To remain within this trip budget would, at a minimum, require elimination of the Project's currently proposed service station/convenience market (yielding a net 2,445 ADT reduction); plus an estimated 88,500-square-foot reduction in the scope of the proposed Walmart (yielding a net 4,491 ADT reduction).

In brief, the estimated 42.5 percent reduction in Project ADT and associated Project scope reduction necessary to achieve SCAQMD NO_x thresholds is dismissed outright. That is, as

noted above, a 42.5 percent reduction in Project ADT would translate to elimination of all the Project's outparcel uses, plus an estimated 88,500-square-foot reduction in the scope of the proposed Walmart, yielding a commercial/retail development of approximately 101,000 square feet. At this reduction in scope, and with elimination of synergistic outparcel uses, the Project's primary goal: "development of the subject site with a productive mix of commercial/retail uses," would not be realized. Moreover, the 101,000-square-foot scope limitation would effectively preclude development of the proposed Walmart (189,520 square feet). With preclusion of the Project Walmart use, there would be no defined anchor for the site, nor would there be a Project Applicant, or for that matter, a "Project."

Even though the estimated 42.5 percent reduction in Project scope necessary to achieve the SCAQMD regional threshold for NOx emissions is considered infeasible, Project NOx emissions exceedances could however be incrementally reduced through a reduction in Project scope and Project trip generation of some lesser extent. While this could be achieved through a variety of potential scope reduction schemes, for the purposes of this Alternatives Analysis, the Reduced Intensity Alternative considered here reflects elimination of the proposed Parcel 2 uses (Gas Station/Market/Car Wash), and development of the Project site with only the proposed Walmart. In this manner, the Reduced Intensity Alternative provides a readily-envisioned development concept that would reduce the extent of the Project's significant NO_x emissions impacts. Under the Reduced Intensity Alternative evaluated herein, operational-source NOx emissions otherwise resulting from the Project would be reduced by approximately 20.3 percent.[8]

[8] In context, to achieve this same reduction in NOx emissions, the proposed Walmart Store would need to be reduced in scope by approximately 25 percent. This reduction in development intensity for the proposed Walmart is substantively *not* the Project proposed and submitted to the Lead Agency for consideration. Further a Store of this reduced scope is not consistent with the Applicant's prototypical building footprint and configuration considered necessary to successfully serve the market area. In this regard, the Applicant would likely not further pursue the Project at such a reduced scope. Moreover, at such a reduction in development intensity, the Project Objectives in total would be marginalized. For these reasons, a reduced intensity alternative based on a 25 percent reduction in the scope of the proposed Walmart Store is considered infeasible.

Project operational-source NOx emissions would however, still exceed applicable SCAQMD regional thresholds and would remain significant.

Table 5.2-4 summarizes and compares land uses and trip generation that would occur under the Project and the Reduced Intensity Alternative. Table 5.2-5 compares estimated air pollutant emissions generated under the Project with estimated air pollutant emissions generated under the Reduced Intensity Alternative (an approximate 20.3 percent reduction in all mobile-source emissions is reflected). The analysis conservatively assumes no reductions in area-source or energy consumption emissions, or emissions reductions achieved through internal trip capture.

Table 5.2-4
Project and Reduced Intensity Alternative
Land Use Summary and Trip Generation Comparison

Land Use Designation	ITE* Land Use Code	Daily Trip* Generation Factor	Project Building Area/Units	Project Daily Trip Generation	Reduced Intensity Alt. Bldg. Area	Reduced Intensity Alt. ADT
Free-Standing Discount Superstore (Walmart)	813	50.75/TSF	189.52 TSF**	9,618*	189.52 TSF	9,618
Gas Station/Market/Car Wash	946	152.84/VFP	16 VFP*** 2.9 TSF	2,445	---	---
Total	**--**	**--**	**192.42 TSF**	**12,063**	189.52 TSF	9,618

Sources: Project trip generation from *Moreno Valley Walmart Traffic Impact Analysis, City of Moreno Valley, California* (Urban Crossroads, Inc.) March 5, 2015. Reduced Intensity Alternative trip generation-Applied Planning, Inc.
Notes: * Land Use Codes and trip generation factors from Institute of Transportation Engineers (ITE), 9th Edition; assumes no internal capture or pass-by reduction. TSF-Thousand Square Feet; VFP-Vehicle Fueling Positions
** The TIA trip generation for Walmart reflects a nominally larger building footprint (189,520sf) than is reflected in the current site plan concept (185,761 sf). Comparative analyses presented here are not affected.
*** The EIR analysis reflects a likely maximum impact scenario which assumes development of Parcel 2 with a commercial gas station (16 fueling points), convenience store, and commercial car wash. Alternatively, Parcel 2 may be developed with a fast food w/ drive through use of approximately 3,500 s.f., and 3,300 s.f. of retail uses.

Table 5.2-5
Project and Reduced Intensity Alternative
Operational-Source Emissions Comparison
(With Mitigation-Pounds per Day, Maximum Summer/Winter Emissions)

Emissions Sources	VOC	NO_x	CO	SOx	PM_{10}	$PM_{2.5}$
PROJECT						
Area Sources (Landscape and Building Maintenance, Consumer Products)	5.02	2.00e-4	0.02	--	8.00e-5	8.00e-5
Building Energy Consumption	0.01	0.10	0.08	5.60e-4	7.09e-3	7.09e-3
Mobile Sources	45.72	95.53	357.32	0.77	52.11	14.72
Maximum Daily Emissions	**50.74**	**95.62**	**357.42**	**0.77**	**52.12**	**14.73**

Table 5.2-5
Project and Reduced Intensity Alternative
Operational-Source Emissions Comparison
(With Mitigation-Pounds per Day, Maximum Summer/Winter Emissions)

Emissions Sources	**VOC**	**NO_x**	**CO**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	No	**YES**	No	No	No	No
REDUCED INTENSITY ALTERNATIVE						
Area Sources (Landscape and Building Maintenance, Consumer Products)	13.03	1.16e-3	0.12	1.00e-5	4.40e-4	4.40e-4
Building Energy Consumption	0.04	0.35	0.29	2.09e-3	0.03	0.03
Mobile Sources	36.58	76.42	285.86	0.62	41.69	11.78
Maximum Daily Emissions	**49.65**	**76.77**	**286.27**	**0.62**	**41.73**	**11.79**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	No	**YES**	No	No	No	No

Sources: Project operational-source emissions estimates from: *Moreno Valley Walmart Air Quality Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014. Reduced Intensity Alternative operational-source emissions estimates–Applied Planning, Inc.
Notes: Modeling results may not total 100% due to rounding. Scientific notation (e-3) expresses exponential quantities; e.g., 1.16e-3 = 1.16 $x10^{-3}$ = 1.16 x 0.001 = 0.00116. Area source emissions and building energy consumption emissions are assumed constant.

As indicated at Table 5.2-5, Project operational-source emissions under the Reduced Intensity Alternative would be incrementally reduced when compared to the Project. The extent of operational-source NO_x emissions exceedances would be diminished under the Reduced Intensity Alternative, however, significant operational-source NO_x emissions impacts would persist.

5.2.2.3 Alternative Site Rejected

As stated at *CEQA Guidelines* Section 15126.6 (f)(1)(2)(A), the "key question and first step in [the] analysis [of alternative locations] is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location." As discussed in the body of the Draft EIR and summarized previously in Table 5.2-1, the Project will result in the following significant impacts:

- Individually and cumulatively significant traffic impacts; and
- Operational-source NOx emissions exceeding SCAQMD regional thresholds, and related cumulative air quality impacts.

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

In the case of the proposed Project, relocation to an Alternative Site within the City of Moreno Valley is not likely to achieve any measurable reduction in the Project's traffic impacts. In this regard, certain of the Project's significant cumulative traffic impacts would occur at, or would require improvement of, Caltrans jurisdictional facilities. Ultimately, planned and programmed improvements to Caltrans facilities would alleviate regionally and locally cumulatively significant impacts, including the Project's contributions to these impacts. Such improvements, however, are beyond the scope and purview of the Lead Agency and the Applicant. If not implemented at the current site, the Project uses would still contribute essentially the same volumes and types of traffic to Caltrans facilities, resulting in significant traffic impacts similar to those of the current Project at its current location; the impacts differentiated principally (if not solely) by their location(s) within the freeway system serving the City.

Similarly, implementation of area-serving traffic improvements, including intersection signalization and roadway segment widening as envisioned under the City General Plan Circulation Element, is an ongoing process undertaken in conjunction with the development of vacant or underutilized properties throughout the City. As such, it is highly unlikely that a suitable Alternative Site could be identified that would distribute Project trips only to roadways that have already been improved to their ultimate Moreno Valley General Plan configurations, thus avoiding the Project's significant impacts at area transportation facilities.

In regard to air quality impacts, the Project's operational-source emissions impacts are regional effects, and location of the Project anywhere within the South Coast Air Basin would result in similarly significant impacts. Relocation of the Project to an alternative site within the City would therefore not substantively reduce the Project's operational-source emissions impacts.

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

5.2.2.4 "No Threshold Exceedance" Alternative for Traffic Rejected

While specific improvements identified in the TIA and summarized at Draft EIR Section 4.3 could provide a physical solution to identified off-site cumulatively significant traffic impacts, the improvements cannot be timely assured. The Project would nonetheless pay requisite fees proportional to the Project's incremental contributions to cumulative traffic/circulation impacts affecting Study Area facilities, thereby satisfying the Project's mitigation responsibilities in this regard.

Any measurable additional traffic contributed to Study Area intersections and roadway segments intersections would likely result in, or contribute to, potentially significant cumulative traffic impacts, requiring some manner of mitigation that as is the case with the Project, could not be timely assured. In that any development of the subject site would generate trips likely affecting some or all of the Study Area intersections and roadway segments, an alternative to the Project developed specifically to alleviate cumulatively significant traffic impacts projected to affect Study Area intersections and roadway segments was not further evaluated.

5.2.2.5 "NO_x Threshold Exceedance" Alternative for Air Quality Rejected

As discussed previously in this Section, in order to reduce Project operational-source NO_x emissions to levels that would avoid the exceedance of applicable SCAQMD thresholds, the Project scope and related vehicle trips would need to be reduced by an estimated 42.5 percent. At such a reduction in scope, the Project Objectives would be substantively marginalized and/or not realized in any meaningful sense; and the Project would likely not be further pursued by the Applicant. In terms of its practical application, such a reduction in scope would constitute a "no build" condition. For these reasons, an alternative based on a scenario developed specifically to achieve SCAQMD regional operational emissions thresholds for NO_x was not further considered.

5.2.3 Comparative Impacts of Alternatives

For each environmental topic addressed in the EIR, the alternative analyses present an assessment of comparative impacts. Although significant and unavoidable impacts have not been identified under every EIR topic, the environmental impacts associated with each of the considered Alternatives are described relative to the potential and identified impacts of the Project. At the conclusion of these discussions, Table 5.2-6 summarizes and compares relative impacts of the considered Alternatives.

5.2.3.1 Comparative Land Use Impacts

In order to implement the Project, while precluding or reducing potential land use impacts, the following discretionary actions are necessary:

- Certification of the EIR;
- Approval of a Tentative Parcel Map to divide the single parcel into two parcels;
- Plot Plan Review and Approval to include Project design and architectural reviews; and review and approval of the Walmart pharmacy and alcohol sales as ancillary uses;
- Approval of Conditional Use Permits as follows:
  - Parcel 2 Development Option A includes a fueling station, alcohol sales for offsite consumption, and a drive-through car wash; all would require a CUP.
  - Parcel 2 Development Option B includes a fast food with drive-through restaurant, and retail shops. The proposed fast food with drive-through restaurant would require a CUP.

