

The Crestview Apartments Project

Draft Environmental Impact Report
SCH#2020069047

prepared for
City of Riverside
Community & Economic Development Department, Planning Division
3900 Main Street, 3rd Floor
Riverside, California 92522
Contact: Candice Assadzadeh, Senior Planner

prepared by
Ruth Villalobos & Associates, Inc.
3602 Inland Empire Blvd., Suite C310
Ontario, CA 91764

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Acronyms, Units of Measurement, Chemical Symbols

Acronyms, units of measurement and chemical symbols used throughout the Draft EIR are identified in this section.

Acronyms

AAAQS	Ambient air quality standards
DBESP	Determination of Biologically Equivalent or Superior Preservation
AB	Assembly Bill
ACOE	U.S. Army Corps of Engineers
ADP	Area Drainage Plan
AQMP	Air Quality Management Plan
BMPs	Best Management Practices
C&D	Construction and demolition
CAA	Clean Air Act
CAL/EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CAPSSA	Critical Area Plant Species Survey Area
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CIWMB	California Integrated Waste Management Board
CRHR	California Register of Historic Resources
CWA	Clean Water Act
DEIR	Draft Environmental Impact Report
DHS	Department of Health Services
DOC	California Department of Conservation
DOT	Department of Transportation
DTSC	Department of Toxic Substance Control
EDR	Environmental Data Resources, Inc.
EER	Energy Efficiency Ratio
EIA	Energy Information Administration
EIC	Eastern Information Center
EIR	Environmental Impact Report
EMWD	Eastern Municipal Water District
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FRP	Fiber Reinforced Plastic
GHG	Greenhouse gas

Acronyms

GP 2025	City of Riverside General Plan 2025
GP 2025 FPEIR	City of Riverside General Plan 2025 Final Program Environmental Impact Report
HAER	Historic American Engineering Record
HAHC	Native American Heritage Commission
HANS	Property Owner Initiated Habitat Acquisition and Negotiation Strategy
HCP	Habitat Conservation Plan
HVAC	Heating, ventilating, and air-conditioning
ISOR	Initial Statement of Reasons
JPR	Joint Project Review
LAPM	Los Angeles pocket mouse
LQG	Large Quantity Generators
LST	Localized significance thresholds
MBTA	Migratory Bird Treaty Act
MDP	Master Drainage Plan
$MMTCO_2e$ e	Million metric tonnes of carbon dioxide equivalent
mph	Miles per hour
MPO	Metropolitan Planning Organization
MSHCP	Western Riverside County Multiple Species Habitat Conservation Plan
NAAQS	National Ambient Air Quality Standards
NCCP	Natural Communities Conservation Plan
NEPSSA	Narrow Endemic Plants Species Survey Area
NOP	Notice of Preparation
NRHP	National Register of Historic Places
NRP	Non-Reinforcem Thermoplastic Panel
OAL	Office of Administrative Law
ODCsc	Ozone depleting compounds
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OHWM	Ordinary high water mark
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PRC	Public Resources Code
RCB	Reinforced concrete box
RCFCWCD	Riverside County Flood Control and Water Conservation District
RCIP	Riverside County Integrated Plan
RCP	Reinforced concrete pipe
RCPG	Regional Comprehensive Plan and Guide
ROW	Right-of-way or rights-of-way
RPWs	Relatively Permanent Waters
RST	Regional significance threshold

Acronyms

RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SBKR	San Bernardino kangaroo rat
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCH	State Clearinghouse
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SJV-MDP	San Jacinto Valley Master Drainage Plan
SKR	Stephen's kangaroo rat
SQG	Small Quantity Generators
SR-74	State Route 74
SRA	Source receptor area
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TNWs	Traditionally Navigable Waters
UST	Underground storage tank
VMT	Vehicle miles traveled
WPCP	Water Pollution Control Plan
WQMP	Water Quality Management Plan
WWTP	Wastewater treatment plant
EMS	Energy Management System
LED	Light Emitting Diodes

Units of Measurement and Chemical Symbols

>	Greater than
CFC	Chloroflourocarbons
CH_4	Methane
CO	Carbon monoxide
CO_2	Carbon dioxide
CY	Cubic yards
fc	Foot candle
HC	Hydrocarbons
HCFC	Hyrdro-chloroflourocarbons
HFC	Hydroflourocarbons
LDMF	Local Development Mitigation Fee
LST	Localized Significance Threshold
Mt	Metric tonne
N_2O	Nitrous oxide

Units of Measurement and Chemical Symbols

NF_3	Nitrogen triflouride
NH_4N0_3	Ammonium nitrate
NO	Nitric oxide
NO_2	Nitrogen dioxide
NO_X	Oxides of nitrogen
O_3	Ozone
Pb	Lead
PFC	Perflourocarbons
PM-10	Particulate matter 2.5 to 10 microns in diameter
PM-2.5_5	Particulate matter 2.5 microns or less in diameter
ppm	Parts per million
ROG	Reactive organic gases
SF_6	Sulfur hexaflouride
SO_2	Sulfur dioxide
SO_X	Oxides of sulfur
SRA	Source Receptor Area
TCA	1,1,1-trichloroethane or methyl chloroform
VOC	Volatile organic compounds
µg/m^3	Micrograms per cubic meter

1.0 Executive Summary

The purpose of this Environmental Impact Report (EIR) is to evaluate and disclose potential environmental impacts resulting from the implementation of The Crestview Apartments Project (Project). This section summarizes the characteristics of the Project, alternatives to the proposed Project, and the environmental impacts and mitigation measures associated with the proposed Project.

1.1 Project Applicant

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1.2 Lead Agency

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1.3 Project Description

This EIR has been prepared to examine the potential environmental effects of the Crestview Apartments Project. The following is a summary of the full Project description provided in Section 3.0, Project Description. The approximately 9.44-acre Project site is located at the northwest corner of Central Avenue and Sycamore Canyon Boulevard in the City of Riverside. The Project site is comprised of the following single parcel: 256-050-012.

The proposed Project includes a total of 237 one-, two-, and three-bedroom residential apartment units in seven buildings, consisting of five 3-story buildings and two 2-4 split story-buildings. A total of 94 units are proposed to be one-bedroom, 126 are proposed to be two-bedroom, and 17 are proposed to be three-bedroom units. The proposed Project includes the following amenities: onsite leasing office, garages, carports, mail lounge, putting green, outdoor resort style pool and spa, dog run area with a dog wash station, fitness center, clubhouse, shade structures with barbecues and tables, and a walking perimeter loop trail (1/2 mile loop) with learning or exercise stations.

Discretionary Actions and Approvals

- General Plan Amendment (GPA) – to amend approximately 9.44 acres of the proposed Project area from C – Commercial to VHDR – Very High Density Residential; Planning Case P19-0775.

- Zoning Code Amendment (RZ) – to rezone approximately 9.44 acres of the proposed Project area from CG – Commercial General to R-4 – Multiple Family Residential Zone; Planning Case P19-0776.
- Design Review (DR) – for the proposed site design and building elevations; Planning Case P19-0777.
- Environmental Impact Report (EIR) – for the preparation of an Environmental Impact Report for the proposed Project; Planning Case P19-0905.
- Variance (VR) – 1) to allow perimeter solid masonry walls and tubular steel fencing up to 6 feet in height within the front yard setbacks along Central Avenue and Sycamore Canyon Boulevard, where 3 foot high solid walls and 4 foot open fencing are permitted by the Zoning Code; and 2) to allow on site improvements to encroach into the 15 foot landscaped front yard setback along Central Avenue, required in the R-4 Zone when adjacent to an arterial; Planning Case P20-0307.
- Grading Exception (GE) – to allow the height of retaining walls not open to public view to be up to 11.7 feet, where the Grading Code allows a maximum height of 6 feet; and to allow the height of retaining walls visible from the public right of way (Central Avenue and Sycamore Canyon Boulevard) to be up to 5 feet, where the Grading Code allows a maximum height of 3 feet; Planning Case P20-0308.
- Grading Exception (GE) – to allow slopes having a ratio of 3.9:1 or steeper to be up to 28 feet in vertical height, where the Grading Code limits slopes having a ratio of 3.9:1 or greater to a maximum vertical height of 20 feet; Planning Case P20-0309.
- Summary Vacation (VC-S) – for the acquisition of excess City right-of-way along Sycamore Canyon Boulevard and Central Avenue totaling 19,200 square feet or 0.44 acre; Planning Case P20-0310.

Existing Site Conditions

The Project site currently has a General Plan Land Use designation of C - Commercial. It is zoned CG – Commercial General.

The Project site is undeveloped and vacant. The site has evidence of previous earthwork or grading as identified in observation of the current surface topography as well as review of previous aerial photographs. The site is lightly vegetated with disturbed Riversidean sage scrub and non-native species with areas of bare soil and windrows of rocks and boulders. An approximately 38-foot high cut slope exposing granitic bedrock is located in the northwest corner of the site. Much of the Project site is covered with sand/cobble/boulder. The southwest corner of the Project site has a steep slope down to a drainage course that extends across the southwest corner of the site in a northwest direction from a culvert that extends under Central Avenue. The drainage course contains a willow riparian plant community.

Construction and Grading

Construction of the proposed project is expected to occur over approximately 18 months. Construction activity would comply with the City's Municipal Code Section 7.35.020 and would not occur between the hours of 7:00 PM and 7:00 AM on weekdays, between the hours of 5:00 PM and 8:00 AM on Saturdays, or at any time on Sundays or federal holidays. Construction activity would consist of phased site preparation and grading, building construction, architectural coating, and paving.

Based on the Project site's existing topography, grading would require a maximum cut of 15 feet (northwest area of the site) and maximum fill of approximately 25 feet (southeast area of the site). The existing site ranges in elevation from 1,315 feet to 1,375 feet above mean sea level. The proposed improvements range in elevation from 1,349 to 1,351.3 feet. Proposed grading activities of cut and fill on site are anticipated to balance and is not anticipated to require import or export of soil. However, there is a potential that some fill may be required, up to 20,000 cubic yards and that some export of rock/boulders may be required, up to 10,000 cubic yards, that cannot be utilized in the landscaping on site. All construction activities, with the exception of potential import of fill and export of rock/boulders and staging of equipment would be on site. Large-scale ground improvement (densification) will be used to address the undocumented fill. Deep dynamic compaction (DDC) is the proposed method for compacting the site's subsoil to establish load bearing capacity foundations for the apartment buildings.

Project Objectives

The proposed Project intends to achieve the following objectives:

- Provide a high-quality residential development in close proximity to the University of California, Riverside, Downtown Riverside, and high-quality transit corridors.
- Provide housing to increase the type and amount of housing available consistent with the goals of the City's Housing Element and to assist the City in meeting project housing demand as part of the City's growth projections. Per Regional Housing Need Allocation (RHNA), the City will need to make space for a minimum of 18,458 housing units, with an anticipated goal of 24,000 units, by 2029.
- Use land resources more efficiently by providing a well-planned, infill development on a currently vacant and largely disturbed site.
- Implement green building practices and other sustainable development methods throughout the project, consistent with the City's Climate Action Plan.
- Preserve the existing natural bed and bank of the drainage course and associated sensitive vegetation outside of the development footprint to maintain its hydrologic and biological function for water flow conveyance and wildlife movement.
- Incorporate design and landscaping elements that complement and are responsive to the Canyon Crest community and edge conditions that buffer the project's effect on the nearby

natural environments, including the City of Riverside's Quail Run Open Space and the Sycamore Canyon Wilderness Park.

- Provide for an aesthetically pleasing project with design elements that have compatible overall theme and identity that harmonizes with the surrounding environment in terms of colors and materials and landscaping.

1.4 Alternatives

As required by the California Environmental Quality Act (CEQA), this DEIR examines alternatives to the proposed Project. Studied alternatives include the following three alternatives. Based on the alternatives analysis, Alternative 1 was determined to be the environmentally superior alternative.

- Alternative 1: No Project Alternative
- Alternative 2: Commercial Development: Develop the Site Pursuant to Current Underlying Zoning Regulations
- Alternative 3: Mixed Use Development: Develop the Site Pursuant to MU-U – Mixed Use Urban Zoning Regulations

Alternative 1 (No Project) assumes that the proposed 237 residential unit development will not be constructed. Alternative 1 considers no development/disturbance on the Project site beyond which occurs under the existing conditions. As such, the entire 9.44-acre site would remain vacant and undeveloped. Further, the No Project alternative would not fulfill any of the Project's objectives as the existing site would not provide housing. Under this alternative, no improvements would be made to the Project site and none of the Project infrastructure improvements such as roadway, utilities, and construction and grading would be made. This alternative has no characteristics in common with the proposed Project nor any of the other alternatives as no proposed development would occur. Impacts under the No Project alternative would be less than impacts under the proposed Project.

Alternative 2 (Develop the Site Pursuant to Current Underlying Zoning Regulations) analyzes alternative development of the site that remains in accord with the current land use and zoning designations. Under this alternative, the land use designation and zoning would remain as is, and the Project site would be under a CG - Commercial General zoning designation. Development under Alternative 2 would include general commercial uses and would include a total square footage (SF) of 61,800 and approximately 400 parking spots. This development would include a 34,000 SF fitness club, a 3,400 SF drive-thru restaurant, a 12,000 SF restaurant building, and an 8,800 SF multi-tenant building with retail along with a drive-thru restaurant. A 3,600 SF convenient store/gas station would also be provided under this alternative that would include a car wash, fuel pump station, and store.

Alternative 3 (Mixed Use Development: Very High Density Residential and General Commercial) would include both residential and commercial uses. Thus, under alternative 3, the site would require a General Plan Amendment (GPA) from C – Commercial to MU-U – Mixed

Use-Urban designation and a Zoning Code Amendment (RZ) from C – Commercial to MU-U – Mixed Use-Urban Zone.

The Project applicant previously considered development of the site as mixed use and had a conceptual site plan prepared, refer to Figure 8.0-2 - Alternative 3 Mixed Use Development Conceptual Site Plan. Under Alternative 3, the residential component of the project is approximately 4.66 acres, with seven apartment buildings with 10 to 20 dwelling units each, with a total of 120 units. Alternative 3 with 120 units, is 117 less units than those of the proposed Project.

The remaining portion of the site, approximately 4.78 acres, includes three commercial buildings: 3,600-SF food/retail with drive thru, and 3,230 SF food/retail, a 3,400-SF drive-thru restaurant and an 8,820-SF multi-tenant building with food/retail uses and drive-thru.

Refer to Section 8.0, Alternatives, for the complete alternatives analysis.

1.5 Areas of Known Controversy

The City of Riverside circulated an Initial Study and a Notice of Preparation (NOP) of the EIR for a 30-day agency and public review period starting on June 30, 2020 and ending on July 30, 2020 at 5:00 p.m. The City distributed the NOP to the State Clearinghouse, responsible agencies, and other interested parties. Due to COVID-19 restrictions, the City held a virtual EIR Public Scoping Meeting on July 22, 2020, aimed at providing information about the proposed Project and the CEQA process to members of public agencies, interested stakeholders, and residents/community members.

In addition to verbal comments from members of the public during the virtual Public Scoping Meeting, the City received seven letters from public agencies, one letter from a Native American tribe, and 10 emails/letters from members of the public. Appendix A of this EIR contains the Initial Study, the NOP, and all comments received during the 30-day review period. Responses to the Notice of a Preparation of a Draft EIR and input received during the virtual EIR scoping meeting held by the City are summarized in Section 2.0, Introduction.

Primary areas of concern include the following:

- Air pollution health impacts to students and staff within Moreno Valley Unified School District
- Compliance with tribal outreach and consultation pursuant to Assembly Bill (AB) 52 and Senate Bill (SB) 18
- Project's potential need for applicable regulatory permits from resource agencies
- Potential impacts to a natural drainage course
- Incorporating recommended South Coast Air Quality Management District (SCAQMD) methodology in analyzing potential air quality impacts

- Potential operation and maintenance of Southern California Gas (SoCalGas) facilities within Project area
- Analysis of all potential project impacts
- Increased traffic congestion and changes to circulation patterns
- Potential impacts to wildlife and existing views
- Project in the context of other development in the area (cumulative development impacts)
- Potential impacts to wildlife corridors
- Loss of a remaining blue line stream within the City and loss of natural open space
- Affordable housing
- Impacts to habitat and rock formations
- Air quality and greenhouse gas emissions impacts
- Greater need for commercial/retail development than residential in the area

Written and verbal comments from agencies and interested parties in response to the NOP are summarized in Table 2.0-1: NOP and Scoping Meeting Comments, which summarizes the comments and details where each is addressed in the EIR.

1.6 Issues Not Studied in Detail in the DEIR

The Initial Study (Appendix A) determined no substantial evidence exists that significant impacts would occur with regards to the following issue areas: Agricultural Resources, Hazards and Hazardous Materials, Hydrology and Water Quality, Mineral Resources, Population and Housing, Public Services, and Recreation. Section 7 Environmental Effects Found not to be Significant, summarizes the issues determined to have no impact and issues from the environmental checklist determined to be less than significant in the Initial Study.

1.7 Summary of Impacts and Mitigation Measures

Table ES-1 summarizes the environmental impacts of the proposed Project, proposed mitigation measures, and residual impacts (the impact after application of mitigation, if required). Impacts are categorized as follows:

- **Significant and Unavoidable:** An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the CEQA Guidelines.
- **Less than Significant with Mitigation Incorporated:** An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under §15091 of the CEQA Guidelines.

- **Less than Significant:** An impact that may be adverse but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact:** The proposed Project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
Aesthetics			
Threshold A: Would the Project have a substantial adverse effect on a scenic vista?	Less than significant	None required	Less than significant
Threshold B: Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	Less than significant	None required	Less than significant
Threshold C: In non-urbanized areas, would the Project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly-accessible vantage point). If the project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	Less than significant	None required	Less than significant
Threshold D: Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Significant without mitigation	**MM AES-1:** Prior to the issuance of building permits, the applicant shall submit a photometric (lighting) plan for approval by the Community & Economic Development Department, Planning Division. The approved light design requirements shall be included on the final building plan sheets. The lighting plan shall incorporate the following requirements: • The project shall be designed in such a manner as to prevent light spillage from the project to the adjacent and nearby open space areas • Project lighting shall not exceed an intensity of one foot-candle • Shielding shall be employed, where feasible	Less than significant

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		• Any night lighting shall be directed away from natural open space areas and directed downward and towards the center of the development • No project lights shall blink, flash, oscillate, or be of unusually high intensity or brightness • Energy-efficient LPS or HPS lamps shall be used exclusively throughout the project site to dampen glare • Exterior lights shall be only "warm" LED lights (<3000K color temperature)	
Air Quality			
Threshold A: Would the Project conflict with or obstruct implementation of the applicable air quality plan?	Less than significant	None required	Less than significant
Threshold B: Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?	Less than significant	None required	Less than significant
Threshold C: Would the Project expose sensitive receptors to substantial pollutant concentrations?	Less than significant	None required	Less than significant
Threshold D: Would the Project result in emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less than significant	None required	Less than significant
Biological Resources			
Threshold A: Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special	Significant without mitigation	**MM BIO-1:** Pursuant to the MBTA and Fish and Game Code, removal of any trees, shrubs, or any other potential nesting habitat should be conducted	Less than significant

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U. S. Wildlife Service?		outside the avian nesting season. The nesting season generally extends from February 1 through August 31, beginning as early as January 1 for raptor species, but can vary slightly from year to year based upon seasonal weather conditions. If ground disturbance and vegetation removal cannot occur outside of the nesting season (September 1 through February 31), a pre-construction clearance survey for nesting birds should be conducted within three (3) days of the start of any ground disturbing activities to ensure that no nesting birds will be disturbed during construction. If the biologist finds an active nest on the Project site and determines that the nest may be impacted, the biologist shall delineate an appropriate buffer zone around the nest. The size of the buffer shall be determined by the biologist and shall be based on the nesting species, its sensitivity to disturbance, expected types of disturbance, and location in relation to the construction activities. These buffers are typically 300 feet from the nests of non-listed species and 500 feet from the nests of raptors and listed species. Any active nests observed during the survey shall be mapped on an aerial photograph. Only construction activities (if any) that have been approved by a Biological Monitor shall take place within the buffer zone until the nest is vacated. The	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		biologist shall serve as a Construction Monitor when construction activities take place near active nest areas to ensure that no inadvertent impacts on these nests occur. Results of the pre-construction survey and any subsequent monitoring shall be provided to the Property Owner/Developer and the City. The monitoring report shall summarize the results of the nest monitoring, describe construction restrictions currently in place, and confirm that construction activities can proceed within the buffer area without jeopardizing the survival of the young birds. **MM BIO-2:** In accordance with the *Burrowing Owl Survey Instructions for the Western Riverside County Multiple Species Habitat Conservation Plan*, a 30-day pre-construction survey for burrowing owls is required prior to initial ground-disturbing activities (e.g., vegetation clearing, clearing and grubbing, grading, tree removal, site watering, equipment staging) to ensure that no burrowing owls have colonized the site in the days or weeks preceding the ground-disturbing activities. If burrowing owls have colonized the project site prior to the initiation of ground-disturbing activities, the project proponent will immediately inform the Regional Conservation	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		Authority (RCA) and the Wildlife Agencies, and will need to coordinate further with RCA and the Wildlife Agencies, including the possibility of preparing a Burrowing Owl Protection and Relocation Plan, prior to initiating ground disturbance. If ground-disturbing activities occur, but the site is left undisturbed for more than 30 days, a pre-construction survey will again be necessary to ensure that burrowing owl have not colonized the site since it was last disturbed. If burrowing owl is found, the same coordination described above will be necessary. If burrowing owls are observed on the project site during the pre-construction surveys, a burrowing owl relocation plan shall be prepared and submitted to CDFW and the RCA for review and approval prior to commencement of vegetation clearing/grubbing, grading, and construction activities on the project site. The burrowing owl relocation plan shall outline methods to relocate any burrowing owls occurring on the project site and ensure compliance with the MSHCP, MBTA and California Fish and Game Code. If an active burrow is found during the breeding season (February 1 through August 31) occupied burrows will not be disturbed and will be provided with a protective buffer unless a qualified biologist verifies through noninvasive means that either: (1) the birds have not begun egg laying, or (2) juveniles from the	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		occupied burrows are foraging independently and are capable of independent survival. The size of the buffer will depend on the time of year and level of disturbance.	
Threshold B: 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 Game or U.S. Fish and Wildlife Service?	Less than significant	None required	Less than significant
Threshold C: Would the Project have a substantial adverse effect on Federally-protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Less than significant	None required	Less than significant
Threshold D: 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 native wildlife nursery sites?	Significant without mitigation	**MM BIO-2** (above) through **MM BIO-15** and **MM AES-1** (above) **MM BIO-3:** To ensure grading activities and/or construction equipment does not encroach into the 0.53-acre conservation area on the southwest corner of the project site, a temporary fence will be installed to demark the conservation area line and a biological monitor will be required to ensure that no encroachment into the conservation area occurs. **MM BIO-4:** To minimize indirect impacts to species protected under Section 6.1.2 of the MSHCP, that have the potential to be present within the riparian habitat on	Less than significant

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		the southwest corner of the project site, from noise generated by project construction equipment, the following measures shall be implemented prior to issuance of grading permit: • Install a 12-foot high temporary noise barrier at the perimeter of the limits of disturbance between the construction activities and the adjacent riparian habitat on the southwest corner of the project site. The barrier shall be continuous without openings, holes or cracks, and shall reach the ground. The barrier may be constructed with 1-inch plywood and provide a reduction of at least 13 dB(A) to ensure noise levels do not exceed 65 dB(A) at the on-site conservation area. Other materials providing the same reduction shall also be permitted. **MM BIO-5:** To minimize indirect impacts to species protected under Section 6.1.2 of the MSHCP, that have the potential to be present within the riparian habitat on the southwest corner of the project site, from noise generated by project construction equipment, the following measures shall be implemented during ground disturbing and construction activities: • Heavy grade rubber mats/pads will be used within the bed of the trucks. These mats will help attenuate initial impact noise generated when an	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		excavator drops rock and debris into the bed of the truck. These mats must be maintained and/or replaced as necessary. • During all project site excavation and grading on-site, construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturer standards. • The contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site. • Equipment shall be shut off and not left to idle when not in use. • The contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise/vibration sources and sensitive receptors nearest the project site during all project construction. • The project proponent shall mandate that the construction contractor prohibit the use of music or sound amplification on the project site during construction. • The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		(7:00 am to 7:00 pm on weekdays, and 8:00 am to 5:00 pm on Saturdays). • Limit the use of heavy equipment or vibratory rollers and soil compressors along the project boundaries to the greatest extent possible. It is acknowledged that some soil compression may be necessary along the project boundaries. • Any jackhammers, pneumatic equipment and all other portable stationary noise sources shall be shielded and noise shall be directed away from sensitive receptors. **MM BIO-6:** Project Construction Vibration – If pile driving and rock blasting activities are needed, in order to minimize indirect impacts to species protected under Section 6.1.2 of the MSHCP from construction vibration generated by these activities, the following measures shall be implemented: • All pile driving and rock blasting activities shall be conducted outside of the avian nesting season (generally February 1 to August 31). • Out of abundance of caution, a pre-construction nesting bird clearance survey shall be conducted prior to pile driving and rock blasting activities to ensure avian species are not actively nesting, within the sensitive riparian habitat on the southwest corner of the	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		project site, or within 500 feet of the limits of disturbance. **MM BIO-7:** The Project has been designed to avoid direct construction impacts to riparian plant communities and wildlife corridors by staying within previously disturbed areas. Avoidance and minimization measures shall be included in the Project specifications for implementation during construction to further reduce the potential for any temporary, indirect impacts to occur to these areas during ground disturbing and construction activities, including the following: • During ground disturbing and construction activities, a biological monitor shall be required to ensure that no encroachment into the conservation area occurs. The biological monitor shall be present and monitor flagging installation, as well as all grading and construction activities in the southwest corner of the stie including installation of the retaining walls and landscaping. • During ground disturbing and construction activities trash and other debris shall be properly disposed of and not left on-site in areas where it could fall into protected habitat. • During ground disturbing and construction activities refueling, washing, or other vehicular	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		maintenance activities shall occur a minimum of 100 feet away from riparian areas, including the conserved riparian habitat. • During ground disturbing and construction activities, equipment would be maintained and checked at least on a daily basis for leaks. • During ground disturbing and construction activities all vehicles leaks or other hazardous material leaks shall be contained and cleaned up immediately. All contaminated soil shall be removed from the site and disposed of properly. **MM BIO-8:** During soil excavation, grading, or other subsurface disturbances, the construction contractor shall supervise provision and maintenance of all standard dust control Best Management Practices (BMPs) to reduce fugitive dust emissions, including but not limited to the following actions: • Water any exposed soil areas a minimum of twice per day, or as allowed under any imposed drought restrictions. On windy days or when fugitive dust can be observed leaving the construction site, additional water shall be applied at a frequency to be determined by the on-site construction superintendent.	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		• Pave, periodically water, or apply chemical stabilizer to construction access/egress points. • Minimize the amount of area disturbed by clearing, grading, earthmoving, or excavation operations at all times. • Operate all vehicles on graded areas at speeds less than 15 miles per hour. • Cover all stockpiles that would not be utilized within three days with plastic or equivalent material, to be determined by the on-site construction superintendent, or spray them with a non-toxic chemical stabilizer. **MM BIO-9:** During ground disturbing and construction activities the on-site construction contractor shall implement the following measures to minimize short-term noise levels caused by construction activities. Measures to reduce construction noise shall be included in contractor specifications and include, but not be limited to, the following: • Properly outfit and maintain construction equipment with manufacturer-recommended noise-reduction devices to minimize construction-generated noise. • Operate all diesel equipment with closed engine doors and equip with factory-recommended mufflers.	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		• Use electrical power, when feasible, to operate air compressors and similar power tools. • Employ additional noise attenuation techniques, as needed, to reduce excessive noise levels within the conserved Riparian/Riverine Habitat on-site, such as placement of temporary sound barriers or sound blankets at the top of slope adjacent to these areas. • Locate construction staging areas at least 100 feet from the conserved riparian habitat. **MM BIO-10:** To address potential short-term impacts to water quality within the on-site drainages from construction runoff that may carry storm water pollutants, a Stormwater Pollution Prevention Plan (SWPPP) shall be implemented by the construction contractor as required by the California General Construction Storm Water Permit pursuant the Regional Board regulations prior to grading permit issuance. The SWPPP shall identify BMPs related to the control of toxic substances, including construction fuels, oils, and other liquids. These BMPs would be implemented by the construction contractor prior to the start of any ground clearing activity, shall be subject to periodic inspections by the City and the Project's hydrological consultant, shall be maintained throughout the construction	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		period and remain in place until all landscape and permanent BMPs are in place. BMPs shall be monitored and repaired if necessary, to ensure maximum erosion, sediment, and pollution control. • The use of erosion control materials potentially harmful to fish and wildlife species, such as mono-filament netting (erosion control matting) or similar material, within and adjacent to conserved riparian habitat shall be prohibited. • All fiber roles,[1] straw waddles, and/or hay bales utilized within and adjacent to the Project site shall be free of non-native plant materials. • Construction contractor shall comply with all litter and pollution laws. All contractors, subcontractors, and employees shall also obey these laws. • Water containing mud, silt, or other pollutants from grading, aggregate washing, or other activities shall not be allowed to enter the conserved riparian habitat or be placed in locations that may be subjected to high storm flows.	

[1] Fiber rolls or erosion control mesh shall be made of loose-weave mesh that is not fused at the intersections of the weave, such as jute, or coconut (coir) fiber, or other products without welded weaves. Non-welded weaves reduce entanglement risks to wildlife by allowing animals to push through the weave, which expands when spread.

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		• Spoil sites shall not be located within jurisdictional areas and MSHCP Conservation Areas or locations that may be subjected to high storm flows, where spoil shall be washed back into the conserved riparian habitat where it would impact streambed habitat and aquatic or riparian vegetation. • Raw cement/concrete or washings thereof, asphalt, paint, or other coating material, oil or other petroleum products, or any other substances which could be hazardous to fish and wildlife resources resulting from Project related activities shall be prevented from contaminating the soil and/or entering the conserved riparian habitat. These materials, placed within or where they may enter the conserved riparian habitat or any party working under contract to the construction contractor, shall be removed immediately. • No equipment maintenance shall be done within or near the conserved riparian habitat where petroleum products or other pollutants from the equipment may enter these areas under any flow. **MM BIO-11:** The following measures shall also be incorporated into the construction documents and specifications, and implemented by the contractor, to avoid potential construction-related impacts to	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		the conserved riparian habitat outside of the approved disturbance limits: • Prior to grading and ground disturbing activities construction worker training shall be provided by a qualified biologist at the first on-site construction meeting; • Prior to grading and construction activities Project boundaries shall be clearly marked and or signs shall be erected near the top of slope adjacent to the conserved riparian habitat to prevent accidental/unauthorized intrusions during construction; and • During all construction activities staging areas for storage of materials and heavy equipment, and for fueling, cleaning, or maintenance of construction vehicles or equipment, shall be prohibited within 20 feet from the top of slope adjacent to the conserved riparian habitat. **MM BIO-12:** During construction the Project shall incorporate special edge treatments to minimize edge effects by providing a safe transition between developed areas and the conserved riparian habitat, and which would be compatible with Project operation and the protection and sustainability of conserved areas. The following special edge treatments are applicable to the Project, and shall be implemented:	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		• The Project is required to stage construction vehicles and equipment outside of the limits of CDFW jurisdictional streambed and riparian habitat to the maximum feasible distance; • Construction-related noise shall not exceed 65 dBA at the on-site conservation area; and • Any manufactured slopes shall be kept within the boundaries of the Project footprint and not encroach into the conserved riparian habitat or MSHCP Conservation Area. **MM BIO-13:** Prior to issuance of a grading permit, the applicant and/or grading contractor shall submit to the Community & Economic Development Department, Planning Division proof that a qualified biologist has been retained and is available to conduct biological monitoring of ground disturbing and construction activities, as identified in MM BIO-3 and MM BIO-7. **MM BIO-14:** Prior to issuance of a grading permit, the conservation area in the southwest corner of the project site shall be plotted on the grading plans, as well as the temporary flagging (identified in MM BIO-3) and the temporary noise barrier (identified in MM BIO-4). The grading plans shall be reviewed and approved by the Public Works Department and the	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		Community & Economic Development Department, Planning Division. **MM BIO-15:** Prior to issuance of a grading permit, all Mitigation Measures that must be satisfied prior to, and during, ground disturbing and construction activities (MM BIO-1, -2, -3, -4, -5, -6, -7, -8, -10, -11, and -12) shall be added to the grading plans as notes. The grading plans shall be reviewed and approved by the Public Works Department and the Community & Economic Development Department, Planning Division.	
Threshold E: Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No impacts	None required	No impacts
Threshold F: Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	Significant without mitigation	Mitigation measures **MM BIO-1** through **MM BIO-15 and MM AES-1**, and payment of both of the MSHCP and SKR-HCP Local Development Mitigation Fees.	Less than significant
Cultural Resources			
Threshold A: Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5 of the CEQA Guidelines?	Significant without mitigation	**MM CUL-1**: Prior to grading permit issuance, if there are any changes to Project site design and/or proposed grades, the Applicant and the City shall contact consulting tribes to provide an electronic copy of the revised plans for review. Additional consultation shall occur between the City, developer/applicant, and consulting tribes to discuss any proposed changes and review any new	Less than significant

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		impacts and/or potential avoidance/preservation of the cultural resources on the Project site. The City and the developer/applicant shall make all attempts to avoid and/or preserve in place as many cultural and paleontological resources as possible that are located on the project site if the site design and/or proposed grades should be revised. In the event of inadvertent discoveries of archaeological resources, work shall temporarily halt until agreements are executed with consulting tribe, to provide tribal monitoring for ground disturbing activities. **MM CUL-2: Archaeological and Paleontological Monitoring**: At least 30 days prior to application for a grading permit and before any grading, excavation and/or ground disturbing activities take place, the developer/applicant shall retain a Secretary of Interior Standards qualified archaeological monitor to monitor all ground-disturbing activities in an effort to identify any unknown archaeological resources. 1. The project archaeologist, in consultation with consulting tribes (those that requested consultation under AB 52 and SB 18, the Developer, and the City, shall develop an Archaeological Monitoring Plan to address the details, timing, and responsibility of all archaeological and	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		cultural activities that will occur on the project site. Details in the plan shall include: a) Project grading and development scheduling; b) The development of a rotating or simultaneous schedule in coordination with the developer/applicant and the project archaeologist for designated Native American Tribal Monitors from the consulting tribes during grading, excavation, and ground-disturbing activities on the site, including the scheduling, safety requirements, duties, scope of work, and Native American Tribal Monitors' authority to stop and redirect grading activities in coordination with all Project archaeologists; c) The protocols and stipulations that the Applicant, tribes, and Project archaeologist/paleontologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits, or nonrenewable paleontological resources that shall be subject to a cultural resources evaluation; d) Treatment and final disposition of any cultural and paleontological resources, sacred sites, and human	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		remains if discovered on the project site; and e) The scheduling and timing of the Cultural Sensitivity Training noted in mitigation measure MM-CUL-4. **MM CUL-3**: **Treatment and Disposition of Cultural Resources:** In the event Native American cultural resources are inadvertently discovered during the course of grading for this Project, the following procedures will be carried out for treatment and disposition of the discoveries: 1. **Consulting Tribes Notified:** within 24 hours of discovery, the consulting tribe(s) shall be notified via email and phone. The developer shall provide the City evidence of notification to consulting tribes. Consulting tribe(s) will be allowed access to the discovery, in order to assist with the significance evaluation. 2. **Temporary Curation and Storage:** During the course of construction, all discovered resources shall be temporarily curated in a secure location on site or at the offices of the project archaeologist. The removal of any artifacts from the Project site will need to be thoroughly inventoried with tribal monitor oversight of the process; and 3. **Treatment and Final Disposition:** The landowner(s) shall relinquish ownership of all cultural resources,	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		including sacred items, burial goods, and all archaeological artifacts and non-human remains as part of the required mitigation for impacts to cultural resources. The Applicant shall relinquish the artifacts through one or more of the following methods and provide the City of Riverside Community and Economic Development Department with evidence of same: a) Accommodate the process for on-site reburial of the discovered items with the consulting Native American tribes or bands. This shall include measures and provisions to protect the future reburial area from any future impacts. Reburial shall not occur until all cataloguing and basic recordation have been completed; b) A curation agreement with an appropriate qualified repository within Riverside County that meets federal standards per 36 CFR Part 79 and therefore will be professionally curated and made available to other archaeologists/researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility within Riverside County, to be	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		accompanied by payment of the fees necessary for permanent curation; c) If more than one Native American tribe or band is involved with the project and cannot come to a consensus as to the disposition of cultural materials, they shall be curated at the Western Science Center or Museum of Riverside by default; and At the completion of grading, excavation, and ground-disturbing activities on the site, a Phase IV Monitoring Report shall be submitted to the City documenting monitoring activities conducted by the project archaeologist and Native Tribal Monitors within 60 days of completion of grading. This report shall document the impacts to the known resources on the property; describe how each mitigation measure was fulfilled; document the type of cultural resources recovered and the disposition of such resources; provide evidence of the required cultural sensitivity training for the construction staff held during the required pre-grade meeting; and, in a confidential appendix, include the daily/weekly monitoring notes from the archaeologist. All reports produced will be submitted to the City of Riverside, Eastern Information Center, and consulting tribes. **MM CUL-4: Cultural Sensitivity Training:** The Secretary of Interior	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		Standards County certified archaeologist and Native American monitors shall attend the pre-grading meeting with the developer/permit holder's contractors to provide Cultural Sensitivity Training for all construction personnel. This shall include the procedures to be followed during ground disturbance in sensitive areas and protocols that apply in the event that unanticipated resources are discovered. Only construction personnel who have received this training can conduct construction and disturbance activities in sensitive areas. A sign-in sheet for attendees of this training shall be included in the Phase IV Monitoring Report.	
Threshold B: Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5 of the CEQA Guidelines?	Significant without mitigation	Mitigation measure **MM CUL-1** through **MM CUL-4** discussed in Cultural Resources.	Less than significant.
Threshold C: Would the Project disturb any human remains, including those interred outside of formal cemeteries?	Less than significant	**Consistent with State Law the Project will be required to comply with the following standard condition of approval:** **Discovery of Human Remains:** In the event that human remains (or remains that may be human) are discovered at the Project site during grading or earthmoving, the construction contractors, Project Archaeologist, and/or designated Native American Monitor shall immediately stop all activities within 100 feet of the find. The Project proponent	Less than significant