Approval of the requested discretionary actions, and Project compliance with associated requirements incorporated therein, would reduce potential land use impacts of the Project below levels of significance. No mitigation measures were found to be necessary as part of the EIR Project land use analysis.

No Project Alternative

The No Project Alternative assumes development of the subject with commercial/retail uses at a development intensity equal to the Project, but absent any "big box" uses.

Discretionary approvals similar to those required of the Project would be required. On this basis, potential land use impacts under the No Project Alternative would be comparable to the Project, but land use impacts would remain less-than-significant.

Reduced Intensity Alternative

Implementation of the Reduced Intensity Alternative would eliminate the Project service station/convenience market and would diminish the extent of development within the subject site. CUP approvals for the currently proposed gas station would not be required, and in this respect, the scope of discretionary actions required under the Reduced Intensity Alternative would be diminished when compared to the Project. On this basis, potential land use impacts under the Reduced Intensity Alternative would likely be reduced when compared to the Project. Notwithstanding, under either the Project or the Reduced Intensity Alternative, land use impacts would be less-than-significant.

5.2.3.2 Comparative Urban Decay Impacts

No Project Alternative

The No Project Alternative assumes development of the subject with commercial/retail uses at a development intensity substantively equal to the Project, but absent any "big box" uses. Other than their physical configuration, it is assumed that the No Project Alternative would implement retail/commercial uses similar to those proposed under the Project. On this basis, the No Project Alternative would likely have competitive market effects and potential urban decay impacts similar to the Project. Under either the Project or the No Project Alternative, potential urban decay impacts would be less-than-significant.

Reduced Intensity Alternative

Potential economic and market effects of the Reduced Intensity Alternative would be diminished when compared to the Project in that the proposed service station/convenience store would be eliminated, and total competitive sales otherwise generated by this use would not be realized. As with the Project, economic effects of the Reduced Intensity Alternative would not result in, nor cause any adverse physical impacts, and potential urban decay impacts of the Reduced Intensity Alternative would be less-than-significant.

5.2.3.3 Comparative Traffic/Transportation Impacts

At buildout, implementation of the Project would generate approximately 12,063 (gross) weekday trips on the Study Area roadway system. Traffic improvements constructed by the Project would act to preclude on-site and site adjacent traffic impacts. However, even with implementation of mitigation, the Project would result in significant traffic impacts affecting of the Study Area intersections.

The Project does not propose, nor would it result in, inherently hazardous traffic/circulation design features. The Project Site Plan Concept provides for adequate and safe access. Final Site Plan design, including site access, internal circulation, and parking are subject to review and approval by the City. Designed and constructed consistent with City requirements and standards, the potential for the Project to result in or cause adverse impacts related to hazardous features or improper access and internal circulation features is determined to be less-than-significant.

No Project Alternative

Under the No Project Alternative, potential traffic impacts would be incrementally decreased compared to the Project, since the number of vehicular trips would be reduced by approximately 31.7 percent. On this basis, the No Project Alternative would likely require less extensive traffic improvements; and proportional fair share fees for these improvements would be reduced. It is assumed that like the Project, development of the subject site under the No Project Alternative would incorporate those site adjacent and on-site circulation system improvements necessary to avoid or mitigate development-specific traffic impacts. It is also likely that, as with the Project, potentially significant off-site Study Area circulation system impacts would result from the No Project Alternative. Absent physical construction of the necessary improvements, these impacts under the No Project Alternative would be considered significant.

Reduced Intensity Alternative

When compared to the Project, the Reduced Intensity Alternative would realize an approximate 20.3 percent reduction in traffic generation. On this basis, the Reduced Intensity Alternative would likely require less extensive traffic improvements; and

proportional fair share fees for these improvements would be reduced. The reduced scope of development would also reduce DIF and TUMF responsibilities under the Reduced Intensity Alternative.

It is assumed that like the Project, development of the subject site under the Reduced Intensity Alternative would incorporate those site adjacent and on-site circulation system improvements necessary to avoid or mitigate development-specific traffic impacts. It is also likely that, as with the Project, potentially significant off-site Study Area circulation system impacts would result from the Reduced Intensity Alternative. Absent physical construction of the necessary improvements, these impacts under the Reduced Intensity Alternative would be considered significant.

5.2.3.4 Comparative Air Quality Impacts

Project construction and operations would generate additional air pollutant emissions. Construction-source air pollutant emissions have been determined to be less-than-significant as mitigated under the Project development scenario. However, the Project's mitigated operational emissions would exceed SCAQMD regional thresholds for NO_x. This is a significant Project-specific and cumulative air quality impacts. Additionally, the Project lies within a region classified as non-attainment for ozone. Project NO_x exceedances within the encompassing ozone non-attainment area would be cumulatively significant.

No Project Alternative

Under the No Project Alternative, maximum emissions from site preparation and grading would be the same as for the Project. That is, the same types and amount of equipment would be employed, and the maximum daily area of disturbance would be the same under all development scenarios. Operational air pollutant emissions would likely be decreased under the No Project Alternative based on the estimated 31.7 percent reduction in vehicle trips and associated mobile-source emissions under this Alternative. Operational emissions resulting from the No Project Alternative and the Project are compared at previous Table 5.2-3. As shown in this Table, operational emissions would be incrementally reduced for all criteria pollutants. Notwithstanding, as with the Project, operational-source NO_x emissions would continue to exceed applicable SCAQMD regional thresholds, and would be

considered individually and cumulatively significant. Under the No Project Alternative, NO_x regional threshold exceedances within the encompassing ozone non-attainment area would be cumulatively significant.

Reduced Intensity Alternative

The overall scope of development would also be reduced through the elimination of the Project's service station/convenience store, and the duration of construction activities could therefore be reduced when compared to the Project. As with the Project, mitigated construction-related emissions would not exceed SCAQMD emissions thresholds.

Operational-source emissions resulting from the Reduced Intensity Alternative and the Project are compared at previous Table 5.2-5. As shown in this Table, operational emissions would be incrementally reduced for all criteria pollutants. Notwithstanding, as with the Project, operational-source NO_x emissions would continue to exceed applicable SCAQMD regional thresholds and would be considered individually and cumulatively significant. Additionally, the Reduced Intensity Alternative's NO_x regional threshold exceedances within the encompassing ozone non-attainment area would be cumulatively significant.

5.2.3.5 Comparative Greenhouse Gas/Global Climate Change Impacts

As demonstrated in the Project Greenhouse Gas Analysis and the information presented at EIR Section 4.5, *Global Climate Change and Greenhouse Gas Emissions*, the Project would not cause or result in a substantial increase in Greenhouse Gas (GHG) emissions when compared to the Business As Usual (BAU) scenario. In this regard, the GHG Analysis demonstrates that Project-source GHG emissions represent an approximate 30.33 percent reduction in GHG emissions when compared to a BAU scenario. This is consistent with and supports California AB 32 Scoping Plan directives calling for an approximate 28.5 percent reduction in GHG emissions when compared to the BAU scenario. Further, the Project would conform to applicable City of Moreno Valley GHG Emissions Reduction Programs and Regulations (please refer to EIR Section 4.5, Table 4.5-3).

On this basis, Project GHG emissions would not exceed a threshold of significance that the lead agency determines applies to the Project. Further, the Project GHG analysis

demonstrates that the Project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. The Project's potential to contribute considerably (either individually or cumulatively) to a global climate change impact through GHG emissions is therefore considered less-than-significant.

No Project Alternative

Reduced trip generation and associated reduction in vehicle emissions under the No Project Alternative would result in reduced GHG emissions when compared to the Project. It is assumed that like the Project, the No Project Alternative would conform to applicable City of Moreno Valley GHG Emissions Reduction Programs and Regulations. On this basis, the No Project Alternative would not cause or result in a substantial increase in Greenhouse Gas (GHG) emissions when compared to the Business As Usual (BAU) scenario; would not exceed an applicable Lead Agency threshold of significance; and would comply with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. The No Project Alternative's potential to contribute considerably (either individually or cumulatively) to a global climate change impact through GHG emissions would be incrementally reduced when compared to the Project, and would be considered less-than-significant.

Reduced Intensity Alternative

The elimination of the Project's proposed service station/convenience store would incrementally reduce building energy consumption, and would thereby reduce the extent and scope of area-source GHG emissions otherwise generated by the Project. More significantly, reduced trip generation and associated reduction in vehicle emissions under the Reduced Intensity Alternative would result in reduced GHG emissions when compared to the Project. It is assumed that like the Project, the Reduced Intensity Alternative would conform to applicable City of Moreno Valley GHG Emissions Reduction Programs and Regulations. On this basis, the Reduced Intensity Alternative would not cause or result in a substantial increase in Greenhouse Gas (GHG) emissions when compared to the Business As Usual (BAU) scenario; would not exceed an applicable Lead Agency threshold of significance; and would comply with regulations or requirements adopted to implement a

statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. The Reduced Intensity Alternative's potential to contribute considerably (either individually or cumulatively) to a global climate change impact through GHG emissions would be incrementally reduced when compared to the Project, and would be considered less-than-significant.

5.2.3.6 Comparative Noise Impacts

Development of the subject site as proposed under the Project would result in increased noise levels, including temporary short-term construction noise, as well as long-term operational noise. Noise generated by Project construction activities would be less-than-significant as mitigated. The Project's operational impacts are less-than-significant.

No Project Alternative

Construction of the No Project Alternative would likely generate peak daily noise levels comparable to the Project. That is, under either scenario, comparable construction equipment would be employed in a similar manner, generating similar maximum noise levels. It is assumed that as with the Project, mitigation would be applied to reduce the No Project Alternative's construction-source noise to levels that are less-than-significant.

Based on similarity of commercial/retail uses and operations, maximum stationary (area-source) operational-source noise would likely be similar under the No Project Alternative and the Project. The approximately 31.7 percent reduction in vehicle trips under the No Project Alternative would potentially reduce vehicular (mobile-source) noise levels along area roadways. However, any such reduction would likely be indiscernible. In this latter regard, a discernible change in roadway noise levels (3 dB or more) would typically occur when roadway traffic volumes are doubled (or halved).

Reduced Intensity Alternative

When compared to the Project, the reduction in aggregate development intensity occurring under the Reduced Intensity Alternative, and the duration of site preparation and grading noise may be reduced proportionally to the reduction in development scope. Notwithstanding, the maximum noise levels generated by construction activities within the

subject site would not be substantively different than would result from the Project. That is, the maximum noise levels that would be generated during site preparation and grading would be unchanged from that generated by the Project. It is assumed that as with the Project, mitigation would be applied to reduce the Reduced Intensity Alternative's construction-source noise to levels that are less-than-significant.

The reduction in development intensity under the Reduced Intensity Alternative would likely result in a decrease in the duration, if not the intensity, of construction-related noise. Based on substantively similar commercial/retail operations, maximum stationary (area-source) operational-source noise would likely be similar under the Reduced Intensity Alternative and the Project. The approximately 20.3 percent reduction in vehicle trips under the Reduced Intensity Alternative would potentially reduce vehicular (mobile-source) noise levels along area roadways. However, any such reduction would likely be indiscernible. In this latter regard, a discernible change in roadway noise levels (3 dB or more) would typically occur when roadway traffic volumes are doubled (or halved).

5.2.3.7 Comparative Hydrology/Water Quality Impacts

As discussed at EIR Section 4.7, the Project would be developed and operated in a manner that ensures post-development stormwater discharges do not exceed pre-development conditions. The Project would implement stormwater management systems that would ensure adequate and appropriate conveyance of developed stormwater discharges to the City storm sewer system. Further, the Project would implement a construction Storm Water Pollution Prevention Plan (SWPPP) and operational Water Quality Management Plan (WQMP) ensuring that stormwater discharges for the Project site do not adversely affect water quality. On this basis, the Project's impacts to hydrology and water quality are considered less-than-significant.

No Project Alternative

Comparable development intensities under the No Project Alternative would likely result in the creation of impervious areas similar to the Project, with similar stormwater runoff characteristics and stormwater management requirements. In this regard, less-than-significant hydrology impacts occurring under the Project would be similarly less-than-

significant under the No Project Alternative. The No Project Alternative would also comply with mandated SWPPP and WQMP requirements, thereby reducing potential water quality impacts to levels that are less-than-significant.

Reduced Intensity Alternative

Aggregate reduced development intensity under the Reduced Intensity Alternative would tend to decrease the amount of impervious areas within the subject, and could reduce the rate and quantity of post-development stormwater runoff when compared to the Project. In this regard, the Project's already less-than-significant hydrology impacts would be further reduced under the No Project Alternative. The Reduced Intensity Alternative would also comply with mandated SWPPP and WQMP requirements, thereby reducing potential water quality impacts to levels that are less-than-significant.

5.2.3.8 Comparative Geology/Soils Impacts

As concluded in the Project Geotechnical Investigation (Geotechnical Investigation), the subject site can be developed as proposed under the Project, contingent on adherence to the recommendations and requirements of the Geotechnical Investigation. Mitigation identified in this EIR acts to ensure compliance with the requirements and recommendations of the Geotechnical Investigation, and provide for monitoring of site conditions during Project development. As mitigated, potential geology/soils impacts affecting the Project are determined to be less-than-significant.

No Project Alternative

Under the No Project Alternative, as with the Project, compliance with requirements and recommendations identified in a site-specific geotechnical investigation, and incorporation of applicable California Building Code (CBC) design/construction requirements would act to reduce potential geotechnical/soils impacts to levels that are less-than-significant. In this sense, potential geology/soils impacts of the No Project Alternative would be similar to those of the Project.

Reduced Intensity Alternative

Under the Reduced Intensity Alternative, as with the Project, compliance with requirements and recommendations identified in the geotechnical investigation, and incorporation of applicable CBC design/construction requirements would act to reduce potential geology/soils impacts to levels that are less-than-significant. In this sense, potential geology/soils impacts of the Reduced Intensity Alternative would be similar to those of the Project.

5.2.3.9 Comparative Biological Resources Impacts

As discussed at EIR Section 4.9, *Biological Resources*, the subject site in total is considered to be of limited biologic value in that it is located amongst areas of the City that are currently urbanized or are planned for urban uses. The site is also of limited habitat value. That is, the Project site is sparsely vegetated with non-native grasses and weeds or is otherwise devoid of vegetation due to recent disking. It is further noted that development of the Project site is anticipated under the City General Plan, and the site would not be preserved for biologic purposes in any case.

No special interest plant communities, special interest plant species, or potentially valuable habitat exists within the Project site, or would otherwise be adversely affected by the Project.

Two special status wildlife species, California horned lark (*Eremophila alpestris actia*) and burrowing owl (*Athene cunicularia*), were observed onsite. A small flock of larks occurred in the non-native grassland at the site, but nesting was not confirmed. A single burrowing owl was detected during the winter site visit and suitable burrows were present onsite. However, burrowing owls were absent during the focused surveys conducted in spring. Potential impacts to these species are considered potentially significant. Mitigation is included in the EIR that reduces potential impacts to the owl and nesting migratory birds to levels that are less-than-significant.

No Project Alternative

Development realized under the No Project Alternative would result in disturbance of the subject site similar to that occurring under the Project. Potential impacts to biological resources would also likely be similar to those of the Project. As with the Project, mitigation would be provided that reduces potential impacts to the owl and nesting migratory birds to levels that are less-than-significant.

Reduced Intensity Alternative

The reduction in overall site development realized under the Reduced Intensity Alternative could result in a portion of the site remaining, for the time being, in an undeveloped condition. Notwithstanding, any areas that would remain undeveloped are not at present considered to be of biological significance. Potential impacts to biological resources would therefore likely be similar to those of the Project. As with the Project, it is anticipated that mitigation would be provided that reduces potential impacts to the burrowing owl and nesting migratory birds to levels that are less-than-significant.

5.2.3.10 Comparative Cultural Resources Impacts

The Cultural Resources Investigation prepared for the Project indicates that there are no known historic, archaeological, or paleontological resources on the site. However, there is a potential for these resources to be present in a buried context. Should as-yet-unidentified cultural resources be encountered in the course of Project development, mitigation is provided requiring that construction activities be halted, allowing for identification, cataloguing, and as applicable, protection and preservation of resources.

No Project Alternative

Under the No Project Alternative, the area to be disturbed would be comparable to that occurring under the Project. As with the Project, should as-yet-unidentified cultural resources be encountered in the course of Project development, mitigation would be implemented requiring that construction activities be halted, allowing for identification, cataloguing, and as applicable, protection and preservation of resources. As with the Project, potential impacts to cultural resources would be less-than-significant as mitigated under the No Project Alternative.

Reduced Intensity Alternative

Under the Reduced Intensity Alternative, the area to be graded could be reduced when compared to the Project. However, if cultural resources are present onsite, they are located below the surface in an as-yet-unknown location. As such, potential impacts would be similar to those of the Project, albeit at a somewhat reduced scale. As with the Project, mitigation would be required to ensure that grading activities are professionally monitored and halted if the presence of cultural resources is suspected; allowing for identification, cataloguing, and as applicable, protection and preservation of resources. As with the Project, potential impacts to cultural resources would be less-than-significant as mitigated under the Reduced Intensity Alternative.

5.2.4 Comparative Attainment of Project Objectives

Comparative Attainment of Project Objectives is summarized for each of the Alternatives considered here. For ease of reference, the Project Objectives are restated below.

5.2.4.1 Project Objectives

Project Objectives include the following:

- Capitalize on the site's location proximate to Perris Boulevard and its connection to local and regional transportation systems;

- Create a complementary mix of commercial/retail uses;

- Take advantage of available infrastructure; enhance and improve local infrastructure systems to the benefit of the Project and surrounding areas; and to maximize access opportunities for the convenience of patrons;

- Provide a commercial/retail development that meets the current unmet demand for goods and services from consumers residing in the trade area and future residential developments;

- Provide a commercial/retail shopping center that serves the local market area and beyond, and to attract new customers and retailers into the City of Moreno Valley;

- Provide goods and services at a local site, thereby reducing the number of trips currently being made to shop for these same goods and services at greater distances outside the City of Moreno Valley;

- Provide a convenient source of grocery and food items to serve the local community;

- Provide convenience-oriented retail sale of food, beverage, and related products and convenience-oriented services to the currently underserved area;

- Improve and maximize economic viability of the currently vacant and underutilized Project site and area through the establishment of a new commercial center;

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

- Expand and provide new retail options, with updated, modern and energy efficient buildings, proximate to local consumers by providing daytime and nighttime shopping opportunities in a safe and secure environment;

- Create additional employment-generating opportunities for the citizens of Moreno Valley and surrounding communities.

No Project Alternative

The No Project Alternative would likely realize the stated Project Objectives by providing a mix of commercial/retail uses at development intensities comparable to the Project. Under the No Project Alternative, a "big-box" anchor use would not be implemented. A lease commitment from some other anchor tenant or tenants would likely be required in order to obtain financing for, and allow development of, the subject site.

Reduced Intensity Alternative

Development of the site under the Reduced Intensity Alternative would eliminate the service station/convenience market/carwash proposed by the Project. In this regard, the Reduced Intensity Alternative would tend to incrementally diminish attainment of the following Project Objectives:

- Create a complementary mix of commercial/retail uses;
- Take advantage of available infrastructure; enhance and improve local infrastructure systems to the benefit of the Project and surrounding areas; and to maximize access opportunities for the convenience of patrons;
- Provide a commercial/retail development that meets the current unmet demand for goods and services from consumers residing in the trade area and future residential developments;
- Provide a commercial/retail shopping center that serves the local market area and beyond, and to attract new customers and retailers into the City of Moreno Valley;
- Provide goods and services at a local site, thereby reducing the number of trips currently being made to shop for these same goods and services at greater distances outside the City of Moreno Valley;
- Provide convenience-oriented retail sale of food, beverage, and related products and convenience-oriented services to the currently underserved area;
- Improve and maximize economic viability of the currently vacant and underutilized Project site and area through the establishment of a new commercial center;
- Maximize and broaden the City's sales tax base by providing local and regional tax-generating uses and by increasing property tax revenues;

- Expand and provide new retail options, with updated, modern and energy efficient buildings, proximate to local consumers by providing daytime and nighttime shopping opportunities in a safe and secure environment;

- Create additional employment-generating opportunities for the citizens of Moreno Valley and surrounding communities.

5.2.5 Comparison of Alternatives

The *CEQA Guidelines* require that the environmentally superior alternative (other than the No Project Alternative) be identified among the Project and other Alternatives considered in an EIR. The following Table 5.2-6 provides a summary, by topic, of the preceding alternatives analysis, indicating whether impacts may be reduced (or increased) when compared to the Project. Potential reductions in impacts (whether these impacts are significant or otherwise) are identified with **bold** text.

5.2.6 Environmentally Superior Alternative

Reduced Intensity Alternative Considerations

As indicated at Table 5.2-6, the Reduced Intensity Alternative would likely result in the greatest potential reduction in general environmental effects when compared to the Project. For the purposes of CEQA, the Reduced Intensity Alternative is therefore identified as the "environmentally superior alternative." Reductions in environmental effects under the Reduced Intensity Alternative would not however be substantive, and in no instances would significant environmental effects otherwise occurring under the Project be avoided. As discussed below, the Reduced Intensity Alternative would also materially diminish attainment of the Project Objectives.