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		shall then inform the Riverside County Coroner and the City of Riverside Community & Economic Development Department immediately, and the coroner shall be permitted to examine the remains as required by California Health and Safety Code Section 7050.5(b) unless more current State law requirements are in effect at the time of the discovery. Section 7050.5 requires that excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If human remains are determined as those of Native American origin, the Applicant shall comply with the state relating to the disposition of Native American burials that fall within the jurisdiction of the NAHC (PRC Section 5097). The coroner shall contact the NAHC to determine the most likely descendant(s). The MLD shall complete his or her inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site. The Disposition of the remains shall be overseen by the most likely descendant(s) to determine the most appropriate means of treating the human remains and any associated grave artifacts. The specific locations of Native American burials and reburials will be proprietary and not disclosed to the general public.	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		The County Coroner will notify the Native American Heritage Commission in accordance with California Public Resources Code 5097.98. According to California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052). The disposition of the remains shall be determined in consultation between the Project proponent and the MLD. In the event that the Project proponent and the MLD are in disagreement regarding the disposition of the remains, State law will apply and the median and decision process will occur with the NAHC (see Public Resources Code Section 5097.98(e) and 5097.94(k)).	
Energy			
Threshold A: Would the Project result in potentially significant environmental impact due to wasteful, inefficient, unnecessary consumption of energy resources, during project construction or operation?	Less than significant	None required.	Less than significant
Threshold B: Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	Less than significant	None required.	Less than significant
Threshold C: Would the Project achieve the goal of energy conservation by the following? ▪ Decreasing overall per capita energy consumption;	Less than significant	None required.	Less than significant

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
▪ Decreasing reliance on fossil fuels such as coal, natural gas and oil; and ▪ Increasing reliance on renewable energy sources.			
Geology and Soils			
Threshold A: Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42; ii) strong seismic ground shaking; iii) seismic-related ground failure, including liquefaction; and/or iv) landslides?	Significant without mitigation	**MM GEO-1**: Deep dynamic compaction (DDC) shall be used for ground improvement at this site to accomplish the following: Objective 1, Depth of Improvement. Densify the undocumented fill as it may occur beneath the finished pad levels of structures to depths of up to 25 feet. Objective 2, Foundation Bearing. Densify the near-surface soils sufficient to develop an allowable bearing pressure (i.e., contact stress) as great as about 6,000 pressure per square foot (psf) for shallow foundations.	Less than significant
Threshold B: Will 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?	Significant without mitigation	Mitigation measure **MM GEO-1** listed above.	Less than significant
Threshold C: Will the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	Less than significant	None required	Less than significant
Threshold D: Will the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Significant without mitigation	Mitigation measure **MM CUL-1** and **MM CUL-2** discussed in Cultural Resources.	Less than significant
Greenhouse Gas Emissions			

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
Threshold A: Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less than significant	None required	Less than significant
Threshold B: Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less than significant	None required	Less than significant
Land Use and Planning			
Threshold A: Would the Project physically divide an established community?	Less than significant	None required	Less than significant
Threshold B: Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	Significant without mitigation	**MM LAND USE-1**: In order to alleviate an LOS deficiency and associated conflict with GP policies, prior to issuance of occupancy permits, the Sycamore Canyon Boulevard and Central Avenue intersection traffic signal shall be modified to implement overlap phasing on the northbound (NB) right turn lane. However, the Project will not be conditioned to pay fair share for these improvements as the adjacent Sycamore Commercial Development will construct them. **MM LAND USE-2**: In order to alleviate an LOS deficiency and associated conflict with GP policies, prior to issuance of occupancy permits, the Sycamore Canyon Boulevard and Central Avenue intersection traffic signal shall be modified to add a 2nd NB right turn lane and to implement overlap phasing on the eastbound (EB) right turn lane. The Project shall contribute its fair share of	Less than significant

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		8.6% of the cost to the County of Riverside. **MM LAND USE-3**: In order to alleviate an LOS deficiency and associated conflict with GP policies, prior to issuance of occupancy permits, Watkins Drive & SR-60/I-215 Westbound (WB) on-ramp shall be improved with installation of a traffic signal, addition of a 2nd NB left turn lane, and addition of a 2nd Southbound (SB) through lane. The Project shall contribute its fair share of 4.2% of the cost to the County of Riverside and Caltrans.	
Noise			
Threshold A: Would the Project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Significant without mitigation	Mitigation measures **MM BIO-4, MM BIO-5,** and **MM BIO-6** discussed in Biological Resources.	Less than significant
Threshold B: Would the Project result in the generation of excessive groundborne vibration or groundborne noise levels?	None required	None required	Less than significant
Transportation			
Threshold A: Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	Less than significant	None required	Less than significant
Threshold B: Would the Project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	Significant without mitigation	**MM TRANS-1:** In order to reduce VMT, the Project shall provide for on-site pedestrian connections linking the site to existing pedestrian network along Central	Less than significant

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		Avenue that would provide pedestrian connectivity to existing and planned commercial and residential uses in the area. **MM TRANS-2:** In order to reduce VMT, a high visibility crosswalk feature with an accessible pedestrian signal shall be provided along Central Avenue. **MM TRANS-3:** In order to reduce VMT, an ADA compliant bus turnout shall be provided along the Project site's frontage on Central Avenue.	
Tribal Cultural Resources			
Threshold A: Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is • listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)? • a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources	Significant without mitigation	**MM CUL-1 through MM CUL-4** as previously discussed above in Cultural Resources.	Less than significant

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
Code Section 5024.1, would the lead agency consider the significance of the resource to a California Native American tribe?			
Utilities			
Threshold A: Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	Less than significant	None required	Less than significant
Threshold B: Would the Project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	Less than significant	None required	Less than significant
Threshold C: Would the Project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	Less than significant	None required	Less than significant
Threshold D: Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	Less than significant	None required	Less than significant
Wildfire			
Threshold A: Would the Project Substantially impair an adopted emergency response plan or emergency evacuation plan?	Less than significant	None required	Less than significant
Threshold B: Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of	Less than significant	None required	Less than Significant

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for Fire Protection Public Services?			
Threshold C: Due to slope, prevailing winds, and other factors, would the Project exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	Significant without mitigation	**MM FIRE-1** through **MM FIRE-17** **MM FIRE-1:** Prior to issuance of building permits, water and power utilities shall be installed and approved by the appropriate inspecting City department (Riverside Fire Department and/or Public Utilities) prior to the delivery of combustible building construction materials to the Project site. An approved permanent water supply capable of supplying the required fire flow for each fire protection system shall be installed and shall be a looped system served from two points. **MM FIRE-2:** Fuel treatment in the Project shall require meeting the minimum City fuel treatments of 50-feet of Irrigated Zone 1 (described in Section 5.13.3 Project Design Considerations), which includes all manufactured slopes located within the Project. Irrigated Zone 1 additionally includes 30 feet of fuel treatment on either side of each roadway. Thinning Zone 2 fuel treatment (described in Section 5.13.3 Project Design Considerations) shall be required between 50 and 100 feet of any structure. The establishment of the Project fuel treatment Zones 1 and 2 shall be inspected and must be approved by	Less than Significant

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		the Riverside Fire Department prior to the issuance of building permits. **MM FIRE-3: Irrigated Zone 1 Required Landscaping** Irrigated Zone 1 is the defensible space zone and shall be free of all combustible construction and materials. The establishment of the Irrigated Zone 1 shall be inspected and must be approved by the Riverside Fire Department prior to the issuance of occupancy permits. Containerized plants and landscaping located in Zone 1 shall meet the following requirements of this mitigation measure: • Plants in this zone shall be fire resistant and shall not include any pyrophytes that are high in oils and resins such as pines, eucalyptus, cedar, cypress or juniper species. Thick, succulent or leathery leaf species with high moisture content are the most 'fire resistant'. Refer to APPENDIX 'A' of the Project's Fire Protection, which is incorporated by reference into this mitigation measure, Plan for the Prohibited Plant list. • Zone 1 shall be cleared of all fire prone and prohibited plant species (refer to APPENDIX 'A' of the Project's Fire Protection Plan).	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		• All landscaping shall be fire-resistant. Landscaping elements shall be coordinated with the Case Planner through Landscape and Irrigation Design Review. **MM FIRE-4: Irrigated Zone 1 Required Maintenance** The following maintenance measures shall be implemented for Irrigated Zone 1. Maintenance shall be performed year-round by the Project owner/manager and a Maintenance Schedule Log shall be kept on site at all times and made available upon City Staff request. • Maintenance shall be year-round by the owner as required by the Fire Protection Plan in addition to the Weed Abatement Program in accordance with Riverside Municipal Code 6.15.020, which is managed by the Code Enforcement Division. • Remove and replace any dead or dying plant material monthly. • Native annual and perennial grasses will be allowed to grow and produce seed during the winter and spring. As grasses begin to cure (dry out), they shall be cut to four inches or less in height.	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		• Trees shall be maintained to a minimum of six feet of vertical separation from low growing, irrigated vegetation beneath the canopy of each tree. All trees must be maintained to the current ANSI A300 standards [*Tree, Shrub, and Other Woody Plant Maintenance — Standard Practices (Pruning)]* **MM FIRE-5: Thinning Zone 2 Vegetation Management** Zone 2 is the fuel treatment zone, 50-to-100-feet away from any structure and shall include the removal of 50% of the above ground vegetation and the application of mulch to maintain soil moisture, reduce soil erosion and reduce weed growth. The Thinning Zone 2 plan shall be reviewed and approved through the Landscape and Irrigation Design Review process. Vegetation located in Zone 2 shall meet the following requirements of this mitigation measure: • Mulches, chips and other small multi-cuttings (cut to less than 2 inches in diameter and 4 inches in length) shall be evenly spread over the area to prevent weed and grass encroachment into the treated area.	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		• Allowances for the needs of protected species and habitats shall be considered in this zone. • The Thinning Zone 2 Plan shall include a note not allowing combustible construction or materials in Zone 2. **MM FIRE-6: Thinning Zone 2 Signage** Prior to issuance of occupancy permits, the western side boundary of Zone 2 abutting wildland fuels shall be permanently marked on the ground where it transitions to wildland fuels for the purpose of guiding annual fuel treatment maintenance and inspection operations. As the most reliable markers are steel fence posts with a baked on painted finish, these types of markers shall be installed and maintained/replaced as needed. These Fuel Modification Zone markers shall be spaced no more than 100 feet apart so that the markers on each side of an installed marker can be seen from that marker. (See APPENDIX 'F' of the Project's Fire Protection Plan for an example). **MM FIRE-7: Thinning Zone 2 Required Maintenance** The following required maintenance measures shall be implemented for Thinning Zone 2. Maintenance shall be	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		performed year-round by the Project owner/manager and a Maintenance Schedule Log shall be kept on site at all times and made available upon City Staff request. • Thinning/removal of the native vegetation shall be completed to create 50 percent of open space, with no vegetation. • All native grasses or weeds shall be mowed or weed-whipped to a 4-inch stubble height by June 15th or earlier if they dry out earlier. • All dead, woody debris, and exotic or native flammable vegetation shall be removed (refer to APPENDIX 'A' of the Project's Fire Protection Plan, which is incorporated by reference into this mitigation measure) • Annually maintain all tree crowns to keep a separation of six feet between the ground fuels (shrubs and ground covers) and the lower limbs. All trees shall be maintained to the current ANSI A300 standards [*Tree, Shrub, and Other Woody Plant Maintenance —Standard Practices (Pruning)]* • Annually prune vegetation (refer to APPENDIX 'B' of the Project's	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		Fire Protection Plan) to maintain a 50% thinning from the original vegetation cover. Selected native plant clusters shall be separated by at least 1 ½ times the fully developed height of the retained plants. • Annually, native annual and perennial grasses are allowed to grow and produce seed during the winter and spring. As grasses begin to cure (dry out), they shall be cut to 4 inches or less in height. Note that the Code Enforcement Division regulates weed abatement year-round and requires weed abatement to be performed by May 15th. The owners shall provide an additional cutting should the rainy season be prolonged into June. • Annually remove all dead and dying vegetation and highly flammable exotic species (refer to APPENDIX 'B' of the Project's Fire Protection Plan, which is incorporated by reference into this mitigation measure) by June 15th of each year or when the fuels become cured, whichever occurs first.	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		• Any vegetative biomass (debris and trimmings) produced by thinning and pruning shall be removed from the site or converted to mulch by course chipping or multi-cut into 4-inch lengths and evenly distributed to a maximum depth of four (4) inches. • Mulches, chips, and other small multi-cuttings (cut to less than two (2) inches in diameter and four (4) inches in length) shall be evenly spread over the area to prevent grass and weed encroachment within the treated areas. This mulching concept helps to maintain soil moisture for the designated plants, reduces the growth of annual grass, minimizes soil erosion, and recycles plant residue thus reducing disposal cost. • The owner/manager shall be responsible for maintaining Fuel Modification Zone 2. All highly flammable plant species identified in Appendix A of the Project's Fire Protection Plan, which is incorporated by reference into this mitigation measure, shall be permanently removed from the Thinning Zone 2 due to their susceptibility to wildland fire.	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		MM FIRE-8: In order to reduce potential wildfire risks to the Project, as being partially located within and adjacent to, a mapped Very High Fire Hazard Severity Zone (VHFHSZ) zone, the following additional structural protection elements shall be designed and installed during construction. These elements shall be included in the Construction Drawings, to be reviewed and approved by the Riverside Fire Department and Building and Safety Division, prior to issuance of building permit. • All buildings (1-7) shall be compartmentalized with two-hour fire walls, as required to be compliant with standard NFPA 13R sprinkler systems. • Buildings 4 and 5 shall be protected with standard NFPA 13R fire sprinkler systems. • Buildings 1, 2, 3, 6 and 7 shall be protected with full NFPA 13 sprinkler systems. • Buildings 1, 2, 3, and 7 shall have two-hour exterior wall assemblies (gypsum board assembly, not type III construction with fire retardant-treated lumber). • The northern portion of Building 6 shall have two-hour exterior wall	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		assemblies (gypsum board assembly, not type III construction with fire retardant-treated lumber), as this portion of the building is within or facing the VHFHSZ. • Carports within the defensible space area(s), within 50 feet of buildings, shall be constructed of non-combustible material. **MM FIRE-9:** All non-habitable accessory structures such as decks, balconies, patio covers, gazebos and fences shall built from non-combustible materials as described in APPENDIX D of the Project's Fire Protection Plan. The owner/manager is not restricted from having concrete/brick patios or walkways within the Fuel Modification Zones in compliance with other codes. Refer to APPENDIX 'D' of the Project's Fire Protection Plan, which is incorporated by reference into this mitigation measure, for photos and descriptions of non-combustible decks, patio covers, and railings for these non-habitable accessory structures. These elements shall be included in the Construction Drawings, to be reviewed and approved by the Riverside Fire Department and Building and Safety Division, prior to issuance of grading permit. **MM FIRE-10:** To further mitigate the hazard of showering embers from a	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		wildfire in the adjacent wildlands and for the lack of 100 feet of fuel treatment for Building 7, the following additional construction requirements shall be implemented: • All vents in the structures shall be "Brandguard", "O'Hagin Fire & Ice® Line – Flame and Ember Resistant" or equivalent type vents. • All operable windows shall be provided with metal mesh bug screens over the operable opening to replace traditional vinyl bug screens to prevent embers from entering the structure during high wind conditions when windows may be inadvertently left open. • All swinging exterior doors shall be self-closing (e.g., pneumatic or spring-loaded hinges) and self-latching. These elements shall be included in the Construction Drawings, to be reviewed and approved by the Riverside Fire Department and Building and Safety Division, prior to issuance of building permit.	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		MM FIRE-11: A copy of the Project's Fire Protection Plan shall be available in the Crestview Apartments Manager's office for review by any potential renter or employee. The Office shall provide a copy of this Fire Protection Plan to any new owner at the close of escrow. Subsequent sellers shall include copies of the Fire Protection Plan in all escrow papers. **MM FIRE-12:** The Crestview Apartments' owner/manager shall be responsible for conducting a safety training for all new employees that includes the recommendations outlined in the Fire Protection Plan (Section 8.0, Owner, Occupant/Employee Education, page 25). The Crestview Apartments Manager's office shall keep a log of all new employee safety trainings on file for inspection at any time by the City of Riverside Staff. **MM FIRE-13:** Water supplies for fire protection and hydrants shall be provided in accordance with the 2019 California Fire Code as amended by the City. The minimum fire flow shall be 3,000 gallons per minute (gpm) at 20 pounds per square inch (psi) residual pressure for a 4-hour duration for all buildings classified as R-2 occupancies per the State Fire Code. **MM FIRE-14:** Fire hydrant installation shall conform to City standards and the 2019 NFPA 14, Standard for the Installation of Standpipe, Private Hydrant, and Hose Systems. Hydrant spacing shall	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		be not less than 300 feet between hydrants, as measured from an approved emergency access route and shall be placed at all road intersections. Fire hydrants shall be tested, accepted and placed in service prior to the delivery of any combustible materials to the Project site. **MM FIRE-15:** The Project plans shall retain two means of public access into the Project. One via Sycamore Canyon Boulevard from the north and the second from the east. Rolling gates shall be installed for the northern entrance and west of Building 3. **MM FIRE-16:** Driveways and access roads within the development shall be termed 'Fire Access Roads'. All fire access roads shall meet the requirements of the Riverside Fire Department and shall be all weather surface capable of supporting loads of 80,000 pounds gross vehicle weight. Unless otherwise approved by the Riverside Fire Department Fire Marshal, the grade of a fire apparatus access road shall not exceed 16 percent and the cross slope shall not exceed 2.5 percent. Access to all exterior portions of each structure must be within 150 feet of the available fire department access. The required turning radius of a fire apparatus access road shall be 28-foot inside radius and a	

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
		minimum 48-foot outside radius on all turns in the fire apparatus access road, in accordance with City standards, unless otherwise approved by the fire code official. Fire lanes shall be marked in accordance with City standards. **MM FIRE-17:** Gates to be installed shall meet Riverside Fire Department standards and shall be approved by the Riverside Fire Department prior to fabrication and installation. A Knox override key switch or similar device must be installed outside the gate in an approved, readily visible, and unobstructed location at or near the gate to provide emergency access. Gates accessing major roadways shall also be equipped with approved emergency traffic control-activating strobe light sensor(s), or other devices approved by the Fire Chief, which will activate the gate on the approach of emergency apparatus with a battery back-up or manual mechanical disconnect in case of power failure. All gates shall always be equipped to allow for automatic egress from the Crestview Apartments.	
Threshold D: Would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may	Less than significant	None required	Less than Significant

Impact	Significance Pre-mitigation	Mitigation Measure(s)	Residual Impact
result in temporary or ongoing impacts to the environment?			
Threshold E: Would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	Significant without mitigation	The implementation of **MM FIRE-1** through **MM FIRE-17** would reduce potential impacts to a less than significant level.	Less than Significant
Threshold F: Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	Significant without mitigation	The implementation of **MM FIRE-1** through **MM FIRE-17** would reduce potential impacts to a less than significant level.	Less than Significant

2.0 Introduction

2.1 Purpose and Scope

In accordance with Section 15121 of the California Environmental Quality Act (CEQA) Guidelines, the purpose of this Environmental Impact Report (EIR) is to serve as an informational document that:

> Will inform public agency decision makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project (California Code of Regulations, Title 14).

This EIR has been prepared as a project EIR pursuant to Section 15161 of the CEQA Guidelines. A Project EIR is appropriate for a specific development project. The CEQA Guidelines state:

> This type of EIR should focus primarily on the changes in the environment that would result from the development project. The EIR shall examine all phases of the project, including planning, construction, and operation.

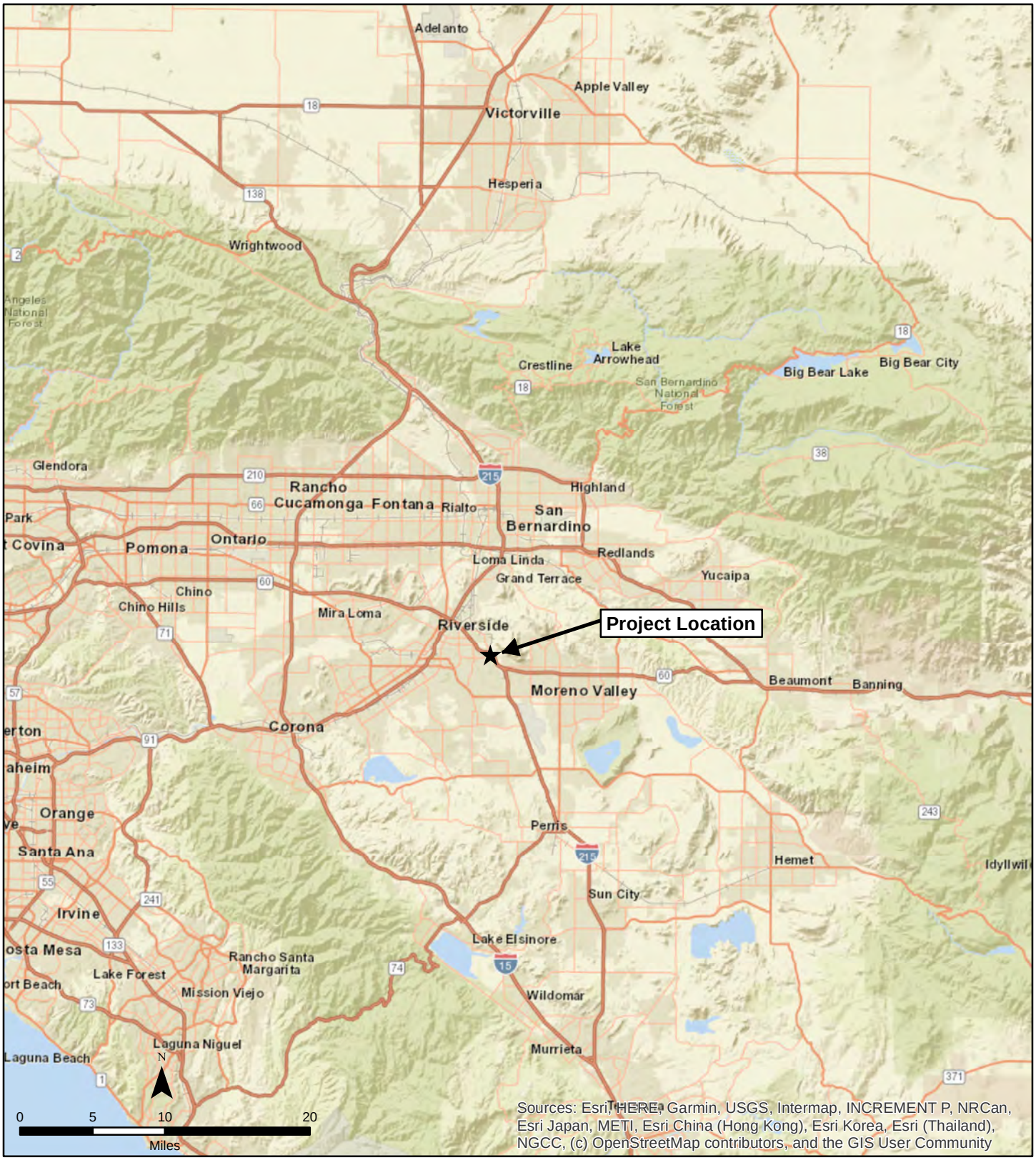
This EIR discloses the potential environmental consequences from the implementation of the Crestview Apartments Project, a proposed multi-family residential development situated at the northwest corner of Central Avenue and Sycamore Canyon Boulevard, in the City of Riverside, California. Figure 2.0-1 shows the regional location of the Project.

The Crestview Apartments Project (hereafter referred to as the "Project") would be constructed on an approximately 9.44-acre site. The site is currently vacant. Development of the Project would involve site clearing, rough grading and compaction, pouring of concrete and asphalt, and construction and operation of the proposed structures. The Project includes a total of 237 one-, two-, and three-bedroom residential apartment units in seven (7) buildings, consisting of five 3-story buildings and two 2-4 split story-buildings. Of the total 237 units, 94 would be one-bedroom, 126 would be two-bedroom, and 17 would be three-bedroom. The Project includes the following amenities: on-site leasing office, garages, carports, mail lounge, putting green, outdoor resort style pool and spa, dog run area and dog wash station, fitness center, clubhouse, shade structure with barbecues and tables, and walking perimeter loop trail (1/2-mile loop) with learning or exercise stations.

This EIR is to serve as an informational document for the public and City of Riverside (City) decision makers. The process to finalize the EIR includes public hearings before the Planning Commission and City Council to consider certification of a Final EIR and approval of the Project.

This section discusses (1) the EIR background; (2) the legal basis for preparing an EIR; (3) the scope and content of the EIR; (4) issue areas found not to be significant by the Initial Study (IS);

(5) the lead, the responsible, and the trustee agencies; and (6) the environmental review process required by CEQA. The Project is described in detail in Section 3.0, Project Description.



CRESTVIEW APARTMENTS

Regional Map

Figure 2.0-1

2.2 Legal Authority

The City, as "Lead Agency," prepared this EIR in accordance with the CEQA Guidelines, for the implementation of the California Environmental Quality Act (State CEQA Guidelines), Sections 15000-15387 of the California Code of Regulations, and the City's CEQA Guidelines. The Project considered in this EIR is a "project," as defined by Section 15378 of the State CEQA Guidelines, which states that an EIR must be prepared for any project that may have a significant impact on the environment. The City, as the Lead Agency, has determined the Project may have a significant adverse impact on the environment, and, therefore, preparation of an EIR was required for Project approval.

2.3 Environmental Procedure

The EIR process typically consists of three (3) parts: the Notice of Preparation (NOP), the Draft EIR, and the Final EIR. Pursuant to Section 15060(d) of the CEQA Guidelines, the City initiated the environmental process with the preparation of an Initial Study (Environmental Checklist) for the Project to determine if it would have a significant effect on the environmental. Appendix A provides a copy of the Initial Study.

The City circulated the Initial Study and a NOP of the EIR for a 30-day agency and public review period starting June 30, 2020 and ending on July 30, 2020 at 5:00 p.m. The City distributed the NOP to the State Clearinghouse, responsible agencies, and other interested parties.

The City held a virtual EIR Public Scoping Meeting on July 22, 2020, from 6 PM to 8 PM. The meeting aimed to provide information about the Project and the CEQA process to members of public agencies, interested stakeholders, and residents/community members. The Initial Study, NOP and all comments received during the 30-day review period are provided in Appendix A. Table 2.0-1 summarizes written comments from agencies and interested parties in response to the NOP and the virtual Scoping Meeting; it also details where each is addressed in the EIR.

Table 2.0-1: NOP and Scoping Meeting Comments

Commenter	Primary Comments to Address	Where in EIR it is addressed
Agency Comments		
Moreno Valley Unified School District (MVUSD)	MVUSD's focus is the health and well being of students and staff, specifically to air pollution and traffic that could negatively impact MVUSD.	Air pollution impacts are addressed in Section 5.2, Air Quality and traffic impacts are addressed in Section 5.10, Transportation of this EIR.
	There will be developer impact fees for the project payable to MVUSD which are currently $4.64 per square foot of residential.	Payment of the developer impact fees will be a condition of approval for the Project.
Native American Heritage Commission (NAHC)	The proposed project is subject to the requirements and provisions under Assembly Bill (AB) 52 and Senate Bill (SB) 18.	The City of Riverside completed consultation required by AB 52 & SB 18 for this Project. Impacts to cultural resources are discussed in Section 5.4, Cultural Resources and Section 5.11, Tribal Cultural Resources of this EIR.
Riverside County Flood Control and Water Conservation District (District)	The District has not reviewed the project in detail. However, the project would not be impacted by District Master Drainage Plan facilities nor are other facilities of regional interest proposed.	Not Applicable (N/A)
	General Information: The Project may require National Pollution Discharge Elimination System (NPDES) for construction and if a natural watercourse of mapped floodplain is impacted by the Project the City should require the applicant to obtain permits from the California Department of Fish and Wildlife, US Army Corps of Engineers, and the local California Regional Water Quality Control Board.	The Project's requirement to obtain NPDES permit coverage is included in the IS (Appendix A), and potential impacts to the onsite natural watercourse is discussed in Section 5.3, Biological Resources of this EIR.
Santa Ana Regional Water Quality Control Board (SARWQCB)	A vegetated natural drainage crosses the southwestern corner of the project site and SARWQCB request that it be avoided.	Potential impacts to the onsite natural watercourse is discussed in Section 5.3, Biological Resources of this EIR.

Commenter	Primary Comments to Address	Where in EIR it is addressed
	An evaluation of Hydraulic Conditions of Concern should include potential hydromodification of the drainage and onsite Best Management Practices (BMPs) must regulate the Project's stormwater volume and quality.	Potential impacts associated with hydromodification of the drainage and onsite BMPs is discussed in the Initial Study, Appendix A.
	If the drainage cannot be avoided, then the EIR must explain reasons and include a Jurisdictional Delineation determining acreage of waters of the state and/or the United States to be impacted.	
South Coast Air Quality Management District (SCAQMD)	Please forward a copy of the EIR with all appendices or technical documents related to health risk, greenhouse gas and air quality and electronic versions of all air quality modeling and health risk files (not PDF files) to SCAQMD.	Noted.
	SCAQMD recommends use of the 1993 Air Quality Handbook in preparing its air quality analysis and the CalEEMod land use emissions software.	
	SCAQMD recommends quantifying criteria pollutant emissions and comparing to regional pollutant emissions significance thresholds and localized significance thresholds.	Potential impacts to air quality are discussed in Section 5.2, Air Quality and 5.7, Greenhouse Gas Emissions of this EIR.
	If the proposed project generates or attracts vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that a mobile source health risk assessment be prepared. Notwithstanding the court rulings, staff recommends considering the impacts of air pollutants on people who will live in a new project within close proximity to sources of air pollution, SR-60 and I-215.	A health risk assessment was completed for the Project (Appendix B) further discussed in Section 5.2, Air Quality of this EIR.
	In the event that the proposed project generates significant adverse air quality impacts, SCAQMD provides sources to assist with identifying potential mitigation measures.	Potential impacts to air quality are discussed in Section 5.2, Air Quality and 5.7, Greenhouse Gas Emissions of this EIR.
	If project requires a permit from SCAQMD, then EIR should identify SCAQMD as the Responsible Agency in the EIR.	Responsible Agencies are identified in the Initial Study, Appendix A.
Southen California Gas (SoCalGas)	Distribution Department of SoCalGas may maintain and operate facilities within your project scope. Contact the Distribution Department of SoCalGas to assure no	Potential impacts to utilities are discussed in Section 5.12, Utilities and

Commenter	Primary Comments to Address	Where in EIR it is addressed
	conflict with the distribution pipeline system.	Service Systems of this EIR.
University of California, Riverside (UCR)	Include UCR's 2021 Long Range Development Plan in the project's Cumulative Impact Analysis	Noted. Cumulative impacts are discussed in each topic Section 5.1, Aesthetics through Section 5.13, Wildfire.
Native American Tribe Comments		
Cabazon Band of Mission Indians	There is no presence of Native American resources that may be impacted by the project.	N/A
Public Comments		
DeLano & DeLano	The letter is submitted on behalf of Friends of Riverside's Hills. The EIR should address all phases of development as well as related developments in the area and an adequate discussion of the impacts associate with project including the following impacts: o Construction traffic impacts; o Biological Resource impacts, including its proximity to nearby open space and the need for effective wildlife corridors; o Aesthetic and view impacts, including its proximity to a nearby park; o Cultural Resource impacts; o Energy impacts; o Geology and soils impacts, including the substantial amount of grading involved in the Project; o Land use and planning impacts, including compliance with Measure C and Proposition R; o Recreation impacts; o Traffic impacts, including nearby streets and intersections impacts; o Noise impacts; o Light impacts; o Water quality impacts, including impacts to on-	All potential impacts from the proposed project, as required by CEQA are included in Section 5.0, Environmental Impact Analysis through Section 8.0, Alternatives.

Commenter	Primary Comments to Address	Where in EIR it is addressed
	site and nearby riparian areas; o Air quality impacts; o Water supply impacts; o Public services impacts; o Wildfire impacts; (see letter for list) o Utilities and services impacts; o Cumulative impacts; and o Climate Change impacts; The EIR should also address a reasonable range of alternatives to the project and adequate and verifiable mitigation for impacts associated with the Project, including compliance with mitigation required by General Plan 2025 Final PEIR.	
Dori McCall	Central Avenue and Sycamore Canyon Boulevard is a traffic-sensitive intersection and gets backed up; the project will exacerbate the already bad traffic in this area. Commentor suggests that the entrance/exit be located at the north side of the project onto Sycamore Canyon Boulevard.	Results of the Traffic Study are included in Section 5.10, Transportation of this EIR. Section 3.0, Project Description of this EIR includes the entrance and exit locations.
	The project area has a wide variety of animals that live in numerous parks and open spaces surrounding Box Springs Mountan. Commentor suggests garages and carports be built backing up against the street to reduce lights, cars and people interacting with the wildlife and limiting lighting and buildinga a higher wall to protect wildlife.	Potential impacts to wildlife is discussed in Section 5.3, Biological Resources of this EIR.
	The apartment complex will destroy views from her residence and diminishes monetary value of her property.	Potential impacts to the views in the project area are discussed in Section 5.1, Aesthetics of this EIR.
Eric Enciso	Are there any plans to work with UCR to offer housing to students?	Section 3.0, Project Description of this EIR includes the objectives for the project.
	Will the EIR take into consideration the impact of the gas station project in the same area?	Cumulative impacts are discussed in each topic Section 5.1, Aethetics through Section 5.13,

Commenter	Primary Comments to Address	Where in EIR it is addressed
		Wildfire.
Gail Collard	Wildlife is running out of space to live. The resident has observed coyotes in her neighborhood during daylight hours. Natural beauty of Riverside is being lost to warehouse and apartment developments and endangering natural wildlife and making the City less family friendly.	Potential impacts to wildlife and aesthetics are discussed in Section 5.3, Biological Resources and Section 5.1, Aesthetics of this EIR.
Gilbert Penuovuri	"No Way! No How!"	N/A
Inma Martinez	This area is a wildlife corridor, is close to the freeway and would be noisey for tenants and make traffic conditions worse during rush hour, and would eliminate the beautiful view of Riverside.	Potential impacts to wildlife corridors, transportation, and aesthetics are discussed in Section 5.3, Biological Resources, Section 5.10, Transportation, and Section 5.1, Aesthetics of this EIR.
Jennifer Becker	The project will destroy a portion of one of the few remaining blue line streams in the City.	Potential impacts to the blue line stream and natural condition of the site is addressed in Section 5.3, Biological Resources of this EIR.
	The project will result in a loss of natural open space in exchange for ineffective/temporary improvements to existing open space.	
	The City of Riverside needs more affordable housing for people who live and work in Riverside and nearby communities, and this project is not intended as affordable housing.	Section 3.0, Project Description of this EIR includes the objectives for the project.
Jolene Saldivar	Local coastal sage scrub and chaparral ecosystems provide habitat for rare and native bees, butterflies, and plants. Native plant species that native bees and butterlies rely on for nectar and pollen are observed onsite. Commentor is concerned with the habitat that will be destroyed for the project.	Potential impacts to natural habitats onsite are discussed in Section 5.3, Biological Resources.
	The existing rock formations should not be destroyed as they are are irreplaceable.	Potential impacts to geology is discussed in Section 5.6, Geology and Soils.
	The Inland Empire has some of the worst air quality in the country. Greenhouse gas emissions,due largely to	Potential air quality and transportation impacts are

Commenter	Primary Comments to Address	Where in EIR it is addressed
	automobiles, is a leading contributor to this problem. The project will exacerbate existing traffic problems. concerns from automobiles.	discussed in Section 5.2, Air Quality and Section 5.10, Transportation of this EIR.
Paul Martill	The project area is inundated by apartments and there is a need to bring more independent retail locations with a regional or national restaurant as an anchor. The commentor is opposed to the project.	Section 3.0, Project Description of this EIR includes the objectives for the project.
Scott Anderson	There is existing peak hour congestion at the intersections of Central Aveue and Sycamore Canyon Boulevard and Central Avenue and Central Avenue SR-60/I-215 and back up from the feeway can extend to Lochmoor to the south and Fair Isle to the east. A new 6 lane highway should be installed to lfunnel traffic where the El Cerrito overpass was demolished and the El Cerrito bridge replaced with on-off ramps to dilute the traffic.	Potential transportation impacts are discussed in Section 5.10, Transportation of this EIR.

2.4 Scope and Content

This EIR addresses impacts identified by the Initial Study to be potentially significant. The following issues were found to include potentially significant impacts and have been studied in the EIR:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Land Use and Planning
- Noise
- Fire Protecton (from Public Services)
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

EIR preparation included use of pertinent City policies and guidelines, certified EIRs and adopted CEQA documents, and other background documents. References are provided at the end of each section.

The alternatives section of the EIR (Section 8.0) was prepared in accordance with Section 15126.6 of the CEQA Guidelines and focuses on alternatives capable of eliminating or reducing

significant adverse effects associated with the project while potentially and feasibly attaining most of the basic project objectives. The alternatives section identifies the "environmentally superior" alternative among the alternatives assessed; the evaluation included the CEQA-required "No Project" alternative and two alternative development scenarios for the Project area.

The level of detail throughout this EIR is consistent with the requirements of CEQA and applicable court decisions. Section 15151 of the CEQA Guidelines provides the standard of adequacy on which this document is based, as follows:

> An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good faith effort at full disclosure.

2.5 Lead, Responsible, and Trustee Agencies

The CEQA Guidelines define lead, responsible, and trustee agencies. The City is the lead agency for the Project because the City holds principal responsibility for approving the Project.

A responsible agency refers to a public agency other than the lead agency with discretionary approval over the Project. Responsible agencies for the Project include:

- California State Water Resources Control Board for General Construction Storm Water Permit.
- Western Rivreside County Regional Conservation Authority (RCA) for Joint Project Review (JPR) as the preojct site is located in Criteria Cell #721 of the Multiple Species Habitat Conservation Plan (MSHCP).

A trustee agency refers to a State agency with legal jurisdiction over natural resources affected by a project. Trustee agencies for the Project include:

- California Department of Fish and Wildlife (CDFW).

2.6 EIR Format

This EIR has been organized in several sections as follows:

- **Table of Contents.** Assists readers in locating the analysis of different subjects and issues as required by Section 15122 of the State CEQA Guidelines. A list of acronyms used in the EIR is included in the table of contents.
- **Section 1.0 – Executive Summary.** Identifies the summary requirements of CEQA as required by Section 15123 of the State CEQA Guidelines and includes: the Project

location, a brief Project description, a matrix containing a summary of environmental impacts and mitigation measures, Project objectives, approvals related to the Project, areas of controversy, and a brief description of the Project alternatives.