Table 5.2-6
Summary of Potential Impacts, Alternatives Compared to Project, By Topic

Topic of Analysis	No Project Alternative	Reduced Intensity Alternative
Land Use and Planning: Project impacts would be less-than-significant.	Impacts would be similar to those of the Project.	Impacts would be similar to those of the Project.
Urban Decay: Urban decay impacts of the Project would be less-than-significant.	Impacts would be similar to those of the Project.	**Elimination of the Project service station/convenience store would tend to reduce competitive sales for these services and could further reduce already less-than-significant urban decay impacts of the Project.**
Traffic and Circulation: Project-related traffic impacts would be significant at the Study Area facilities listed at Table 5.2-1.	**Trip generation would be incrementally reduced by an estimated 31.7 percent under the No Project Alternative. Related, under the No Project Alternative, the scope of off-site Study Area circulation system improvements may be reduced. However, significant impacts otherwise occurring under the Project would likely persist.**	**The scope of development and trip generation would be incrementally reduced by an estimated 20.3 percent under the Reduced Intensity Alternative. Related, under the Reduced Intensity Alternative, the scope of off-site Study Area circulation system improvements may be reduced, as would proportional fair share fees funding responsibilities for these improvements. The reduced scope of development would also reduce DIF and TUMF responsibilities. However, significant impacts otherwise occurring under the Project would likely persist.**
Air Quality: Operational-source exceedances of SCAQMD regional thresholds for NOx would be significant. NOx exceedances would also be cumulatively considerable within the encompassing ozone non-attainment area.	**Operational-source NOx emissions would be reduced by an estimated 31.7 percent under the No Project Alternative. NOx threshold exceedances would however persist, though the extent of these exceedances would be diminished when compared to the Project.**	**Operational-source NOx emissions would be reduced by an estimated 20.3 percent under the Reduced Intensity Alternative. NOx threshold exceedances would however persist, though the extent of these exceedances would be diminished when compared to the Project.**
Greenhouse Gas Emissions (GHG)/Global Climate Change (GCC): GHG/GCC impacts of the Project would be less-than-significant.	**Trip generation would be incrementally reduced by an estimated 31.7 percent under the No Project Alternative. Related, under the No Project Alternative, vehicular-source GHG emissions would be reduced. Already less-than-significant**	**Trip generation would be incrementally reduced by an estimated 20.3 percent under the Reduced Intensity Alternative. Related, under the Reduced Intensity Alternative, vehicular-source GHG emissions would be reduced. Already less-than-**

Table 5.2-6
Summary of Potential Impacts, Alternatives Compared to Project, By Topic

Topic of Analysis	No Project Alternative	Reduced Intensity Alternative
	GHG/GCC impacts of the Project would be further diminished.	**significant GHG/GCC impacts of the Project would be further diminished.**
Noise: Project construction-source noise would be less-than-significant as mitigated. Area operational-source noise impacts would be less-than-significant. Vehicular-source noise impacts would be less-than-significant.	Impacts would be similar to those of the Project.	Impacts would be similar to those of the Project.
Hydrology/Water Quality: Stormwater management systems would be implemented to control and treat stormwater runoff, ensuring that storm drain systems and water quality are not adversely affected. Potential impacts are less-than-significant.	Impacts would be similar to those of the Project.	Impacts would be similar to those of the Project.
Geology and Soils: Potential geology and soils impacts of the Project would be less-than-significant as mitigated.	Impacts would be similar to those of the Project.	Impacts would be similar to those of the Project.
Biological Resources: Potential biological resources of the Project would be less-than-significant as mitigated.	Impacts would be similar to those of the Project.	Impacts would be similar to those of the Project.
Cultural Resources: Project grading could disturb buried historic and prehistoric resources; with mitigation, no significant impacts would result.	Impacts would be similar to those of the Project.	Impacts would be similar to those of the Project.
Relative Attainment of Project Objectives:	The No Project Alternative would likely realize the stated Project Objectives by providing a mix of commercial/retail uses at development intensities comparable to the Project. Under the No Project Alternative, a "big-box" anchor use would not be implemented. A lease commitment from some other anchor tenant or tenants would likely be required in	Development of the site under the Reduced Intensity Alternative would eliminate the service station/convenience market proposed by the Project. In this regard, the Reduced Intensity Alternative would tend to incrementally diminish attainment of the predominance of the Project Objectives, as listed below:

Table 5.2-6
Summary of Potential Impacts, Alternatives Compared to Project, By Topic

Topic of Analysis	No Project Alternative	Reduced Intensity Alternative
	order to obtain financing for, and allow development of, the subject site.	• To create a complementary mix of commercial/retail uses; • To take advantage of available infrastructure; enhance and improve local infrastructure systems to the benefit of the Project and surrounding areas; and to maximize access opportunities for the convenience of patrons; • To provide a commercial/retail development that meets the current unmet demand for goods and services from consumers residing in the trade area and future residential developments; • To provide a commercial/retail shopping center that serves the local market area and beyond, and to attract new customers and retailers into the City of Moreno Valley; • To provide goods and services at a local site, thereby reducing the number of trips currently being made to shop for these same goods and services at greater distances outside the City of Moreno Valley; • To provide convenience-oriented retail sale of food, beverage, and related products and convenience-oriented services to the currently underserved area;

Table 5.2-6
Summary of Potential Impacts, Alternatives Compared to Project, By Topic

Topic of Analysis	No Project Alternative	Reduced Intensity Alternative
		• Improve and maximize economic viability of the currently vacant and underutilized Project site and area through the establishment of a new commercial center; • Maximize and broaden the City's sales tax base by providing local and regional tax-generating uses and by increasing property tax revenues; • Expand and provide new retail options, with updated, modern and energy efficient buildings, proximate to local consumers by providing daytime and nighttime shopping opportunities in a safe and secure environment; • Create additional employment-generating opportunities for the citizens of Moreno Valley and surrounding communities.

Attainment of Project Objectives

Based on the reduction in overall development scope and the elimination of complementary and mutually supporting uses (i.e., the Project's proposed service station/convenience store) the Reduced Intensity Alternative would broadly diminish attainment of all Project Objectives. Where quantifiable, this reduction in attainment of Objectives would tend to reduce sales tax revenues, job creation, and incremental property tax revenues that would otherwise be realized under the Project.

Qualitatively, development of the subject site with a lone big-box use under the Reduced Intensity Alternative fails to optimize use of a significant vacant commercial property, and as a consequence diminishes the potential for the site to function as a destination commercial/retail venue within the City. Of the Alternatives considered, the Reduced Intensity Alternative is the least effective in achieving the Project Objectives. In these regards, the Reduced Intensity Alternative would not result in the highest and best use of the subject site.

Significant Impacts Diminished but Not Eliminated or Avoided

The Reduced Intensity Alternative would diminish, but would not eliminate or avoid the Project's significant air quality and traffic impacts. That is, operational-source NO_x exceedances would be diminished under the Reduced Intensity Alternative; however, operational-source NO_x emissions would still exceed SCAQMD regional thresholds and would remain significant. Additionally, although trip generation would be reduced under the Reduced Intensity Alternative, traffic impacts affecting Study Area intersections would remain significant.

Socio-Economic Considerations

Additionally, CEQA indicates that socioeconomic effects (while not lone determinants) are important considerations for decision-makers in evaluating and considering EIR Alternatives. With respect to socioeconomics, the Project and the Reduced Intensity Alternative would each have beneficial effects for the area. Either of these scenarios would contribute to area employment and the City's overall tax base. However, as noted previously, because the scope and variety of land uses would be reduced under the

Reduced Intensity Alternative, the resulting effective realization of the Project Objectives, to include economic benefits to the City and region, would likely be similarly diminished.

Summary and Conclusions

The Reduced Intensity Alternative would not avoid or substantively reduce any of the significant environmental effects otherwise occurring under the Project; would broadly and substantively diminish attainment of the Project Objectives; would diminish socio-economic benefits to the City and region; and would not provide for full productive use of the subject site as would otherwise occur under the Project. The Lead Agency considers full realization of the Project Objectives; increased socio-economic benefits to the City, and full productive use of the subject site that would be realized under the Project to outweigh incremental decreases in environmental effects that may be accomplished under the Reduced Intensity Alternative.

5.3 GROWTH-INDUCING IMPACTS OF THE PROPOSED ACTION

5.3.1 Overview

The California Environmental Quality Act requires a discussion of the ways in which a project could be growth-inducing. (Public Resources Code, §21100, subd. (b)(5); *CEQA Guidelines*, § 15126, subd. (d), 15126.2, subd (d.).) The *CEQA Guidelines* identify a project as growth-inducing if it would foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. Under CEQA, growth inducement is not considered necessarily detrimental, beneficial, or of significance to the environment. New employees from commercial or industrial development and new population from residential development represent direct forms of growth. These direct forms of growth have a secondary effect of expanding the size of local markets and inducing additional economic activity in the area.

A project could indirectly induce growth by reducing or removing barriers to growth, or by creating a condition that attracts additional population or new economic activity. However, a project's potential to induce growth does not automatically result in growth. Growth can only happen through capital investment in new economic opportunities by the private or

public sectors. Development pressures are a result of economic investment in a particular locality. These pressures help to structure the local politics of growth and the local jurisdiction's posture on growth management and land use policy. The land use policies of local municipalities and counties regulate growth at the local level.

Impacts related to growth inducement would also be realized if a project provides infrastructure or service capacity which accommodates growth beyond the levels currently permitted by local or regional plans and policies. In general, growth induced by a project is considered a significant impact if it directly or indirectly affects the ability of agencies to provide needed public services, or if it can be demonstrated that the potential growth significantly affects the environment in some other way.

5.3.2 Direct Growth-Inducing Effects

The Project does not propose creation of housing or a change in land use that would result in additional residential development and population growth beyond that anticipated under the City General Plan. The Project would, however, create additional employment opportunities, also a potential direct growth-inducing effect. The extent to which new jobs opportunities are filled by the existing resident population tends to reduce any growth-inducing effect of a project.

The Project would result in the creation of new commercial/retail uses and associated employment opportunities. However, because development of the Project is consistent with that anticipated under the General Plan, the 300 to 320 jobs[9] which may be created would also be consistent with additional employment opportunities and related growth anticipated under the General Plan.

[9] "Each Walmart [Supercenter] store is about 182,000 square feet and employs about 300 associates"; http://corporate.walmart.com/our-story/our-business/walmart-us; retrieved May 9, 2014. It is assumed that the 7,900 square feet of other commercial uses within the Project site would create jobs in similar proportion (an estimated 20 additional jobs).

Based on the preceding discussion, the Project would not directly result in unanticipated significant population growth or other direct growth-inducing effects.

5.3.3 Indirect Growth-Inducing Effects

Investment in the Project would have local and regional economic impacts which may result in indirect growth-inducing effects. The Project's potential economic benefits could indirectly result in employment growth in the region. This growth, in combination with other anticipated employment growth in the region, could indirectly result in population growth and an increased demand for housing. Such growth has a variety of potential effects on the physical environment, including but not limited to, effects on air quality, ambient noise levels, traffic impacts, and water quality. As discussed previously, additional employment opportunities created by the Project would not result in unanticipated population growth within the City and region. However, the Project, in combination with other planned or anticipated projects in the area, would contribute to employment and population growth of the region.

Development of the Project as envisioned would entail upgrades to infrastructure in the immediate Project vicinity, including abutting roadways. Infrastructure improvements necessitated by the implementation of the Project could serve to facilitate and encourage development of nearby properties; however, certain of the properties adjacent to the Project site are already developed. Further, the characteristics and intensities of development that could occur on properties near the Project site are governed by the City's General Plan. Development of these properties within the context of the approved General Plan should not result in unforeseen or unmitigable impacts.

5.4 SIGNIFICANT ENVIRONMENTAL EFFECTS

An EIR must identify any significant environmental effects that would result from the Project. (Public Resources Code, §21100, subd. (b)(2)(B).) Significant environmental impacts of the Project are summarized below.

5.4.1 Significant Air Quality Impacts

Even after compliance with applicable regulations and requirements, and application of mitigation measures, the Project would result in operational emissions of oxides of nitrogen (NO_x) that would exceed applicable South Coast Air Quality Management District (SCAQMD) regional thresholds. These are significant Project-level and cumulative air quality impacts. Moreover, the Project is located within ozone and PM_{10}/$PM_{2.5}$ non-attainment areas (NO_x is a precursor to ozone and PM_{10}/$PM_{2.5}$).