- **Section 2.0 – Introduction.** Describes the scope and purpose of the EIR, identifies the lead agency, and provides a brief summary of the CEQA process to date.
- **Section 3.0 – Project Description.** Contains the information required by Section 15124 of the State CEQA Guidelines including: a detailed description of the Project, the Project objectives, a general description of the Project's environmental setting, the approvals needed to implement the Project, and a list of agencies expected to use the DEIR.
- **Section 4.0 – Environmental Setting.** Identifies the regional setting, the project site setting, and the cumulative development setting.
- **Section 5.0 – Environmental Impact Analysis.** Satisfies the requirements of Sections 15125, 15126, 15126.2, and 15126.4 of the State CEQA Guidelines by including an analysis of each environmental issue area determined to have potentially significant impacts during preparation of the NOP or as a result of comments received in response to the NOP. For each issue area analyzed, this section includes a discussion of the setting to which each issue area is analyzed against, defines the related regulations affecting the Project, identifies the thresholds used to determine significance, describes any Project design features that would reduce impacts, analyzes the Project's impacts, provides a description of the mitigation measures used to reduce or lessen potential impacts, and discusses the Project's impacts after implementation of mitigation. This section also includes the Project's cumulative impact analysis**.**
- **Section 6.0 – Other CEQA Topics.** Includes an analysis of the Project's consistency with applicable regional plans, irreversible environmental effects, and growth inducing impacts.
- **Section 7.0 – Environmental Effects Found Not Significant.** Identifies those environmental effects found not to be significant during preparation of the NOP and in the EIR and discusses why the effects were found not to be significant and therefore not addressed in detail in this DEIR.
- **Section 8.0 – Alternatives.** Satisfies the requirements of Section 15126.6 of the State CEQA Guidelines by identifying and discussing the "No Project" alternative in addition to alternatives to the Project that lessen the severity of significant impacts and identifying the environmentally superior alternative.
- **Section 9 – References.** Includes a listing of all reference materials, the organizations and persons contacted in preparing the EIR, and a list of preparers as required by Section 15129 of the State CEQA Guidelines.

2.7 Environmental Review Process

The environmental review process, as required under CEQA, is summarized below. The steps are presented in sequential order.

1. **NOP and Initial Study.** After deciding an EIR is required, the Lead Agency (City) must publically circulate an NOP soliciting input on the EIR scope to the State Clearinghouse, other concerned agencies, and parties previously requesting notice in writing (CEQA Guidelines Section 15082; Public Resources Code Section 21092.2). The NOP must be posted in the County Clerk's office for 30 days. The NOP may be accompanied by an Initial Study that identifies the issue areas for which the Project would create significant environmental impacts.
2. **DEIR Prepared.** The Draft EIR must contain a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct, indirect, cumulative, growth-inducing, and unavoidable impacts); f) a discussion of alternatives; g) mitigation measures; and h) discussion of irreversible changes.
3. **Notice of Completion (NOC).** The lead agency must file a NOC with the State Clearinghouse when it completes a Draft EIR and prepare a Public Notice of Availability of a Draft EIR. The lead agency must place the NOC in the County Clerk's office for 30 days (Public Resource Code Section 21092) and send a copy of the NOC to anyone requesting it (CEQA Guidelines Section 15087). Additionally, public notice of Draft EIR availability must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off the Project site; c) direct mailing to owners and occupants of contiguous properties. The lead agency must solicit input from other agencies and the public, and respond to writing to all comments received (Public Resources Code Sections 21104 and 21253). The minimum public review period for a Draft EIR is 30 days. When a Draft EIR is sent to the State Clearinghouse for a review, the public review must be 45 days unless the State Clearinghouse approves a shorter period (Public Resource Code 21091).
4. **Final EIR.** A Final EIR must include a) the Draft EIR; b) copies of comments received during public review of the Draft EIR; c) list of persons and entities commenting; and d) responses to comments.
5. **Certification of Final EIR.** Prior to making any decision on a proposed project, the lead agency must certify that a) the Final EIR has been completed in compliance with CEQA; b) the Final EIR was presented to the decision-making body of the lead agency; c) the decision-making body reviewed and considered the information in the Final EIR prior to approving a project, and d) the Final EIR reflects the lead agency's independent judgement and analysis (CEQA Guidelines Section 15090).
6. **Lead Agency Project Decision.** The lead agency may a) disapprove the project because of its significant environmental effects; b) require changes to the project to reduce or avoid significant environmental effects; or c) approve the project despite its

significant environmental effects, if the proper findings and a statement of overriding considerations are adopted (CEQA Guidelines Sections 15042 and 15043).

7. **Findings/Statement of Overriding Considerations.** For each significant impact of the project identified in the EIR, the lead agency must find, based on substantial evidence, that either a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible (CEQA Guidelines Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that sets forth the specific social, economic, or other reasons supporting the agency's decision.

8. **Mitigation Monitoring Reporting Program.** When the lead agency makes findings on significant effects identified in the EIR, it must adopt a reporting or monitoring program for mitigation measures adopted or made conditions of project approval to mitigate significant effects.

9. **Notice of Determination (NOD).** The lead agency must file an NOD after deciding to approve a project for which an EIR is prepared (CEQA Guidelines Section 15094). A local agency must file the NOD with the county clerk. The NOD must be posted for 30 days and sent to anyone previously requesting notice. Posting of the NOD starts a 30-day status of limitations on CEQA legal challenges (Public Resources Code Section 21169[c]).

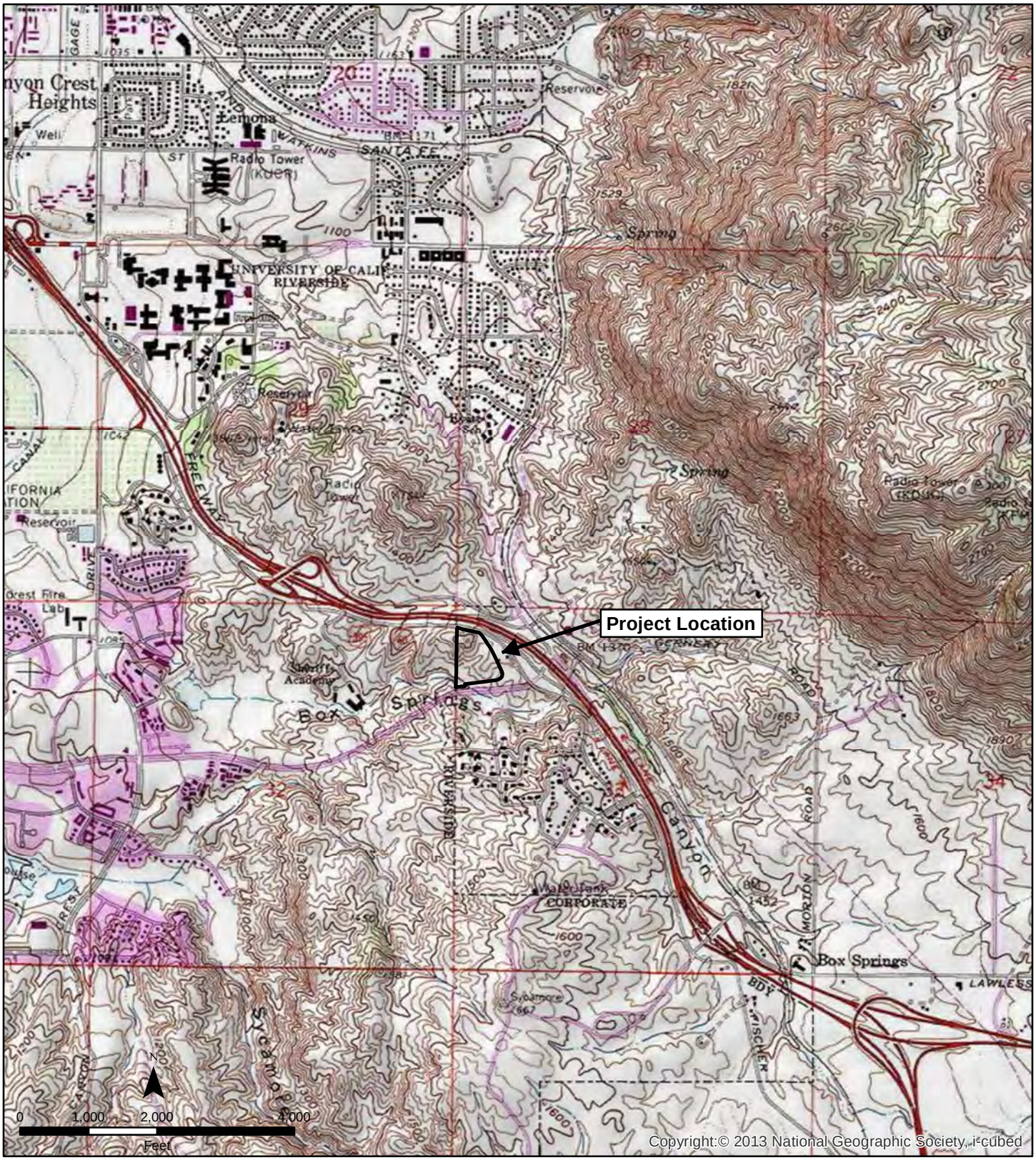
3.0 Project Description

This section describes the project location, the existing conditions, the project site and surrounding land uses, major project characteristics, project objectives, and discretionary actions needed for approval.

3.1 Project Location

The project site is situated at the northwest corner of Central Avenue and Sycamore Canyon Boulevard. The Assessor Parcel Number (APN) assigned to the Project site is 256-050-012; the site is located at the eastern boundary of the City of Riverside, and is surrounded by unincorporated Riverside County to the east and southeast.

Figure 2.0-1 (Section 2) shows the regional context of the project site and Figure 3.0-1 shows the Project site on a US Geological Survey (USGS) topographical map. Figure 3.0-2 shows the Project site APN boundary on an aerial photograph along with the site's surrounding areas. The surrounding areas include single family residences to the south across Central Avenue, Quail Run Open Space to the west, and the State Route 60/ Interstate 215 (SR-60/I-215) freeway to the north, and recently approved commercial development, not yet constructed, to the east across Sycamore Canyon Boulevard.



USGS 7.5 minute Quadrangle: Riverside East, Range: 5W, Section: 33, Township: 2S

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Vicinity Map

Figure 3.0-1



Source: Bing Aerial Microsoft Corporation 2020, Datum: NAD 83, Coordinate Sytem: State Plane 6

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Project Site Map

Figure 3.0-2

3.2 Existing Site Characteristics

3.2.1 Project Site Background

The Project site is undeveloped and vacant. The Project site is within the United States Geological Survey (USGS) 7.5-Minute Series Topographic Map, Riverside East, CA Quadrangle in Section 33 of Township 2 South, Range 4 West (Figure 3.0-1 Vicinity Map). The Project site was annexed from Riverside County in 2016. The Project site slopes from northeast to southwest from an approximate elevation of 1,375 feet above mean sea level to about 1,315 feet. Per City records, the Project site has an average natural slope (ANS) of 25.9 percent. The site has evidence of previous earthwork or grading as identified in observation of the current surface topography as well as review of previous aerial photographs. Aerial photography indicates that the site was utilized for construction staging operations and grading in 2005 to 2006 for the realignment of Sycamore Canyon Boulevard.[1]

The site is lightly vegetated with disturbed Riversidean sage scrub and non-native species with areas of bare soil and windrows of rocks and boulders. An approximately 38-foot high cut slope exposing granitic bedrock is located in the northwest corner of the site. Much of the Project site is covered with sand/cobble/boulder undocumented that ranges from a few feet to greater than 35 feet in thickness.[2]

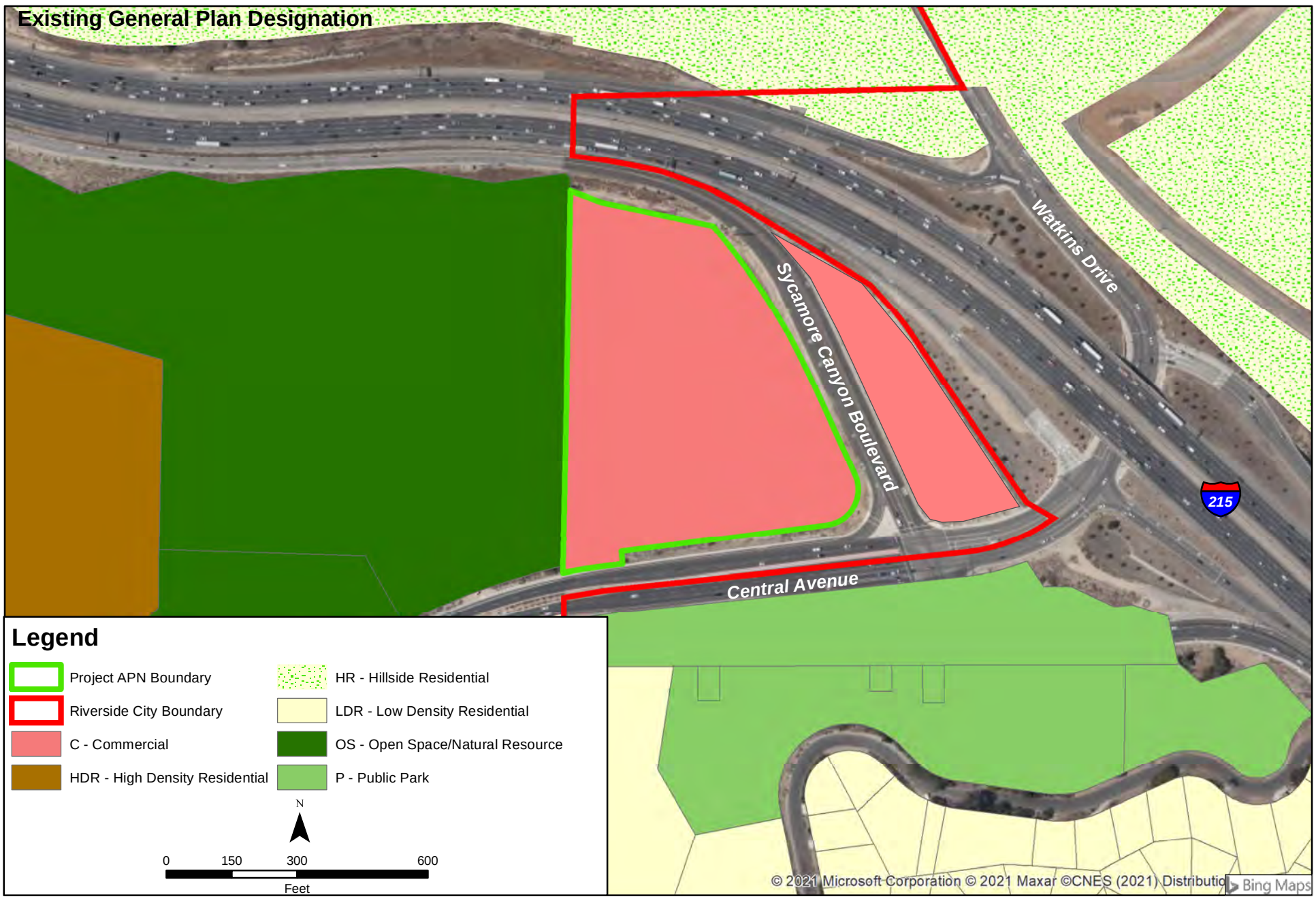
The grade of the Project site is higher than Central Avenue and the Quail Run Open Space area to the west. The southwest corner of the Project site contains a steep slope down into an existing drainage course, identified as a blueline stream on the topographic map (Figure 3.0-1). The blueline stream extends across the southwest corner of the site, in a northwest direction, from a culvert that exists under Central Avenue. The drainage course contains a willow riparian plant community.[3] There is an existing storm drain catch basin located along the northern side of Central Avenue and adjacent to the southern project boundary, approximately 200 feet west of the Sycamore Canyon Boulevard and Central Avenue intersection.

3.2.2 Current Land Use and Zoning

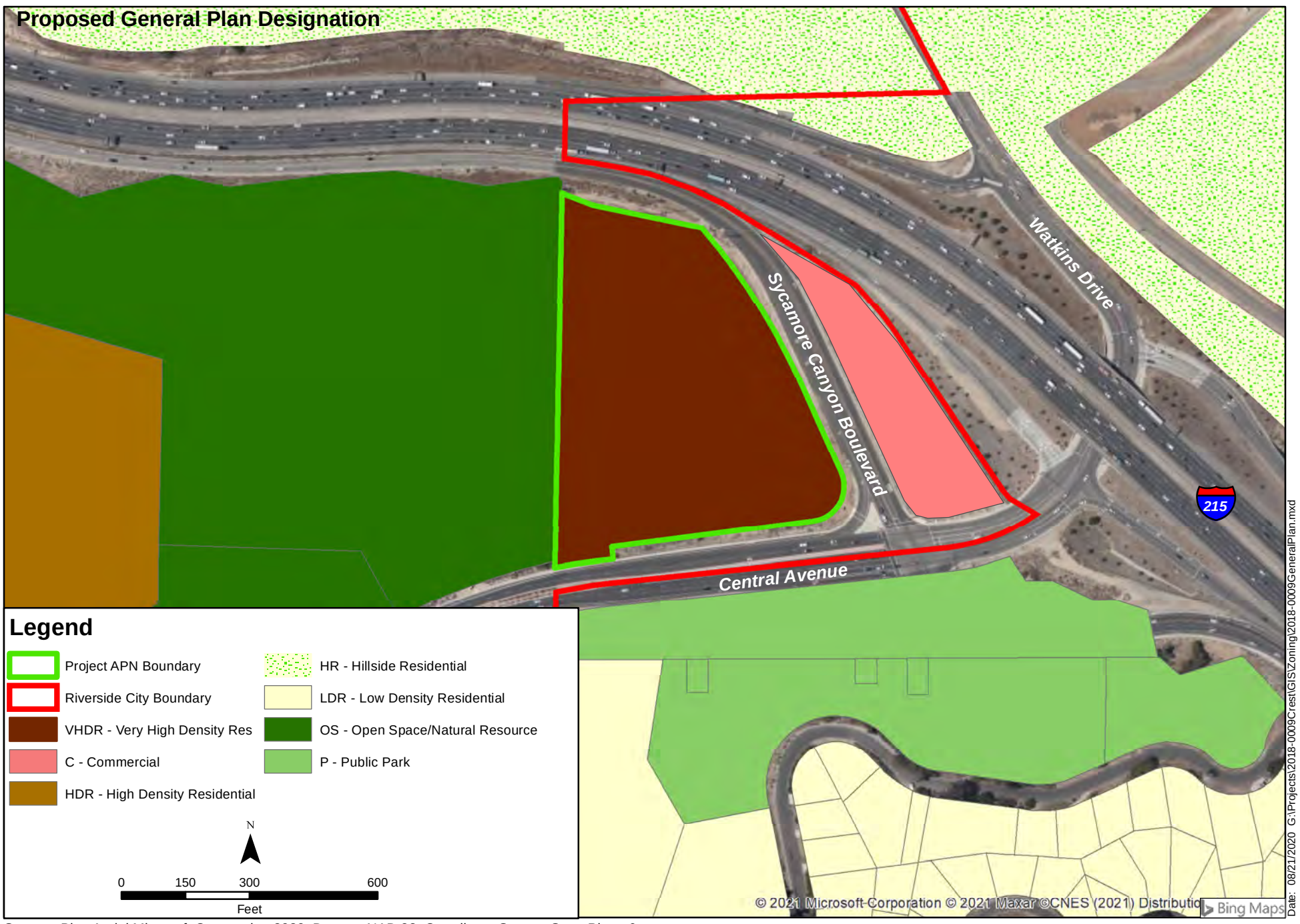
The Project site is currently vacant and undeveloped. The General Plan designation for the Project site is C - Commercial, and it is zoned CG - Commercial General. The existing and proposed land use designations and zoning are shown in Figures 3.0-3 and 3.0-4, respectively.

[1] Preliminary Geotechnical Evaluation Report, prepared in 2020 by NOVA, contained in Appendix G
[2] Preliminary Geotechnical Evaluation Report, prepared in 2020 by NOVA, contained in Appendix G
[3] Habitat Assessment and Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis, prepared in 2020 by ELMT Consulting, contained in Appendix C

Existing General Plan Designation



Proposed General Plan Designation



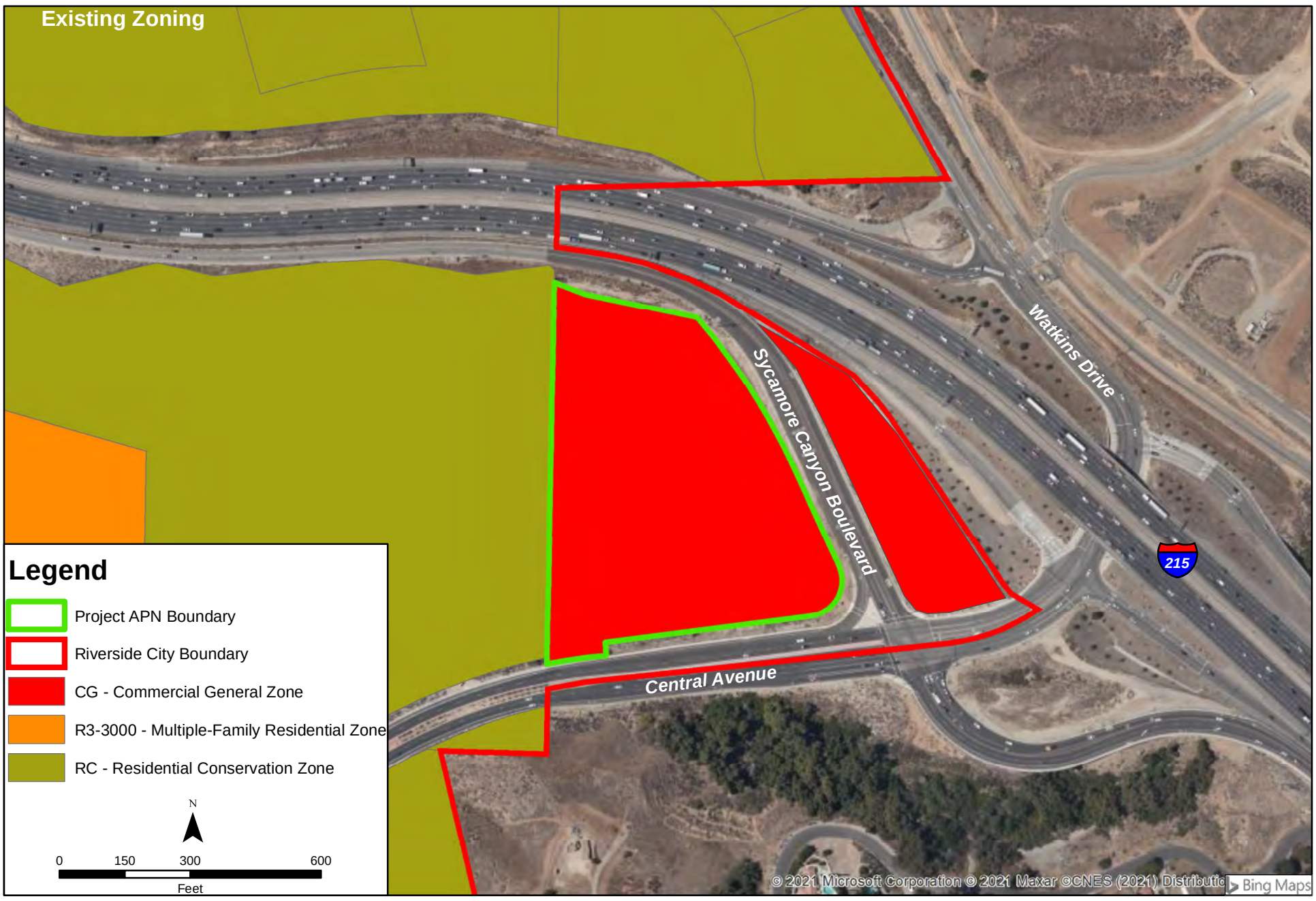
Source: Bing Aerial Microsoft Corporation 2020, Datum: NAD 83, Coordinate Sytem: State Plane 6

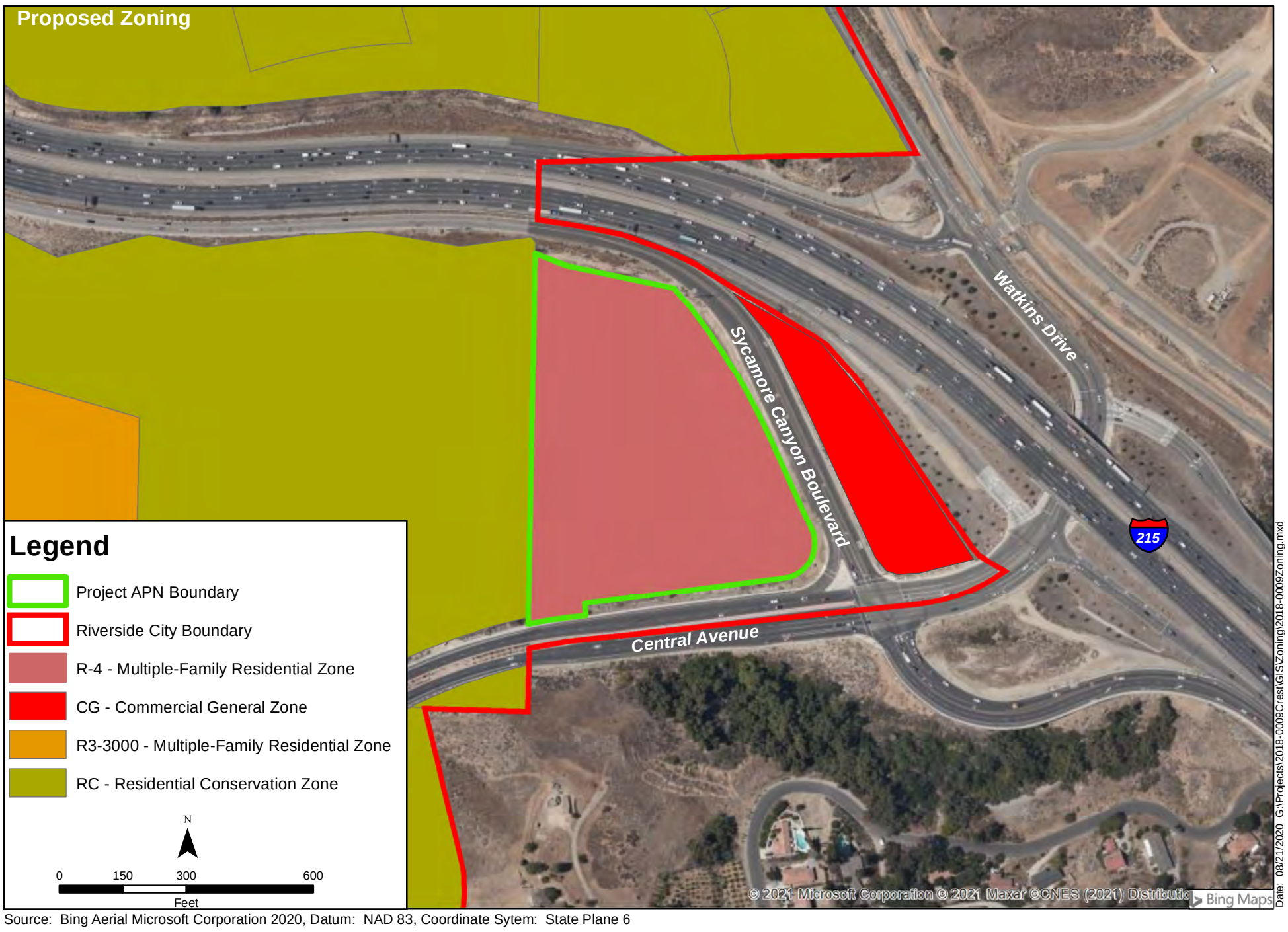
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General Plan Land Use Map

Figure 3.0-3





Date: 08/21/2020 G:\Projects\2018-0009Crest\GIS\Zoning\2018-0009Zoning.mxd

Source: Bing Aerial Microsoft Corporation 2020, Datum: NAD 83, Coordinate Sytem: State Plane 6

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Zoning Map

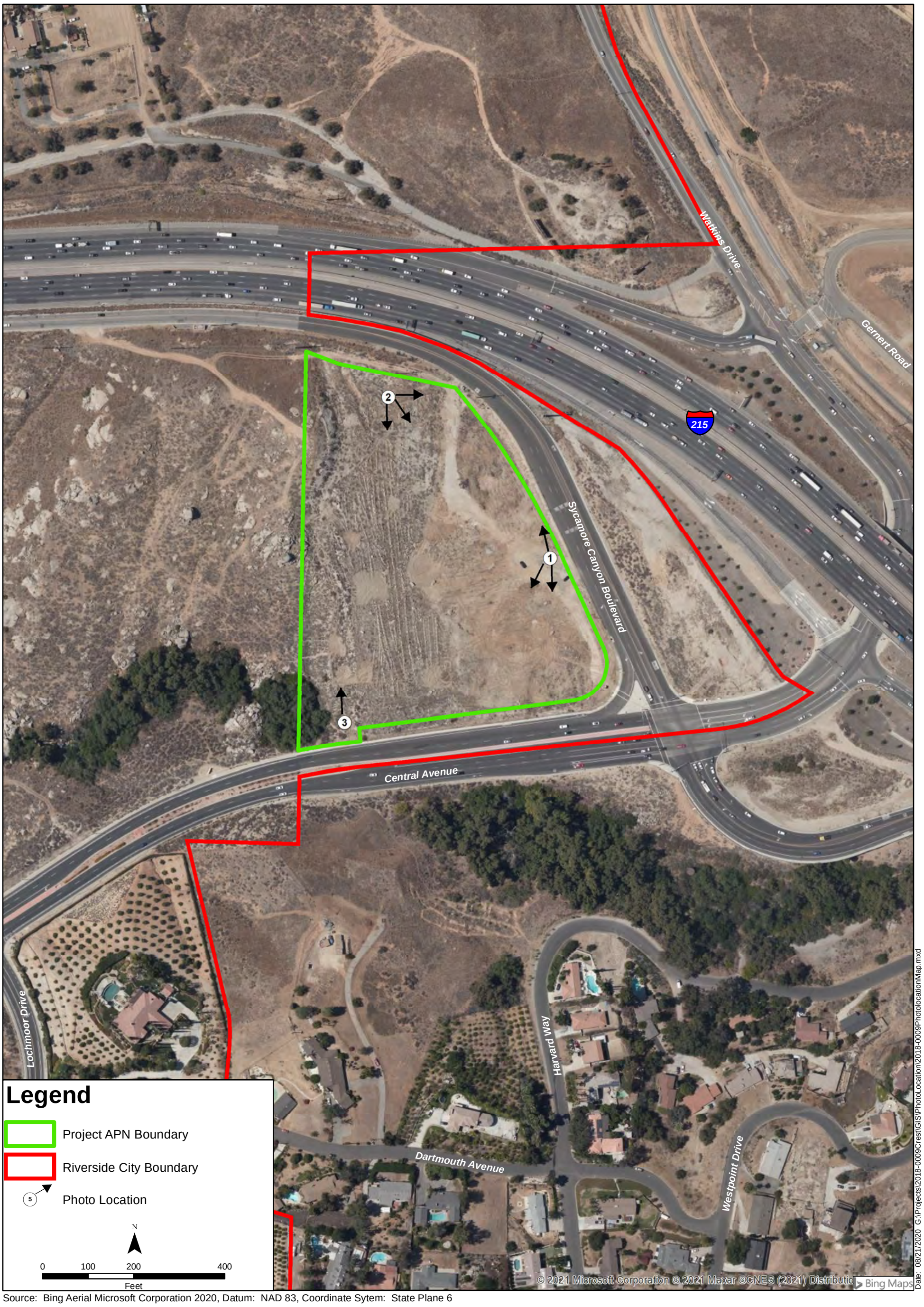
Figure 3.0-4

3.2.3 Surrounding Land Use and Zoning

Table 3.0-1 details the land use and zoning of the project site and its surrounding areas. A photo location map and photos of the Project site and surrounding areas are included in Figure 3.0-5A through 3.0-5E.

Table 3.0-1: Site and Surrounding Land Use/Zoning Designations

	Existing Land Use	General Plan Designation	Zoning Designation
Project Site	Vacant Land	C – Commercial	CG – Commercial General Zone
North (across Sycamore Canyon Blvd. & SR-60/I-215)	Vacant, Undeveloped	HR – Hillside Residential	RC – Residential Conservation Zone
East (across Sycamore Canyon Blvd.)	Recently Approved Commercial Development by Applicant (across Sycamore Canyon Blvd.)	C – Commercial	CG – Commercial General Zone
South (across Central Ave.)	Vacant, Undeveloped (Riverside County)	OS-C – Open Space Conservation (Riverside County) P – Public Park (City of Riverside Sphere of Influence)	C-P-S – Scenic Highway Commercial (Riverside County)
West	City of Riverside's Quail Run Open Space	OS – Open Spaces / Natural Resources	RC – Residential Conservation Zone



Source: Bing Aerial Microsoft Corporation 2020, Datum: NAD 83, Coordinate Sytem: State Plane 6

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Site Photo Reference Location Map

Figure 3.0-5A



Photo 1: Site photo taken near Sycamore Canyon Road facing south. (Photo Reference Location 1).



Photo 2: Site photo taken near Sycamore Canyon Road facing west. Standing in same location as Photo 1.



Photo 3: Site photo taken near Sycamore Canyon Road facing north. Standing in the same location as photo 1.



Photo 4: Site photo taken in north part of site near Sycamore Canyon Road facing southwest. (Photo Reference Location 2).



Photo 5: Site photo taken in north part of site near Sycamore Canyon Road facing south. Standing in same location as Photo 4.



Photo 6: Site photo taken in north part of site near Sycamore Canyon Road facing southeast. Standing in same location as Photo 4.



Photo 7: Site photo taken in south part of site Central Avenue facing north. (Photo Reference Location 3).

3.3 Proposed Project

3.3.1 Residential Units

The proposed apartment Project includes a total of 237 one-, two-, and three-bedroom residential apartment units in five 3-story buildings and two 2-4 split story-buildings. A total of 94 units are proposed to be one-bedroom, 126 are proposed to be two-bedroom, and 17 are proposed to be three-bedroom units, as outlined in Table 3.0-2 below. The Project includes the following amenities: onsite leasing office, garages, carports, mail lounge, putting green, outdoor resort style pool and spa, dog run area with a dog wash station, fitness center, clubhouse, shade structure with barbeques and tables, and a walking perimeter loop trail (1/2-mile loop) with learning or exercise stations. Figure 3.0-6 shows the conceptual site plan. Other improvements include construction of sidewalks on Central Avenue and Sycamore Canyon Boulevard.

Table 3.0-2: Residential Unit Details

Unit Types	Number of Units	Percentage of Total Unit Count	Unit Size (Square Feet)
1-bedroom	94	40%	760-777
2-bedroom	126	53%	1,097-1,241
3-bedroom	17	7%	1,398
Total	**237**	**100%**	

3.3.2 Parking and Site Access

The parking ratios, required parking, and provided parking for the Project are outlined in Table 3.0-3 and Table 3.0-4 below. Parking requirements are provided in the City of Riverside Municipal Code (RMC), Chapter 19.580 – Parking and Loading.

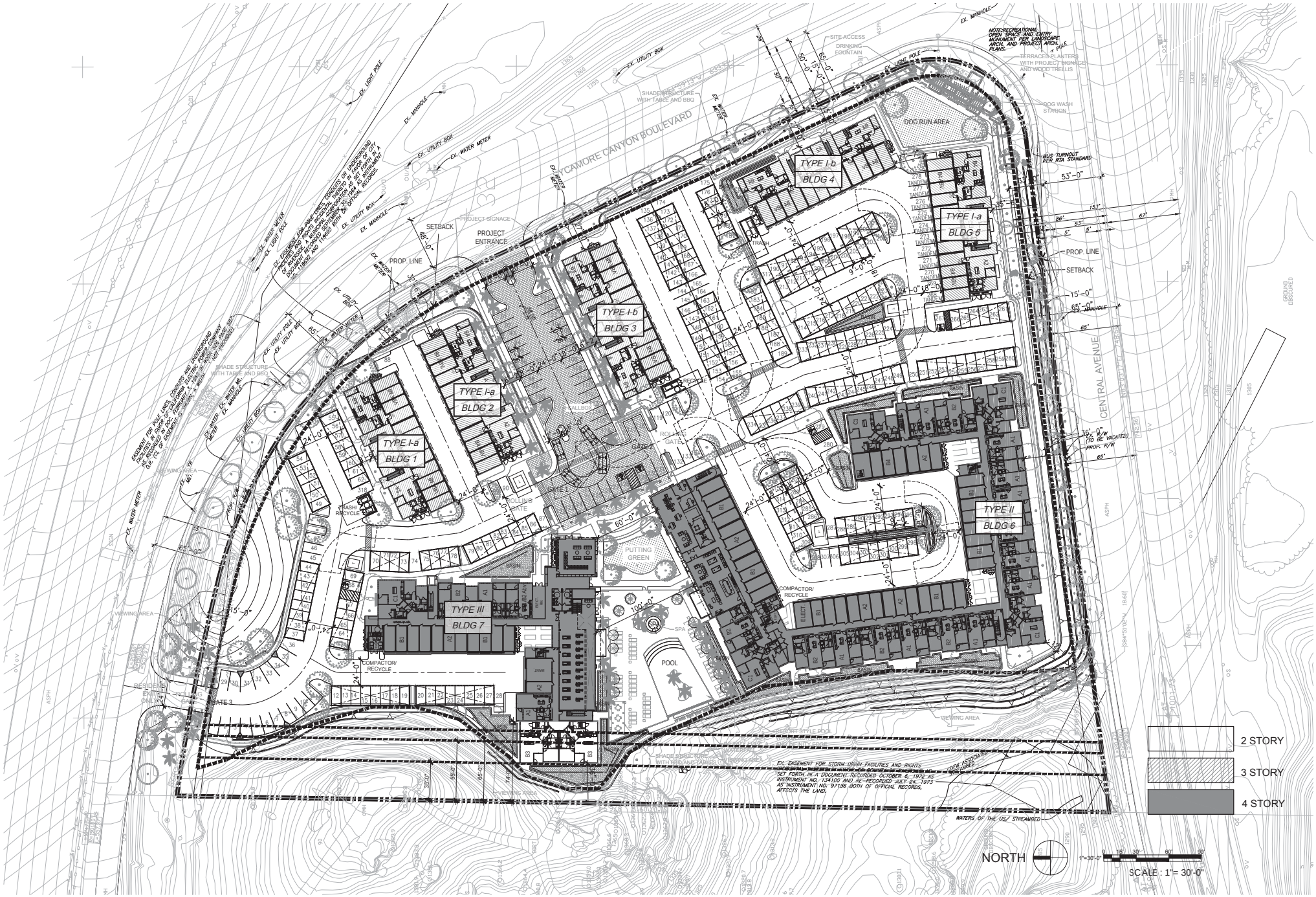
Table 3.0-3: Residential Unit Parking Requirements
Chapter 19.580 – Parking and Loading

Unit Types		Parking Ratio (spaces per unit)	Parking Spaces Required	Parking Spaces Provided
237 units	**94 1-bedroom**	1.5	141 spaces	427 spaces
	126 2-bedroom	2.0	252 spaces	
	17 3-bedroom	2.0	34 spaces	
Total			**427 spaces**	**427 spaces**

Table 3.0-4: Parking Type Requirement
Chapter 19.580 – Parking and Loading

Standard	Required	Provided	Percent
Covered Parking (75 percent of required parking)	321 spaces	110 garages	75%
		211 carports	
Open Spaces	106 spaces	11 tandem spaces	25%
		95 standards spaces	
Total Parking Spaces	**427 spaces**	**427 spaces**	**100%**

Two driveways along Sycamore Canyon Boulevard will provide access to the Project site. The driveway closest to the northern boundary of the site will serve as emergency access and egress for future residents. The driveway at the center of the site will provide primary and secondary vehicular access to the Project site. Both driveways will be gate controlled. A pedestrian gate is provided at the southeast corner of the site, adjacent to Building 4 and near the dog run area. The pedestrian gate will provide access to the sidewalk along Sycamore Canyon Boulevard and the proposed future commercial development, across Sycamore Canyon Boulevard (gas station with a convenience store, car wash, and drive-thru restaurant) and adjoining streets, bike lanes, and sidewalks. In addition, two fire access only pedestrian gates, with Knox Boxes, will be provided along the Sycamore Canyon Boulevard frontage.



CRESTVIEW APARTMENTS

Conceptual Site

Plan Figure 3.0-6

RVA

ARCHITECTS ORANGE

KA Enterprises

3.3.3 Open Space, Landscaping and Walls/Fencing

The project will include a combination of private and common open space in accordance with City of Riverside Zoning Code. The Project is required to provide 50 square feet of private open space per unit, for a combined total of 11,850 square feet or 0.27 acres, and 200 square feet of common open space per unit, for a combined total of 47,400 square feet or 1.09 acres. The Project will comply with the open space requirement and exceed the common open space by providing 49,720 square feet or 1.14 acres. Common open space areas include a putting green, outdoor resort style pool and spa, dog run area with a dog wash station, fitness center, clubhouse, shade structures with barbeques and tables, and a walking perimeter loop trail (1/2-mile loop) with learning and/or exercise stations.

Landscaping throughout the project site will consist of low water use trees, shrubs, and ground cover. Large trees are proposed on the periphery of the project site, along roadways (Central Avenue and Sycamore Canyon Boulevard), within parking lot planters, and throughout the residential common open space areas and around the apartment structures, Figure 3.0-7, Conceptual Landscape Plan. Trees in the landscape plan include true green elm (*Ulmus parvifolia*), lavender crape myrtle (*Lagerstroemia i*. "Muskogee"), Brisbane box (*Tristania conferta*), vertical accent palms including, Mexican fan and queen palms, (*Washingtonia robusta*, *Syagrus romanzoffiana*), and Golden Trumpet Tree (*Tabebuia chrysotrica*). Groundcover, shrubs and accent plants are proposed along walkways and throughout the residential common open space areas. The stormwater runoff bioretention areas include California sycamore trees (*Platanus racemosa*), and shrubs and grass.

The proposed Project includes terraced planters along Central Avenue and a decorative wood trellis at the southwest corner of the site. A 6-foot high tubular steel perimeter fence, painted dark metallic grey, is proposed around the perimeter of the property, Figure 3.0-8, Wall and Fence Exhibit.

Various retaining walls will be constructed around the perimeter of the development. Retaining walls up to 11.7 feet in height are required at the northeast portion of the site, adjacent to Sycamore Canyon Boulevard. At the southwest corner of the site (adjacent to Central Avenue and the City's Quail Run Open Space), a series of terraced retaining walls, ranging from 4.6 feet up to 5 feet in height, with manufactured 2:1 slopes between the walls will be constructed, Figure 3.0-7, Conceptual Landscape Plan. All of the fences and walls have been designed to enhance the aesthetics of the proposed project, while providing security, privacy, and slope stability where needed. A grading exception is being requested as part of the proposed project, to allow the height of retaining walls to be greater than 3 feet in an area open to public view and greater than 6 feet in an area not open to public view. A grading exception is also being requested to allow for slopes to exceed 20 feet in height where an existing hill in the northern part of the Project site will be partially re-contoured, adjacent to Sycamore Canyon Boulevard.



CONCEPTUAL PLANT SCHEDULE (to include but not limited to):

EVERGREEN SHADE TREE		
Ulmus parvifolia 'True Green' / True Green Elm		36"box
FLOWERING ACCENT TREE		
Lagerstroemia l. 'Muskogee' / Lavender Crape Myrtle		24"/ 36" box
Parkinsonia x 'Desert Museum' / Desert Museum Palo Verde		
EVERGREEN ACCENT TREE		
Tristania conferta / Brisbane Box		24"/ 36" box
VERTICAL ACCENT PALM		
Syagrus romanzoffiana / Queen Palm		25 BTF
Washingtonia robusta / Mexican Fan Palm		
SYCAMORE CANYON STREET TREE		
Tabebuia chrysotrica / Golden Trumpet Tree		24" box
CENTRAL AVENUE STREET TREE		
Magnolia g. 'Russet' / RussetSouthern Magnolia		24" box
SHRUBS		
Agave attenuata 'Boulin Blue' / Boulin Blue Agave	15 gal	Per Plan
Agave attenuata 'Blue Glow' / Blue Glow Agave	5 gal	Per Plan
Aloe striata / Coral Aloe	5 gal	24" oc
Aloe vera / Medicinal Aloe	5 gal	30" oc
Callistemon viminalis 'Little John / Dwarf Weeping Bottlebrush	5 gal	36" oc
Dasylirion wheeleri / Grey Desert Spoon	5 gal	Per Plan
Dianella revoluta 'Little Rev' / Little Rev Flax Lily	1 gal	24" oc
Dianella tasmanica 'Yellow Stripe' / Gold Stripe Flax Lily	1 gal	24" oc
Echeveria x 'Afterglow' / Afterglow Echeveria	4" pots	8" oc
Echium candicans / Pride of Madeira	5 gal	48" oc
Festuca mairei / Atlas Fescue	1 gal	24" oc
Juncus patens / California Gray Rush	1 gal	30" oc
Hesperaloe parviflora 'Brakelights' / Brakelights Red Yucca	1 gal	24" oc
Lavandula stoechas 'Otto Quast' / Spanish Lavender	1 gal	36" oc
Leucophyllum frutescens 'Green Cloud' / Green Cloud Texas Ranger	5 gal	48" oc
Muhlenbergia rigens / Deer Grass	1 gal	48" oc
Nassella domasticx 'Gulf Stream' / Heavenly Bamboo	5 gal	36" oc
Nandina domestica 'Harbour Dwarf' / Dwarf Heavenly Bamboo	1 gal	24" oc
Rosa floribunda 'Iceberg' / Iceberg Rose	5 gal	36" oc
Rosmarinus officinalis 'Tuscan Blue' / Tuscan Blue Rosemary	5 gal	36" oc
Salvia leucantha 'Santa Barbara' / Mexican Bush Sage	5 gal	36" oc
GROUNDCOVERS		
Decomposed Granite		
Crushed Aggregate and/ or Cobble		
Rosa x. 'Noare' / Flower Carpet Red Groundcover Rose	1 gal	30" oc
Senecio mandraliscae / Blue Chalk Sticks	1 gal	24" oc
VINES		
Bougainvillea 'San Diego Red' / Red Bougainvilla	15 gal	Per Plan
Distictis buccinatoria / Blood Red Trumpet Vine	15 gal	Per Plan
HILLSIDE LANDSCAPE BUFFER SHRUBS AND GROUNDCOVERS		
Baccharis 'Centennial' / Centennial Baccharis	1 gal	Per Plan
Chondropetalum tectorum / Cape rush	1 gal	Per Plan
Cistus x purvenulentus 'Sunset' / Magenta Rockrose	1 gal	Per Plan
Dasylirion wheeleri / Grey Desert Spoon	1 gal	Per Plan
Echium candicans / Pride of Madeira	1 gal	Per Plan
Festuca mairei / Atlas Fescue	1 gal	Per Plan
Hesperaloe funifera / Coahuilan Hesperaloe	1 gal	Per Plan
Rosmarinus officinalis 'Prostratus' / Prostrate Rosemary	1 gal	48" oc

BIORETENTION PLANT SCHEDULE (to include but not limited to):

STREET TREE		
Platanus x racemosa / California Sycamore		24" box
SHRUBS		
Carex perrisii/California Meadow Sedge	1 gal	12" oc
Juncus astens / California Gray Rush	1 gal	30" oc
Mahonia nevinii / Nevin's Barberry	1 gal	60" oc
Muhlenbergia rigens / Deer Grass	1 gal	48" oc

SITE LEGEND

HARDSCAPE AREAS
- DECORATIVE ENTRY PAVERS
- ASPHALT
- CONCRETE WALKWAYS
- DECORATIVE POOL CONCRETE

PLANTER AREAS
- SHRUB AND GROUNDCOVER AREAS
- SYNTHETIC TURF AREA
- BOULDERS

SITE AMENITIES
- BENCHES
- TRASH RECEPTACLES
- WALK LOOP (+/-2,782 FEET+ 1/2 MILE LOOP)
- LEARNING OR EXERCISE STATIONS (6 LOCATIONS)
- SHADE STRUCTURES WITH BBQ AND TABLE
- COMMUNITY PUTTING GREEN (REFER TO CONCEPTUAL COMMUNITY RECREATIONAL CENTER EXHIBIT)
- RESORT STYLE SPA AND BEACH ENTRY POOL WITH INFINITY WATERFALL EDGE (REFER TO CONCEPTUAL COMMUNITY RECREATIONAL CENTER EXHIBIT)
- POOL LOUNGE CHAIRS AND TABLES
- POOL UMBRELLAS
- POOL GATHERING AREAS WITH MOBILE CHAIRS AND UMBRELLAS
- VIEWING AREAS WITH BENCHES
- COMMUNITY PUTTING GREEN
- FENCED IN DOG RUN AREA WITH DOG WASH STATION AND DRINKING FOUNTAIN (REFER TO CONCEPTUAL COMMUNITY DOG RUN EXHIBIT)

IRRIGATION STATEMENT:
THE PROPOSED IRRIGATION PLAN FOR THIS PROJECT WILL COMPLY WITH ORDINANCE 859 BY USING AN ET-EFFICIENT ("SMART") IRRIGATION CONTROLLER COMBINED WITH A RAIN SENSOR AND FLOW SENSOR. DRIP IRRIGATION WILL BE APPLIED TO ALL SHRUB AREAS TO INCREASE IRRIGATION EFFICIENCY. SEPARATE DEEP ROOT WATERING SYSTEMS WILL BE PROVIDED FOR TREES. ISOLATION VALVES WILL BE INSTALLED STRATEGICALLY TO ALLOW FOR MORE

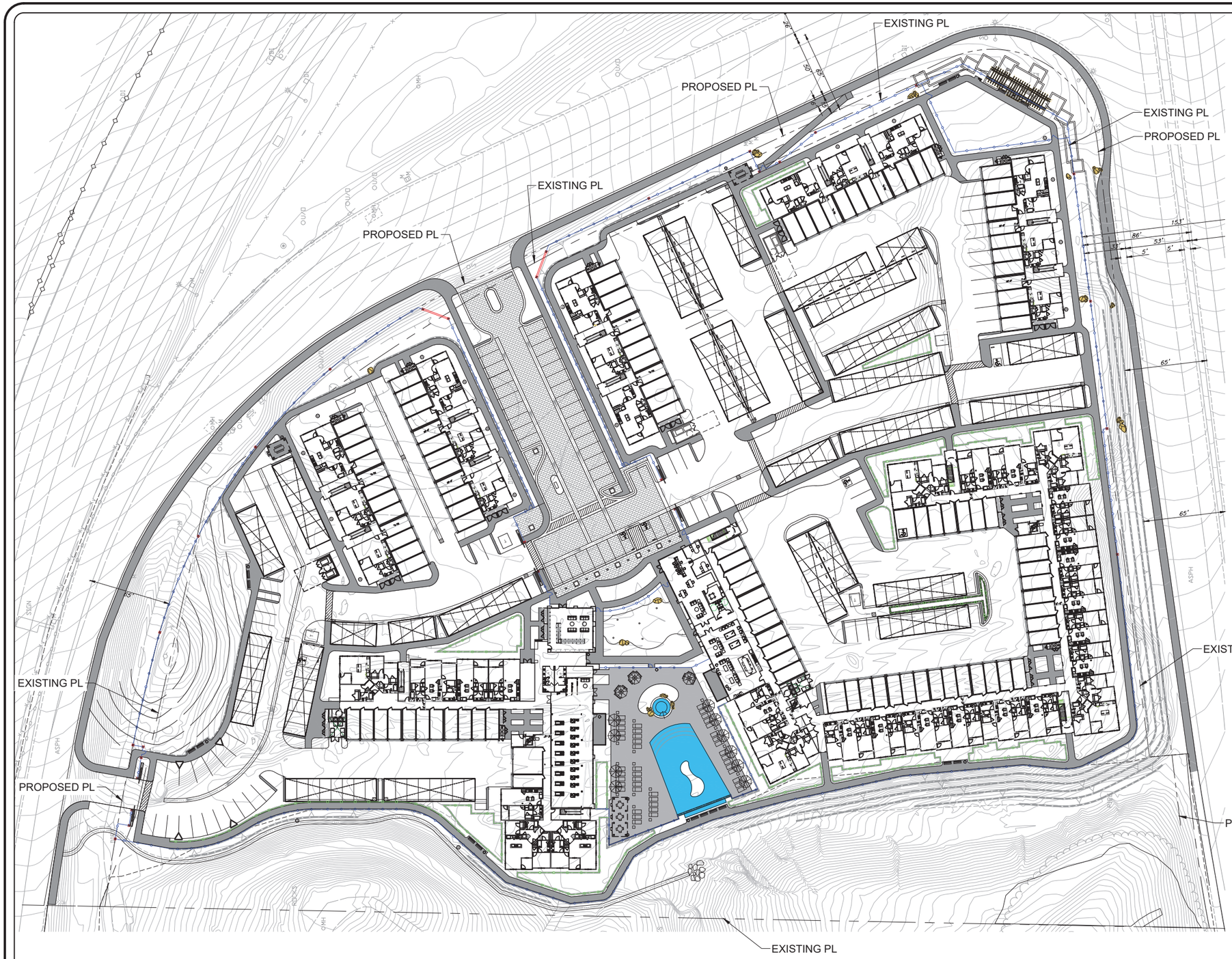
CRESTVIEW APARTMENTS

Conceptual Landscape

Plan Figure 3.0-7

RVA

RHA LANDSCAPE ARCHITECTS PLANNERS, INC.

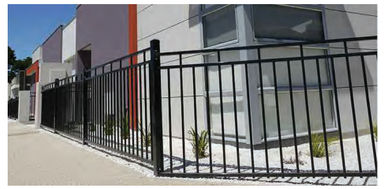


FENCE AND WALL LEGEND

- 6' HIGH TUBULAR STEEL FENCE AND GATES (BOTH VEHICULAR AND PEDESTRIAN GATES). COLOR TO BE DARK METALLIC GREY TO MATCH ARCHITECTURE.
- 6' HIGH x 18" SQUARE BLOCK PILASTERS WITH SMOOTH PLASTER FINISH. PLASTER COLOR TO BE SHERWIN WILLIAMS SW7530 BARCELONA BEIGE TO MATCH ARCHITECTURE.
- 6' HIGH CONCRETE BLOCK MONUMENT WALL WITH SMOOTH PLASTER FINISH AT PROJECTS MAIN ENTRY. PLASTER COLOR TO BE SHERWIN WILLIAMS SW7530 BARCELONA BEIGE TO MATCH ARCHITECTURE. PROJECT SIGNAGE TREATMENT TO BE DETERMINED.
- CORNER OF CENTRAL AVENUE AND SYCAMORE CANYON BOULEVARD TREATMENT TO INCLUDE CAST IN PLACE CONCRETE VARYING HEIGHTS RAISED PLANTER BEDS WITH PROJECT SIGNAGE. SIGNAGE TREATMENT TO BE DETERMINED.
- LOCK-I-LOAD QUARRY ROCK TEXTURE BLOCK RETAINING WALLS. BLOCK COLOR TO BE TAN.
- 42' HIGH TUBULAR STEEL FENCE ON TOP OF BIORETENTION RETAINING WALLS. COLOR TO BE DARK METALLIC GREY TO MATCH ARCHITECTURE.



FENCE, PILASTERS, MONUMENTS, AND PLANTER EXAMPLE PHOTOS











CRESTVIEW APARTMENTS

Conceptual Wall and Fence Exhibit

Figure 3.0-8

3.3.4 Infrastructure and Utilities

The Riverside Public Utilities will provide electric and water utility services to the proposed Project. Dry utility (electrical, gas, telecommunications) extensions from existing lines in Sycamore Canyon Boulevard and Central Avenue will be constructed within the City's street Right-of-Way (ROW) into the development. An 8-inch water main extension in Central Avenue from Sycamore Canyon Boulevard across the project frontage and a 12-inch water main extension in Sycamore Canyon Boulevard from Central Avenue across the project frontage will be constructed. Sewer laterals will be constructed to serve the project. One of the City's franchise haulers (Burrtec, Athens, or CR&R) will provide solid waste disposal services for the Project.

3.3.5 Off-site Improvements

The project will install driveway approaches, curb, gutter and sidewalk along the Sycamore Canyon Boulevard frontage in compliance with applicable City standards. The existing utility poles and boxes, located along Sycamore Canyon Boulevard and the northern boundary, will remain in place. Sycamore Canyon Boulevard is built to its ultimate half-section width as a collector (66-foot right-of-way). The project will also install street trees (*Magnolia grandiflora* "Russet") with permanent automatic irrigation, approximately 35 feet on center along Sycamore Canyon Boulevard.

3.3.6 Construction and Grading

Construction of the proposed project is expected to occur over approximately 18 months. Construction activity would comply with the City's Municipal Code Section 7.35.020 and would not occur between the hours of 7:00 PM and 7:00 AM on weekdays, between the hours of 5:00 PM and 8:00 AM on Saturdays, or at any time on Sundays or federal holidays. Construction activity would consist of phased site preparation and grading, building construction, architectural coating, and paving.

Construction activity would begin with site preparation and grading which would utilize equipment such as tractors, dozers, graders, and scrapers. Based on the project site's existing topography, grading would require a maximum cut of 15 feet (northwest area of the site) and maximum fill of approximately 25 feet (southeast area of the site). The existing site ranges in elevation from 1,315 feet to 1,375 feet above mean sea level. The proposed improvements range in elevation from 1,349 to 1,351.3 feet. Proposed grading activities of cut and fill on site are anticipated to balance, with no need for import or export of soil. Any minor excess materials are anticipated to be incorporated into the landscaping. However, it cannot be confirmed until site preparation activities are being completed if there will be any import of fill or export of excess rocks/boulders. Therefore, a conservative estimate of up to 20,000 cubic yards of fill and up to 10,000 cubic yards of export of rock/boulders is assumed and analyzed as part of the EIR. All construction activities, with the exception of potential import of fill and export of rock/boulders, and staging of equipment would be on site.

Large-scale ground improvement (densification) will be used to address the undocumented fill. Deep dynamic compaction (DDC) is the proposed method for compacting the site's subsoil to establish load bearing capacity foundations for the apartment buildings. DDC uses a heavy tamper (or pounder) that is repeatedly raised and dropped with a single cable from varying heights to impact the ground. The mass of the tampers generally ranges from 5-20 tons, while drop heights range from 30 to 80 feet. A tracked crane is used for most projects to lift and drop the tamper. Although it is low, there is a potential that blasting will be needed during grading and site preparation to break down large granitic boulders.

Building construction and paving activities would utilize cranes, welders, rollers, and other paving equipment for construction. Construction is expected to begin in 2021 and take approximately 18 months to complete. The project is anticipated to be fully built and open in 2023.

3.3.7 Project Objectives

The proposed project intends to achieve the following objectives:

- Provide a high quality residential development in close proximity to the University of California, Riverside, Downtown Riverside, and high quality transit corridors.
- Provide housing to increase the type and amount of housing available consistent with the goals of the City's Housing Element and to assist the City in meeting project housing demand as part of the City's growth projections. Per Regional Housing Need Allocation (RHNA), the City will need to make space for a minimum of 18,458 housing units, with an anticipated goal of 24,000 units, by 2029.
- Use land resources more efficiently by providing a well-planned, infill development on a currently vacant and largely disturbed site.
- Implement green building practices and other sustainable development methods throughout the project, consistent with the City's Climate Action Plan.
- Preserve the existing natural bed and bank of the drainage course and associated sensitive vegetation outside of the development footprint to maintain its hydrologic and biological function for water flow conveyance and wildlife movement.
- Incorporate design and landscaping elements that complement and are responsive to the Canyon Crest community and edge conditions that buffer the project's effect on the nearby natural environments, including the City of Riverside's Quail Run Open Space and the Sycamore Canyon Wilderness Park.
- Provide for an aesthetically pleasing project with design elements that have compatible overall theme and identity that harmonizes with the surrounding environment in terms of colors and materials and landscaping.

3.3.8 Discretionary Actions and Approvals

In conformance with State CEQA Guidelines Sections 15050 and 15367, the City has been designated as the "Lead Agency", defined as the "public agency which has the principal responsibility for carrying out or approving a project," for the Project's environmental analysis. The following discretionary actions are required:

City of Riverside

- General Plan Amendment (GPA) – to amend approximately 9.44 acres of the proposed Project area from C – Commercial to VHDR – Very High Density Residential; Planning Case P19-0775.
- Zoning Code Amendment (RZ) – to rezone approximately 9.44 acres of the proposed Project area from CG – Commercial General to R-4 – Multiple Family Residential Zone; Planning Case P19-0776.
- Design Review (DR) – for the proposed site design and building elevations; Planning Case P19-0777.
- Environmental Impact Report (EIR) – for the preparation of an Environmental Impact Report for the proposed Project; Planning Case P19-0905.
- Variance (VR) – 1) to allow perimeter solid masonry walls and tubular steel fencing up to 6 feet in height within the front yard setbacks along Central Avenue and Sycamore Canyon Boulevard, where 3 foot high solid walls and 4 foot open fencing are permitted by the Zoning Code; and 2) to allow on site improvements to encroach into the 15 foot landscaped front yard setback along Central Avenue, required in the R-4 Zone when adjacent to an arterial; Planning Case P20-0307.
- Grading Exception (GE) – to allow the height of retaining walls not open to public view to be up to 11.7 feet, where the Grading Code allows a maximum height of 6 feet; and to allow the height of retaining walls visible from the public right of way (Central Avenue and Sycamore Canyon Boulevard) to be up to 5 feet, where the Grading Code allows a maximum height of 3 feet; Planning Case P20-0308.
- Grading Exception (GE) – to allow slopes having a ratio of 3.9:1 or steeper to be up to 28 feet in vertical height, where the Grading Code limits slopes having a ratio of 3.9:1 or greater to a maximum vertical height of 20 feet; Planning Case P20-0309.
- Summary Vacation (VC-S) – for the acquisition of excess City right-of-way along Sycamore Canyon Boulevard and Central Avenue totaling 19,200 square feet or 0.44 acre; Planning Case P20-0310.

The following public agencies will use this EIR when considering the Project:

California State Water Resources Control Board

The Project is required to obtain coverage under the General Construction Storm Water Permit (Water Quality Order 2009-0009-DWQ) regulating storm water runoff from construction sites 1 acre in size or greater.

The project will require the following consultation process:

Senate Bill (SB) 18 and Assembly Bill (AB) 52

Pursuant to SB 18, consultation with California Native American Tribes on the contact list maintained by the California Native American Heritage Commission is triggered by the proposed General Plan Amendment. Also, pursuant to AB 52, the City is required to notify and consult with local tribes who requested notification from the City for projects subject to CEQA.

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Joint Project Review (JPR)

Pursuant to the MSHCP, Joint Project Review by the Western Riverside County Regional Conservation Authority is required as the proposed project site is located in Criteria Cell # 721.

4.0 Environmental Setting

This section provides a general overview of the environmental setting for the proposed Project. Detailed descriptions of the environmental setting for each environmental issue area can be found in Section 5.0, Environmental Impact Analysis.

4.1 Regional Setting

The approximately 9.44-acre Project site is located in Riverside County, in the City of Riverside California. The site is located at the corner of Central Avenue and Sycamore Canyon Boulevard and is in close proximity to the State Route-60 (SR-60)/Interstate-215 (I-215). Figure 2.0-1 in Section 2.0, Introduction, shows the Project's regional location. The Project site is within the Township 2 South, Range 4 West, Section 33, Figure 3.0-1 Vicinity Map. The City of Riverside encompasses approximately 81 square miles and is located approximately 50 miles east of downtown Los Angeles, and 9 miles south of San Bernardino. Currently the City is the 12th most populous city in California and has the largest employment base in the Inland Empire region. A grid system of east-west and north-south roadways, including arterials, collectors, and local streets provide circulation throughout the City. The region is characterized by a semi-arid climate with hot and dry summers and relatively mild, wet winter.

4.2 Project Site Setting

The approximately 9.44-acre Project site is located northwest of the intersection of Central Avenue and Sycamore Canyon Boulevard within Assessor Parcel Number (APN) 256-050-012.

The Project site is undeveloped and vacant. The Project site slopes from northeast to southwest from about elevation 1,375 feet above mean sea level to about 1,315 feet. Per City records, the Project site has an average natural slope (ANS) of 25.9 percent. The site has evidence of previous earthwork or grading as identified in observation of the current surface topography as well as review of previous aerial photographs. Aerial photography indicates that the site was utilized for construction staging operations and grading in 2005 to 2006 for the realignment of Sycamore Canyon Boulevard. The Project site is elevated above Central Avenue and the open space area to the west. The southwest corner of the Project site has a steep slope down to a drainage course, identified as a blueline stream on the topographic map (Figure 3.0-1), that extends across the southwest corner of the site.

The site has a General Plan Land Use designations of C – Commercial is zoned CG - Commercial General. The Project site is bounded to the north and east by Sycamore Canyon Boulevard. To the east of the Project Site (across Sycamore Canyon Boulevard) is a recently approved commercial development project by the applicant. To the south of the Project site, across Central Avenue, is vacant undeveloped land in Riverside County. The City of Riverside's Quail Run Open Space Park is located to the west of the Project site.

4.3 Developments Considered in Cumulative Impact Analysis

In addition to the specific impacts of individual projects, CEQA requires EIRs to consider potential cumulative impacts of the proposed project. CEQA defines “cumulative impacts” as two or more individual impacts that are substantial or will compound other environmental impacts, when considered together. Cumulative impacts are the combined changes in the environment that result from the incremental impact of development of the proposed Project and other nearby projects. For example, transportation impacts of two nearby projects may be less than significant when analyzed separately, but could have a significant impact when analyzed together. Cumulative impact analysis allows the EIR to provide a reasonable forecast of future environmental conditions and gauge the effects of a series of projects more accurately.

As outlined in the CEQA Guidelines Section 15130 the cumulative impact analysis in an EIR should consider either a list of planned and pending projects that may contribute to cumulative effects or a forecast of future development potential. Currently planned and pending projects in Riverside and surrounding areas, including in the City of Moreno Valley and County of Riverside, are included in Table 4.0-1 and shown on Figure 4.0-1. To account for background traffic growth, traffic associated with other planned and pending projects, in conjunction with an ambient growth factor of 2% per year from existing conditions was used for the cumulative analysis. The cumulative project list was developed in the Focused Traffic Analysis (TA) and created in consultation with the City of Riverside Planning and Public Works staff. The Focused Traffic Analysis is included in Appendix I. The Focused Traffic Analysis followed the City of Riverside’s Traffic Impact Analysis Preparation Guide. The County of Riverside did not have any projects to include. The cumulative list included projects anticipated to contribute measurable traffic impacts to the study area. The cumulative project list below includes the cumulative project list for the Focused Traffic Analysis and any additional projects identified during the Notice of Preparation (NOP) review and comment period, or by the City of Riverside Planning Division as a pending project.

Overall the cumulative projects include:

- Total of 22 developments
- Three residential developments with 309 residential dwelling units
- Five hotel developments with a total of 564 rooms
- Seven commercial shopping centers
- Warehouse, church, carwash, fitness club, school, gym. office/medical center, and a gas station with an approximately footprint of 3,282,793 square feet of development.
- University of California, Riverside (UCR) 2021 Long Range Development Plan

The University of California, Riverside (UCR) is currently working on a new Long Range Development Plan (LRDP) to guide campus planning for future development. The 2021 LRDP is

a plan put forth by UCR to guide development on the main UC Riverside campus for the next 15 years, including long-range land use development, open space preservation and improvements, multi-modal mobility planning, and infrastructure sustainability and resiliency efforts. Adoption of the proposed 2021 LRDP does not constitute a commitment to any specific project. UCR is currently in the process of preparing an EIR for the 2021 LRDP which will analyze environmental effects of the physical development program proposed by the LRDP at a programmatic level.[1] Because the 2021 LRDP does not identify specific projects none are listed in the cumulative development project list in Table 4.0-1. As described in the Initial Study for the UCR 2021 LRDP, it proposes a net increase in development of approximately 3.7 assignable square feet[2] (asf), for a total maximum of approximately 8.5 million asf of total academic, research, and supportive space development by the year 2035/2036 to accommodate the enrollment growth and meet program needs. The housing goal under the 2021 LRDP is to provide on-campus or campus-controlled student housing for approximately 40 percent of the student population. The 2021 LRDP includes a net increase in 7,489 on-campus housing beds from baseline (2018/2019).

Although there are no specific planned or pending projects identified in the 2021 LRDP for inclusion in the cumulative development project list in Table 4.0-1, it is anticipated that any of these projects that may be constructed would be accounted for in the ambient growth factor of 2% per year for the opening year cumulative traffic conditions or in the modeled 2040 Horizon Year traffic conditions of the Project's Traffic Analysis, and other technical studies that are based on the Traffic Analysis results (Air Quality, Greenhouse Gas, Noise).

The cumulative list of development projects in Table 4.0-1 and the UCR 2021 LRDP are considered in the cumulative analyses in Section 5.0, Environmental Impact Analysis.

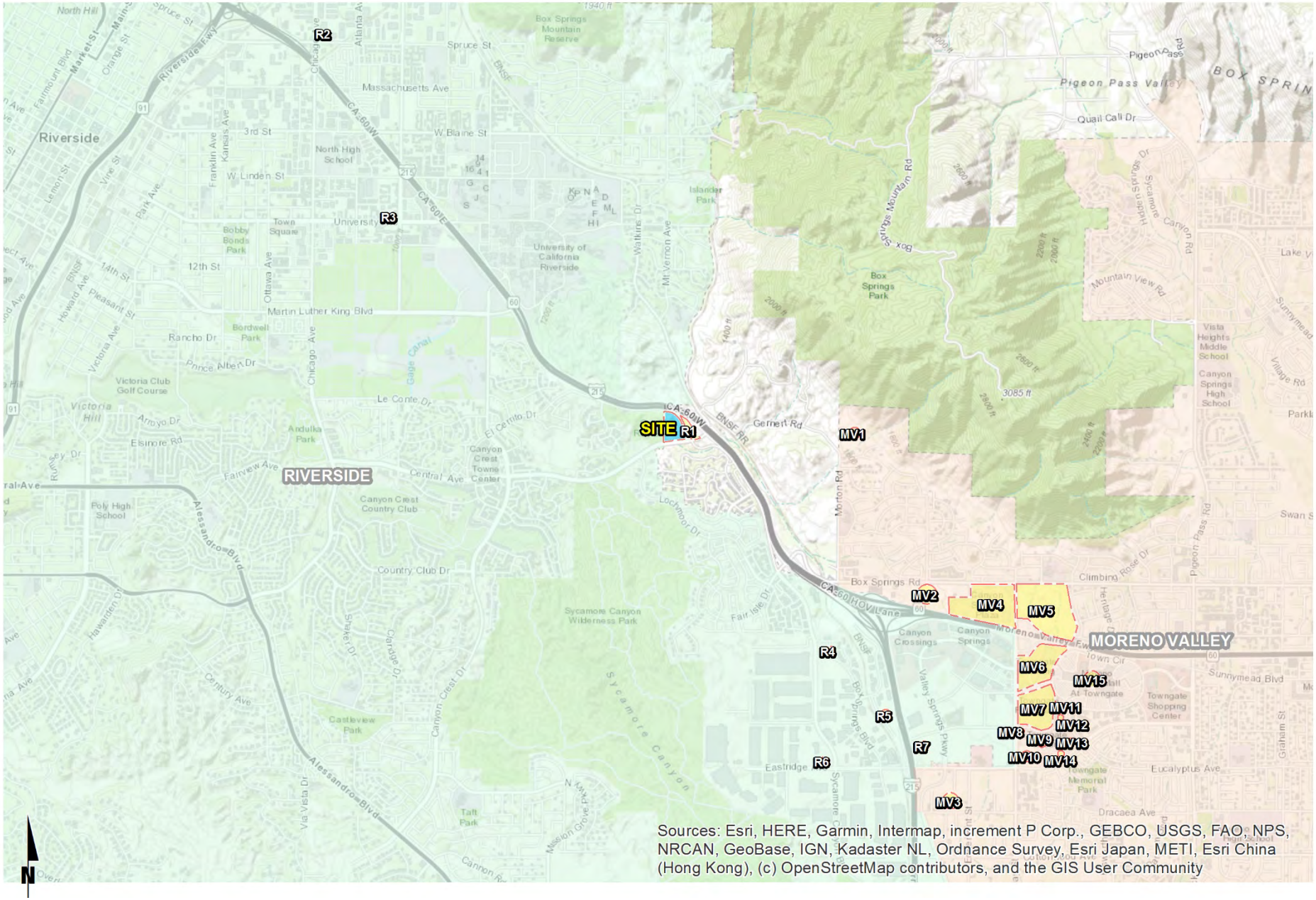
[1] https://pdc.ucr.edu/environmental-planning-ceqa#ceqa_notices
[2] asf refers to the sum of all areas on all floors of a building assigned to or available for assignment to an occupant or specific use (e.g., classrooms, labs, offices, study facilities) used to accomplish the institution's mission (Initial Study for the UCR 2021 LRDP, July 2020, available at https://pdc.ucr.edu/environmental-planning-ceqa#initial_study_)

Table 4.0-1: Summary of Cumulative Development Projects

Map ID	Project Name	Land Use	Quantity [1]	
City of Riverside				
R1	NE corner of Central Avenue & Sycamore Canyon Boulevard	Fast Food Restaurant with Drive Thru	3.800	TSF
		Gas Station with Convenience Store	12	VFP
R2	1695 Spruce Street	Charter School	6.647	TSF
R3	1301 University Avenue	Fast Food Restaurant with Drive Thru	2.819	TSF
R4	6150 Sycamore Canyon Boulevard	Warehouse	171.616	TSF
R5	6235 River Crest Drive	Church	7.471	TSF
R6	6465 Sycamore Canyon Boulevard	Health/Fitness Club	4.00	TSF
R7	6281 Valley Springs Parkway	Carwash	4.340	TSF
R8[2]	NE of Barton Street & Alessandro Boulevard	Warehouse	603.100	TSF
City of Moreno Valley				
MV1	Kincaid Development (Tract 33626)	Single Family Detached Residential	25	DU
MV2	Oak Park Partners (Tract 35414)	Multi-Family Housing	266	DU
MV3	Apollo III Development Group (PEN16-0064)	Multi-Family Housing	18	DU
MV4	Canyon Spring Center	Commercial Shopping Center		TSF
MV5	TownGate Highlands	Commercial Shopping Center	252	TSF
MV6	TownGate Crossing	Commercial Shopping Center	237	TSF
MV7	TownGate Promenade	Commercial Shopping Center	200	TSF
MV8	Residence Inn	Hotel	112	RM
MV9	The Quarter	Commercial Shopping Center	420	TSF
MV10	Holiday Inn Express	Hotel	104	RM
MV11	Hampton Inn & Suites	Hotel	115	RM
MV12	Ayres Suites	Hotel	127	RM
MV13	Fairfield Inn & Suites	Hotel	106	RM
MV14	TownGate Square	Office/Medical	170	TSF
MV15	Moreno Valley Mall	Commercial Shopping Center	1,200	TSF

1 TSF = Thousand Square Feet; RM = Room, VFP = Vehicle Fueling Position; DU = Dwelling Unit

2 R8 is not shown on Figure 4.0-1, as outside of the map area, south of the Sycamore Canyon Wilderness Park's southern boundary



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Cumulative Projects Location

Figure 4.0-1

5.0 Potentially Significant Environmental Effects

This section discusses the possible environmental effects of the Project on the specific issue areas identified as having the potential for significant effects. As defined in the *CEQA Guidelines* (Section 15382) a "significant effect on the environment means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

Sections 5.1 through 5.13 of the DEIR examine the potential environmental impacts associated with implementation of the Project and focus on the following issues:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Land Use and Planning
- Noise
- Transportation
- Tribal Cultural Resources
- Utilities
- Wildfire

5.0.1 Technical Studies

Technical and supporting studies were prepared in order to provide detailed analysis for the Project and this DEIR. The following studies are identified in the discussion for the individual environmental issues and included as technical appendices of the DEIR:

- Initial Study & Notice of Preparation (Appendix A)
- Air Quality Analysis (Appendix B)
- Freeway Health Risk Assessment (Appendix B)
- Habitat Assessment and Western Riverside County Multiple Species Habitat Conservation Plan Consistency Report (Appendix C)
- Jurisdictional Delineation Report (Appendix C)
- Joint Project Review (Appendix C)
- Cultural Resource Assessment (Appendix D)
- Energy Analysis (Appendix E)
- Geotechnical Evaluation (Appendix F)

- Greenhouse Gas Analysis (Appendix G)
- Noise Analysis (Appendix H)
- Traffic Operations Analysis (Appendix I)
- Vehicle Miles Traveled Analysis (Appendix I)
- Sewer Capacity Evaluation (Appendix J)
- Fire Protection Plan (Appendix K)

5.0.2 Analysis Format

The DEIR assesses how the Project would impact the issue areas identified above. Each environmental issue addressed in this DEIR is presented in terms of the following subsections:

- **Setting:** Provides information describing the existing setting on or surrounding the Project site which may be subject to change and affected as a result of the implementation of the Project and provides a description of the "baseline" conditions from which potential impacts are assessed. This setting describes the physical conditions that existed when the IS/NOP was published and sent to responsible agencies and the State Clearinghouse.
- **Related Regulations:** Provides a discussion of the applicable regulations with respect to each environmental issue.
- **Project Design Considerations:** Provides a discussion of the Project design features as it relates to each environmental issue. Project design features are those features or elements of the Project that serve to avoid or minimize potential environmental impacts.
- **Thresholds of Significance:** Provides criteria for determining the significance of Project impacts for each environmental issue.
- **Environmental Impacts:** Provides a discussion of the characteristics of the Project that may have an effect on the environment; analyzes the nature and extent to which the Project is expected to change the existing environment, and whether or not the Project impacts are less than or exceed the levels of significance thresholds, with or without mitigation.
- **Proposed Mitigation Measures:** Identifies mitigation measures to reduce significant adverse impacts to the extent feasible.
- **Cumulative Environmental Effects:** Describes potential environmental changes to the existing physical conditions that may occur with the Project together with all other reasonably foreseeable, planned, and approved future projects.