Project operational-source NO_x emissions exceedances would therefore result in a cumulatively considerable net increase in criteria pollutants (ozone, PM_{10} and $PM_{2.5}$) for which the region is in non-attainment. These are cumulatively significant air quality impacts.

5.4.2 Significant Traffic Impacts

Intersection Level of Service (LOS) Impacts

The Project Applicant would construct improvements and would, where applicable, pay requisite fees to be directed toward completion of necessary off-site traffic improvements within the Study Area. Payment of fees does not assure timely implementation of required improvements. In instances where payment of fees is identified as mitigation, pending completion of required improvements, the Project's contributions to Existing (2013), Opening Year (2018) and General Plan Buildout (Post-2035) LOS impacts at more than one-half of the Study Area intersections would be considered significant. More specifically, absent recommended improvements, impacts would be cumulatively significant and unavoidable at Study Area Intersection No.s 1 through 7; 9, 10, 12 through 15; 17 through 21; 24 through 33; and 36 through 46.

Freeway Ramp Queuing Impacts

Within the Study Area, Under Opening Year and General Plan Buildout conditions, Project traffic would contribute ramp queuing deficiencies projected to occur at the I-215 Northbound Ramps at Cactus Avenue (Study Area Intersection No. 2). Improvements recommended to mitigate potentially significant intersection LOS conditions at this location

would also address ramp queuing deficiencies; the Project Applicant would pay requisite fees directed toward the completion of these improvements. Nonetheless, payment of fees cannot assure timely implementation of the required improvements. Accordingly, pending completion of required improvements, the Project's contributions to Opening Year (2018) and General Plan Buildout (Post-2035) ramp queuing deficiencies projected to occur at the I-215 Northbound Ramps at Cactus Avenue would be considered significant.

5.5 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA Guidelines sections 15126 (c), 15126.2 (c) & 15127 require that for certain types or categories of projects, an EIR must address significant irreversible environmental changes that would occur should the Project be implemented. As presented at *CEQA Guidelines* section 15127, the topic of Significant Irreversible Environmental Changes need be addressed in EIRs prepared in connection with any of the following activities:

(a) The adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency;

(b) The adoption by a local agency formation commission of a resolution making determinations; or

(c) A project which will be subject to the requirements for preparing of an environmental impact statement pursuant to the requirements of the National Environmental Policy Act of 1969, 42 U.S.C. Section 4321-4347.

The South Moreno Valley Walmart Project does not propose any of the actions or elements identified under *CEQA Guidelines* Section 15127. A discussion of Significant and Irreversible Environmental Impacts of the Project is therefore not required, and none is provided.

5.6 ENERGY CONSERVATION

5.6.1 Overview

Consistent with *CEQA Guidelines* Appendix F, this Section of the EIR addresses the potential for the Project to result in the inefficient, wasteful, or unnecessary consumption of energy. For new development such as that proposed by the South Moreno Valley Walmart Project, compliance with California Title 24 energy efficiency requirements is considered demonstrable evidence of efficient use of energy. As discussed below, the Project would provide for, and promote, energy efficiencies beyond those required under other applicable state or federal standards and regulations, and in so doing would meet or exceed all Title 24 standards. Moreover, energy consumed by the Project would be comparable to, or less than, energy consumed by other retail/commercial uses of similar scale and intensity. On this basis, the Project would not result in the inefficient, wasteful or unnecessary consumption of energy, and potential Project impacts in these regards are less-than-significant. Further, the Project would not cause or result in the need for additional energy producing facilities or energy delivery systems. The Project, therefore, would not create or result in a potentially significant impact on energy resources.

5.6.2 Background and Introduction

In 1975, largely in response to the oil crisis of the 1970s, the State Legislature adopted AB 1575, which created the California Energy Commission (CEC). The statutory mission of the CEC is to forecast future energy needs; license thermal power plants of 50 megawatts or larger; develop energy technologies and renewable energy resources; plan for and direct responses to energy emergencies; and, perhaps most importantly, to promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards.

Germane to the Project and this EIR, AB 1575 also amended Public Resources Code Section 21100(b)(3) to require EIRs to consider the potential for wasteful, inefficient, and/or unnecessary consumption of energy caused by or resulting from a project. Appendix F to the *CEQA Guidelines* assists EIR preparers in this regard. More specifically, Appendix F is

an advisory document establishing parameters and context for determining whether a project would result in the inefficient, wasteful, and unnecessary consumption of energy.

5.6.3 Existing Conditions

5.6.3.1 Overview

California's estimated annual energy use as of 2013 included:

- Approximately 280,561 gigawatt hours of electricity;[10]
- Approximately 12,767 million therms natural gas (approximately 3.5 billion cubic feet of natural gas per day);[11] and
- Approximately 18 billion gallons of gasoline.[12]

As of 2012, energy use in California by demand sector was:

- Approximately 38.5 percent transportation;
- Approximately 22.8 percent industrial;
- Approximately 19.3 percent residential; and
- Approximately 19.4 percent commercial.[13]

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[10] California Energy Demand 2014–2024 Final Forecast (California Energy Commission, Commission Final Report) January 2014, page 2. Web. September 11, 2014. <http://www.energy.ca.gov/publications/displayOneReport.php?pubNum=CEC-200-2013-004-V1-CMF>

[11] Ibid. page 5.

[12] 2013 Integrated Energy Policy Report, IEPR (California Energy Commission, Commission Final Report) (n.d.), page 255. Web. September 11, 2014. <http://www.energy.ca.gov/2013_energypolicy/>

[13] U.S. Energy Information Administration. California State Profile and Energy Estimates. California Energy Consumption by End-Use Sector. Web. September 11, 2014. <http://www.eia.gov/state/?sid=CA#tabs1.>

A summary of, and context for, energy consumption and energy demands within the State is presented in "U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts" excerpted below:

- Excluding federal offshore areas, California ranked third in the nation in crude oil production in 2013, despite an overall decline in production rates since the mid-1980s.

- California also ranked third in the nation in refining capacity as of January 2014, with a combined capacity of almost 2 million barrels per calendar day from its 18 operable refineries.

- In 2012, California's per capita energy consumption ranked 49th in the nation; the state's low use of energy was due in part to its mild climate and its energy efficiency programs.

- In 2013, California ranked fourth in the nation in conventional hydroelectric generation, second in net electricity generation from other renewable energy resources, and first as a producer of electricity from geothermal energy.

- In 2013, California ranked 15th in net electricity generation from nuclear power after one of its two nuclear plants was taken out of service in January 2012; as of June 2013, operations permanently ceased at that plant, the San Onofre Nuclear Generating Station.

- Average site electricity consumption in California homes is among the lowest in the nation (6.9 megawatt hours per year), according to EIA's Residential Energy Consumption Survey.[14]

[14] Ibid. <http://www.eia.gov/state/?sid=CA#tabs2.>

As indicated above, California is one of the nation's leading energy-producing states, and California per capita energy use is among the nation's most efficient.

5.6.3.2 Electricity and Natural Gas Resources

Electricity

Electricity would be provided to the Project by Moreno Valley Electric Utility (MVU) and Southern California Edison (SCE). As part of the Project, existing overhead electrical lines will be relocated underground along Perris Boulevard and Santiago Drive. All new electrical connections would also be underground.

> Moreno Valley Electric Utility , municipally owned, began serving its first customers on February 6, 2004. These "first customers" are located in the Promontory Park subdivision built by Western Pacific Housing, located at Cactus Avenue and Moreno Beach Drive. The Moreno Valley City Council, staff and expert consultants had reviewed, discussed and studied the prospects of operating an electric utility for more than two years. The City Council approved a 17 year contract with Enco Utility Services Moreno Valley, LLC. Pursuant to the agreement, Enco provides customer service, meter reading, billing, emergency response and other services related to the operation of the electric utility. The utility will provide electric service to new commercial and residential developments located within Moreno Valley Electric Utility's service area.[15]

Southern California Edison provides electric power to more than 14 million persons in 15 counties and in 180 incorporated cities, within a service area encompassing approximately 50,000 square miles. SCE derives electricity from varied energy resources including: fossil

[15] City of Moreno Valley. Moreno Valley Electric Utility. Web. September 1, 2014. < http://www.moreno-valley.ca.us/resident_services/utilities/index-util.shtml>

fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power generation, and wind farms. SCE also purchases from independent power producers and utilities, including out-of-state suppliers.[16]

California's electricity industry is an organization of traditional utilities, private generating companies, and state agencies, each with a variety of roles and responsibilities to ensure that electrical power is provided to consumers. The California Independent Service Operator (ISO) is a nonprofit public benefit corporation, and is the impartial operator of the State's wholesale power grid and is charged with maintaining grid reliability, and to direct uninterrupted electrical energy supplies to California residential and commercial users. While utilities [such as SCE] still own transmission assets, the ISO routes electrical power along these assets, maximizing the use of the transmission system and its power generation resources. The ISO matches buyers and sellers of electricity to ensure that sufficient power is available to meet demand. To these ends, every five minutes the ISO forecasts electrical demands, accounts for operating reserves, and assigns the lowest cost power plant unit to meet demands while ensuring adequate system transmission capacities and capabilities.[17]

Part of the ISO's charge is to plan and coordinate grid enhancements to ensure that electrical power is provided to California consumers. To this end, transmission owners (investor-owned utilities such as SCE) file annual transmission expansion/modification plans to accommodate the State's growing electrical needs. The ISO reviews and either approves or denies the proposed additions. In addition, and perhaps most importantly, the ISO works with other areas in the western United States electrical grid to ensure that adequate power supplies are available to the State. In this manner, continuing reliable and affordable electrical power is assured to existing and new consumers throughout the State.

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[16] California Energy Almanac. Utility Energy Supply Plans from 2013. California Energy Commission. Web. June 24, 2014.< http://energyalmanac.ca.gov/electricity/s-2_supply_forms_2013/>

[17] Understanding the ISO. California ISO. Web. June 25, 2014. <http://www.caiso.com/about/Pages/OurBusiness/UnderstandingtheISO/default.aspx>

Natural Gas

Natural gas would be provided to the Project by The Gas Company (Southern California Gas, SoCalGas) via connection to an existing service line located in adjacent Perris Boulevard. The following summary of natural gas resources and service providers, delivery systems, and associated regulation is excerpted from information provided by the California Public Utilities Commission (PUC).

> The California Public Utilities Commission (PUC) regulates natural gas utility service for approximately 10.8 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller natural gas utilities. The CPUC also regulates independent storage operators Lodi Gas Storage, Wild Goose Storage, Central Valley Storage and Gill Ranch Storage.
>
> The vast majority of California's natural gas customers are residential and small commercial customers, referred to as "core" customers, who accounted for approximately 32% of the natural gas delivered by California utilities in 2012. Large consumers, like electric generators and industrial customers, referred to as "noncore" customers, accounted for approximately 68% of the natural gas delivered by California utilities in 2012.
>
> The PUC regulates the California utilities' natural gas rates and natural gas services, including in-state transportation over the utilities' transmission and distribution pipeline systems, storage, procurement, metering and billing.
>
> Most of the natural gas used in California comes from out-of-state natural gas basins. In 2012, California customers received 35% of their natural gas supply from basins located in the Southwest, 16% from Canada, 40% from the Rocky Mountains, and 9% from basins located within California. California gas utilities may soon also begin receiving biogas into their pipeline systems.