5.1 Aesthetics

Based on Appendix G of the CEQA Guidelines and comments received during the NOP public comment period, this section evaluates the Project's potential impacts to scenic vistas, scenic resources, visual character or quality of public views, and light or glare.

Aesthetics refers to what is perceived as being visually pleasing or beautiful. Because "beauty is in the eye of the beholder," this aspect of environmental impact analysis is an inherently subjective issue. It is not the purpose of this section of the DEIR to try to determine if the existing vacant site is more aesthetically pleasing than the proposed Project. Rather, this analysis will address definable thresholds of significance related to City policy, designated scenic resources, and known landmarks, to determine if the Project will cause significant negative aesthetic effects.

Aesthetic effects relate to obstruction of scenic vistas or views, creation of a negative aesthetic effect, and creation of light or glare. Important criterion for visual impacts is visual consistency. Project design should be consistent with natural surroundings and adjacent land uses. Additionally, it is more practical and effective to prevent offensive visual contrasts through a combination of building siting, setbacks, height restrictions, and landscaping. This evaluation measures the existing visual resources at the site and in the surrounding area against the Project, analyzing the nature of the anticipated change considering that the Project site is currently undeveloped.

5.1.1 Setting

Regional Visual Setting

Although the majority of the City is urbanized, the hills and ridgelines that surround the City provide scenic vistas to residents where they can experience long distance views of natural terrain. Vista points can be found throughout the City, both as viewed from urban areas toward the hills and from wilderness areas toward the City. The most notable scenic vistas in the City include the La Sierra/Norco Hills, Sycamore Canyon Wilderness Park, and Box Springs Mountain Regional Park. The peaks of the Box Springs Mountain, as well as Mt. Rubidoux, Arlington Mountain, Alessandro Heights and the La Sierra/Norco Hills provide scenic views of the City and the region. Per the Riverside General Plan 2025 EIR Final Program EIR (GP 2025 FPEIR), the higher elevation hills shape the visual outline of the City and drainage areas of the City provide a visual backdrop as viewed from streets, buildings, and open spaces. (GP 2025 FPEIR, p. 5.1-2)

There are several scenic and special boulevards within the City. Table 5.1-1 lists the nearest designated scenic and special boulevards to the Project. No officially designated State scenic highways or eligible State scenic highways traverse the City (GP 2025 FPEIR, p. 5.1-4). State Route-60/Interstate-215 located adjacent to and northeast of the Project site is not a designated or eligible State scenic highway.[1]

[1] Caltrans Scenic Highways, https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways

Table 5.1-1 – Nearest Designated Scenic and Special Boulevards and Parkways to the Project Site

Rodeway Name	Designation	Distance from Project Site (approximate mileage)
Martin Luther King Boulevard (through UCR only)	Scenic and Special Boulevard	1.2 miles northwest
Canyon Crest Drive	Scenic Boulevard and Parkway	1 mile west
Central Avenue	Scenic Boulevard	1 mile west (intersects Canyon Crest Drive)
Ransom Road	Scenic and Special Boulevard	1.75 miles southwest
Source: GP 2025 Circulation and Community Mobility Element, Figure CCM-4; GP 2025 FPEIR Figure 5.1-1		

Visual Character of the Project Site

The Project site is located in the eastern part of the City, on the northwest corner of the intersection of Central Avenue and Sycamore Canyon Boulevard. The Project site is an irregular-shaped property that comprises approximately 9.44-acres. The Project site is currently vacant land with evidence of extensive grading in the past. The site has evidence of previous earthwork or grading as identified in observation of the current surface topography as well as review of previous aerial photographs. Aerial photography indicates that the site was utilized for construction staging operations and grading in 2005 to 2006 for the realignment of Sycamore Canyon Boulevard. The site is lightly vegetated with disturbed Riversidean sage scrub and non-native species with areas of bare soil and windrows of rocks and boulders. An approximately 38-foot high cut slope exposing granitic bedrock is located in the northwest corner of the site. The Project site is elevated above Central Avenue and the open space area to the west. The southwest corner of the Project site has a steep slope down to a drainage course, identified as a blueline stream on the topographic map (Figure 3.0-1, Vicinity Map).

The low-growing vegetation is generally green during the rainy season then dry and mostly brown for much of the rest of the year. Disturbed areas of the Project site consist of existing dirt access roads, areas that have been subject to grading/disking activities, and illegal dumping activities. The disturbance to the surface of the Project site can be seen in the aerial photograph of the Project site in Figure 3.0-2, Project Site Map, as well as in photographs of the site, Figures 3.0-3 A through 3.0-3E.

Visibility of the Project Site

The Project site is visible by motorists and pedestrians walking and driving alongside Central Avenue and Sycamore Canyon Boulevard. Motorists driving on the SR-60/I-215 freeway in both directions can see the Project site. The Project site is also visible from the nearby hillside neighborhood to the south and southeast of the Project site. Public views of the Project site from the residential neighborhood to the south and southeast of the Project site, along public streets, is partially blocked and limited due to the existing topography and natural vegetation as well as residential development and associated landscaping and other improvements. Two views of the Project site from Harvard Way and Westpoint Drive, are show in Figures 5.1-1A and 5.1-1B.

Visual Character of the Surrounding Area

The surrounding area largely consists of open space uses, multi-family residential and hillside single family residential. The Project site is bordered on the north and east by Sycamore Canyon Boulevard and SR-60/ I-215. Further north, across Sycamore Canyon Boulevard and SR-60/I-215, is vacant undeveloped land and hillside residential. East, across Sycamore Canyon Boulevard, is currently undeveloped but a commercial development with a drive thru restaurant and convenient store/ gas station was approved by the City in 2019. To the south, across Central Avenue, is vacant and undeveloped and contains an unnamed drainage feature associated with Box Springs Canyon that contains riparian vegetation including mature trees. Immediately west of the Project site is the City of Riverside's Quail Run Open Space Park, and further west, a multi-family residential development (Stone Hill Apartments).

The Project site is approximately 4 miles northeast of Downtown Riverside, which the downtown area has undergone considerable revitalization since the 1990s and reflects a "rich blend of history, activity, architecture, tree-lined pedestrian spaces, [and] cultural and entertainment facilities" (Riverside Downtown Partnership 2017). Moreover, the Project site is located approximately 1.4 miles southeast from the University of California, Riverside (UCR). UCR is part of the University of California public university system and is one of the most prominent institutional campuses in the region. The UCR campus is visible from the SR-60/ I-215 freeway; the proposed Project would as well.



Source: Bing Aerial Microsoft Corporation 2020, Datum: NAD 83, Coordinate Sytem: State Plane 6

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RVA

Hill Photo Location Reference Map

Figure 5.1-1A

Figure 5.1-1B



Photo 1: Site photo taken on Harvard Way facing north looking at project site. (Hill Photo Reference Location 1).



Photo 2: Site photo taken on Westpoint Drive facing north looking at project site. (Hill Photo Reference Location 2)

Crestview Apartments
Site Photos

State Scenic Routes Highways

According to Caltrans' California Scenic Highway System, there are no existing or proposed State Scenic Highways near the proposed Project site. Additionally, there are no State Scenic Highways near the Project site that are eligible for listing.

Scenic Views and Vistas

"Hillsides and ridgelines above riverside" are identified as scenic benefits for the community, especially those who are mobilizing through the area. (GP 2025) The nearest Scenic landmarks to the Project site include the top of the hills in Sycamore Canyon Wilderness Park (approx. 0.5 miles south), Box Springs Mountain (approx. 2 miles to the east), and Mount Rubidoux (approx. 5 miles northwest). Box Springs Mountain can be seen from the Project site looking in a northeast direction, as seen in Figure 3.0-3C.

Light and Glare

The City is primarily urbanized, with significant existing sources of light and glare, such as streetlights along roadways, parking lots and walkways, and light emitted from residential and non-residential buildings (GP 2025 FPEIR, p. 5.1-4). There are no existing lights within the Project site. However, there are existing streetlights at the intersection of Sycamore Canyon Boulevard and Central Avenue and along Central Avenue to the southwest of the Project site. Existing night lighting in the Project area also comes from headlights on vehicles traveling along the adjacent roadways and the SR-60/I-215 freeway. Overall, the level of light and glare in the project vicinity is typical of a residential area next to a freeway and nearby commercial and institutional uses.

5.1.2 Related Regulations

5.1.2.1 Federal Regulations

No Federal regulations are applicable to the Project with respect to aesthetics.

5.1.2.2 State Regulations

California Scenic Highway Program

The California Scenic Highways Program was established in 1963 to "preserve and protect scenic highway corridors from change which would diminish any aesthetic value of lands adjacent to highways" (Street and Highway Code §260 et seq.). No State-designated or eligible scenic highways exist in or near the Project site, and, therefore, no State regulations apply.

5.1.2.3 Regional Regulations

There are no regional regulations applicable to this Project.

5.1.2.4 Local Regulations

Riverside General Plan 2025

The GP 2025 guides development in the City through a compilation of community values, ideals, and aspirations pertaining to the natural and manmade environments (City of Riverside Citywide

Design Guidelines and Sign Guidelines (CDG)). The following objectives and policies pertaining to aesthetics are drawn from the City's GP 2025 and are applicable to the proposed Project.

Land Use and Urban Design Element

The GP 2025 Land Use and Urban Design Element describes present and planned land uses and their relationship to Riverside's goals for development in terms of the City's character. Objectives and policies from the general plan applicable to scenic resources and aesthetics relative to development in the City, and applicable to the Project include:

Objective LU-27: Enhance, maintain, and grow Riverside's inventory of street trees.

> **Policy LU-27.1:** Require appropriately sized landscaped parkways in all new development. Parkway areas shall be of sufficient width to allow planting of trees that will become large canopy trees.
>
> **Policy LU-27.4:** Encourage trees on private property to add to the City's urban forest.

Objective LU-30: Establish Riverside's neighborhoods as the fundamental building blocks of the overall community, utilizing Neighborhood and Specific Plans to provide a more detailed design and policy direction for development projects located in particular neighborhoods.

> **Policy LU-30.2:** Ensure that every neighborhood has a unique community image that is incorporated and reflected in all public facilities, streetscapes, signage and entryways proposed for each neighborhood.
>
> **Policy LU-30.3:** Ensure that the distinct character of each of Riverside's neighborhoods is respected and reflected in all new development, especially infill development.

Open Space and Conservation Element

The Open Space and Conservation Element of the General Plan addresses the use and preservation of the open space areas throughout the City, including natural and human-made features. It guides the preservation of scenic resources and vista points in Riverside, including hillsides and other topographic features. Objectives and policies related to scenic resources and aesthetics in the Element are:

Objective OS-1: Preserve and expand open space areas and linkages throughout the City and sphere of influence to protect the natural and visual character of the community and to provide for appropriate active and passive recreational uses.

> **Policy OS-1.6:** Ensure that any new development that does occur is effectively integrated through convenient street and/or pedestrian connections, as well as through visual connections.

City of Riverside Municipal Code

TITLE 17 – GRADING

Title 17 of the Riverside Municipal Code governs grading and other earthwork during construction, including fills and embankments. In part, it regulates hillside and arroyo grading in a manner that

"minimizes the effects of grading on natural landforms…[and ensures] that significant natural characteristics such as land form…[and] scenic qualities…can be substantially maintained" (Riverside Municipal Code §17.01.010).

TITLE 19 – ZONING CODE

The City of Riverside's Zoning Code restricts the location, size, density, and design of buildings in the City to encourage appropriate land use, conserve and stabilize property values, provide adequate open spaces for light and air, promote the general welfare of the population, and produce healthy, safe, livable, and attractive neighborhoods within the City (City of Riverside Zoning Code Title 19.020.010; 19.100.010). Specifically, the Multiple-Family Residential Zone/The Very High-Density Residential Zone (R-4) was established to provide areas for higher density multiple family residences in areas of the City readily served by public transit and near commercial zones and other nonresidential areas that meet the everyday shopping, educational, health service, and similar needs of residents (Riverside Municipal Code § 19.100.010).

Outdoor Lighting Ordinance

Through Ordinance No.7447, the City adopted outdoor lighting regulations to ensure that outdoor lighting is adequate for safety and security while preserving the naturally dark sky through mitigating artificial sky glow and preventing light and glare pollution. The ordinance, located in Chapter 19.556 of the Riverside Municipal Code, includes various light zones in the City and development standards for each zone.

Citywide Design Guidelines and Sign Guidelines

Through Resolution Number 21544, the City of Riverside adopted the Citywide Design Guidelines and Sign Guidelines to manage developing of the physical image of the City's residential neighborhoods and shopping centers to emphasize "a small-town character within an urban metropolis." This document offers an overview of what the City considers good design, outlines design objectives in terms of architectural styles relative to context and historic character in the areas where development occurs. It also provides specific guidance on scale and mass, landscaping, fences, privacy protection, common open space, and parking.

5.1.3 Project Design Considerations

Building Component

The proposed Project includes 237 dwelling units in seven buildings. The colors and materials of the buildings are provided in Figure 5.1-1 Material Board. The stucco paint colors include beige, white, pewter, and light brown or tan (Sherwin Williams Balance Beige, Shoji White, Barcelona Beige, Egret White, Library Pewter, Palisade, and Llama Wool) with accents in gold, and aqua (Sherwin Williams Different Gold, Billiard Green, and Mountain Stream). Decorative accents include aluminum balcony louvers, fabricated metal gates, balcony metal railings, decorative shutters, and metal canopies.

Five buildings are three-story (Buildings 1-5), one building is four-story (Building 6), and one building is split story (2-4 stories; building 7), as shown in Figure 3.0-4 Conceptual Site Plan. The

unit type, number of stories, and total units for each of the seven buildings is detailed in Table 5.1-2 below.

Table 5.1-2: Building Type and Unit Mix

Building #	Unit Types	Total Units	Height
1	I-a/ 3-Story	15	39 feet 9 inches
2	I-a/ 3-Story	15	39 feet 9 inches
3	I-b/ 3-Story	15	39 feet 9 inches
4	I-b/ 3-Story	15	39 feet 9 inches
5	I-a/ 3-Story	15	39 feet 9 inches
6	II/ 4-Story	116	50 feet
7	III/ 2-4-Stories	46	50 feet

Unit Type I-a and Type I-b are located within 3-story buildings with a maximum height of 39 feet 9 inches. Unit Type II and III are located within 2-4-split-story buildings with a maximum height of 50 feet. Buildings 1-4 are located along the northeastern portion of the site, with building 5 located in the southeast. Building 6 is located in the southwest portion of the site, on the south side of the pool and putting green and Building 7 is located in the northwestern portion of the site, on the north side of the pool and putting green. Mechanical equipment on rooftops will be concealed. Refer to Figure 5.1-3 for Architecture Massing Views of the pool area, and adjacent Buildings 6 and 7 that contain the leasing office, clubhouse, and fitness center. Refer to Figure 5.1-4 for Architecture Massing Views of Buildings 1-3 at the Project main entrance, from Sycamore Canyon Boulevard, and from internal streets. Refer to Figure 5.1-5 for overhead view of Building 6 and the terraced retaining walls in the southwest corner of the site. Figures 5.1-6 and Figure 5.1-7 include elevations for Unit Type I-a and Unit Type I-b, respectively. Figures 5.1-8 and Figure 5.1-9 include elevations for Unit Type II and Figures 5.1-10 and Figure 5.1-11 include elevations for Unity Type III.

Open Space and Landscape Features

The Project will include a combination of private and common open space in accordance with City of Riverside open space requirements. The Project provides private and common open space that exceeds the City's requirements. The private open space required is 50 square feet per unit, for a combined total of 11,850 square feet or 0.27 acre. The private open space provided is 15,236 square feet or 0.35 acre. The common open space area that is required is 200 square feet per unit, for a combined total of 47,400 square feet or 1.09 acre. The common open space that is provided totals 49,720 square feet or 1.14 acres and includes a putting green, outdoor resort style pool and spa, community dog park, fitness center, clubhouse, shade structure with barbeques and tables, and a walking perimeter loop trail (1/2-mile loop) with learning or exercise stations. The community dog park will include a 102-foot long dog run area, a pet friendly drinking fountain and dog wash station, refer to Figure 5.1-12 Dog Park Exhibit. The pool area will have a shade structure with barbeque and tables. The resort style pool will have a beach entry and an infinity edge waterfall. A viewing area with benches will be located near the pool's infinity edge waterfall

and along the perimeter walking trail that faces the Quail Run Open Space Park and Downtown Riverside to the west, refer to Figure 5.1-13 Conceptual Community Center Recreation Exhibit.

The proposed Project includes terraced planters along Central Avenue and wood trellis at the southwest corner of the site. The project proposes a 6-foot high tubular steel fence, painted in dark metallic grey to match architecture, around the perimeter of the property and outside the walking perimeter loop trail to compliment the color scheme of the development, Figure 3.0-6, Wall and Fence Exhibit.

Landscaping throughout the project site will consist of low water use trees, shrubs, and ground cover. Large trees are proposed on the periphery of the project site, along roadways (Central Avenue and Sycamore Canyon Boulevard), within parking lot planters, and throughout the residential common open space areas and around the apartment structures, Figure 3.0-6, Conceptual Landscape Plan Exhibit. Trees in the landscape plan include true green elm (*Ulmus parvifolia*), lavender crape myrtle (*Lagerstroemia i*. "Muskogee"), Brisbane box (*Tristania conferta*), vertical accent palms including, Mexican fan and queen palms, (*Washingtonia robusta*, *Syagrus romanzoffiana*), and golden trumpet tree (*Tabebuia chrysotrica*). Groundcover, shrubs and accent plants are proposed along walkways and throughout the residential common open space areas. The stormwater runoff bioretention areas include California sycamore trees (*Platanus racemosa*), and shrubs and grass. In regard to ground covers, there will be decomposed granite and cobble along with groundcover that includes flower carpet red rose and blue chalk sticks. Along the hillsides, there will be a landscape buffer of shrubs and groundcovers. For hardscape areas, these areas will include decorative entry pavers, asphalt, concrete walkways, and decorative concrete for the pool.



TYPE I ELEVATION

TYPE III - FITNESS ELEVATION



TYPE II ELEVATION



K

VINYL WINDOWS - WHITE



N

EXTERIOR PLASTER



L

ALUMINUM BALCONY LOUVER



O

FABRICATED METAL GATE



M

BALCONY METAL RAILINGS



P

DECORATIVE BAHANA SHUTTERS



A

STUCCO,
SHERWIN WILLIAMS
SW 7037 BALANCE BEIGE



B

STUCCO,
SHERWIN WILLIAMS
SW 0016 BILLIARD GREEN



C

STUCCO,
SHERWIN WILLIAMS
SW 6396 DIFFERENT GOLD

D

STUCCO,
SHERWIN WILLIAMS
SW 7042 SHOJI WHITE



E

STUCCO,
SHERWIN WILLIAMS
SW 7530 BARCELONA BEIGE



F

STUCCO,
SHERWIN WILLIAMS
SW 7570 EGRET WHITE



G

STUCCO,
SHERWIN WILLIAMS
SW 0038 LIBRARY PEWTER



H

STUCCO,
SHERWIN WILLIAMS
SW 7635 PALISADE



I

STUCCO,
SHERWIN WILLIAMS
SW 9089 LLAMA WOOL



J

STUCCO,
SHERWIN WILLIAMS
SW 7612 MOUNTAIN STREAM



Q

METAL CANOPY

CRESTVIEW APARTMENTS

RVA

ARCHITECTS ORANGE

KA Enterprises

Material Board

Figure 5.1-2



VIEW TO POOL AREA



VIEW TO LEASING / CLUBHOUSE



VIEW TO FITNESS CENTER



VIEW TO ROOF GARDEN



BUILDING 6 VIEW FROM CENTRAL AVE.



WEST VIEW PERSPECTIVE



PROJECT MAIN ENTRANCE VIEW



AMENITY VIEW 1



AMENITY VIEW 2



BUILDING 3 PERSPECTIVE



BUILDING 1 & 2 VIEW FROM SYCAMORE CANYON BLVD.



INTERNAL STREET VIEW



CRESTVIEW APARTMENTS

KA Enterprises

Overhead View of Basin & Walls

Figure 5.1-5

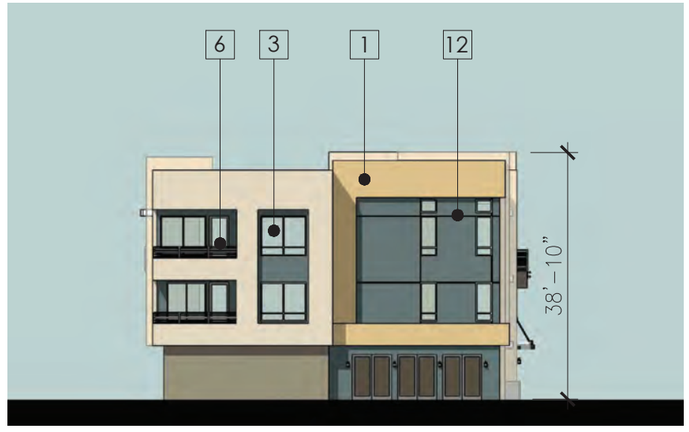
EXTERIOR ELEVATION KEYNOTES

MATERIAL LEGEND:

1. EXTERIOR PLASTER WALL
2. ARCHITECTURAL DECORATIVE AWNING
3. VINYL WINDOW
4. ROOF GARDEN
5. GARAGE DOOR
6. METAL RAILING
7. GLASS RAILING
8. ALUMINUM FIXED STOREFRONT GLAZING SYSTEM
9. PAINTED STUCCO PATIO WALL
10. DECORATIVE GATE
11. METAL CANOPY
12. HAND TOOLED JOINT
13. DECORATIVE BAHAMA SHUTTERS



FRONT ELEVATION



RIGHT ELEVATION



REAR ELEVATION



LEFT ELEVATION

EXTERIOR ELEVATION KEYNOTES

MATERIAL LEGEND:

1. EXTERIOR PLASTER WALL
2. ARCHITECTURAL DECORATIVE AWNING
3. VINYL WINDOW
4. ROOF GARDEN
5. GARAGE DOOR
6. METAL RAILING
7. GLASS RAILING
8. ALUMINUM FIXED STOREFRONT GLAZING SYSTEM
9. PAINTED STUCCO PATIO WALL
10. DECORATIVE GATE
11. METAL CANOPY
12. HAND TOOLED JOINT
13. DECORATIVE BAHAMA SHUTTERS



FRONT ELEVATION



RIGHT ELEVATION



REAR ELEVATION



LEFT ELEVATION

EXTERIOR ELEVATION KEYNOTES

MATERIAL LEGEND:

1. EXTERIOR PLASTER WALL
2. ARCHITECTURAL DECORATIVE AWNING
3. VINYL WINDOW
4. ROOF GARDEN
5. GARAGE DOOR
6. METAL RAILING
7. GLASS RAILING
8. ALUMINUM FIXED STOREFRONT GLAZING SYSTEM
9. PAINTED STUCCO PATIO WALL
10. DECORATIVE GATE
11. METAL CANOPY
12. HAND TOOLED JOINT
13. DECORATIVE BAHAMA SHUTTERS



NORTH ELEVATION



SOUTH ELEVATION

CRESTVIEW APARTMENTS

RVA

ARCHITECTS ORANGE

KA Enterprises

Type II - North & South Elevations

Figure 5.1-8

EXTERIOR ELEVATION KEYNOTES

MATERIAL LEGEND:

1. EXTERIOR PLASTER WALL
2. ARCHITECTURAL DECORATIVE AWNING
3. VINYL WINDOW
4. ROOF GARDEN
5. GARAGE DOOR
6. METAL RAILING
7. GLASS RAILING
8. ALUMINUM FIXED STOREFRONT GLAZING SYSTEM
9. PAINTED STUCCO PATIO WALL
10. DECORATIVE GATE
11. METAL CANOPY
12. HAND TOOLED JOINT
13. DECORATIVE BAHAMA SHUTTERS



EAST ELEVATION



WEST ELEVATION

CRESTVIEW APARTMENTS

RVA

ARCHITECTS ORANGE

KA Enterprises

Type II - East & West Elevations

Figure 5.1-9

EXTERIOR ELEVATION KEYNOTES

MATERIAL LEGEND:

1. EXTERIOR PLASTER WALL
2. ARCHITECTURAL DECORATIVE AWNING
3. VINYL WINDOW
4. ROOF GARDEN
5. GARAGE DOOR
6. METAL RAILING
7. GLASS RAILING
8. ALUMINUM FIXED STOREFRONT GLAZING SYSTEM
9. PAINTED STUCCO PATIO WALL
10. DECORATIVE GATE
11. METAL CANOPY
12. HAND TOOLED JOINT
13. DECORATIVE BAHAMA SHUTTERS



NORTH ELEVATION



SOUTH ELEVATION

CRESTVIEW APARTMENTS

RVA

ARCHITECTS ORANGE

KA Enterprises

Type III - North & South Elevations

Figure 5.1-10

EXTERIOR ELEVATION KEYNOTES

MATERIAL LEGEND:

1. EXTERIOR PLASTER WALL
2. ARCHITECTURAL DECORATIVE AWNING
3. VINYL WINDOW
4. ROOF GARDEN
5. GARAGE DOOR
6. METAL RAILING
7. GLASS RAILING
8. ALUMINUM FIXED STOREFRONT GLAZING SYSTEM
9. PAINTED STUCCO PATIO WALL
10. DECORATIVE GATE
11. METAL CANOPY
12. HAND TOOLED JOINT
13. DECORATIVE BAHAMA SHUTTERS



EAST ELEVATION



SOUTH ELEVATION

CRESTVIEW APARTMENTS

RVA

ARCHITECTS ORANGE

KA Enterprises

Type III - East & West Elevations

Figure 5.1-11





DOG RUN AREA





PET FRIENDLY DRINKING FOUNTAIN

DOG WASH STATION

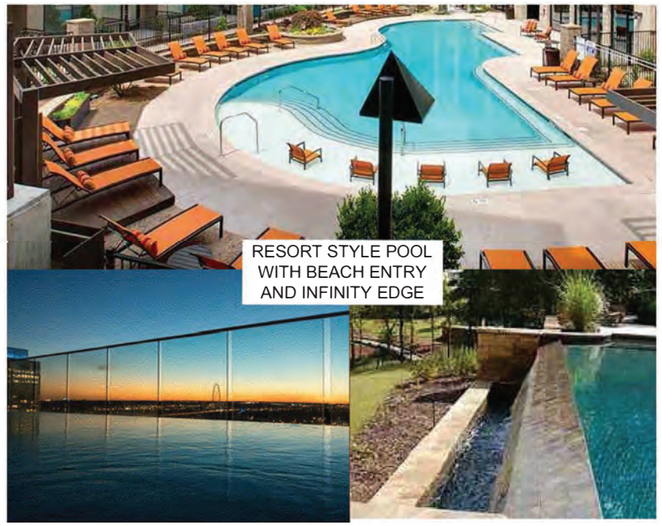


CRESTVIEW APARTMENTS

Community Dog Park Exhibit

Figure 5.1-12







SHADE STRUCTURE

PUTTING GREEN





VIEWING AREA

CRESTVIEW APARTMENTS

Conceptual Community Recreational Center Exhibit

Figure 5.1-13

5.1.4 Thresholds of Significance

The City of Riverside has not established local CEQA significance thresholds as described in Section 15064.7 of the State CEQA Guidelines. The City generally utilizes the CEQA significance thresholds in Appendix G ("Environmental Checklist") of the State CEQA Guidelines. The Environmental Checklist prepared by the City for the Project (see Appendix A of this document) indicates that except as provided in Public Resources Code Section 21099, impacts related to the Crestview Apartments Project may be considered potentially significant if the proposed project would:

- (Threshold A) have a substantial adverse effect on a scenic vista;
- (Threshold B) substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway;
- (Threshold C) in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from a publicly-accessible vantage point). If the project is in an urbanized area, the project would conflict with applicable zoning and other regulations governing scenic quality;
- (Threshold D) create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

5.1.5 Environmental Impacts

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

Scenic vistas are defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public, which can be impacted by development in two ways. First, a structure may be constructed that blocks the view of a vista. Second, the vista itself may be altered (i.e., development on a scenic hillside).

The Project area, in general, is located near the base of Box Springs Mountains and is elevated above Downtown Riverside. This general area provides a scenic vista of the Downtown Riverside area and Mount Rubidoux and the Jurupa Hills as a backdrop to the northwest, and to Mount San Antonio of the Angeles National Forest further in the north (on clear days). Areas to the east and southeast of the Project site generally are at a higher elevation than the Project site and therefore generally provide scenic vistas of the Downtown Riverside area. The Project site is not located up on a hilltop but is generally in close elevation to the adjacent SR-60/I-215 freeway to the north and east. As outlined in Section 3.2, Existing Site Characteristics, the Project site slopes from northeast to southwest from about elevation 1,375 feet above mean sea level to about 1,315 feet. Per City records, the Project site has an average natural slope (ANS) of 25.9 percent. The site has evidence of previous earthwork or grading as identified in observation of the current surface topography as well as review of previous aerial photographs. Aerial photography indicates that the site was utilized for construction staging operations and grading in 2005 to 2006 for the realignment of Sycamore Canyon Boulevard. The site is lightly vegetated with disturbed

Riversidean sage scrub and non-native species with areas of bare soil and windrows of rocks and boulders. An approximately 38-foot high cut slope exposing granitic bedrock is located in the northwest corner of the site. The existing hill that is located in the northwest corner of the site, with the 38-foot cut slope in it onsite, also extends offsite to the northwest in the Quail Run Open Space. This hill will remain and will not be impacted by the proposed Project. This hill currently blocks views of the Downtown Riverside area to the northwest from the Project site itself, and the hill will be a backdrop to the proposed Project. Building 7, a 2-4 split-story building, will be located directly adjacent to the existing cut slope in it. The building heights of the proposed structures are anticipated to result in partial obstructions of the views from the Project site itself and immediate surrounding area to Mt. Rubidoux, Jurupa Hills, and Mt. San Antonio. However, due to the fact that the existing hill already partially obstructs views of these areas and the proposed highest building elevations are only up to 12 feet higher than the existing cut slope/hill, the proposed buildings are not anticipated to substantially affect existing views from the Project site itself and immediate surrounding area. Therefore, the proposed Project structures will not block the view of a vista.

As outlined above in 5.1.1 Setting, there are public views of the Project site from the residential neighborhood to the south and southeast of the Project site along public streets including Harvard Way and Westpoint Drive. However, these views are partially blocked and limited due to the existing topography and vegetation (including trees) as well as residential development and associated landscaping and other improvements. This is demonstrated in two views of the Project site from Harvard Way and Westpoint Drive, as show in Figure 5.1-1A and 5.1-1B. Although the views from the residential neighborhoods to the south and southeast of the Project site include the Project site, the proposed Project would not block or substantially obstruct the scenic vista of the Downtown Riverside area viewed from the residential neighborhood to the south and southeast, as it will be set in amongst other hills surrounding the Project site.

The Project site itself is not located up on a hilltop and does not constitute a scenic vista. The Project site is generally in close elevation to the adjacent SR-60/I-215 freeway and is visible by motorists driving in both directions on the SR-60/ I-215, as well as motorists driving on Central Avenue and Sycamore Canyon Boulevard. As outlined in Section 3.2, Existing Site Characteristics, the Project site slopes from northeast to southwest from about elevation 1,375 feet above mean sea level to about 1,315 feet. Per City records, the Project site has an average natural slope (ANS) of 25.9 percent. The site has evidence of previous earthwork or grading as identified in observation of the current surface topography as well as review of previous aerial photographs. Aerial photography indicates that the site was utilized for construction staging operations and grading in 2005 to 2006 for the realignment of Sycamore Canyon Boulevard. Therefore, the Project site is not a vista itself that would be altered (i.e., development on a scenic hillside) by the proposed Project.

A scenic resource near the Project site is the Sycamore Canyon Wilderness Park, located approximately 0.5 miles south. Between the proposed Project site, and this scenic resource, is an established neighborhood (south of Central Avenue). Because the Project does not entail any improvements or grading within Sycamore Canyon Wilderness Park, it will not result in any

changes to the visual character of the Wilderness Park. The Project would not obstruct views of the Sycamore Canyon Wilderness Park from the established neighborhood south of Central Avenue.

The most notable scenic resource near the Project site is Box Springs Mountain, located approximately 2 miles east, refer to Figure 3.0-3C, Photo 4. The SR-60 /I-215 freeway is located between the Project site and Box Springs Mountain. The Project may obstruct partial views of Box Springs Mountain for people traveling east along Central Avenue, while immediately adjacent to the site, but as this would be for a short distance and duration, it would not be considered significant. The Project would not significantly impact views of the Box Springs Mountain due to the distance of this scenic resource from the Project site as well as the higher elevations of these mountains compared to the Project site.

The proposed Project would not result in a significant change in the viewshed from what currently exists in the Project area and the proposed Project's structures will not have a substantial adverse effect on an existing scenic vista and therefore potential impacts will be **less than significant**.

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

According to the Aesthetics section in the GP 2025 FEIR, there are no officially designated State scenic highways, or any eligible State scenic highways that traverse the City or its Sphere of Influence. The nearest State eligible scenic highway is Interstate 15 (I-15) which is located approximately 8-10 miles west from the Project site. There are, however, several scenic and special boulevards within the City. able 5.1-1, Nearest Designated Scenic and Special Boulevards and Parkways to the Project Site in Section 5.1.1 above lists the closest designated scenic boulevards, special boulevards, and parkways to the Project site. As presented in Table 5.1-1, the distances of the closest designated scenic and special boulevards or parkway to the Project site range from 1-1.75 miles from the site. Therefore, the Project site is not located within a State scenic highway or near a City designated scenic or special boulevard.

As identified in the GP 2025, there are no designated scenic vistas near the Project site. The most notable scenic resources near the Project site are the Sycamore Canyon Wilderness Park to the south and the Box Springs Mountain to the east. As mentioned in the analysis for Threshold A above, the Project would not obstruct views of the Sycamore Canyon Wilderness Park and would not obstruct views of the Box Springs Mountain due to the distance of this scenic resource and the higher elevations of these mountains compared to the Project site.

As outlined above in the analysis for Threshold A above, the site has evidence of previous earthwork or grading as identified in observation of the current surface topography as well as review of previous aerial photographs. Aerial photography indicates that the site was utilized for construction staging operations and grading in 2005 to 2006 for the realignment of Sycamore Canyon Boulevard. Therefore, the Project site is not a vista itself that would be altered (i.e., development on a scenic hillside) by the proposed Project.

The only trees located at the Project site are associated with a drainage course that extends across the southwest corner of the site, in a northwest direction, from a culvert that extends under Central Avenue. The drainage course contains riparian willow forest vegetation. This drainage course and associated riparian willow forest vegetation and trees are being preserved in place and will not be impacted by the proposed Project.

There are no existing rock outcroppings within the previously disturbed portions of the site that will developed with the proposed Project. There is a rock outcropping located along the western edge of the property, as shown in Figure 3.0-3E, Photo 7. This rock outcropping is partially located within the Project property line and largely located in the adjacent property, the City's Quail Run Open Space Park. Within the Project property line this area will not be graded or disturbed but left in place and preserved. The Project site does not include any existing development, including historic buildings.

The Project site is not located near a State designated or eligible scenic highway or near a City designated scenic or special boulevard. The existing trees in the drainage course and the existing rock outcrop, located in the southwest and western portion of the site, respectively, will be left in place and not impacted by the Project. There are no historic buildings that would be impacted by the proposed Project. Therefore, the proposed Project would result in **less than significant** impacts on scenic resources.

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

Development of the Project will change the visual characteristic from a vacant property into a residential land use area by including seven multi-story buildings and associated amenities and infrastructure. The Project is currently vacant and has been heavily disturbed from past grading and construction staging activities and has low visual quality. The Project site is in an urbanized area with existing residential and multi-use residential areas south of Central Avenue and west of the Quail Run Open Space Park and adjacent to the SR-60/I-215 freeway. The Project is currently designated and zoned for commercial use, but the proposed Project will change the General Plan land use designation to VHDR and the zoning to R-4 – Multiple-Family Residential Zone. Both of these uses are compatible with the surrounding land uses and existing development. The Project design and landscaping will comply with City's Design Guidelines and the Zoning Code and would not substantially degrade the existing visual character of the area. As outlined above in the analysis for Threshold A above, the proposed Project would not result in a significant change in the viewshed from what currently exists in the Project area and the proposed Project's structures will not have a substantial adverse effect on an existing scenic vista or publicly-accessible vantage point. Therefore, impacts to the applicable zoning and other regulations governing scenic quality would be **less than significant**.

Threshold D: *Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

The Project would introduce new lighting and glare to the area. The addition of residential property would generate vehicle use and associated light and glare, along the street and security lights, and light emitted from buildings and signage. However, the Project would be required to follow the performance standards in the City's Zoning Code that regulate lighting to avoid light and glare impacts, including those that prevent light spillage onto the surrounding properties.

Site illumination serves multiple functions. It enhances visibility and safety along roadways and other public spaces for vehicles, bicyclists, and pedestrians. It can also emphasize pathways, signage, focal points, gathering places, and building entrances. Implementation of the Project will create new light sources from interior and exterior illumination associated with the residential and parking components of the development. If these light sources create substantial increases in ambient light levels and/or new sources of glare from direct or reflected visual exposure to the light source, then the Project could have a significant impact related to light or glare.

Although the Project site itself is undeveloped and does not produce on-site sources of light or glare, it is within an urbanized area with an existing mix of uses that contribute to current light and glare levels. The primary sources of light and glare in the vicinity of the Project site are those associated with vehicles traveling on Sycamore Canyon Boulevard, Central Avenue, and SR-60/I-215, those generated by building-mounted lighting on existing residential, commercial, and institutional structures, and the street lighting from the Sycamore Canyon Boulevard and Central Avenue interchange and along Central Avenue.