Natural gas from out-of-state production basins is delivered into California via the interstate natural gas pipeline system. The major interstate pipelines that deliver out-of-state natural gas to California consumers are the Gas Transmission Northwest Pipeline, Kern River Pipeline, Transwestern Pipeline, El Paso Pipeline, the Ruby Pipeline, Questar Southern Trails and Mojave Pipeline. Another pipeline, the North Baja – Baja Norte Pipeline, takes gas off the El Paso Pipeline at the California/Arizona border, and delivers that gas through California into Mexico. While the Federal Energy Regulatory Commission (FERC) regulates the transportation of natural gas on the interstate pipelines, the PUC often participates in FERC regulatory proceedings to represent the interests of California natural gas consumers.

Most of the natural gas transported via the interstate pipelines, as well as some of the California-produced natural gas, is delivered into the PG&E and SoCalGas intrastate natural gas transmission pipeline systems (commonly referred to as California's "backbone" natural gas pipeline system). Natural gas on the utilities' backbone pipeline systems is then delivered into the local transmission and distribution pipeline systems, or to natural gas storage fields. Some large noncore customers take natural gas directly off the high-pressure backbone pipeline systems, while core customers and other noncore customers take natural gas off the utilities' distribution pipeline systems. The PUC has regulatory jurisdiction over 150,000 miles of utility-owned natural gas pipelines, which transported 82% of the total amount of natural gas delivered to California's gas consumers in 2012.

SDG&E and Southwest Gas' southern division are wholesale customers of SoCalGas, and currently receive all of their natural gas from the SoCalGas system (Southwest Gas also provides natural gas distribution service in the Lake Tahoe area). Some other municipal wholesale customers are the cities of Palo Alto, Long Beach, and Vernon, which are not regulated by the CPUC.

> Some of the natural gas delivered to California customers may be delivered directly to them without being transported over the regulated utility systems. For example, the Kern River/Mojave pipeline system can deliver natural gas directly to some large customers, "bypassing" the utilities' systems. Much of California-produced natural gas is also delivered directly to large consumers.
>
> PG&E and SoCalGas own and operate several natural gas storage fields that are located in northern and southern California. These storage fields, and four independently owned storage utilities – Lodi Gas Storage, Wild Goose Storage, Central Valley Storage, and Gill Ranch Storage – help meet peak seasonal natural gas demand and allow California natural gas customers to secure natural gas supplies more efficiently. (A portion of the Gill Ranch facility is owned by PG&E).
>
> California's regulated utilities do not own any natural gas production facilities. All of the natural gas sold by these utilities must be purchased from suppliers and/or marketers. The price of natural gas sold by suppliers and marketers was deregulated by the FERC in the mid-1980's and is determined by "market forces." However, the PUC decides whether California's utilities have taken reasonable steps in order to minimize the cost of natural gas purchased on behalf of their core customers.[18]

As indicated in the preceding discussions, natural gas is available from a variety of in-state and out-of-state sources and is provided throughout the state in response to market supply and demand. Complementing available natural gas resources, biogas may soon be available via existing delivery systems, thereby increasing the availability and reliability of resources

[18] Natural Gas and California. California Public Utilities Commission. Web. June 24, 2014. <http://www.cpuc.ca.gov/puc/energy/gas/natgasandca.htm>

in total. The PUC oversees utility purchases and transmission of natural gas to ensure reliable and affordable natural gas deliveries to existing and new consumers throughout the State.

5.6.3.3 Transportation Energy Resources

The Project would generate additional vehicle trips with resulting consumption of energy resources, predominantly gasoline. There are more than 27 million registered vehicles in California, and those vehicles (as noted previously) consume an estimated 18 billion gallons of fuel each year. Gasoline (and other vehicle fuels) are commercially-provided commodities, and would be available to the Project patrons and employees via commercial outlets.

Petroleum comprises approximately 92 percent of California's transportation energy sources. Notwithstanding, technology advances, market trends, consumer behavior, and government policies could result in significant changes in fuel consumption by type and in total by 2020. In these regards, at the federal and state levels various policies, rules, and regulations have been enacted to improve vehicle fuel efficiency, promote the development and use of alternative fuels, reduce transportation-source air pollutants and GHG emissions, and reduce vehicle miles traveled (VMT). Market forces have driven the price of petroleum products steadily upward, and technological advances have made use of other energy resources or alternative transportation modes increasingly feasible.

Largely as a result of, and in response to these multiple factors, gasoline consumption within the state has declined in recent years, while availability of other alternative fuels/energy sources has increased. In total, the quantity and availability and reliability of transportation energy resources have increased in recent years, and this trend may likely continue and accelerate.[19] Increasingly available and diversified transportation energy

[19] 2013 Integrated Energy Policy Report, IEPR (California Energy Commission, Commission Final Report) (n.d.), Transportation Energy Trends, pages 255-302. Web. September 11, 2014. <http://www.energy.ca.gov/2013_energypolicy/>

resources acts to promote continuing reliable and affordable means to support vehicular transportation within the State.

5.6.4 Regulatory Setting

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. On the state level, the PUC and the CEC are two agencies with authority over different aspects of energy. Relevant federal and state energy-related laws and plans are summarized below. Project consistency with applicable federal and state regulations is also presented in *italicized* text.

5.6.4.1 Federal Energy Policy and Conservation Act

The Federal Energy Policy and Conservation Act of 1975 (Act) intends that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the U.S. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the United States Department of Transportation, is responsible for establishing additional vehicle standards and for revising existing standards. *Vehicles accessing the Project site are subject to the Federal Energy Policy and Conservation Act (Act). The Project is therefore consistent with, and would not otherwise interfere with, nor obstruct implementation of the Act.*

5.6.4.2 Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions. *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.

5.6.4.3 The Transportation Equity Act for the 21st Century (TEA-21)

The Transportation Equity Act for the 21st Century (TEA-21) was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety. *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 by implementing the City General Plan through the introduction of commercial uses on a commercially-designated site. The Project supports the strong planning processes emphasized under TEA-21. The Project is therefore consistent with, and would not otherwise interfere with, nor obstruct implementation of TEA-21.*

5.6.4.4 State of California Energy Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access. *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 by implementing the City General Plan through the introduction of commercial uses on a commercially-designated site. 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.

5.6.4.5 California Code Title 24, Part 6, Energy Efficiency Standards

California Code Title 24, Part 6 (also referred to as the California Energy Code), was promulgated by the CEC in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption. To these ends, the California Energy Code provides energy efficiency standards for residential and nonresidential buildings. According to the CEC, the Energy Commission's energy efficiency standards have saved Californians more than $74 billion in reduced electricity bills since 1977.[20]

California's building efficiency standards are updated on an approximately three-year cycle. The 2013 Standards would continue to improve upon the 2008 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2013 Standards went into effect on July 1, 2014, following approval of the California Building Standards Commission.

The 2013 Energy Efficiency Standards in their entirety may be reviewed at: http://www.energy.ca.gov/title24/2013standards/. The 2013 Energy Efficiency Standards may also be reviewed at the California Energy Commission, 1516 Ninth Street, MS-37, Sacramento, CA 95814-5512. The Project would be designed, constructed and operated so as to meet or exceed incumbent Title 24 Energy Efficiency Standards. On this basis, the Project is determined to be consistent with, and would not interfere with, nor otherwise obstruct implementation of Title 24 Energy Efficiency Standards

[20] http://www.energy.ca.gov/efficiency/savings.html, retrieved September 1, 2014.

5.6.5 Project Energy Demands and Energy Efficiency/Conservation Measures

Estimated energy demands of Project construction and Project operations are summarized in the following discussions. Project design features and operational programs, as well as regulations and EIR Mitigation Measures that promote energy conservation end energy conservation are also identified. Because tenants are not currently under contract for the Project's proposed secondary use(s), the majority of the features and design elements and programs described in this Section are specific to the Project's proposed Walmart Store (Store). Notwithstanding, the Project in total would surpass by a minimum of ten percent incumbent performance standards established under the Building Energy Efficiency Standards contained in the California Code of Regulations (CCR), Title 24, Part 6 (Title 24, Energy Efficiency Standards).

Also, given rising energy prices, contractors and owners have vested financial incentives to avoid wasteful, inefficient, and unnecessary consumption of energy during construction and operations. In summary, there is growing recognition among developers and retailers that efficient and sustainable construction and operational practices yield both environmental and economic benefits. In these regards, it is anticipated that the energy efficiency/conservation measures identified in the following discussions, or similar measures, would be reflected in construction and operations of the Project facilities in total.

5.6.5.1 Construction Energy Demands and Energy Efficiency/Conservation Measures

Construction Energy Demands

Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction. Project construction activity timeline estimates, construction equipment schedules, equipment power ratings, load factors, and associated fuel consumption estimates are presented in Table 5.6-1. Eight-hour daily use of all equipment is assumed.

Table 5.6-1
Construction-Source Fuel Consumption Estimates

Activity/ Duration	Equipment	HP rating	Quantity	Load Factor	HP-hrs./day	Total Fuel Consumption (gal. diesel fuel)
Grading/ 45 days	Excavators	162	2	0.38	Total=16,784 HP-hrs./day (See note 2)	40,826
	Graders	174	2	0.41		
	Rubber Tired Dozers	255	2	0.40		
	Scrapers	361	2	0.48		
	Tractors/Loaders/ Backhoes	97	2	0.37		
Utilities and Underground/ 30 days	Rubber Tired Dozers	255	3	0.40	2,448	3,970
	Tractors/Loaders/ Backhoes	97	4	0.37	1,148	1,862
Building Construction/ 110 days	Cranes	226	1	0.29	524	3,116
	Forklifts	89	3	0.20	427	2,539
	Generator Set	84	1	0.74	497	2,955
	Tractors/Loaders/ Backhoes	97	3	0.37	861	5,119
	Welders	46	1	0.45	166	987
	Air Compressor		1			
Curb Gutter, Flatwork and Paving/ 35 days	Pavers	125	2	0.42	840	1,589
	Paving Equipment	130	2	0.36	749	1,417
	Rollers	80	2	0.38	486	919
Architectural Coatings and Painting/ 90 days	Air Compressors	78	1	0.48	300	1,459
TOTAL CONSTRUCTION FUEL DEMAND						**66,758 gallons diesel fuel**

Notes:
1. Construction equipment schedules, power ratings, load factors populated from CalEEMod data presented in *Moreno Valley Walmart Air Quality Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014. (EIR Appendix D).
2. Grading activity phase maximum equipment horsepower output capped at 16,784 hp-hrs. /day per EIR Mitigation Measure 4.4.3. Fuel consumption estimates conservatively assume maximum allowable daily equipment horsepower output for the duration of grading activities.

The aggregate fuel consumption rate for all equipment is estimated at 18.5 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.[21] For the purposes of this analysis, it is assumed that all construction equipment would be diesel-powered. Diesel fuel would be supplied by existing commercial fuel providers serving the City and region.

As presented in Table 5.6-1, Project construction activities would consume an estimated 66,758 gallons of diesel fuel. Project construction would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

Construction Energy Efficiency/Conservation Measures

The equipment used for Project construction would conform to CARB regulations and CA emissions standards and would evince related fuel efficiencies. Related, EIR Mitigation Measure 4.4.3 requires that dozers and scrapers (≥ 50 horsepower) used during grading activities shall be CARB Tier 3 Certified or better. There are no unusual Project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the Project would therefore not result in inefficient, wasteful, or unnecessary consumption of fuel.