The Project will introduce new sources of light from fixtures installed on pedestrian walkways, buildings, and in parking areas; the headlights of cars entering and leaving the site at night, the lighted signs, and building windows that emit light at night will also form new sources on the site. The Project will create new sources of light, particularly in the evening hours when interior lights would be on inside buildings.

The proposed Project's exterior lighting from the residential units or from the parking area will meet the City's Zoning Code requirements for support structure height, intensity, flickering/ flashing, placement, shielding, orientation, and style. The City will require an exterior lighting plan as a condition of project approval (City of Riverside Zoning Code, Chapter 19.566). The exterior facades of the Project's structures will feature muted, earth-toned colors and non-reflective materials, reducing their capacity to reflect light. Overall levels of light generated by the new buildings and passing cars would be comparable to typical light levels in an urban environment and the surrounding areas. Additionally, the Project shall be designed to prevent light spillage from the Project to the adjacent open space, to be confirmed with review and approval of a Photometric Plan by the City's Community & Economic Development Department, as outlined in **MM AES-1**.

New sources of glare will include windows of buildings and the metallic features and windows of parked cars, which could reflect sunlight during certain times of the day. The proposed residential buildings will be designed with a variety of recessed and canopied windows that will reduce the potential for reflected incident light or glare. Again, overall levels of glare generated by the new buildings and cars will be comparable to expected levels of glare in an urban environment.

The proposed landscape design, including trees, will reduce the effects of light and glare on the Project site and on the area surrounding the Project site. The trees would moderate glare and light generated from the Project. The Project will comply with the City's Zoning Code requirements for lighting that supports safety in the project without excessive spillage to adjacent uses. Further, as mentioned in Section 5.3 Biological Resources, the MSHCP urban/wildlands interface guidelines would be implemented to help reduce potential indirect effects to wildlife. The Project will not result in a substantial new source of light or glare and impacts with regard to daytime or nighttime views in the vicinity of the project site will be **less than significant with implementation of MM AES-1**.

5.1.6 Proposed Mitigation Measures

MM AES-1: Prior to the issuance of building permits, the applicant shall submit a photometric (lighting) plan for approval by the Community & Economic Development Department, Planning Division. The approved light design requirements shall be included on the final building plan sheets. The lighting plan shall incorporate the following requirements:

- The project shall be designed in such a manner as to prevent light spillage from the project to the adjacent and nearby open space areas
- Project lighting shall not exceed an intensity of one foot-candle
- Shielding shall be employed, where feasible
- Any night lighting shall be directed away from natural open space areas and directed downward and towards the center of the development
- No project lights shall blink, flash, oscillate, or be of unusually high intensity or brightness
- Energy-efficient LPS or HPS lamps shall be used exclusively throughout the project site to dampen glare
- Exterior lights shall be only "warm" LED lights (<3000K color temperature).

5.1.7 Cumulative Environmental Effects

Cumulative development in the City and the surrounding area would modify the visual characteristic of the surrounding area through the development of vacant lots or through redevelopment. The planned and pending projects in the Project vicinity, listed in Table 4.0-1 include about 22 projects consisting of residential, retail, warehouse, office, institutional, hotel, gas station, fast food restaurants, a church, health/fitness club, and carwash. Those in the immediate vicinity of the Project include a currently undeveloped but recently approved drive thru restaurant and convenient store/ gas station to the east, across Sycamore Canyon Boulevard. Cumulatively the Project does not have a substantial adverse effect on a scenic vista or resource, substantially degrade the existing visual character of the area, or create a substantial new source of light or glare, when considered with other cumulative projects.

Similar to the Project, visual quality impacts associated with other cumulative projects would be addressed on a case-by-case basis in order to determine their consistency with applicable plans and policies. Potential cumulative aesthetics impacts were found to be **less than significant with implementation of mitigation measure MM AES-1**.

5.1.8 References

The following references were used in the preparation of this section of the DEIR:

CDG	City of Riverside, Citywide Design Guidelines and Sign Guidelines, adopted November 2007
Caltrans	California Department of Transportation (Caltrans). 2011. "Riverside County." California Scenic Highway Mapping System. http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/ (Accessed September 2018).
Riverside Downtown Partnership 2017	Riverside Downtown Partnership. 2017. "Downtown Riverside Historic Walking Guide." Riverside, CA. December 2017. http://www.riversidedowntown.org/wp-content/uploads/2018/06/Downtown-Riverside-Historic-Walking-Guide-.pdf
GP 2025	City of Riverside General Plan 2025. Riverside, CA. November 2007.
GP 2025 FPEIR	City of Riverside General Plan 2025 PEIR – Volume 2: 5.1, Aesthetics

5.2 Air Quality

This section analyzes the effects of the Project on Air Quality. Based upon the analysis in the Initial Study/Notice of Preparation (IS/NOP) prepared for this Project (Appendix A), all thresholds related to Air Quality will be analyzed below. The analysis in this section is based on data and information in the *Crestview Apartments Air Quality Impact Analysis* (September 2020, Appendix B), the *Crestview Apartments Air Toxic and Criteria Pollutant Health Risk Assessment* (July 2020, Appendix B), and the *Crestview Apartments Focused Traffic Analysis* (Appendix I). Additionally, the discussion and analysis contained herein is informed by comments received during the NOP of the EIR public review period (Appendix A).

5.2.1 Setting

South Coast Air Basin

The Project site is located in the South Coast Air Basin (Basin) within the jurisdiction of South Coast Air Quality Management District (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. As previously stated, the Project site is located within the Basin, a 6,745-square mile subregion of the SCAQMD, which includes portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County.

The Basin 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 Basin borders the Mojave Desert Air Basin to the north, the Mojave Desert and Salton Sea Air Basins to the east, and the San Diego Air Basin to the south.

Existing Air Quality

Existing air quality is measured at established SCAQMD air quality monitoring stations. Monitored air quality is evaluated in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) currently in effect are shown in Table 5.2-1.

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. At the time of preparation of the Project's *Air Quality Impact Analysis*, the most recent State and Federal standards were updated by CARB on May 4, 2016 and are presented in Table 5.2-1. The air quality in a region is considered to be in attainment by the State if the measured ambient air pollutant levels for ozone (O_3), carbon monoxide (CO; except 8-hour Lake Tahoe), sulfur dioxide (SO_2; 1 and 24 hour), nitrogen dioxide (NO_2), respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) are not to be exceeded. All others are not to be equaled or exceeded. Attainment status for a pollutant means that the Air District meets the standards set by the EPA

or the California EPA (CalEPA). Conversely, nonattainment means that an area has monitored air quality that does not meet the NAAQS or CAAQS standards. In order to improve air quality in nonattainment areas, a State Implementation Plan (SIP) is drafted. The SIP outlines the measures that the State will take to improve air quality. Once nonattainment areas meet the standards and additional re-designation requirements, the EPA will designate the area as a maintenance area.

Table 5.2-1 – Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[5]	Secondary[6]	Method[7]
O_3 [8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	--	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
PM_{10} [9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		--		
$PM_{2.5}$ [9]	24 Hour	--	--	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
CO	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	--	NDIR
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	--	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		--	--	
NO_2 [10]	1 Hour	18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	--	Gas Phase Chemilumin-escence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
SO_2 [11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	--	Ultraviolet Fluorescence; Spectrophoto-metry (Pararosaniline Method)
	3 Hour	--		--	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	--	
	Annual Arithmetic Mean	--		0.030 ppm (for certain areas)[11]	--	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	--	--	High Volume Sampler and Atomic Absorption
	Calendar Quarter	--		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	

	Rolling 3-Month Average	--		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (25 µg/m^3)	Gas Chromatography			

ppm = parts per billion.
µg/m^3 = Microgram per Cubic Meter
-- = not applicable
[1] California standards for O_3, CO (except for 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, and PM_{10}, $PM_{2.5}$ and visibility reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
[2] National standards (other than O_3, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
[4] Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.
[5] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
[6] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
[7] Reference method as described by the U.S. EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the U.S. EPA.
[8] On October 1, 2015, the national 8-hour O_3 primary and secondary standards were lowered from 0.075 to 0.070 ppm.
[9] On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard 15 µg/m^3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over three (3) years.
[10] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 10hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
[11] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated for nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[12] The CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
[13] The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 μ g/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
[14] In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Regional Air Quality

Air pollution contributes to a wide variety of adverse health effects. The U.S. Environmental Protection Agency (US EPA) has established NAAQS for six of the most common air pollutants: CO, lead (Pb), O_3, PM, NO_2, and SO_2, which are known as criteria pollutants. The SCAQMD monitors levels of various criteria pollutants at 37 permanent monitoring stations and five (5) single-pollutant source Pb air monitoring sites throughout the air district. On February 21, 2019, CARB posted the 2018 amendments to the State and national area designations. See Table 5.2-2 for attainment designations for the Basin.

Table 5.2-2 – Basin Attainment Designations

Criteria Pollutant	State Designation	Federal Designation
O_3 – 1-hour standard	Nonattainment	--
O_3 – 8-hour standard	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Unclassifiable/Attainment
NO_2	Attainment	Unclassifiable/Attainment
SO_2	Unclassifiable/Attainment	Unclassifiable/Attainment
Pb[15]	Attainment	Unclassifiable/Attainment

Note: See Appendix 2.1 of the Air Quality Report for a detailed map of State/National Area Designations within the Basin.
"--" = The national 1-hour O_3 standard was revoked effective June 15, 2005.
[15] The Federal nonattainment designation for lead is only applicable towards the Los Angeles County portion of the Basin.

Local Air Quality

The Project site is located within the Source Receptor Area (SRA) 23. Within SRA 23, the SCAQMD Metropolitan Riverside County 1 monitoring station is located 6.45 miles northwest of the Project site and is the nearest long-term air quality monitoring site for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$.

The most recent three (3) years of data available is shown on Table 5.2-3 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. Data for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ for 2017 through 2019 was obtained from the SCAQMD Air Quality Data Tables. Additionally, data for SO_2 has been omitted as attainment is regularly met in the Basin and few monitoring stations measure SO_2 concentrations. It should be noted that the three-year period is

presented for informational purposes and is not the basis for how the State assigns attainment status.

Table 5.2-3 – Project Area Air Quality Monitoring Summary 2017-2019

Pollutant	Standard	Year		
		2017	2018	2019
O_3				
Maximum Federal 1-Hour Concentration (ppm)		0.145	0.123	0.123
Maximum Federal 8-Hour Concentration (ppm)		0.118	0.101	0.096
Number of Days Exceeding Federal 1-Hour Standard	>0.07 ppm[16]	2	0	0
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	47	22	24
Number of Days Exceeding Federal/State 8-Hour Standard	> 0.070 ppm	81	53	59
CO				
Maximum Federal 1-Hour Concentration	> 35 ppm	1.9	2.2	1.5
Maximum Federal 8-Hour Concentration	> 20 ppm	1.7	2.0	1.2
NO_2				
Maximum Federal 1-Hour Concentration	> 0.100 ppm	0.063	0.055	0.056
Annual Federal Standard Design Value		0.015	0.014	0.014
PM_{10}				
Maximum Federal 24-Hour Concentration (µg/m^3)	> 150 µg/m^3	138	126	99
Annual Federal Arithmetic Mean (µg/m^3)		41.6	44.0	34.4
Number of Days Exceeding Federal 24-Hour Standard	> 150 µg/m^3	0	0	0
Number of Days Exceeding State 24-Hour Standard	> 50 µg/m^3	103	132	21
$PM_{2.5}$				
Maximum Federal 24-Hour Concentration (µg/m^3)	> 35 µg/m^3	50.3	50.70	46.70
Annual Federal Arithmetic Mean (µg/m^3)	> 12 µg/m^3	12.18	12.41	11.13
Number of Days Exceeding Federal 24-Hour Standard	> 35 µg/m^3	6	2	4

µg/m^3 = Microgram per Cubic Meter
Source: Data for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ was obtained from SCAQMD Air Quality Data Tables.
[16] The SCAQMD 2017-2019 Air Quality Date Tables presents the Number of Days Exceeding the Federal 1-Hour Standard based on the Old Federal Standard of >0.124 ppm.

Air Quality Standards

The US EPA has set primary NAAQS forO_3 CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and Pb. Primary standards are those levels of air quality deemed necessary, with an adequate margin of safety, to protect public health. In addition, California has established health-based ambient air quality standards (CAAQS) for these and other pollutants, some of which are more stringent than Federal standards. Table 5.2-4 lists the current Federal and State standards for regulated pollutants.

Table 5.2-4 – Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Primary Standards	California Standard
Ozone	1-Hour	--	0.09 ppm
	8-Hour	0.070 ppm	0.070 ppm
Carbon Monoxide	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
Nitrogen Dioxide	Annual	0.053 ppm	0.030 ppm
	1-Hour	0.100 ppm	0.18 ppm
Sulfur Dioxide	Annual	--	--
	24-Hour	--	0.04 ppm
	1-Hour	0.075 ppm	0.25 ppm
PM_{10}	Annual	--	20 µg/m^3
	24-Hour	150 µg/m^3	50 µg/m^3
$PM_{2.5}$	Annual	12 µg/m^3	12 µg/m^3
	24-Hour	35 µg/m^3	--
Lead	30-Day Average	--	1.5 µg/m^3
	3-Month Average	0.15 µg/m^3	--

ppm = parts per million
µg/m^3 = micrograms per cubic meter
Source: CARB 2016a

Criteria Pollutants

Criteria pollutants are pollutants that are regulated through the development of human health based and/or environmentally based criteria for setting permissible levels. Criteria pollutants, their typical sources, and health effects are identified in Table 5.2-5 below:

Table 5.2-5 – Criteria Pollutants

Criteria Pollutant	Description	Sources	Health Effects
CO	CO is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike ozone, motor vehicles operating at slow speeds are the primary source of CO in the Basin. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating.	Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of decreased oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs but exerts its effect on tissues by interfering with oxygen transport and competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (oxygen deficiency) as seen at high altitudes.
SO_2	SO_2 is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms sulfates (SO_4). Collectively, these pollutants are referred to as sulfur oxides (SO_X)	Coal or oil burning power plants and industries, refineries, diesel engines	A few minutes of exposure to low levels of SO_2 can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2.

			Animal studies suggest that despite SO_2 being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO_2 levels. In these studies, efforts to separate the effects of SO_2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically, or one pollutant alone is the predominant factor.
NO_X	NO_X consist of nitric oxide (NO), nitrogen dioxide (NO_2) and nitrous oxide (N_2O) and are formed when nitrogen (N_2) combines with oxygen (O_2). Their lifespan in the atmosphere ranges from one to seven days for nitric oxide and nitrogen dioxide, to 170 years for nitrous oxide. NO_X are typically created during combustion processes and are major contributors to smog formation and acid deposition. NO_2 is a criteria air pollutant and may result in numerous adverse health effects; it absorbs blue light, resulting in a brownish-red cast to the atmosphere and reduced visibility. Of the seven types of nitrogen oxide compounds, NO_2 is the most abundant in the atmosphere. As ambient concentrations of NO_2 are	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating.	Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposure to NO_2 at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater

	related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of NO_2 than those indicated by regional monitoring station.		susceptibility of these sub-groups. In animals, exposure to levels of NO_2 considerably higher than ambient concentrations result in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of ozone and NO_2.
O_3	O_3 is a highly reactive and unstable gas that is formed when VOCs and NO_X, both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.	Formed when reactive organic gases (ROG) and NO_X react in the presence of sunlight. ROG sources include any source that burns fuels, (e.g., gasoline, natural gas, wood, oil) solvents, petroleum processing and storage and pesticides.	Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible sub-groups for ozone effects. Short-term exposure (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated ozone levels are associated with increased school absences. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple outdoor sports and live in communities with high ozone levels.

			Ozone exposure under exercising conditions is known to increase the severity of the responses described above. Animal studies suggest that exposure to a combination of pollutants that includes ozone may be more toxic than exposure to ozone alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.
Particulate Matter	PM_{10} (Particulate Matter less than 10 microns): A major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. Particulate matter pollution is a major cause of reduce visibility (haze) which is caused by the scattering of light and consequently the significant reduction air clarity. The size of the particles (10 microns or smaller, about 0.0004 inches or less) allows them to easily enter the lungs where they may be deposited, resulting in adverse health effects. Additionally, it should be noted that PM_{10} is considered a criteria air pollutant. $PM_{2.5}$ (Particulate Matter less than 2.5 microns): A similar air pollutant to PM_{10} consisting of tiny solid or liquid particles which are 2.5 microns or smaller (which is often referred to as fine particles). These particles are formed in the atmosphere from primary gaseous emissions that include sulfates formed from SO_2 release from power plants and industrial facilities and nitrates	Sources of PM_{10} include road dust, windblown dust and construction. Also formed from other pollutants (acid rain, NO_X, SO_X, organics). Incomplete combustion of any fuel. $PM_{2.5}$ comes from fuel combustion in motor vehicles, equipment and industrial sources, residential and agricultural burning. Also formed from reaction of other pollutants (acid rain, NO_X, SO_X, organics).	A consistent correlation between elevated ambient fine particulate matter (PM_{10} and $PM_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in lifespan, and an increased mortality from lung cancer. Daily fluctuations in $PM_{2.5}$ concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children, and to increased medication use in children

	that are formed from NO_X release from power plants, automobiles and other types of combustion sources. The chemical composition of fine particles highly depends on location, time of year, and weather conditions. $PM_{2.5}$ is a criteria air pollutant.		and adults with asthma. Recent studies show lung function growth in children is reduced with long term exposure to particulate matter. The elderly, people with pre-existing respiratory or cardiovascular disease, and children appear to be more susceptible to the effects of high levels of PM_{10} and $PM_{2.5}$.
Volatile Organic Compounds (VOC)	VOCs are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form ozone to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The terms VOC and ROG (see below) interchangeably.	Organic chemicals are widely used as ingredients in household products. Paints, varnishes and wax all contain organic solvents, as do many cleaning, disinfecting, cosmetic, degreasing and hobby products. Fuels are made up of organic chemicals. All of these products can release organic compounds while you are using them, and, to some degree, when they are stored.	Breathing VOCs can irritate the eyes, nose and throat, can cause difficulty breathing and nausea, and can damage the central nervous system as well as other organs. Some VOCs can cause cancer. Not all VOCs have all these health effects, though many have several.
ROG	Similar to VOC, ROGs are also precursors in forming ozone and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition	Sources similar to VOCs.	Health effects similar to VOCs.

	process. Smog is formed when ROG and NO_X react in the presence of sunlight. ROGs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The terms ROG and VOC (see previous) are used interchangeably.		
Lead (Pb)	Lead is a heavy metal that is highly persistent in the environment and is considered a criteria pollutant. In the past, the primary source of lead in the air was emissions from vehicles burning leaded gasoline. The major sources of lead emissions are ore and metals processing, particularly lead smelters, and piston-engine aircraft operating on leaded aviation gasoline. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers. It should be noted that the Project does not include operational activities such as metal processing or lead acid battery manufacturing. As such, the Project is not anticipated to generate a quantifiable amount of lead emissions.	Metal smelters, resource recovery, leaded gasoline, deterioration of lead paint.	Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased Pb levels are associated with increased blood pressure. Pb poisoning can cause anemia, lethargy, seizures, and death; although it appears that there are no direct effects of Pb on the respiratory system. Pb can be stored in the bone from early age environmental exposure, and elevated blood Pb levels can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland) and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of Pb because of previous environmental Pb exposure of their mothers.
Odor	Odor means the perception experienced by a person when one or more chemical substances in the air come into contact with the human olfactory nerves.	Odors can come from many sources including animals, human activities, industry, natures, and vehicles.	Offensive odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose, and throat, which can reduce respiratory volume.

			Second, studies have shown that the VOCs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress.

Toxic Air Contaminants

The California Health and Safety Code defines a toxic air contaminant (TAC) as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines. According to CARB, diesel engine emissions are believed to be responsible for about 70 percent of California's estimated known cancer risk attributable to TACs and they make up about eight (8) percent of outdoor $PM_{2.5}$.

Sensitive Receptors

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, individuals with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather to exercise are defined as "sensitive receptors". These structures typically include residences, hotels, hospitals, etc. as they are also known to be locations where an individual can remain for 24 hours. Consistent with the *Localized Significance Threshold (LST) Methodology*, the nearest land use where an individual could remain for 24 hours to the Project site (in this case the nearest residential land use) has been used to determine construction and operational air quality impacts for emissions of PM_{10} and $PM_{2.5}$, since PM_{10} and $PM_{2.5}$ thresholds are based on a 24 hour averaging time.

Sensitive receptors in the vicinity of the Project site are illustrated in Figure 5.2-1. Localized air quality impacts were evaluated at receptor land uses closest to the Project site. All distances are measured in a straight line from the Project limits of construction to the parcel boundary or property line of the nearest receiver locations. The closest sensitive receptors or receiver locations are as follows:

R1: Location R1 represents the existing residence north of Gernet Road, approximately 623 feet northwest of the Project site.

R2: Location R2 represents the existing residence at 20098 Harvard Way, approximately 519 feet south of the Project site.

R3: Location R3 represents the existing residence at 5240 Lochmoor Drive, approximately 448 feet southwest of the Project site.

R4: Location R4 represents the Stone Hill Apartments at 5100 Quail Run Road, approximately 981 feet west of the Project site.

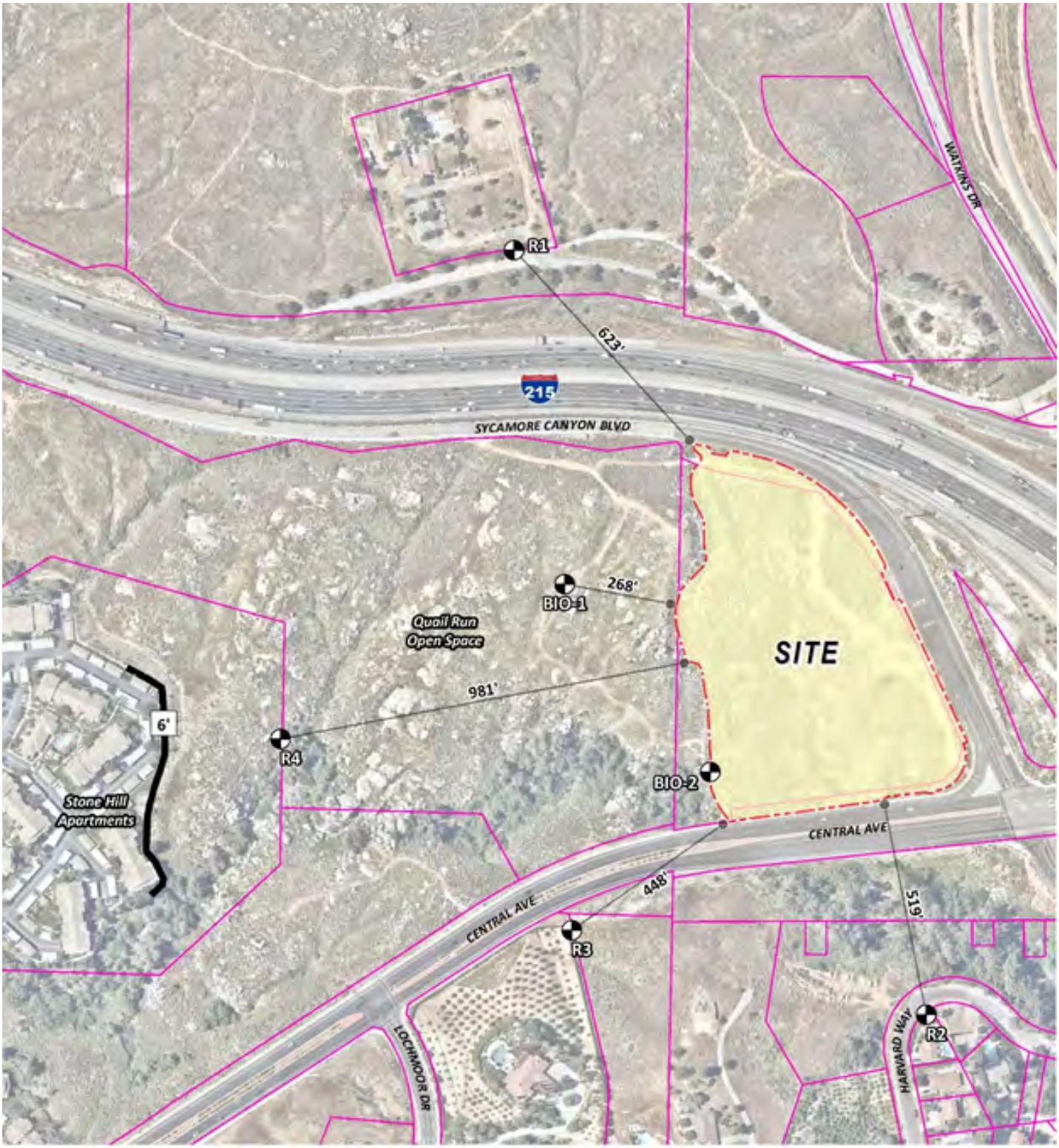
R5: Location R5 represents the approved commercial uses at the northeast corner of Central Avenue and Sycamore Canyon Boulevard, 91 feet east of the Project Site.

BIO-1: Location BIO-1 represents the middle of the existing Quail Run Open Space, approximately 268 feet west of the Project site.

BIO-2: Location BIO-2 represents the limits of construction in the southwest corner of the site.

The Project's *Air Quality Impact Analysis* analyzed localized construction and operational emissions impacts at the nearest sensitive receptors. The nearest receptor where an individual can stay for a 24-hour period is represented by location R3. Location R3 is roughly 448 feet/ 137 meters southwest of the Project site. The 149-meter distance was used to evaluate construction and operational air quality impacts for emissions of PM_{10} and $PM_{2.5}$.

Consistent with LST Methodology, the nearest industrial/commercial use to the Project site is used to determine construction and operational LST air impacts for emissions of NO_X and CO as the averaging periods for these pollutants are shorter (8 hours or less) and it is reasonable to assumed that an individual could be present at these sites for periods of one to 8 hours. Thus, the nearest receptor used for evaluation of localized impacts of NO_X and CO is represented by location R5, located 91 feet/28 meters east from the Project site.



CRESTVIEW APARTMENTS

RVA URBAN CROSSROADS

Sensitive Receptor Locations Figure 5.2-1

5.2.2 Related Regulations

5.2.2.1 Federal Regulations

The EPA is responsible for setting and enforcing the NAAQS for O_3, CO, NO_X, SO_2, PM_{10}, and Pb. The EPA has jurisdiction over emissions sources that are under the authority of the Federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of the CARB.

Federal Clean Air Act

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 SIPs for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the Project site include Title I (Nonattainment Provisions) and Title II (Mobile Source Provisions). Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants O_3, NO_2, SO_2, PM_{10}, CO, $PM_{2.5}$, and Pb. The NAAQS were amended in July 1997 to include an additional standard for O_3 and to adopt a NAAQS for $PM_{2.5}$. Table 5.2-2 (above) 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 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.

National Ambient Air Quality Standards

The Federal CAA requires the EPA to establish primary and secondary NAAQS for a number of criteria air pollutants. The air pollutants for which standards have been established are considered the most prevalent air pollutants known to be hazardous to human health. NAAQS have been established for O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and Pb.

5.2.2.2 State Regulations

California Air Resources Board

The California Air Resources Board (CARB), which became part of the CalEPA 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. AB 2595 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 Basin 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 stationary sources such as commercial and industrial facilities. All air pollution control districts have been formally designated as attainment or nonattainment for each CAAQS.

Serious nonattainment areas are required to prepare air quality management plans (AQMPS) that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of the 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.

California Clean Air Act

The California CAA, signed into law in 1988, requires all areas of the State to achieve and maintain the CAAQS by the earliest practical date. CARB is the State air pollution control agency and is a part of CalEPA. CARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California, and for implementing the requirements of the California CAA. CARB overseas local district compliance with Federal and California laws,

approves local air quality plans, submits the state implementation plans to the USEPA, monitors air quality, determines and updates area designations and maps, and sets emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

California Ambient Air Quality Standards

The California CAA requires CARB to establish CAAQS. Similar to the NAAQS, CAAQS have been established for ozone, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, Pb, vinyl chloride, hydrogen sulfide, sulfates, and visibility-reducing particulates. In most cases, the CAAQS are more stringent than the NAAQS. The California CAA requires all local air districts to endeavor to achieve and maintain the CAAQS by the earliest practical date. The California CAA specifies that local air districts should focus particular attention on reducing the emissions from transportation and area-wide emission sources and provides districts with the authority to regulate indirect sources.

Title 24 Energy Efficiency Standards and California Green Building Standards

California Code of Regulations (CCR) Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas (GHG) emissions. The 2019 version of Title 24 was adopted by the California Energy Commission (CEC) and became effective on January 1, 2020. It should be noted that the analysis herein assumes compliance with the 2019 Title 24 Standards.

The CEC indicates that the 2019 Title 24 standards will require solar photovoltaic systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, update indoor and outdoor lighting for nonresidential buildings. The CEC anticipates that single-family homes built with the 2019 standards will use approximately seven (7) percent less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar photovoltaic systems, homes built under the 2019 standards will about 53 percent less energy than homes built under the 2016 standards. Nonresidential buildings will use approximately 30 percent less energy due to lighting upgrades.

CCR Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on January 1, 2011, and is administered by the California Building Standards Commission. CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2019 California Green Building Code Standards that became effective January 1, 2020. Local jurisdictions are permitted to adopt more stringent requirements, as State law provides methods for local enhancements. CALGreen recognizes that many jurisdictions have developed existing construction and demolition ordinances and defers to them as the ruling guidance provided, they establish a minimum 65 percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. The State Building Code

provides the minimum standard that buildings must meet in order to be certified for occupancy, which is generally enforced by the local building official. 2019 CALGreen standards are applicable to the Project and require:

- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- Designated parking. In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1. 5.405.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Excavated soil and land clearing debris. 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phase project, such material may be stockpiled on site until the storage site is developed (5.408.3).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (5.410.1).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
    - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1)
    - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).
    - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). When a shower is served by more than one showerhead, the combine flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).

  - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of note more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (5.303.3.4.5).

- Outdoor potable water use in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient (MWELO), whichever is more stringent (5.304.1).
- Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 sf or for excess consumption where any tenant within a new building or within an addition that is project to consume more than 1,000 gal/day (5.303.1.1 and 5.303.1.2).
- Outdoor water use in rehabilitated landscape projects equal or greater than 2,500 sf. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf requiring a building or landscape permit (5.304.3).
- Commissioning. For new buildings 10,000 sf and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (5.410.2).

Assembly Bill 1493

Assembly Bill (AB) 1493 (2002), California's Advanced Clean Cars program (Pavley), requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, USEPA granted the waiver of CAA preemption to California for its GHG standards for motor vehicles beginning with the 2009 model year. Pavley I took effect for model years starting in 2009 to 2016 and Pavley II, which is now referred to as "LEV (Low Emission Vehicle) III GHG" will cover 2017 to 2025. Fleet average emission standards would reach 22 percent reduction from 2009 levels by 2012 and 30 percent by 2016. The Advanced Clean Cars program coordinates the goals of the LEV, Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs and would provide major reductions in GHG emissions. By 2025, when the rules will be fully implemented, new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels.

5.2.2.3 Regional Regulations

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is a regional planning agency that serves as a forum for regional issues relating to transportation, economics, community

development, and environmental issues. SCAG is not an air quality management agency, but it is responsible for development transportation, land use, and energy conservation measures that impact air quality. SCAG's Regional Comprehensive Plan and Guide provide growth forecasts used by SCAQMD to develop air quality and land use strategies. SCAG is charged with developing and implementing Senate Bill 375, a measure that addresses greenhouse gas reduction in the State, with participation from Riverside County and the other cities and counties that make up SCAG.

South Coast Air Quality Management District Air Quality Management Plan

The SCAQMD is required to prepare a plan for air quality improvement for pollutants for which the District is in non-compliance. The District's Air Quality Management Plan (AQMP) is updated every three years, and each update has a 20-year horizon. The 2016 AQMP was adopted on March 3, 2017 and incorporated new scientific data and notable regulatory actions that have come about since adoption of the 2012 AQMP, including the approval of the new Federal eight-hour ozone standard of 0.070 ppm that was finalized in 2015.

The 2016 AQMP addresses several Federal and State planning requirements and incorporates new scientific information, primarily in the form of updated emissions inventories, ambient measurements, and updated meteorological air quality models (SCAQMD 2017). The 2017 AQMP builds upon the approaches taken in the 2012 AQMP for the attainment of Federal particulate matter and ozone standards and highlights the significant reductions to be achieved. It emphasizes the need for interagency planning to identify strategies to achieve reductions within the timeframes allowed under the Federal CAA, especially in the area of mobile sources. The 2016 AQMP also includes a discussion of emerging issues and opportunities, such as fugitive toxic particulate emissions, zero-emission mobile source control strategies, and the interacting dynamics among climate, energy, and air pollution. The Plan includes attainment demonstrations of the new Federal eight-hour ozone standard and vehicle miles travelled emissions offsets, according to recent USEPA requirements.

Air Quality Management Planning

The Project site is located within the Basin, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743 square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what use 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, 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 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.

In March 2017, the Air Quality Management District (AQMD) released the Final 2016 AQMP. The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the NAAQS, as well as explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the Federal, State, and local levels. Similar to the 2012 AQMP, the 2016 AQMP incorporates scientific and technological information and planning assumptions, including the 2016 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS), a planning document that supports the integration of land use and transportation to help the region meet the Federal CAA requirements. The Project's consistency with the AQMP will be determined using the 2016 AQMP as discussed in Section 5.2.5 of this EIR. Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the SCAQMD's CEQA Air Quality Handbook (1993)

5.2.2.4 Local Regulations

City of Riverside General Plan 2025

The City of Riverside recognizes the importance of air quality to public health and safety, as well as its contribution to the City's economic well-being and image in the region. The City, therefore, included an Air Quality Element in its General Plan 2025 to address public health and welfare. The element identifies the role the City can play in achieving Federal and State air quality standards. A number of objectives and policies aim at reducing pollutant emissions, ensuring compliance with air quality standards, and protecting sensitive receptors from unnecessary exposure to TACs. Air Quality Element Objectives and Policies relevant to the Project include the following:

Objective AQ-1: Adopt land use policies that site polluting facilities away from sensitive receptors and vice versa; improve job-housing balance; reduce vehicle miles traveled and length of work trips; and improve the flow of traffic.

> **Policy AQ-1.3:** Separate, buffer and protect sensitive receptors from significant sources of pollution to the greatest extent possible.
>
> **Policy AQ-1.5:** Encourage infill development projects within urbanized areas, which include job centers and transportation nodes.
>
> **Policy AQ-1.6:** Provide a mechanism to create opportunities for mixed-use development that allows the integration of retail, office, institutional and residential uses for the purpose of reducing costs of infrastructure construction and maximizing the use of land.
>
> **Policy AQ-1.7:** Support appropriate planned residential developments and infill housing, which reduce vehicle trips.
>
> **Policy AQ-1.12:** Support mixed-use land use patterns but avoid placing residential and other sensitive receptors in close proximity to businesses that emit toxic air contaminants to the greatest extent possible. Encourage community centers that promote community self-sufficiency and containment and discourage automobile dependency.

Policy AQ-1.16: Design safe and efficient vehicular access to commercial land uses from arterial streets to ensure efficient vehicular ingress and egress.

Policy AQ-1.18: New residential subdivisions shall be designed to encourage "walkable" neighborhoods with pedestrian walkways and bicycle paths to facilitate pedestrian travel.

Policy AQ-1.19: Require future commercial areas to foster pedestrian circulation through the land use entitlement process and/or business regulation.

Objective AQ-2: Reduce air pollution by reducing emissions from mobile sources.

Policy AQ-2.17: Encourage, and to the extent possible, require through the land use entitlement or business regulation process, business owners to schedule deliveries at off-peak traffic periods.

Policy AQ-2.22: Monitor traffic and congestion to determine when and where the City needs new transportation facilities to achieve increased mobility efficiency.

Policy AQ-2.25: Support the development of alternative fuel infrastructure that is publicly accessible.

Objective AQ-3: Prevent and reduce pollution from stationary sources, including point sources (such as power plants and refinery boilers) and area sources (including small emission sources such as residential water heaters and architectural coatings).

Policy AQ-3.3: Support SCAQMD's efforts to require stationary air pollution sources, such as gasoline stations, restaurants with charbroilers and deep fat fryers, to comply with or exceed applicable SCAQMD rules and control measures.

Policy AQ-3.4: Require projects to mitigate, to the extent feasible, anticipated emissions which exceed AQMP Guidelines.

Policy AQ-3.5: Consider ordinances and/or voluntary incentive programs that encourage residential builders to go above and beyond State codes to conserve energy and reduce air pollution.

Policy AQ-3.6: Support "green" building codes that require air conditioning/filtration installation, upgrades or improvements for all buildings, but particularly for those associated with sensitive receptors.

Objective AQ-4: Reduce particulate matter, as defined by the Environmental Protection Agency, as either airborne photochemical precipitates or windborne dust.

Policy AQ-4.1: Identify and monitor sources, enforce existing regulations and promote stronger controls to reduce particulate matter (e.g., require clean fuels for street sweepers and trash trucks, exceed the AQMD requirements for fleet rules).

Policy AQ-4.2: Reduce particulate matter from agriculture (e.g., require use of clean non-diesel equipment and particulate traps), construction, demolition, debris hauling, street

cleaning, utility maintenance, railroad rights-of-way and off-road vehicles to the extent possible, as provided in SCAQMD Rule 403.

Policy AQ-4.3: Support the reduction of all particulates potential sources.

Policy AQ-4.4: Support programs that reduce emissions from building materials and methods that generate excessive pollutants through incentives and/or regulations.

Policy AQ-4.5: Require the suspension of all grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour.

Objective AQ-7: Support a regional approach to improving air quality through multi-jurisdictional cooperation.

Policy AQ-7.9: Adhere with Federal, State and regional air quality laws, specifically with Government Code Section 65850.2, which requires that each owner or authorized agent of a project indicate, on the development or building permit for the project, whether he/she will need to comply with the requirements for a permit for construction or modification from the SCAQMD.

Policy AQ-7.10: Incorporate, to the extent applicable and permitted by law, current and proposed AQMP measures.

5.2.3 Project Design Considerations

The Project would adhere to applicable 2019 CALGreen building code standards as described in Section 5.2.1.2 above as they relate to reducing potential impacts to air quality.

5.2.4 Thresholds of Significance

The City has not established local CEQA significance thresholds as described in Section 15064.7 of the State CEQA Guidelines. The City generally utilizes the CEQA significance thresholds in Appendix G (“Environmental Checklist”) of the State CEQA Guidelines. The Environmental Checklist prepared by the City for the Project (see Appendix A of this document) indicates that impacts related to the Crestview Apartments Project may be considered potentially significant if the proposed project would:

- (Threshold A) conflict with or obstruct implementation of the applicable air quality plan;
- (Threshold B) result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable Federal or State ambient air quality standard;
- (Threshold C) expose sensitive receptors to substantial pollutant concentrations;
- (Threshold D) result in emissions (such as those leading to odors) adversely affecting a substantial number of people.