Additionally, certain incidental construction-source energy efficiencies would likely accrue through implementation of California regulations and the EIR Mitigation Measures. More specifically, California Code of Regulations Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby

[21] *Methods to Find the Cost-Effectiveness of Funding Air Quality Projects For Evaluating Motor Vehicle Registration Fee Projects And Congestion Mitigation and Air Quality Improvement (CMAQ) Projects, Emission Factor Tables* (California Air Resources Board) May 2013; Table D-24 Moyers Guidelines Fuel Consumption Rate Factors - All Engines < 750 hp = 18.5 hp-hr-gal.

precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. To this end, EIR Mitigation Measure 4.4.2 requires that "*[g]rading plans shall reference the requirement that a sign shall be posted on-site stating that construction workers need to shut off engines at or before five minutes of idling.*" In this manner, construction equipment operators are informed that engines are to be turned off at or prior to five minutes of idling. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints.

Indirectly, construction energy efficiencies and energy conservation would be achieved for the proposed Store through the use of recycled/recyclable materials and related procedures; and energy efficiencies realized from bulk purchase, transport and use of construction materials. In general, the use of materials and construction processes described below promote conservation and efficient use of energy by reducing raw materials demands, with related reduction in energy demands associated with raw materials extraction, transportation, processing and refinement. Use of recycled and recyclable materials and use of materials in bulk as described below also reduces energy demands associated with preparation and transport of construction materials as transport and disposal of construction waste and solid waste in general, with corollary reduced demands on area landfill capacities and energy consumed by waste transport and landfill operations.

Recycled Materials and Building Finishes

- Cement Mixes: The Store would be built using cement mixes that include 15 to 20 percent fly ash, a waste product of coal-fired electrical generation, or 25 to 30 percent slag, a by-product of the steel manufacturing process.

- The Store would use recyclable Non-Reinforced Thermoplastic Panel (NRP) in lieu of Fiber Reinforced Plastic (FRP) sheets on the walls in areas where plastic sheeting is appropriate.

- Paint products required for the Project would be primarily purchased in 55 gallon drums and 275 gallon totes, reducing the number of one-gallon and five-gallon buckets

needed. One-gallon and five-gallon buckets used in the application of paint products would be cleaned and reused.

- Exposed concrete stones are used "to reduce surface applied flooring materials", eliminating the need for most chemical cleaners, wax strippers propane-powered buffing, and would reduce post-construction facilities maintenance energy demands associated with production, transport, storage, and application of cleaning products.

- Construction of the store would use steel containing approximately 90 to 98 percent recycled structural steel.

- All of the plastic baseboards and much of the plastic shelving included in the expansion area would be composed of recycled plastic.

Construction Waste Management Plan

Consistent with Section 5.408 "Construction Waste Reduction, Disposal, and Recycling" of the California Green Building Standards Code (CALGreen Code), as adopted by the City of Moreno Valley, Walmart would recycle or salvage for reuse a minimum of 50 percent of the nonhazardous construction and demolition waste. The Project Construction Waste Management Plan would also be prepared consistent with Section 5.408.1.1 of the CALGreen Code.

Summary

Construction equipment used by the Project would result in single event consumption of approximately 66,758 gallons of diesel fuel. Diesel fuel would be supplied by City and regional commercial vendors. Construction equipment use of fuel would not be atypical for the type of construction proposed, and Project construction equipment would conform to CARB emissions standards, acting to promote equipment fuel efficiencies. CCR Title 13, Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. EIR Mitigation Measure 4.4.2 informs 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. Indirectly, construction energy efficiencies and energy conservation would be achieved through the use of recycled/recyclable materials and related procedures; and energy efficiencies realized from bulk purchase, transport and use of construction materials. As supported by the preceding discussions, Project construction energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

5.6.5.2 Operational Energy Demands and Energy Efficiency/Conservation Measures

Energy consumption in support of or related to Project operations would include transportation energy demands (energy consumed by employee and patron vehicles accessing the Project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

Transportation Energy Demands

Energy that would be consumed by Project-generated traffic is a function of total vehicle miles traveled (VMT) and estimated vehicle fuel economies of vehicles accessing the Project site. With respect to estimated VMT, the Project would generate an estimated 12,063.56 average weekday trips, 15,414.07 average Saturday trips, and 13,305.94 average Sunday trips, resulting in approximately 19,937,537 annual VMT along area roadways.[22] With regard to vehicle fuel economies, the predominance of vehicles accessing the Project site would be light trucks, automobiles, and SUVs; collectively, light duty vehicles (LDVs). As presented in *Annual Energy Outlook 2014, with projections to 2040* (U.S. Energy Information Administration USEIA) April 2014, average fuel economies of LDVs in aggregate have improved from approximately 19.9 miles per gallons in 1978, to approximately 32.7 mpg in 2012.[23] Fuel demands of private vehicles would be met through commercial fuel providers. Reflecting, respectively, the lowest and highest estimated fuel economies for LDVs

[22] *Moreno Valley Walmart Air Quality Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014, Appendix 3.1: CalEEMod Emissions Model Outputs, page 24.

[23] *Annual Energy Outlook 2014, with projections to 2040* (U.S. Energy Information Administration, USEIA) April 2014, page MT-14. Web. September 11, 2014. <http://www.eia.gov/forecasts/aeo/>

presented in *Annual Energy Outlook 2014* for the period of record (1978 through 2012), Table 5.6-2 provides an estimated range of annual fuel consumption resulting from Project-generated traffic.

Table 5.6-2
Project-generated Traffic Annual Fuel Consumption

Annual Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
19,937,537	19.9	1,001,886.3
19,937,537	32.7	609,710.6

Notes: 1. Estimated VMT from: *Moreno Valley Walmart Air Quality Impact Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 14, 2014, Appendix 3.1: CalEEMod Emissions Model Outputs, p. 24.
2. Average fuel economies from: *Annual Energy Outlook 2014, with projections to 2040* (U.S. Energy Information Administration, USEIA) April 2014, p. MT-14.

Facilities Energy Demands

Project building operations and Project site maintenance activities would result in the consumption of natural gas and electricity. Natural gas would be supplied to the Project by The Gas Company; electricity would be supplied to the Project by MVU and SCE. Annual natural gas and electricity demands of the Project are summarized in Table 5.6-3.

Table 5.6-3
Project Annual Operational Energy Demand Summary

Natural Gas Demand	**kBTU/year**
Free Standing Discount Superstore (Walmart)	343,410
Service Station w/Convenience Market	4,092.95
Total Natural Gas Demand	**347,502.95 kBTU/year**
Electricity Demand	**kWh/year**
Free Standing Discount Superstore	2,509,240
Service Station w/Convenience Market	29,906.5
Total Electricity Demand	**2,539,146.5 kWh/year**

Source: *Moreno Valley Walmart Air Greenhouse Gas Analysis, City of Moreno Valley* (Urban Crossroads, Inc.) August 27, 2014, Appendix 3.1: CalEEMod Emissions Model Outputs, pp. 26, 27.

Operational Energy Efficiency/Conservation Measures

Energy efficient/energy conserving design features and operational programs that would be implemented under the Project are summarized below. Because tenants are not currently under contract for the Project's proposed secondary use(s), the majority of the features and design elements and programs described in this Section are specific to the Project's proposed Walmart Store (Store).

Also noted in the following discussions, energy efficiency/energy conservation attributes of the Project would be complemented by increasingly stringent state and federal regulatory actions addressing vehicle fuel economies and vehicle emissions standards; and enhanced building/utilities energy efficiencies mandated under California building codes (e.g., Title 24, California Green Building Code). In this latter regard, pursuant to EIR Mitigation Measure 4.4.4, the Project in total would be required to surpass by a minimum of ten percent incumbent performance standards established under the Building Energy Efficiency Standards contained in the California Code of Regulations (CCR), Title 24, Part 6 (Title 24, Title 24 Energy Efficiency Standards). Additionally, pursuant to EIR Mitigation Measure 4.4.5, the Project Applicant is required to prepare and implement a Water Conservation Strategy demonstrating a minimum 30 percent reduction in outdoor water usage when compared to baseline water demands of the Project. The implemented Water Conservation Strategy would reduce Project water demands with associated reductions in water/wastewater conveyance and treatment energy demands.

Enhanced Vehicle Fuel Efficiencies

Estimated annual fuel consumption estimates presented previously in Table 5.6-2 represent likely potential maximums that would occur in the Project Opening Year. Under subsequent future conditions, average fuel economies of vehicles accessing the Project site can be expected to improve as older, less fuel efficient vehicles are removed from circulation, and in response to fuel economy and emissions standards imposed on newer vehicles entering the circulation system.

Project Location and Access

The Project's commercial/retail facilities are located proximate to customers and patrons, and are readily accessible from regional and local roadways. In this manner, the Project at its current location acts to reduce vehicle miles traveled (VMT) within the region and associated consumption of resources. Collocation of fast food and retail uses within the Project site also acts to reduce VMT by allowing patrons access to these services and facilities by single rather than multiple vehicle trips.

Alternative Transportation

Pedestrian Access

Project walkways and pedestrian crosswalks would be provided consistent with City of Moreno Valley requirements, allowing for patrons to walk rather than drive between commercial uses within the Project site, as well as between the Project site and adjacent areas. Provision of pedestrian access acts to reduce vehicle miles traveled and associated vehicle energy consumption.

Bicycle Access

Bicycle racks and lockers would be provided on-site consistent with City requirements thereby facilitating and encouraging use of bicycles. Bicycle racks provided for both employees and patrons would implement securable locations for bikes; lockers provided for employees would allow for additional secured storage of helmets and biking gear. Facilitating bicycle access acts to reduce vehicle miles traveled and associated vehicle energy consumption.

Transit

The Project would accommodate a mix of automobile, pedestrian, and transit opportunities. Riverside Transit Authority (RTA) currently provides scheduled bus service to the Project vicinity. RTA Route 19 travels along Perris Boulevard, the Project's easterly

boundary, and there are currently bus stops (benches) along Perris Boulevard immediately adjacent to the Project site.[24] Dial-a-ride services are also provided by RTA. Serving transit agencies (in this case Riverside Transit Agency) routinely review and adjust their ridership schedules to accommodate public demand. The need for transit-related facilities, including but not limited to bus shelters and bicycle parking, would be coordinated between the City and the Project Applicant, with input from transit providers as applicable, as part of the City's standard development review process.

Energy Efficient/Energy Conserving Systems, Fixtures, and Operational Programs

Lighting

The Store would include occupancy sensors in most non-sales areas, including restrooms, break rooms, and offices. The sensors automatically turn the lights off when the space is unoccupied, thereby avoiding potentially wasteful use of energy for lighting.

All lighting in the Store would consist of T-8 fluorescent lamps and electronic ballasts, resulting in up to a 15 to 20 percent reduction in energy demands when compared to conventional fluorescent lighting.

All exterior building signage and many refrigerated food cases would be illuminated with light emitting diodes (LEDs). LED technology is up to 52 percent more energy efficient than fluorescent lights. In refrigerated applications, such as would occur in Project facilities allocated for storage of perishable foods, LEDs produce less heat than fluorescent bulbs. This translates to reduced refrigeration energy demands. When compared to energy consumed by fluorescent bulbs, LED lighting in the Store's grocery section would yield an estimated net reduction of 59,000 kilowatt-hours per year.