5.2.5 Environmental Impacts

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

The Project's consistency with the 2016 AQMP was determined using criteria defined in Chapter 12, Section 12.2 and Section 12.3 of the SCAQMD's CEQA Air Quality Handbook. These indicators are discussed below.

Consistency Criterion No. 1: The proposed project will not result in an increase in the frequency or severity or 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.

The violations that Consistency Criterion No. 1 refers to are the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded.

Regional Construction Emissions

Construction activities associated with the Project will result in emissions of VOCs, NO_x, SO_x, CO, PM_{10}, and $PM_{2.5}$. Construction-related emissions are expected from the following construction activities: site preparation (including blasting), crushing, grading, building construction, paving, and architectural coating.

Dust is typically a major concern during grading activities. Because such emissions are not amenable to collection and discharge through a controlled source, they are called "fugitive emissions". Fugitive dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). The California Emissions Estimator Model (CalEEMod) v2016.3.2 was utilized to calculate fugitive dust emissions resulting from this phase of activity. The Project is expected to require 20,000 cubic yards (CY) of import to be obtained from a warehouse construction site located approximately 10 miles from the Project site and 10,000 CY of export which would conservatively be hauled off-site at a distance of 50 miles.

Site specific construction fleet may vary due to specific project needs at the time of construction. The associated construction equipment was generally based on CalEEMod 2016.3.2 defaults. A detailed summary of construction equipment by phase is provided in Table 5.2-6.

Table 5.2-6 – Construction Equipment

Activity	Equipment	Amount	Hours Per Day
Site Preparation (Including Blasting)	Crawler Tractors	4	8
	Rubber Tired Dozers	3	8
Crushing	Generator Set	1	8
Grading	Crawler Tractors	3	8
	Excavators	1	8
	Graders	1	8
	Rubber Tired Dozers	1	8
Building Construction	Cranes	1	8
	Crawler Tractors	3	8
	Forklifts	3	8
	Generator Sets	1	8
	Welders	1	8
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8
Architectural Coating	Air Compressors	1	8

Source: In order to account for fugitive dust emissions associated with Site Preparation and Grading activities, Crawler Tractors were used in lieu of Tractors/Loaders/Backhoes.

CalEEMod calculates maximum daily emissions for summer and winter periods. The estimated maximum daily construction emissions without mitigation are summarized in Table 5.2-7. Detailed construction model outputs are presented in Appendix 3.1 of the Project's *Air Quality Impact Analysis* (Appendix B of this EIR). Emissions resulting from the Project construction will not exceed criteria pollutant thresholds established by the SCAQMD for emissions of any criteria pollutant.

Table 5.2-7 – Overall Construction Emissions Summary (without Mitigation)

Year	Emissions (lbs/day)					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Summer						
2021[16]	7.21	83.90	25.58	0.20	20.91	8.53
2022	3.69	32.92	24.49	0.07	3.57	1.81
2023	37.73	28.65	23.62	0.07	3.41	1.66
Winter						
2021[16]	7.21	84.34	24.35	0.20	20.91	8.53
2022	3.68	32.91	23.35	0.07	3.57	1.81
2023	37.73	28.63	22.54	0.07	5.27	1.66
Maximum Daily Emissions	**37.73**	**84.34**	**25.58**	**0.20**	**20.91**	**8.53**
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

[16] 2021 Emissions include emissions from Blasting activities
lbs/day = pounds per day
Source: CalEEMod construction-source (unmitigated) emissions are presented in Appendix 3.1 of the Project's Air Quality Impact Analysis.

Localized Construction Emissions

The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the NAAQS and CAAQS. Collectively, these are referred to as Localized Significance Thresholds (LSTs). 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. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses.

Table 5.2-8 provides the maximum daily localized emissions thresholds, and Table 5.2-9 identifies the localized impacts at the nearest receptor location in the vicinity of the Project. Localized construction emissions would not exceed the applicable SCAQMD LSTs for emissions of any criteria pollutant. Mitigation is not required as emissions do not exceed thresholds.

Table 5.2-8 – Maximum Daily Localized Emissions Thresholds

Pollutant	Construction	Operations
Localized Thresholds		
NO_x	224 lbs/day (Site Preparation including Blasting)	N/A
	122 lbs/day (Crushing)	
	120 lbs/day (Grading)	
CO	1,289 lbs/day (Site Preparation including Blasting)	N/A
	636 lbs/day (Crushing)	
	1,049 lbs/day (Grading)	
PM_{10}	62 lbs/day (Site Preparation including Blasting)	N/A
	44 lbs/day (Crushing)	
	55 lbs/day (Grading)	
$PM_{2.5}$	18 lbs/day (Site Preparation including Blasting)	N/A
	12 lbs/day (crushing)	
	16 lbs/day (Grading)	

Table 5.2-9 – Localized Significance Summary of Construction

On-Site Preparation Emissions	Emissions (lbs/day)			
	NO_x	CO	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions	60.79	21.85	11.14	6.46
SCAQMD Localized Threshold	224	1,289	62	18
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
On-Site Crushing Emissions	**Emissions (lbs/day)**			
	NO_x	**CO**	**PM_{10}**	**$PM_{2.5}$**
Maximum Daily Emissions	46.21	14.53	0.96	0.96
SCAQMD Localized Threshold	122	636	448	12
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
On-Site Grading Emissions	**Emissions (lbs/day)**			
	NO_x	**CO**	**PM_{10}**	**$PM_{2.5}$**
Maximum Daily Emissions	39.95	16.38	5.07	2.90
SCAQMD Localized Threshold	120	1,049	55	16
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**

The Project's regional and localized construction-source emissions would not exceed applicable regional significance and LST thresholds.

Operational Emissions

As discussed in the Project's *Air Quality Impact Analysis*, CalEEMod utilizes summer and winter Emission Factor model (EMFAC) 2017 emission factors in order to derive vehicle emissions associated with Project operational activities, which vary by season. As such, operational activities for summer and winter scenarios were evaluated and the results are presented in Table 5.2-10. Detailed operational model outputs are presented in Appendix 3.1 of the *Air Quality Impact Analysis*. Project operational-source emissions would not exceed the SCAQMD regional thresholds of significance for any criteria pollutants.

Table 5.2-10 – Summary of Peak Operational Emissions

Operational Activities – Summer Scenario	Emissions (lbs/day)					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Area Source	6.17	4.16	21.27	0.03	0.43	0.43
Energy Source	0.07	0.61	0.26	3.91e-03	0.05	0.05
Mobile Source	3.34	8.51	30.85	0.11	9.64	2.64
Total Maximum Daily Emissions	**9.58**	**13.28**	**52.38**	**0.14**	**10.11**	**3.12**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**
Operational Activities – Winter Scenario	**Emissions (lbs/day)**					
	VOC	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Area Source	6.17	4.16	21.27	0.03	0.43	0.43
Energy Source	0.07	0.61	0.26	3.91e-03	0.05	0.05
Mobile Source	3.19	8.94	27.92	0.10	9.64	2.64
Total Maximum Daily Emissions	**9.43**	**13.71**	**49.45**	**0.13**	**10.11**	**3.12**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

According to SCAQMD LST methodology, LSTs would apply to the operational phase of a proposed project if the project includes stationary sources or attracts mobile sources that may spend long periods queuing and idling at the site (e.g., transfer facilities and warehouse buildings). The Project is a multi-family development and does not include such uses; therefore, due to the lack of significant stationary source emissions, no long-term localized significance threshold analysis is needed.

As the Project's regional and localized construction-source emissions and localized operational-source emissions would not exceed applicable regional significance or LST thresholds, the Project is determined to be consistent with Criterion 1.

Consistency with Criterion 2: The project will not exceed the assumptions in the AQMP based on the years of project build-out phase.

The 2016 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under Federal law. Growth projections from local general plans adopted by cities in the district are provided to the SCAG, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development

consistent with the growth projections in City of Riverside General Plan is considered to be consistent with the AQMP***.***

The City of Riverside General Plan designates the Project site as Commercial. The Commercial designation provides for retail, sales, service and office uses that serve multiple neighborhoods within the City. The Project consists of 237 multifamily residential dwelling units. The Project's residential land use and development is not consistent with the land use designation stated in the General Plan. However, since the Project construction and operational regional and localized emissions do not exceed the thresholds of significance, the Project would not cause an exceedance of an air quality violation. It should also be noted that the residential use proposed by the Project will generate less traffic and consequently fewer emissions than if the Project site were developed consistent with the commercial land use designation (retail, sales, service and office uses), which would generate more trips and consequently more emissions than the Project. Therefore, the Project will not exceed the assumptions in the AQMP based on the years of project build-out phase and is determined to be consistent with Criterion 2.

Conclusion

The Project would not result in or cause NAAQS or CAAQS violations. Although the Project would not be consistent with the current General Plan land use designation, construction and operational-source emissions would not exceed the applicable SCAQMD regional and localized thresholds. As such, the Project is therefore considered to be consistent with the AQMP and any potential impacts would be **less than significant**.

Threshold B: *Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?*

The Project area is designated as a nonattainment area for ozone and $PM_{2.5}$, and PM_{10}.. As outlined in the Project's *Air Quality Impact Analysis*, AQMD's published report, *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* outlines how to address cumulative impacts from air pollution. It states that individual projects that do not generate operational or construction emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment. Alternatively, individual project-related construction and operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same.

As discussed above, the Project-specific evaluation of emissions demonstrates that Project construction-source air pollutant emissions and Project operational-source emissions would not result in exceedances of criteria pollutant regional thresholds established by SCAQMD for any criteria pollutant. Accordingly, the Project would also not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment, and impacts would be **less than significant**.

Threshold C: *Would the Project expose sensitive receptors to substantial pollutant concentrations?*

Criteria Pollutants

Sensitive receptors can include uses such as long-term health care facilities, rehabilitation centers, and retirement homes. Residences, schools, playgrounds, childcare centers, and athletic facilities can also be considered as sensitive receptors. As previously discussed under Threshold A, 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. Localized air quality impacts were evaluated at sensitive receptor land uses nearest the Project site. The nearest receptor where an individual can stay for a 24-hour period is located at the existing residence at 5240 Lochmoor Drive, approximately 448 feet/137 meters southwest of the Project site. Results of the LST analysis indicate that the Project will not exceed the SCAQMD localized significance thresholds during construction. Therefore, sensitive receptors would not be exposed to substantial criteria pollutant concentrations during Project construction.

An adverse CO concentration, known as a “hotspot”, would occur if an exceedance of the State one-hour standard of 20 ppm or the eight-hour standard of nine (9) ppm were to occur. At the time of the 1993 Handbook, the Basin was designated nonattainment under the CAAQS and NAAQS for CO. 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 concentration in the Basin is now designated as attainment. Results of the LST analysis indicate that the Project would not exceed the SCAQMD localized significance thresholds during construction or operational activity. Further, Project traffic would not create or result in a CO “hotspot.” The Project would not produce the volume of traffic required to generate a CO “hot spot” either in the context of the 2003 Los Angeles hot spot study or based on representative BAAQMD CO threshold considerations. Therefore, CO “hot spots” are not an environmental impact of concern for the proposed Project. Localized air quality impacts related to mobile-source emissions would therefore be less than significant. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations as the result of Project operations.

Therefore, sensitive receptors would not be exposed to substantial criteria pollutant concentrations as the result of Project construction or operation and potential impacts would be **less than significant**.

Construction Dust

As described under Threshold A, Project construction emissions of fugitive dust (PM_{10}) would not exceed SCAQMD LST daily thresholds. Therefore, sensitive receptors would not be exposed to substantial construction dust concentrations as the result of Project and potential impacts would be **less than significant**.

Short-term Construction Toxic Air Contaminants

Exposure to concentrations of TACs was assessed based on the Project's potential to result in increased exposure of sensitive receptors to TAC emission sources. The Project could potentially expose the adjacent sensitive receptors to temporary health hazards associated with TACs from diesel particulate matter from the use of construction equipment. As described under Threshold A, construction emissions would not exceed SCAQMD thresholds established to protect public health and air quality. Therefore, the health risk associated with construction emissions for the surrounding sensitive uses would be **less than significant** .

Operational Toxic Air Contaminants

High-volume TAC generators identified as potential health risk sources include the operation of commercial diesel engines and truck stops, landfills and incinerators, and chemical manufacturers. The Project, as a residential development project, does not include any of the operations listed above and would not be a high-volume TAC generator. As such, an Air Toxic and Criteria Pollutant Health Risk Assessment (HRA) is not warranted for Project operations and thus was not prepared.

In 2005, the CARB promulgated an advisory recommendation to avoid setting sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day. The CARB indicates that due to traffic-generated pollutants, there is an estimated increased cancer risk incidence of 300 to 1,700 per million within this domain. The strongest association of traffic related emissions with adverse health outcomes was seen within 300 feet of roadways with high truck densities. Notwithstanding, the CARB notes that a site-specific analysis would be required to determine the actual risk near a particular land use and should consider factors such as prevailing wind direction, local topography and climate.

The Project is located approximately 237 feet southwest of the SR-60/I-215 freeway. An Air Toxic and Criteria Pollutant HRA was prepared (Appendix B) to assess the possible health effects on future proposed residents associated with exposure to criterial pollutants and diesel particulate emissions from the adjacent SR-60/I-215 freeway. The following presents a summary of the HRA's findings.

For carcinogenic exposures resulting from exposure to toxics from the freeway, the summation of risk for the maximum exposed residential receptor totaled 3.45 in one million, which would not exceed the SCAQMD significance threshold of 10 in one million.

For chronic noncarcinogenic effects, the hazard index identified for each toxicological endpoint totaled less than one. For acute exposures, the hazard indices for the identified averaging times did not exceed unity. Therefore, noncarcinogenic hazards are calculated to be within acceptable limits.

For the maximum exposed residential receptor, results of the analysis predicted freeway emissions will produce PM_{10} concentrations of 0.87 $\mu g/m^3$ and 0.44 $\mu g/m^3$ for the 24-hour and annual averaging times. These values will not exceed the SCAQMD significance thresholds of

2.5 µg/m^3 and 1.0 µg/m^3, respectively. For $PM_{2.5}$, a maximum 24-hour average concentration of 0.30 µg/m^3 was predicted, which will not exceed the identified significance threshold of 2.5 µg/m^3.

The maximum modeled one-hour average concentration for CO of 0.13 ppm, when added to an existing background concentration of 2.2 ppm, would equal a total concentration of 2.33 ppm at the Project site. This would not cause an exceedance of the CAAQS of 20 ppm. For the eight-hour averaging time, the maximum predicted concentration of 0.10 ppm, when added to an existing background level of 2.0 ppm, would equal a total Project concentration of 2.10 ppm, which would not cause an exceedance of the CAAQS of 9 ppm.

For NO_2, a maximum one-hour concentration of 0.013 ppm was predicted. This concentration, when added to a background concentration of 0.073 ppm, would equal a total concentration of 0.086 ppm at the Project site. This would not cause an exceedance of the CAAQS of 0.18 ppm.

As described above, short duration (i.e., one and eight-hour) exposures associated with both toxic and criteria pollutants are within acceptable limits. Therefore, residents and visitors who would access and utilize outdoor amenities would not be exposed to concentrations that exceed acceptable levels.

Therefore, sensitive receptors (the Project's residents and visitors) would not be exposed to substantial TAC concentrations as the result of Project and potential impacts would be **less than significant**.

Threshold D: *Would the Project result in emissions (such as those leading to odors) adversely affecting a substantial number of people?*

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
- Fiberglass molding facilities

The Project does not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the Project's (long-term operational) uses. Standard construction requirements would minimize odor impacts from

construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. It is anticipated that Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the City's solid waste regulations. The Project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, potential impacts related to odors associated with Project construction and operations would be **less than significant**

Standard Regulatory Requirements/Best Available Control Measures Although no Project-specific air quality mitigation measures were found to be required and were therefore not proposed, the Project's *Air Quality Impact Analysis* provides Standard Regulatory Requirements/Best Available Control Measures (BACMs). SCAQMD Rules that are currently applicable during construction activity for this Project include but are not limited to Rule 403 (Fugitive Dust) and Rule 1113 (Architectural Coatings). Although these are already required, they are included herein for inclusion in the Mitigation Monitoring and Reporting Program (MMRP) and tracking of compliance.

BACM AQ-1: The contractor shall adhere to applicable measures contained in Table 1 of Rule 403 including, but not limited to:

- All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 mph per SCAQMD guidelines in order to limit fugitive dust emissions.
- The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the Project 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.
- The contractor shall ensure that traffic speeds on unpaved roads and Project site areas are limited to 15 miles per hour or less.

BACM AQ-2: The following measures shall be incorporated into Project plans and specifications as implementation of SCAQMD Rule 1113:

Only "Low-Volatile Organic Compounds (VOC)" paints (no more than 50 gram/liter of VOC) consistent with SCAQMD Rule 1113 shall be used.

BACM AQ-3: The Project is required to comply with SCAQMD Rule 445, which prohibits the use of wood burning stoves and fireplaces in new development.

5.2.6 Cumulative Environmental Effects

As discussed in Chapter 4 Environmental Setting of this DEIR, cumulative development in the City and surrounding cities and county would include residential development, warehouses, commercial, office, and public facilities. The Project area is designated as a non-attainment area for ozone and $PM_{2.5}$, and PM_{10}..

The SCAQMD recommends that project-specific air quality impacts be used to determine whether a project's emissions are cumulatively considerable. As discussed in Section 5.2.6, the Project-specific evaluation of emissions demonstrates that Project construction-source air pollutant emissions and Project operational-source emissions would not result in exceedances of criteria pollutant regional thresholds established by SCAQMD for any criteria pollutant. Accordingly, the Project would also not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment, and impacts would be less than significant, and no mitigation is required. Thus, cumulative impacts would be **less than significant**.

5.2.7 References

The following references were used in the preparation of this section of the DEIR:

Urban Crossroads 2020	Urban Crossroads. *Crestview Apartments Air Quality Impact Analysis,* City of Riverside. September 2020.
Urban Crossroads 2020	Urban Crossroads. *Crestview Apartments Air Toxic and Criteria Pollutant Health Risk Assessment, City of Riverside*. July 2020.
Urban Crossroads 2020	Urban Crossroads. *Crestview Apartments Focused Traffic Analysis, City of Riverside*. August 2020.

5.3 Biological Resources

This section analyzes potential impacts of the Project on sensitive biological resources. Based upon the analysis in the Initial Study/Notice of Preparation (IS/NOP) prepared for this Project (Appendix A), all thresholds related to biological resources will be analyzed below. The analysis in this section is based on data and information in the October 2020 *Sycamore Canyon Boulevard and Central Avenue Project Habitat Assessment and Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis*, and the August 2020 *Sycamore Canyon Boulevard and Central Avenue Project Delineation of State and Federal Jurisdictional Waters*, both prepared by ELMT Consulting, Inc. (ELMT) for the Project, as well as the November 2020 Joint Project Review (JPR) prepared by the Western Riverside County Regional Conservation Authority (RCA), all contained in Appendix C. Information in this section is also obtained from the September 2020 Geotechnical Evaluation Report prepared by NOVA (included as Appendix F).

5.3.1 Setting

The Project site is located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The MSHCP is a comprehensive multi-jurisdictional Habitat Conservation Plan (HCP) focusing on the conservation of species and their associated habitats in Western Riverside County. The MSHCP Plan area encompasses approximately 1.26 million acres (1,966 square miles). Compliance with the MSHCP covers biological impacts to 146 species, and this Project complies with the MSHCP.

The Project site is location within Subunit 1–Sycamore Canyon/Box Springs Central of the Highgrove Area Plan within Criteria Cell 721, an independent Cell that is not affiliated with any Cell group, which contributes to the assembly of Proposed Constrained Linkage 7. The MSHCP includes 38 specially designed habitat linkages that allow animals to safely move from one preserve area (core area) to another. Figure 5.3-1 shows the MSHCP Criteria Area and Targeted Conservation. Targeted Conservation within Criteria Cell 721 is to contribute to the assembly of Proposed Constrained Linkage 7, the only connection between the Sycamore Canyon Wilderness Park and the Box Springs Reserve.

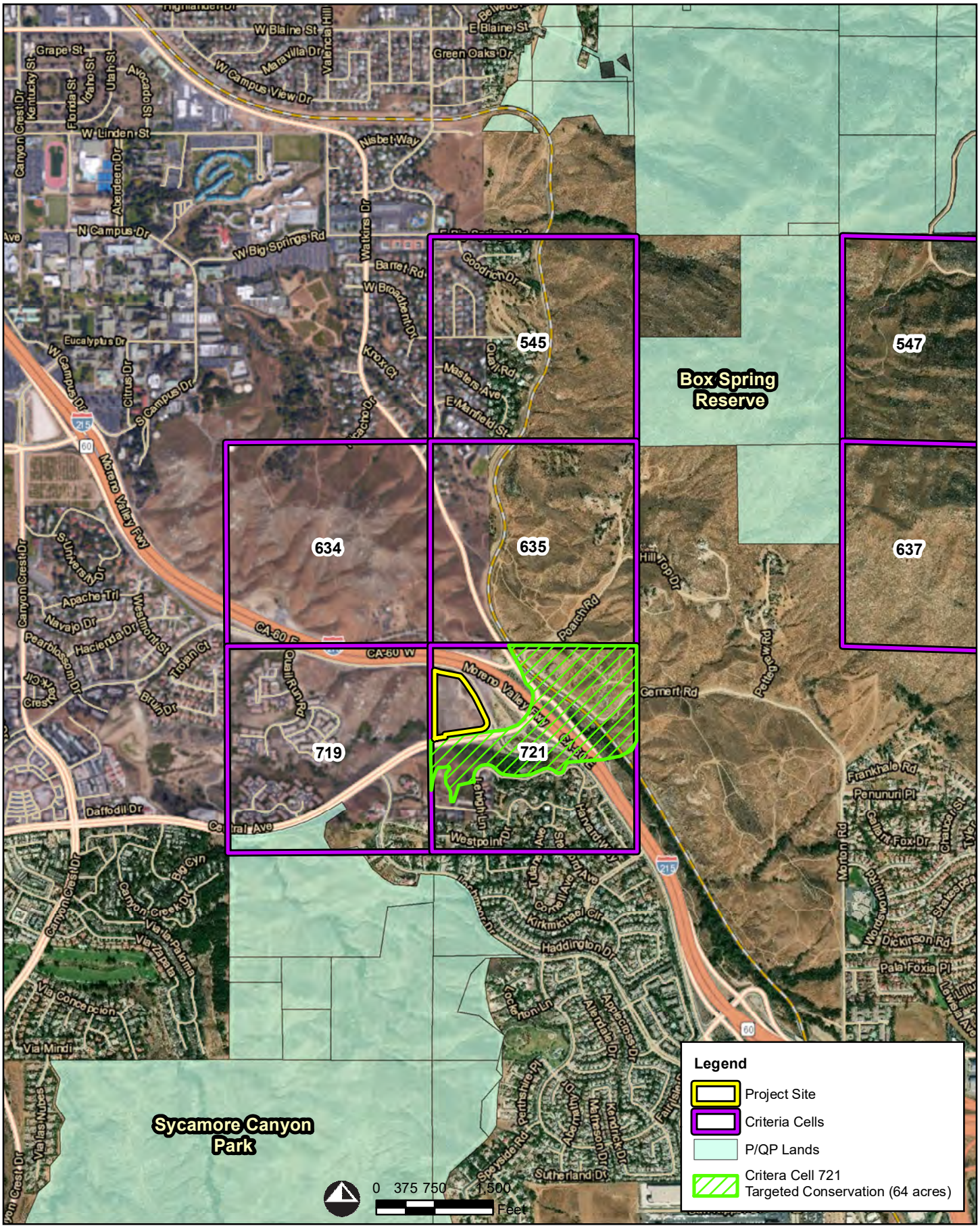
Proposed Constrained Linkage 7

As described in the MSHCP, the Proposed Constrained Linkage 7 is comprised of upland habitat in the vicinity of Central Avenue west of Interstate 215/State Route 60. This constrained linkage is the only connection from Sycamore Canyon Wilderness Park to the south and the Box Spring Reserve to the east (east of Interstate 215/State Route 60). This linkage is important for species dispersal and would reduce the decline of species loss from population isolation. Habitat for MSHCP species such as cactus wren and Bell's sage sparrow occurs within this linkage. This linkage is assumed to provide movement opportunities for common mammals such as bobcat.

Criteria Cell 721

The entire Project site is located Criteria Cell 721, which is an independent Cell that is not affiliated with any Cell Group. As described in the MSHCP, conservation within Criteria Cell 721 will contribute to the assembly of Proposed Constrained Linkage 7, with an emphasis on the

conservation of coastal sage scrub habitat and riparian scrub, woodlands and forest. Areas conserved within Criteria Cell 721 will be connected to coastal sage scrub habitat proposed for conservation to the north in Criteria Cell 635 and to the west in Criteria Cell 719. Conservation within Criteria Cell 721 will range from 35 to 45 percent of the Cell, focusing on its northeastern and central portions.



CRESTVIEW APARTMENTS

MSHCP Criteria Area and Targeted Conservation

Figure 5.3-1

Existing Biological Resource Setting

Local Topography and Climate

The ground surface descends in elevation from northeast to southwest, from about 1,375 feet mean sea level (msl) to 1,315 feet msl. This grade occurs over a distance of about 750 feet, at a surface gradient averaging about 7 percent. The Project site has areas of bare soil and windrows of rocks and boulders. An approximately 38-foot high cut slope exposing granitic bedrock is located in the northwest corner of the property. (NOVA, p. 6-7)

The Project site is elevated above Central Avenue and the undeveloped natural Quail Run Open Space is to the west. The western and southern boundaries of the Project site slope down, approximately 15-20 feet, to the open space area to the west, and Central Avenue to the south. Riverside County features a somewhat cooler version of a Mediterranean climate, or semi-arid climate, with warm, sunny, dry summers and cool, rainy, mild winters. Relative to other areas in Southern California, winters are colder with frost and with chilly to cold mornings. The annual precipitation averages 12.0 inches per year with the wettest month being February and the driest months being June and July. The average maximum and minimum are 93- and 40-degrees Fahrenheit (° F) with August being the hottest month and December being the coldest. (ELMT(a), p.12)

Vegetation

Willow riparian and disturbed Riversidean sage scrub are the primary plant communities for the Project site. In addition, the Project site consists of a land cover type that would be classified as disturbed. The willow riparian plant community is found on the southwest corner of the Project site, in association with a culvert that exists from under Central Avenue. The willow riparian plant community extends west of, and outside of the Project footprint. This plant community is lower in elevation than the majority of the Project site and is separated from the majority of the Project site from dirt access road that has been overgrown with upland vegetation. The willow riparian plant community is dominated by arroyo willow (*Salix lasiolepis*) with an understory composed of mulefat (*Baccharis salicifolia*) and upland plant species. (ELMT(a), p.14)

The western half of the Project site supports a heavily disturbed Riversidean sage scrub plant community. This plant community has been subject to years of grading/disking activities and supports rocky and compacted soils. Rock piles were observed throughout this plant community, as well, as sign grading (rows or rocks/soils). The western half of the Project site is not subject to as frequent anthropogenic disturbances as the eastern half of the Project site, and the underlying Riversidean sage scrub plant community is beginning to establish itself. Plant species observed within the Project site include sparse patches of deer weed (*Acmispon glaber*), California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), and brittlebush (*Encelia farinosa*). (ELMT(a), p.14)

The disturbed areas on the Project site no longer comprise a native plant community. Disturbed areas on the Project site consist of existing dirt access roads, areas that have been subject to frequent grading/disking activities, and illegal dumping activities. Portions of the disturbed area

contain areas of bare ground due to extensive anthropogenic disturbance, and areas that support early successional and ruderal/weedy plant species. Plant species observed within the disturbed areas include ragweed (*Ambrosia psilostachya*), telegraph weed (*Heterotheca grandiflora*), short-pod mustard (*Hirschfeldia incana*), Russian thistle *(Salsola tragus*), and tocalote (*Centaurea melitensis*). Additionally, sparse patches of deer weed, California buckwheat, and brittlebush were observed within the disturbed areas on-site. (ELMT(a) pp.13-16) See Figure 5.3-2 for the Project's mapped vegetation communities.



CRESTVIEW APARTMENTS

Vegetation Map

Figure 5.3-2

RVA

ELMT CONSULTING

General Wildlife

The Project site provides a habitat for wildlife species that commonly occur in residential, urban, and grassland communities in Riverside County. No amphibians were observed on or within the vicinity of the project site. The southwest corner of the project site includes a willow riparian plant community and at the time of the survey, water was heard within the willow riparian area that is associated with a streambed. Anurans are likely to be present and possibly breeding in the creek in the general vicinity of the site, but during most of the year if the creek is dry most Anuran activity would be low. Amphibian species most likely to occur when water is present, or to estivate in the area when water is not, include Baja California treefrog (*Pseudacris hypochondriaca*) and western toad (*Anaxyrus boreas*) on the southwest corner of the Project site. (ELMT(a) p. 16)

The Project site provides a limited amount of habitat for a few reptile species adapted to a high degree of human disturbance associated with the on-site grading/disking activities and surrounding development. No reptiles were observed on-site. Common reptilian species expected to occur on-site include Great Basin fence lizard *(Sceloporus occidentalis longipes*), common side-blotched lizard (*Utastansburiana elegans*), gopher snake (*Pituophis catenifer*), and southern alligator lizard (*Elgaria multicarinata*). Due to the high level of anthropogenic disturbances on-site, and surrounding development, no special-status reptilian species are expected to occur on-site. (ELMT(a) p. 16)

No fish or hydrogeomorphic features (e.g., perennial creeks, ponds, lakes, reservoirs) that would provide suitable habitat for fish were observed on the Project site. Therefore, no fish are expected to occur and are presumed absent from the project site. (ELMT(a) p. 16)

A total of nine (9) avian species were identified during the habitat assessment. The avian species that were detected during the habitat assessment included Anna's hummingbird (*Calypte anna*), Say's phoebe (*Sayornis saya*), Cassin's kingbird (*Tyrannus vociferans*), American crow (*Corvus brachyrhynchos*), yellow-rumped warbler (*Setophaga coronata*), white-crowned sparrow (*Zonotrichia leucophrys*), California towhee (*Melozone crissalis*), American kestrel (*Falco sparverius*), and house finch (*Haemorhous mexicanus*). The riparian vegetation on the southwest corner of the Project site has the potential to provide suitable habitat for additional migrant and resident species that were not detected during the habitat assessment. (ELMT(a) pp. 16-17)

The only mammalian species observed during the field survey was Audubon's cottontail (*Sylvilagus audubonii*). Other common mammalian species expected to occur include coyote (*Canis latrans*), California ground squirrel (*Otospermophilus beecheyi*), opossum (*Didelphis virginiana*), and raccoon (*Procyon lotor*). No bat species are expected to occur due to a lack of suitable roosting habitat (i.e., trees, crevices, abandoned structures) within and surrounding the Project site. (ELMT(a) p. 17)

Special-Status Species and Natural Communities

Special-status species are those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) under the Federal Endangered Species Act (FESA); those listed or proposed for listing as rare, threatened,

or endangered by the California Department of Fish and Wildlife (CDFW) under the California Endangered Species Act (CESA); animals designated as Species of Special Concern (SSC), Fully Protected (FP), and/or Watch List (WL); those species on the Special Vascular Plants, Bryophytes, and Lichens List and/or the California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants; those plants contained on the CNPS California Rare Plant Rank (RPR). Only listed species and RPR Lists 1 and 2 are considered special-status species in this EIR, per the RPR code definitions:

- List 1A = Plants presumed extinct in California
- List 1B.1 = Rare or endangered in California and elsewhere; seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
- List 1B.2 = Rare or endangered in California and elsewhere; fairly endangered in California (20-80 percent occurrences threatened)
- List 1B.3 = Rare or endangered in California and elsewhere, not very endangered in California (<20 percent of occurrences threatened, or no current threats known)
- List 2 = Rare, threatened or endangered in California, but more common elsewhere
- List 3 = Plants needing more information (most are species that are taxonomically unresolved; some species on this list meet the definitions of rarity under CNPS and CESA)
- List 4.1 = Plants of limited distribution (watch list), seriously endangered in California
- List 4.2 = Plants of limited distribution (watch list), fairly endangered in California (20-80 percent occurrences threatened)
- List 4.3= Plants of limited distribution (watch list), not very endangered in California

The RPR also includes Lists 3 and 4. Per the CDFW, these plants typically do not warrant consideration under State CEQA Guidelines unless the specific circumstances relevant to local distributions make them of potential scientific interest. Similarly, local agencies may also consider and list additional plants to be of “local concern” or “narrow endemic” because of local or regional scarcity, as determined by that agency (State CEQA Guidelines Section 15380).

As part of the Habitat Assessment, CDFW’s QuickView Tool in BIOS, the California Natural Diversity Database (CNDDB) Rarefind 5 and the CNPS Electronic Inventory of Rare and Endangered Vascular Plants of California were queried for reported locations of special-status plant and wildlife species as well as special-status natural plant communities in the Riverside East USGS 7.5-minute quadrangle. The conditions of the habitat(s) within the boundaries of the Project site to determine if the existing plant communities have the potential to provide suitable habitat(s) were evaluated for special-status plant and wildlife species.