[24] RTA Routes and Schedules can be accessed at: http://www.riversidetransit.com/index.php/riding-the-bus/maps-schedules

The Store would include a daylight harvesting system, which incorporates more efficient lighting, electronic continuous dimming ballasts, skylights and computer controlled daylight sensors that monitor the amount of natural light available. During periods of higher natural daylight, the system dims or turns off the Store lights if they are not needed, thereby reducing energy consumed by interior lights. Dimming and turning off building lights also helps eliminate unnecessary heat, acting to reduce building air conditioning and refrigeration energy demands.

HVAC Systems

The Store would employ energy efficient heating, ventilating and air-conditioning (HVAC) systems that meet or surpass Title 24 Energy Efficiency Standards.

Building Dehumidification

The Store would include a dehumidifying system thereby allowing comfortable operations at higher room temperatures, using less energy for air conditioning, and allowing refrigeration systems to operate more efficiently.

White Roofs

The Store would utilize a white membrane roof instead of darker colored roof materials typically employed in commercial construction. The white membrane roof's higher reflectivity reduces solar heating of interior spaces, with related reduction of air conditioning energy demands.

Heat Reclamation

The Store would reclaim waste heat from onsite refrigeration equipment to supply approximately 70 percent of the hot water needs for the Store, thereby reducing hot water heating energy demands.

Central Energy Management System

Walmart employs a centralized energy management system (EMS) to monitor and control the heating, air conditioning, refrigeration and lighting systems for all stores from Walmart's corporate headquarters in Bentonville, Arkansas. The EMS enables Walmart to

constantly monitor and control energy usage, analyze refrigeration temperatures, observe HVAC and lighting performance, and adjust system levels from a central location 24 hours per day, seven days per week. Energy usage for the Store would be monitored and controlled in this manner, thereby facilitating efficient use of energy resources.

Water Conservation

Water conserving features and operational programs that would be implemented by the Store are summarized below. In total, it is estimated that Walmart's water conservation measures could save up to 530,000 gallons of potable water annually at this Store when compared to a conventionally built building of similar size and use. In addition to conserving water resources, reduced water consumption by the Store would act to reduce the amount of energy required to convey and treat water and wastewater.

- Walmart would install high-efficiency urinals that use only 1/8 gallon (one pint) of water per flush. This fixture reduces water use by 87 percent compared to the conventional one gallon per flush urinal.

- All restroom sinks would use sensor-activated 1/2 gallon per minute high-efficiency faucets. These faucets reduce water usage by approximately 75 percent compared to mandated 1992 EPA Standards. During use, water flows through turbines built into the faucets to generate the electricity needed to operate the motion sensors.

- All restroom toilets would use 20 percent less water compared to mandated EPA Standards of 1.6 gallon per flush fixtures. The toilets utilize built-in water turbines to generate the power required to activate the flush mechanism. These turbines save energy and material by eliminating electrical conduits required to power automatic flush valve sensors.

Landscaping

Landscaping throughout the Project site would be provided consistent with City of Moreno Valley requirements, and recognizing competing demands for available water resources. Drought-tolerant plants would be used, where appropriate, reducing water consumption

and power demand related to water delivery/irrigation systems. The Project would connect to the EMWD recycled water distribution system when available to the Project site, further reducing potable water demands of the Project. As noted previously, reduced water consumption provides corollary energy conservation benefits by reducing related water/wastewater conveyance and treatment energy consumption.

Solid Waste Diversion/Recycling

The Project would comply with requirements and policies the City's Source Reduction and Recycling Element (SRRE) acting to reduce the amount of solid waste transported to, and disposed at area landfills, with corollary reduced demands on area landfill capacities and energy consumed by waste transport and landfill operations.

Summary

Transportation Energy Demands

Annual vehicular trips and related VMT generated by the Project would result in an estimated 609,710.6 to 1,001,886.3 gallons of fuel consumption per year. These fuel consumption estimates average fuel economies for U.S. LDVs in operation between the years 1978 and 2012. Fuel would be provided current and future commercial vendors. Trip generation and VMT generated by the Project are consistent with other commercial/retail uses of similar scale and configuration, as reflected respectively in Transportation Engineers (ITE) *Trip Generation Manual* (9th Ed., 2012); and California Emissions Estimator Model (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.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of LDVs 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 its patronage base, and proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands. Collocation of complementary commercial/retail uses within the Project

site also acts to reduce VMT by allowing patrons access to these services and facilities by single rather than multiple vehicle trips.

The Project would also implement sidewalks, facilitating and encouraging pedestrian access. Bike racks for patrons and employees, and employee lockers allowing for storage of bicycle gear would be provided, facilitating and encouraging use of bicycles. Facilitating pedestrian and bicycle access would 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.

Facilities Energy Demands

Project facility operational energy demands are estimated at: 347,502.95 kBTU/year natural gas; and 2,539,146.5 kWh/year electricity. Natural gas would be supplied to the Project by The Gas Company; electricity would be supplied by MVU and SCE. The Project proposes conventional commercial/retail 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 retail/commercial projects of similar scale and configuration.

Energy demands of the Project are reduced through design features and operational programs that in aggregate would ensure that Project energy efficiencies would surpass incumbent Title 24 energy efficiency requirements by a minimum of ten percent. Various energy conserving features and operational programs that would be realized under the Project are discussed previously.

Based on the preceding, Project facilities energy demands and energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

CONCLUSIONS

As supported by the preceding analyses, Project construction and operations would not result in the inefficient, wasteful or unnecessary consumption of energy, and potential Project impacts in these regards are less-than-significant. Further, the energy demands of

the Project can be accommodated within the context of available resources and energy delivery systems. The Project would, therefore, not cause or result in the need for additional energy producing or transmission facilities and would not create or result in a potentially significant impact affecting energy resources or energy delivery systems.

6.0 ACRONYMS AND ABBREVIATIONS

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ACOE	U.S. Army Corps of Engineers
ADT	average daily trip
af	acre-feet
APN	Assessor's Parcel Number
APS	Alternative Planning Strategy
APZ	Accident Potential Zone
AQMP	Air Quality Management Plan
BAAQMD	Bay Area Air Quality Management District
BAU	business as usual
BMP	Best Management Practice
BSG	below site grade
CAA	Clean Air Act
CAPCOA	California Air Pollution Control Officers Association
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CESA	California Endangered Species Act

CEQA	California Environmental Quality Act
CF_4	Tetrafluoromethane
C_2F_6	Hexafluoroethane
CFC	Chlorofluorocarbon
cfs	cubic feet per second
CH_4	Methane
C_2H_6	Ethane
CIP	Capital Improvement Plan
CMP	Congestion Management Plan
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon monoxide
CO_2	Carbon dioxide
COA	Conditions of Approval
CPUC	California Public Utilities Commission
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DEIR	Draft Environmental Impact Report
DIF	Development Impact Fees
DPM	Diesel Particulate Matter
EIR	Environmental Impact Report
EISA	Energy Independence and Security Act
EMS	Energy Management System
EMWD	Eastern Municipal Water District
ESA	Endangered Species Act
EVMWD	Eastern Valley Municipal Water District
EPA	Environmental Protection Agency
ESRI	Environmental Systems Research Institute
FAA	Federal Aviation Administration

FAR	Floor-to-Area Ratio
FHWA	Federal Highway Administration
FICON	Federal Interagency Committee on Noise
FRP	Fiber Reinforced Plastic
FTA	Federal Transit Administration
GCC	Global Climate Change
GFA	gross floor area
Gg	Gigagram
GHG	Greenhouse Gas
GWP	Global Warming Potential
HCM	Highway Capacity Manual
HCP	Habitat Conservation Plan
HET	High Efficiency Toilet
HFC	Hydrofluorocarbon
HI	Hazard Index
H_2O	Water
HOV	high-occupancy vehicle
HRA	Health Risk Assessment
HVAC	Heating, Ventilation, & Air Conditioning
ICSC	International Council of Shopping Centers
ICU	Intersection Capacity Utilization
IPCC	Intergovernmental Panel on Climate Change
IS	Initial Study
ISTEA	Intermodal Surface Transportation Efficiency Act
ITE	Institute of Transportation Engineers
lbs/day	pounds per day
Ldn	day/night average sound level
LEA	Local Enforcement Agency
LED	light-emitting diodes
Leq	equivalent sound level
LEED	Leadership in Energy and Environmental Design
LOS	Level of Service

LST	Localized Significance Threshold
MBTA	Migratory Bird Treaty Act
MEIR	Maximally Exposed Individual Receptor
MEISC	Maximally Exposed Individual School Child
MEIW	Maximally Exposed Individual Worker
mgd	million gallons per day
$MMTCO_2e$	Million Metric Ton of Carbon Dioxide Equivalent
MOE	measures of effectiveness
MPO	Metropolitan Planning Organization
MSHCP	Multiple Species Habitat Conservation Plan
msl	mean sea level
MUTCD	Manual of Uniform Traffic Control Devices
MVUSD	Moreno Valley Unified School District
$\mu g/m^3$	micrograms per cubic meter
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NIOSH	National Institute for Occupational Health and Safety
N_2O	Nitrous Oxide
NOP	Notice of Preparation
NO_x	Oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRP	Non-Reinforced Thermoplastic Panel
O_3	Ozone
OEHHA	California Office of Environmental Health Hazard Assessment
OHWM	Ordinary High Water Mark
OPR	State of California Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PAHs	Polycyclic Aromatic Hydrocarbons
Pb	Lead

PCE	passenger car equivalency
PFC	Perfluorocarbon
$PM_{2.5}$	Particulate Matter Less Than 2.5 Microns in Diameter
PM_{10}	Particulate Matter Less Than 10 Microns in Diameter
ppb	parts per billion
ppm	parts per million
ppt	parts per trillion
PVC	Polyvinyl Chloride
RCA	Regional Conservation Authority
RCFCWCD	Riverside County Flood Control and Water Conservation District
RCNM	Roadway Construction Noise Model
RCTC	Riverside County Transportation Commission
RECs	Recognized Environmental Conditions
REL	Reference Exposure Level
RMP	Risk Management Plan
ROG	Reactive Organic Gases
RTA	Retail Trade Area
RTP	Regional Transportation Plan
R/W	Right of Way
RWQCB	Regional Water Quality Control Board
SARWQCB	Santa Ana Regional Water Quality Control Board
SAWPA	Santa Ana Watershed Project Authority
SBOE	State Board of Equalization
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCH	State Clearinghouse
SCS	Sustainable Communities Strategy
SF_6	Sulfur Hexafluoride
SIP	State Implementation Plan
SKR HCP	Stephens' Kangaroo Rat Habitat Conservation Plan
SO_x	Oxides of sulfur

SRRE	Source Reduction and Recycling Element
SSC	Species of Special Concern
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminants
TEA-21	Transportation Equity Act for the 21st Century
TIA	Traffic Impact Analysis
TRU	Transport Refrigeration Units
TUMF	Transportation Uniform Mitigation Fee
UBC	Uniform Building Code
ULI	Urban Land Institute
URF	Unit Risk Factor
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UWMP	Urban Water Management Plan
VBMP	Design Capture Volume
V/C	Volume to Capacity
VdB	vibration decibel
VMT	vehicle miles traveled
VOC	Volatile Organic Compound
WCI	Western Climate Action Initiative
WDR	Water Discharge Requirement
WQMP	Water Quality Management Plan
WRCOG	Western Riverside Council of Governments

7.0 REFERENCES

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