The literature search identified 15 special-status plant species, 57 special-status wildlife species, and one (1) special-status plant community as having potential to occur within the Riverside East quadrangle. Special-status plant and wildlife species were evaluated for their potential to occur

within the Project boundaries based on habitat requirements, availability and quality of suitable habitat, and known distributions. Species determined to have the potential to occur within the general vicinity are presented in Table B-1– *Potentially Occurring Special-Status Biological Resources*, of the Habitat Assessment and MSHCP Consistency Analysis. (ELMT(a) p. 19)

Critical Habitat

Under the Federal Endangered Species Act, "Critical Habitat" is designated at the time of listing of a species or within one year of listing. Critical Habitat refers to specific areas within the geographical range of a species at the time it is listed that include the physical or biological features that are essential to the survival and eventual recovery of that species. Maintenance of these physical and biological features requires special management considerations or protection, regardless of whether individuals or the species are present or not. All Federal agencies are required to consult with the USFWS regarding activities they authorize, fund, or permit which may affect a Federally listed species or its designated Critical Habitat. (ELMT(a) p. 20)

The Project site is not located within Federally designated Critical Habitat. The closest Critical Habitat designation is located approximately 4.5 miles north of the Project site for California gnatcatcher (*Polioptila californica*), and approximately six (6) miles north of the Project site along the Santa Ana River for Santa Ana sucker (*Catostomus santaanae*) and southwestern willow flycatcher (*Empidonax traillii extimus*), refer to Figure 5.3-3, Critical Habitat. Therefore, consultation with USFWS will not be required for the loss or adverse modification of Critical Habitat. (ELMT(a) p. 20)

Special-status Plant Species

One special-status plant community was listed in the CNDDB as occurring within the Riverside East USGS 7.5-minute quadrangle: Southern Alder Riparian Woodland. However, this special-status plant community was not observed within the boundaries of the Project site. (ELMT(a) p. 20)

According to the CNDDB and CNPS, 15 special-status plant species have been recorded in the Riverside East quadrangle. As previously mentioned in the Vegetation Section above, the Project site primarily consists of vacant, undeveloped land that has been subject to a variety of anthropogenic disturbances from grading/disking activities. These disturbances have resulted in a majority of the Project site being dominated by early successional and nonnative vegetation, with rocky and compacted soils which has reduced, if not eliminated, the ability of the Project site to provide suitable habitat for special-status plant species. (ELMT(a) p.19)

Although the field investigation was not conducted during the blooming season for the majority of the special-status plant species known to occur in the general vicinity of the Project site, based on habitat requirements for specific special-status plant species and the availability and quality of habitats needed by each species, it was determined that the Project site does not provide suitable habitat for any of the special-status plant species known to occur in the area and are presumed to be absent from the Project site. (ELMT(a) p.19)

MSHCP Criteria Area Plant Species

The Project site is located within the MSHCP designated survey area for Criteria Area Plant Species. The Project site is located within the designated survey areas for the following Criteria Area Species: Nevin's barberry, smooth tarplant, and round-leaved filaree. (ELMT (a) p. 7)

Based on habitat requirements for specific species, availability and quality of habitats needed by sensitive plant species, it was determined that the Project site does not provide suitable habitat for Criteria Area Plant species Nevin's barberry (*Berberis nevinii)*, smooth tarplant (*Centromadia pungens ssp. laevis*) or round-leaved filaree (*California macrophyllum)*. (ELMT (a) p. 30)

Nevin's Barberry

Nevin's barberry (*Berberis nevinii)* is a Federally and State listed endangered plant species that is also designated as a CNPS 1B.1 species. It is a shrub that blooms from March to June and occurs on steep, north-facing slopes or in low-grade sandy washes in chaparral, cismontane woodland, coastal scrub, and riparian scrub at elevations ranging from 951 to 5,167 feet above mean sea level. Nevin's barberry is known in only six (6) areas in Riverside County: Vail Lake, Riverside, Jurupa Hills, Temecula, the Badlands and Aguanga. The majority of the populations in western Riverside County are associated with alkali vernal plains. The heavy disturbances that the Project site has been subject to and, rocky/compact soils do not provide suitable habitat for Nevin's barberry. As a result of this onsite disturbances, Nevin's barberry is not expected to occur on-site and is presumed absent. (ELMT (a) p. 30)

Smooth Tarplant

Smooth tarplant (*Centromadia pungens ssp. laevis*) is designated as a CNPS 1B.1 species. It is an annual herb that blooms from April to September and occurs in a variety of habitats including alkali scrub, alkali playas, riparian woodland, watercourses, and grasslands with alkaline affinities. The majority of the populations in western Riverside County are associated with alkali vernal plains. Smooth tarplant is found at scattered low elevation locations throughout much of western Riverside County, however, it is known to occur in areas that have been disturbed. The Project site does not support alkaline soils needed by this plant species. Further, the heavy disturbances that the Project site has been subject to and, rocky/compact soils do not provide suitable habitat for smooth tarplant. As a result of this onsite disturbances and lack of suitable soils, smooth tarplant is not expected to occur on-site and is presumed absent. (ELMT (a) pp. 30-31)

Round-leaved Filaree

Round-leaved filaree (*California macrophyllum*) is designated as a CNPS 1B.2 species. It is an annual herb that blooms from March to May in friable soils (sometimes clay) soils within cismontane woodland and valley and foothill grassland at elevations ranging from 49 to 3,937 feet above mean sea level. This species is known from records in the Gavilan Hills, Lake Mathews, Diamond Valley Lake, Temescal Wash, French Valley, and Agua Tibia Mountains. The Project site does not support friable soils (sometimes clay) soils within cismontane woodland or valley and foothill grassland habitats. Further, the heavy disturbances that the Project site has been subject to and, rocky/compact soils do not provide suitable habitat for round-leaved filaree. As a

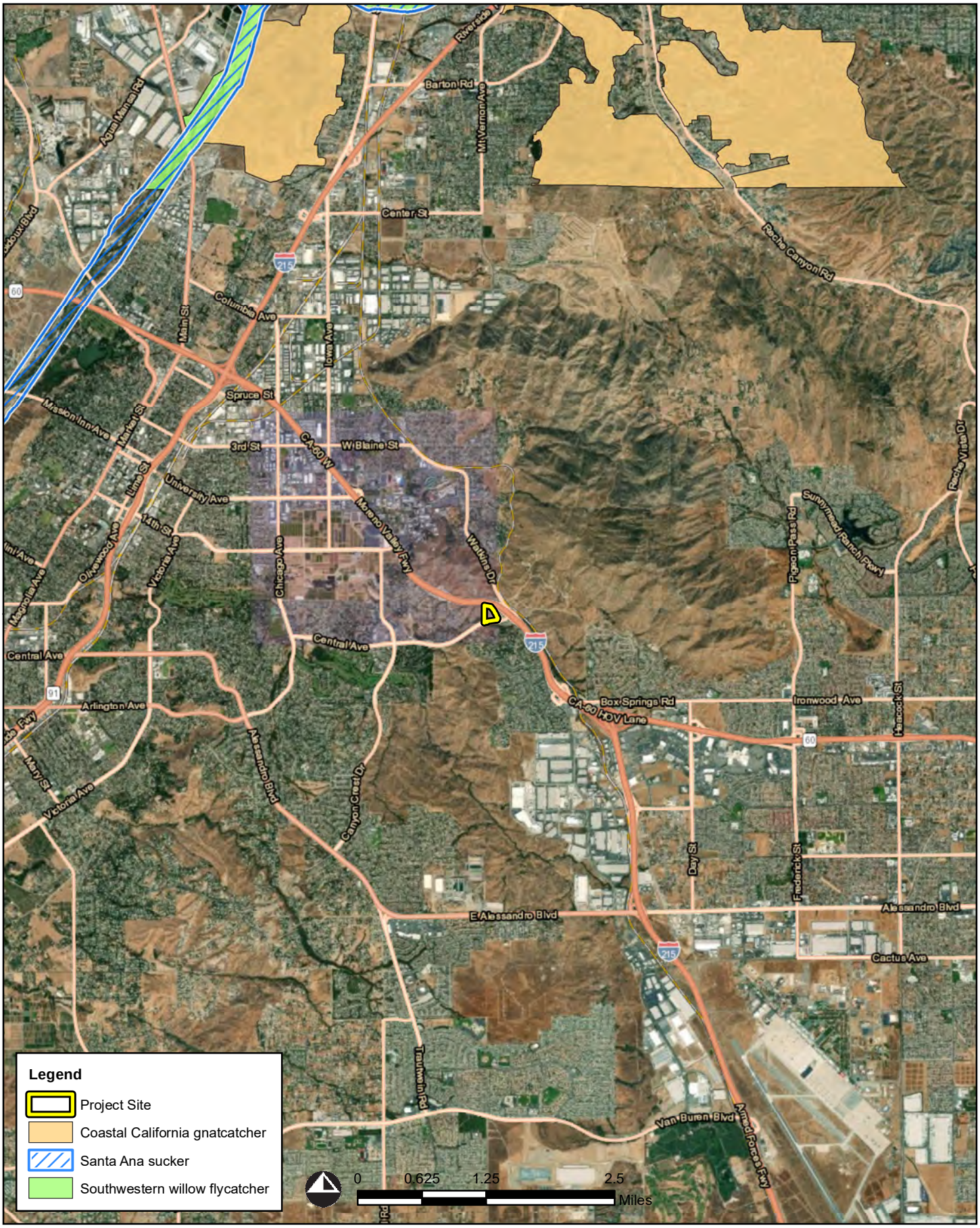
result of this onsite disturbances and lack of suitable soils, round-leaved filaree is not expected to occur on-site and is presumed absent. (ELMT (a) p. 31)

Special-status Wildlife

Of the potentially-occurring special-status wildlife species, the proposed Project site has moderate potential to support the Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), yellow warbler (*Setophaga petechia*), and least Bell's vireo (*Vireo bellii pusillus,* LBVI) and low potential to provide suitable habitat for the burrowing owl (*Athene cunicularia,* BUOW), California horned lark (*Eremphila alpestris actia*), and loggerhead shrike (*Lanius ludovicianus*). The Project site does not provide suitable habitat for any of the remaining potentially occurring special-status wildlife species as the Project site has been heavily disturbed from on-site disturbances and surrounding development. (ELMT(a) p. 19)

Burrowing Owl

Burrowing owl (BUOW) has a low potential to occur as the Project site lacks mammal burrows capable of providing suitable roosting and nesting opportunities. The disturbed habitats on the Project site provide line-of-sight opportunities favored by BUOW. However, the soils on the Project site are rocky and compacted (does not provide friable soils for digging burrows), and no suitable burrows (less than 4 inches in diameter) or man-made/non-natural substrates were observed on the Project site that have the potential to provide suitable opportunities for BUOW. Despite a systematic search of all burrows and open habitat throughout the Project site, no burrowing owl or sign (pellets, feathers, castings, or white-wash) was observed during the habitat assessment. (ELMT(a) p. 17)



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Critical Habitat Map

Figure 5.3-3

RVA

ELMT CONSULTING

Jurisdictional Features

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The U.S Army Corps of Engineers (Corps) Regulatory Branch regulates discharge of dredge and/or fill materials into "waters of the United States" (WoUS) pursuant to Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the Regional Water Quality Control Board (Regional Board) regulates discharges into surface waters pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act and the CDFW regulates alterations to streambed and associated plant communities pursuant to Section 1602 of the California Fish and Game Code. (ELMT(b), p.5)

Field surveys and verification of site conditions conducted on October 17, 2018 and an additional site visit on December 10, 2019 to determine the jurisdictional limits of "waters of the United States" and "waters of the State" (including potential wetlands and vernal pools), located within the boundaries of the project site. (ELMT(b), p.7) According to the jurisdictional delineation field survey conducted on September 7, 2018, the majority of the Project site does not support any discernible drainage courses, inundated areas, wetland vegetation, or hydric soils that would be considered jurisdictional. However, a single drainage feature and associated willow riparian plant community were observed on the southwest corner of the Project site. (ELMT(b), p.14)

This drainage feature is an unnamed, intermittent water feature that extends along the bottom of Box Springs Canyon. Onsite, the drainage feature begins at an 84-inch corrugate metal culvert extending under Central Avenue. During the field investigation, approximately 2 to 8 inches of water were observed within the drainage and the culvert was not obstructed. The ordinary high water mark (OHWM) ranged from two (2) to eight (8) feet in width and was delineated using the following indictors: flow patterns; scour; and substrate characteristics. The drainage feature extends for approximately 21 linear feet southeast to northwest on the southwest corner of the Project site, totaling approximately 0.003 acre. (ELMT(b), p.14)

The on-site drainage feature consists of natural substrate (loose gravel, sand, and rock) and supports a willow riparian plant community. This plant community is dominated by arroyo willow (*Salix lasiolepis*) with an understory composed of mulefat (*Baccharis salicifolia*), poison oak (*Toxicodendron diversilobum*), castor bean (*Ricinus communis*) and common phacelia (*Phacelia distans*). This plant community is at a lower elevation than that majority of the project site and is separated from the other portions of the project site by a dirt access road that has been overgrown with upland vegetation. The willow riparianplant community extends west of, and outside of the Project development footprint. (ELMT(b), p.14)

In order to qualify as a wetland, a feature must exhibit all three (3) wetland parameters (i.e., vegetation, soils, and hydrology) described in the Corps Arid West Regional Supplement. Although evidence of hydrology (i.e., surface water) was present within the on-site drainage feature and the drainage supported a dominance of hydrophytic vegetation, the drainage feature would likely not meet the requirements of hydric soils. Within the Project footprint, the substrate within the drainage consisted of rock and loose sandy deposits that would not allow anaerobic

conditions within the soil. Therefore, it was determined that no areas met all three (3) wetland parameters and no jurisdictional wetland features exist within the Project site. (ELMT(b), p.14) Figure 5.3-4 - Jurisdictional Delineation Map shows the Project area and the 0.003 acre (21 linear feet) of Corps and Regional Board jurisdiction. The on-site drainage feature exhibits characteristics consistent with CDFW's methodology and would be considered CDFW streambed. Therefore, approximately 0.163 acres (21 linear feet) of CDFW jurisdiction is located within boundaries of the Project site (ELMT(b), p. 16). Refer to Table 5.3-1 for a summary of jurisdictional areas within the Project site.

Table 5.3-1 – Jurisdictional Areas

Jurisdictional Feature	Stream Flow	Cowardin Class	Class of Aquatic Resource	Corps/Regional Board WoUS		CDFW Streambed and Riparian Habitat	
				Acreage	Linear Feet	Acreage	Linear Feet
Drainage 1	Intermittent	Riverine	Non-Section 10 Non-Wetland	0.003	21	0.163	21



Source: ESRI Aerial Imagery, World Transportation, WRC MSHCP, Riverside County

CRESTVIEW APARTMENTS

Jurisdictional Delineation Map

Figure 5.3-4

Wildlife Movement Corridors

Wildlife corridors can be defined as a linear landscape feature of sufficient width to allow animal movement between two comparatively undisturbed habitat fragments. Adequate cover is essential for a corridor to function as a wildlife movement area. It is possible for a habitat corridor to be adequate for one species yet inadequate for others. Wildlife corridors are significant features for dispersal, seasonal migration, breeding, and foraging. Additionally, open space can provide a buffer against both human disturbance and natural fluctuations in resources.

The Project site is located immediately north of the MSHCP Proposed Constrained Linkage 7, which connects Sycamore Canyon Wilderness Park to the southwest to the Box Springs Reserve to the northeast (east of Interstate 215/State Route 60) and is generally constrained by urban development. This linkage is believed to provide movement opportunities for bobcats (*Lynx rufus*) and live in/dispersal habitat for cactus wren (*Campylorhynchus brunneicapillus*) and Bell's sage sparrow (*Amphizpiza belli belli*). Habitat on the Project site is heavily disturbed and there is little to no incentive for bobcats to occur on the upland portion of the Project site, as it is surrounded on three (3) sides by development (primarily transportation land uses). Box Spring Canyon located south of the Project site (south of Central Avenue), and the small portion of willow riparian on southwest corner of the Project site has the potential to be used by migrating or dispersing wildlife, including birds and mammals. (ELMT(a), p.18)

5.3.2 Related Regulations

5.3.2.1 Federal Regulations

U.S. Army Corps of Engineers

Under Section 404 of the Federal CWA, the USACE has authority to regulate activities that could discharge dredge or fill material into wetlands or other WoUS. The definition of “WoUS has been the subject of recent litigation, regulatory guidance, and agency rulemaking. In current practice, jurisdictional waters are defined using the USACE’s and U.S. Environmental Protection Agency’s joint 2015 regulatory definition (80 FR 37054). In April of 2020, the USACE and the EPA provided a new definition of WoUS {Federal Register, Vol. 85, No. 77 (April 21, 2020)] which encompass:

- Traditional navigable waters
- Interstate waters, including interstate wetlands
- The territorial seas
- Perennial and intermittent tributaries that contribute surface water flow to such waters
- Certain lakes, ponds, and impoundments of waters of the United States
- All tributaries of waters of the United States
- All waters adjacent to waters of the United States
- Specific waters (including western vernal pools) if there is significant nexus to a navigable or interstate water, or territorial sea

Additionally, the new definition identifies 12 categories of those waters and features that are excluded from the definition of WoUS, such as features that only contain water in direct response to rainfall (e.g., ephemeral features), groundwater, many ditches, prior converted cropland, and waste treatment systems.

The following waters are considered WoUS if they possess a significant chemical, hydrologic, or ecological nexus to navigable waters, interstate waters, or the territorial seas:

- All waters within or partially within 4,000 feet of the high tide line or ordinary high water mark of a navigable or interstate water, territorial sea, impoundment, or tributary
- All waters within or partially within the 100-year floodplain of a navigable or interstate water or territorial sea

The USACE also implements the Federal policy embodied in Executive Order 11990, which is intended to result in no net loss of wetland value or acres. In achieving the goals of the CWA, the USACE seeks to avoid adverse impacts and offset unavoidable adverse impacts on existing aquatic resources. Any fill or adverse modification of wetlands that are hydrologically connected to jurisdictional waters would require a permit from the USACE prior to the start of work. Typically, when a project involves impacts to WoUS, the goal of no net loss of wetland acres or values is met through compensatory mitigation involving the creation or enhancement of similar habitats.

U.S. Fish and Wildlife Service

The USFWS implements the Migratory Bird Treaty Act (16 United States Code Section 703-711) and the Bald and Golden Eagle Protection Act (16 United States Code Section 668). The USFWS and National Marine Fisheries Services (NMFS) share responsibility for implementing the FESA (16 United States Code Section 153 et seq.). The USFWS generally implements the FESA for terrestrial and freshwater species, while the NMFS implements the FESA for marine and anadromous species. Projects that would result in "take" of any Federally listed threatened or endangered species are required to obtain authorization from the USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of FESA, depending on the involvement by the Federal movement in permitting and/or funding of the project. "Take" under Federal definitions means to harass, harm (which includes habitat modification), purse, hunt, shoot, wound, kill, trap capture, or collect, or to attempt to engage in any such conduct. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. Proposed or candidate species do not have the full protection of FESA; the USFWS and NMFS advise project applicants the species could be elevated to listed status at any time.

Migratory Bird Treaty Act

The Federal Migratory Bird Treaty Act of 1918 was originally enacted between the United States and Great Britain (acting on behalf of Canada) for the protection of migratory birds between the two countries. The MBTA has since been expanded to include Mexico, Japan, and Russia. Under MBTA provisions, it is unlawful "by any means or manner to purse, hunt, take, capture (or) kill"

any migratory birds as defined by the Migratory Bird Treaty Act except as permitted by regulations issued by the USFWS. The term "take" is defined by the USFWS regulation to mean to "purse, hunt, shoot, wound, kill, trap, capture or collect" any migratory bird or any part, nest, or egg of any migratory bird covered by the conventions, or to attempt those activities.

5.3.2.2 State Regulations

Porter-Cologne Water Quality Act

The State Water Resources Control Board (SWRCB) works in coordination with nine Regional Water Quality Control Boards (RWQCBs) to preserve, protect, enhance, and restore water quality throughout the state. Each RWQCB makes decisions related to water quality for its region, and may approve, with or without conditions, or deny projects that could affect waters of the state. Their authority to regulate activities that could result in a discharge of dredged or fill material comes from the CWA and the Porter-Cologne Water Quality Control Act (Porter-Cologne).

Porter-Cologne broadly defines waters of the state (WoS) as "any surface water or groundwater, including saline waters, within the boundaries of the state." Because Porter-Cologne applies to any water, whereas the CWA applies only to certain waters, California's jurisdictional reach overlaps and may exceed the boundaries of WoUS. For example, Water Quality Order No. 2004-0004-DWQ states that "shallow" waters of the state include headwaters, wetlands, and riparian areas. In practice, the RWQCBs may claim jurisdiction over riparian areas. Where riparian habitat is not present, such as may be the case at headwaters and urbanized areas, jurisdiction is taken to the top of bank. The SWRCB has recently developed a Preliminary Draft State Wetland Definition that addresses numerous policy elements including development of a wetland definition and description of methodology to be used in defining wetlands as part of WoS (SWRCB 2017).

Pursuant to Section 401 of the CWA, projects regulated by the USACE must obtain a Water Quality Certification from the RWQCB. This certification ensures the proposed Project will uphold state water quality standards. Because California's jurisdiction to regulate its water resources is much broader than that of the Federal government, proposed impacts on waters of the state require Water Quality Certification even if the area occurs outside of USACE jurisdiction.

California Endangered Species Act

California Fish and Game Code (CFGC), Chapter 1.5, Sections 2050-2116 (CESA) prohibits the take of any plant or animal listed or proposed for listed as rare (plants only), threatened, or endangered. In accordance with CESA, CDFW has jurisdiction over state-listed species (Fish and Game Code 2070). The CDFW regulated activities that may result in take of individuals (i.e., hunt, purse, catch, capture, or kill, or attempt to hunt, purse, catch, capture, or kill). Habitat degradation or modification is not expressly included in the definition of take under CESA in the CFGC. Nonetheless, CDFW has interpreted "take" to include the destruction of nesting, denning, or foraging habitat necessary to maintain a viable breeding population of protected species (ELMT(a), Appendix C Regulations).

California Fish and Game Code

The CDFW derives its authority from the CFGC. CESA (CFGC Section 2050 et. seq.) prohibits take of state-listed threatened or endangered species. Take of fully protected species is prohibited under CFGC Section 3511, 4700, 5050, and 5515. Section 86 of CFGC defines “take” as hunt, pursue, catch, capture, or kill, or attempt to hunt, purse, capture, or kill. This definition does not include indirect harm by way of habitat modification.

CFGC Section 3503, 3503.5, and 3511 restrict the take, possession, and destruction of birds, nests, and eggs. Section 3503.5 of the CFGC protects all birds-of-prey and their eggs and nests against take, possession, or destruction. Fully protected birds may not be taken or possessed except under specific permit (Section 3511).

SSC is a category CDFW uses for those species considered to be indicators of regional habitat changes or considered to be potential future protected species. SSC do not have any special legal status except that which may be afforded by the CFGC, as noted above. CDFW intends the SSC category as a management tool to include these species into special consideration when decisions are made concerning the development of natural lands.

The CDFW also has authority to administer the Native Plant Protection Act (CFGS Section 1900 et seq.). The Native Plant Protection Act requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Under Section 1913(c) of the Native Plant Protection Act, the owner of land where a rare or endangered native plant grows is required to notify the department at least 10 days in advance of changing the land use to allow for salvage of plant(s).

Perennial, intermittent, and ephemeral streams and associated riparian vegetation, when present, also fall under the jurisdiction of the CDFW. Section 1600 et seq. of the CFGC (Lake and Streambed Alteration Agreements) gives CDFW regulatory authority over work in the bed, bank, and channel (which could extend to the 100-year flood plain), consisting of, but not limited to, the diversion or obstruction of the natural flow or changes in the channel, bed, or bank of any river, stream or lake.

Regional Water Quality Control Board

The SWRCB and the local Los Angeles RWQCB has jurisdiction over WoS, with Federal authority under the CWA Section 401 and state authority under Porter-Cologne to protect water quality, which prohibits discharges to such waters. WoS are defined as any surface water or groundwater, including saline waters, in the boundaries of the state.

5.3.2.3 Regional Regulations

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

The Western Riverside County MSHCP is a comprehensive, multi-jurisdictional habitat conservation plan that focuses on conservation of species and their associated habitats in western Riverside County. The MSHCP Plan Area encompasses approximately 1.26 million acres (1,966 square miles); it includes all unincorporated Riverside County land west of the crest of the

San Jacinto Mountains to the Orange County line, and the jurisdictional areas of Temecula, Murrieta, Lake Elsinore, Canyon Lake, Norco, Corona, Riverside, Moreno Valley, Banning, Beaumont, Calimesa, Perris, Hemet, Eastvale, Jurupa Valley, Wildomar, Menifee, and San Jacinto.

The MSHCP serves as a habitat conservation plan pursuant to Section 10(a)(1)(B) of FESA, as well as a natural communities conservation plan under the National Communities Conservation Plan Act of 2001. The MSHCP is used to allow the participating jurisdiction to authorize "take" of plant and wildlife species identified in the MSHCP Plan Area under specific conditions/measures. Under the MSHCP, USFWS and CDFW will grant "take authorization" for otherwise lawful actions in exchange for the assembly and management of a coordinated MSHCP conservation area.

Stephens' Kangaroo Rat Habitat Conservation Plan

The City is located within the boundary of the adopted HCP for the endangered Stephens' kangaroo rat (SKR-HCP) administered by the Riverside County Habitat Conservation Agency (RCHCA). The SKR-HCP mitigates impacts from development on the SKR by establishing a network of preserves and a system for managing and monitoring them. The SKR-HCP initially established Core Reserves for the conservation of key SKR populations. Outside of the Core Reserves, the SKR-HCP established a fee assessment area by which individual projects are granted coverage under the HCP by payment of SKR fees. The MSHCP, through its goals for SKR, reaffirms the conservation goals of the SKR-HCP, while expanding the coverage area outside of the original coverage boundaries of the SKR-HCP. Neither the SKR-HCP nor MSHCP requires project-specific SKR surveys for sites located outside of the existing Core Reserves. Instead, payments of SKR fees are sufficient to obtain take authorization for SKR, unless specific lands are targeted for conservation by SKR-HCP or MHSCP.

The Project site is not located within a Core Reserve; however, it is within the SKR fee assessment area (SKR-HCP, Figure 3). The project proponent is required to pay the Stephens' Kangaroo Rat Preservation fee in effect at the time a grading permit is issued which is collected per Riverside Municipal Code Section 16.40.040.

5.3.2.4 Local Regulations

Riverside General Plan

The City's General Plan Land Use and Urban Design and Open Space and Conservation elements in the General Plan 2025 (GP 2025) seek to preserve existing natural resources in the City. Objectives and policies that relate to biological resources and would apply to the Project include the following:

Objective LU-7: Preserve and protect significant areas of native wildlife and plant habitat, including endangered species.

> **Policy LU-7.2**: Design new development adjacent and in close proximity to native wildlife in a manner which protects and preserves habitat.
>
> **Policy LU-7.4**: Continue to participate in the Western Riverside County MSHCP.

Objective OS-5: Protect biotic communities and critical habitats for endangered species throughout the General Plan Area.

Policy OS-5.2: Continue to participate in the MSHCP Program and ensure all projects comply with applicable requirements.

Policy OS-5.4: Protect native plant communities in the General Plan Area, including sage scrub, riparian areas and vernal pools, consistent with the MSHCP.

5.3.3 Project Design Considerations

The Project has been designed to avoid impacts to the willow riparian plant community and associated drainage course/streambed on the southwest corner of the Project site. The proposed Project has been designed to provide 0.53 acres of conservation in the southwest corner of the site as shown in Figure 5.3-5 – MSHCP Conservation Area for the re-routed Proposed Constrained Linkage 7 of the MSHCP. As outlined in the Joint Project Review (JPR), the Project proposed to convey the 0.53-acre area of conservation, including the riparian/riverine area, to the Regional Conservation Authority (RCA). The Project will be conditioned by the City to convey the 0.53-acre area of conservation to the RCA prior to issuance of the grading permit to ensure long-term conservation.

The Project proposes the construction of a 6-foot high tubular steel fence around the outer edge of the development, which will function as a perimeter barrier and help retain residents and their pets within the developed portion of the site and away from the conservation area in the southwest portion of the site. In addition, in the southwest corner of the site, a series of terraced retaining walls is proposed that will further separate the perimeter walkway and fence and the conservation area. The series of terraced retaining walls includes five retaining walls, up to five feet tall, with a 2:1 slope between the walls. The project will be conditioned by the City to submit the fencing plan to the RCA for review and approval prior to issuance of a building permit.

The Preliminary Project Specific WQMP outlines the Low Impact Development (LID) Best Management Practices (BMPs) required to adequately meet water quality standards and reduce storm water runoff and include three bioretention/biotreatment basins located throughout the site, two of the bioretention basins are composed of separate components that are hydraulically connected. On-site storm water runoff and erosion would be minimized through site development, including buildings, parking and paved areas and storm drain infrastructure. Storm drain infrastructure planned for the site includes various size storm drains, inlet catch basin, drain box, underground detention system, landscape catch basin with atrium grate, and angular rip rap at two storm drain outlets along the western development boundary. As outlined in the Preliminary Project Specific WQMP prepared for the project and reviewed and approved by the City of Riverside, the volume and time of concentration of storm water runoff for the post-development condition is not significantly different from the pre-development conditions for a 2-year return frequency storm (a difference of 5% or less is considered insignificant). Therefore, the project would not result in storm water runoff from the site that would result in erosion or siltation off-site. The LID Principles and LID BMPs have been incorporated into the site design to fully address all

expected pollutant sources and storm water runoff volumes. Prior to issuance of a grading permit, a final approved WQMP will be required for the project, as well as coverage under the State's General Permit for Construction Activities, administered by the Santa Ana RWQCB.

There are no offsite staging areas, and the only offsite improvements are wet and dry utility connections from the project site to existing facilities/pipelines in Sycamore Canyon Boulevard and Central Avenue and curb, gutter, and sidewalk improvements along the Project's frontage along Sycamore Canyon Boulevard. There are no offsite improvements required to the west of the project development footprint that would extend into the on-site conservation area in the southwest portion of the site or extend outside of western property line.



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MSHCP Conservation Area

Figure 5.3-5

5.3.4 Thresholds of Significance

The City of Riverside has not established local CEQA significance thresholds as described in Section 15064.7 of the State CEQA Guidelines. The City of Riverside generally utilizes the CEQA significance thresholds in Appendix G ("Environmental Checklist") of the State CEQA Guidelines. The Environmental Checklist prepared by the City for the Project (see Appendix A of this EIR) indicates that impacts related to the Crestview Apartments Project may be considered potentially significant if the proposed Project would:

- (Threshold A) have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U. S. Wildlife Service;
- (Threshold B) have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- (Threshold C) have a substantial adverse effect on Federally-protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- (Threshold D) 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;
- (Threshold E) conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- (Threshold F) conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

5.3.5 Environmental Impacts

Threshold A: *Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U. S. Wildlife Service?*

Special-Status Plant Species

According to the CNDDB and CNPS, 15 special-status plant species have been recorded in the Riverside East quadrangle. The Project site primarily consists of vacant, undeveloped land that has been subject to a variety of anthropogenic disturbances from grading/disking activities. These disturbances have resulted in a majority of the Project site being dominated by early successional and non-native vegetation, with rocky and compacted soils which has reduced, if not eliminated, the ability of the Project site to provide suitable habitat for special-status plant species. Based on

habitat requirements for specific special-status plant species and the availability and quality of habitats needed by each species, it was determined that the Project site does not provide suitable habitat for any of the special-status plant species known to occur in the area and are presumed to be absent from the Project site. Additionally, it was determined that the Project site does not provide suitable habitat for the three (3) MSHCP listed Criteria Area Plant species Nevin's barberry, smooth tarplant or round-leaved filaree, and are presumed absent. No further studies were recommended or required. (ELMT(a) p. 38)

Special-Status Wildlife Species

According to the CNDDB, 57 special-status wildlife species have been reported in the Riverside East quadrangle. No special-status wildlife species were observed on-site during the habitat assessment. Based on habitat requirements for specific species and the availability and quality of on-site habitats, it was determined that the proposed Project site has a moderate potential to support Cooper's hawk, sharp-shinned hawk, yellow warbler, and LBVI; and a low potential to provide suitable habitat for BUOW, California horned lark, and loggerhead shrike. Further it was determined that the Project site does not provide suitable habitat for any of the other special-status wildlife species known to occur in the area since the Project site has been heavily disturbed from on-site disturbances and surrounding development. (ELMT(a) p. 38)

It should be noted that the Project site is sparsely vegetated with a variety of low-growing, early successional plant species that allows for line-of-sight observation favored by BUOW. However, the Project site lacks mammal burrows capable of providing suitable roosting and nesting opportunities. The only burrows observed during the site investigation were too small (less than 4 inches in diameter) to be used by BUOW. Despite a systematic search of all burrows and open habitat throughout the Project site, no burrowing owl or sign (pellets, feathers, castings, or white-wash) was observed. Additionally, focused surveys for BUOW were conducted in 2006/2007 by Michael Brandman Associates, and the focused survey results were negative. Therefore, BUOW is presumed absent from the Project site and no additional focused surveys are recommended or required. (ELMT(a) pp. 39).

In order to ensure impacts to sensitive-status birds (including BUOW) or those protected under the MBTA do not occur from the Project, in the event they were to occur at the Project site at the time of construction start, pre-construction nesting bird (mitigation measure **MM BIO-1**) and burrowing owl clearance surveys (mitigation measure **MM BIO-2**) shall be conducted prior to ground disturbance as well as the presence of a biological monitor during all ground disturbing activities. Potential Project impacts to these special-status species will be **less than significant with implementation of mitigation measures MM BIO-1 and MM BIO-2.**

Threshold B: *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 Game or U.S. Fish and Wildlife Service?*

As defined under Section 6.1.2 of the MSHCP, *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools,* riparian/riverine areas are areas dominated by trees,

shrubs, persistent emergent plants, or emergent mosses and lichens which occur close to or are dependent upon nearby freshwater, or areas with freshwater flowing during all or a portion of the year. Conservation of these areas is intended to protect habitat that is essential to a number of listed or special-status water-dependent fish, amphibian, avian, and plant species. Any alteration or loss of riparian/riverine habitat from development of a Project will require the preparation of a Determination of Biologically Equivalent or Superior Preservation (DBESP) analysis to ensure the replacement of any lost functions and values of habitats in regard to the listed species. This assessment is independent from considerations given to waters of the United States and waters of the State under the CWA, the California Porter-Cologne Water Quality Control Act, and CDFW jurisdictional streambed under the California Fish and Game Code. (ELMT(a) p. 22)

The majority of the Project site does not support any discernible drainage courses, inundated areas, or wetland vegetation that would be considered riparian/riverine habitat under the MSHCP. However, the willow riparian plant community and its associated drainage on the southwest corner of the Project site would qualify as riparian/riverine habitat under the MSHCP. Any impacts to the willow riparian plant community and its associated drainage that may occur as a result of the proposed Project will require a DBESP to be prepared. Based on the design plans, no temporary or permanent disturbance impacts are anticipated to occur to the willow riparian plant community or its associated drainage course/streambed on the southwest corner of the Project site. Therefore, a DBESP will not be required for impacts to riparian/riverine habitat. (ELMT(a) p. 22) The Project will not have a substantial adverse effect on any riparian habitat or other sensitive natural community and impacts are **less than significant.**

Threshold C: *Would the Project have a substantial adverse effect on Federally-protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

There are no on-site water features within the upland portion of the Project site. The majority of the Project site does not support any discernible drainage courses, inundated areas, wetland vegetation, or hydric soils that would be considered jurisdictional. However, the willow riparian plant community and its associated drainage on the southwest corner of the Project site would qualify as a jurisdictional feature under the regulatory authority of the Corps, Regional Board, and the CDFW, and riparian/riverine habitat under the MSHCP. Based on design plans, no temporary or permanent impacts are anticipated to occur to the willow riparian plant community or its associated drainage on the southwest corner of the Project site. Therefore, development of the Project site will not result in impacts to Corps, Regional Board, or CDFW jurisdiction and regulatory approvals will not be required. As the Project will not result in impacts to riparian/riverine areas, a DBESP will not be required for impacts to riparian/riverine habitat (ELMT(a) p. 40) or wetlands.

Vernal pools are seasonally inundated, ponded areas that only form in regions where specialized soil and climatic conditions exist. During fall and winter rains typical of Mediterranean climates, water collects in shallow depressions where downward percolation of water is prevented by the presence of a hard pan or clay pan layer (duripan) below the soil surface. Later in the spring when

rains decrease and the weather warms, the water evaporates and the pools generally disappear by May. The shallow depressions remain relatively dry until late fall and early winter with the advent of greater precipitation and cooler temperatures. (ELMT (a) p. 22) None of the clay soils needed to support vernal pools were observed on-site; therefore, special-status plant and wildlife species associated with vernal pools, including fairy shrimp, are presumed absent from the Project site. (ELMT(a) p. 40) No wetlands or vernal pools will be impacted from Project and impacts are **less than significant**.

Threshold D: *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 native wildlife nursery sites?*

The Project site is located immediately north of the MSHCP Proposed Constrained Linkage 7, which connects Sycamore Canyon Wilderness Park to the south to the Box Springs Reserve to the east (east of Interstate 215/State Route 60) and is generally constrained by urban development. Habitat on the Project site is heavily disturbed and there is little to no incentive for bobcats to occur on the upland portion of the Project site, as it is surrounded on three sides by development (primarily transportation land uses). Box Spring Canyon, located south of the Project site (south of Central Avenue), and the small portion of willow riparian plant community on southwest corner of the Project site, have the potential to be used by migrating or dispersing wildlife, including birds and mammals. (ELMT(a) p. 42)

The Project will not directly impact, prevent or restrict the use of Box Spring Canyon or the willow riparian plant community as a corridor by wildlife. Disturbances from the Project are not expected to directly or indirectly impact wildlife movement opportunities through this area. The MSHCP urban/wildlands interface guidelines will be implemented to help reduce potential indirect effects to wildlife movement. (ELMT(a) p. 42) As stated in Threshold A, a pre-construction survey for BUOW is required prior to initial ground-disturbing activities (**MM BIO-2**) to ensure there are no impacts to these birds in the event they were to start occuping the site since the site visit and habitat assessment conducted in 2020. A temporary fence will be installed to ensure grading activities and/or construction equipment does not encroach into the 0.53-acre conservation area (**MM BIO-3**). To minimize indirect impacts to species under Section 6.1.2 of the MSHCP, from noise generated by the Project construction equipment, a 12-foot high temporary noise barrier will be constructed. The barrier will be located between the construction activities and the adjacent riparian habitat on the southwest corner of the Project site. The barrier shall be continuous without openings, holes or cracks, and shall reach the ground. The barrier may be constructed with 1-inch plywood and provide a reduction of at least 13 dB(A) to ensure noise levels do not exceed 65 dB(A) at the on-site conservation area. Other materials providing the same reduction shall also be permitted (**MM BIO-4**). To further reduce noise, heavy grade rubber mats/pads will be used and all construction equipment shall have properly operating mufflers. Stationary equipment shall be directed away from the noise sensitive receptors and shall not be left to idle when not in use. Staging areas shall be located at the largest possible distance from the sensitive receptors and music/sound amplification is prohibited on the site. Haul truck deliveries will only be allowed between 7:00 am to 7:00 pm on weekdays, and 8:00 am to 5:00 pm on Saturdays. Heavy

equipment such as vibratory rollers and soils compressors shall be limited along the Project boundaries. Jackhammers, pneumatic equipment and all other portable stationary noise sources shall be shielded and noise shall be directed away from sensitive receptors (**MM BIO-5**). If pile driving and rock blasting activities are needed, to minimize direct impacts to species protected under Section 6.1.2 of the MSHCP, activities shall be conducted outside of the avian nesting season and a pre-construction nesting bird clearance survey shall be conducted prior (**MM BIO-6**). To avoid direct construction impacts to riparian plant communities and wildlife corridors, the Project has been designed to stay within previously disturbed areas (**MM BIO-7**). Best Management Practices shall be implemented to reduce fugitive dust emissions (**MM BIO-8**). Additional short-term noise levels efforts will be implemented by the on-site construction contractor (**MM BIO-9**). Potential short-term impacts to on-site drainages from construction runoff shall be addressed via a Stormwater Pollution Prevention Plan (SWPPP) and any necessary BMPs (**MM BIO-10**). To avoid potential construction-related impacts to the conserved riparian habitat, construction worker training shall be provided by a qualified biologist, Project boundaries shall be clearly marked, and staging areas shall be prohibited within 20 feet from the top of slope adjacent to the conserved riparian habitat (**MM BIO-11**). Lastly, the Project shall incorporate special edge treatments to minimize edge effects by providing a safe transition between developed areas and the conserved riparian habitat (**MM BIO-12**). Mitigation measures **MM BIO-13** through **MM BIO-15** include proof of retaining a biological monitor, grading plans with the plotted conservation area and required flagging and fencing and notes of mitigation measures that must be satisfied prior to grading and construction activities on grading plans and submittal to the Community & Economic Development Department, Planning Division to ensure these measures are implemented. To reduce impacts to wildlife due to lighting a photometric plan shall be submitted for approval to the City's Community & Economic Development Department as outlined in **MM AES-1** in Section 5.1 Aesthetics. Mitigation measures **MM BIO-2** through MM **BIO-12** and **MM AES-1** include Project specific measures for implementing the MSHCP urban/wildlife interface guidelines and reducing potential indirect impacts to wildlife corridors or linkages. Potential Project impacts to wildlife movement will be **less than significant with implementation of mitigation measures MM BIO-2 through MM BIO-15 and MM AES-1.**

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

The City's General Plan Land Use and Urban Design and Open Space and Conservation elements in the General Plan 2025 (GP 2025) seek to preserve existing natural resources in the City. Objectives and policies that relate to biological resources and would apply to the Project include the following:

Objective LU-7: Preserve and protect significant areas of native wildlife and plant habitat, including endangered species.

> **Policy LU-7.2**: Design new development adjacent and in close proximity to native wildlife in a manner which protects and preserves habitat.

Policy LU-7.4: Continue to participate in the Western Riverside County MSHCP.

Objective OS-5: Protect biotic communities and critical habitats for endangered species throughout the General Plan Area.

Policy OS-5.2: Continue to participate in the MSHCP Program and ensure all projects comply with applicable requirements.

Policy OS-5.4: Protect native plant communities in the General Plan Area, including sage scrub, riparian areas and vernal pools, consistent with the MSHCP.

The City does not have a tree preservation ordinance, but it has an adopted *Urban Forestry Policy Manual* to establish guidelines for planting, pruning, preservation, and removal of all trees in City rights-of-ways (PW). The City Public Works Department is responsible for the maintenance of all street trees planted by the Project within City right-of-way in accordance with the *Urban Forestry Policy Manual* (PW, p. 14). The Project does not propose the removal of any existing trees within public rights-of-way. Since the Project would continue to participate in the MSHCP Program and would implement mitigation measures to preserve and protect significant areas it would comply with Objectives and Polices listed above. As stated under Section 5.3.1 Project Design Considerations, the Project has been designed to provide 0.53 acres of conservation in the southwest corner of the site as shown in Figure 5.3-5 – MSHCP Conservation Area for the re-routed Proposed Constrained Linkage 7 of the MSHCP. Additionally, the proposed Project would involve new development adjacent to native wildlife while still protecting and preserving habitat through onsite conservation and mitigation measures to minimize indirect impacts. Implementation of the proposed Project will not conflict with any local policies or ordinances protecting biological resources (ELMT(a) p.41) and therefore **no impacts** would occur.

Threshold F: *Would the Project 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 site is located in within Subunit 1 – Sycamore Canyon/Box Springs Central of the Highgrove Area Plan of the MSHCP within Criteria Cell 721, which is an independent Cell that is not affiliated with any Cell group and which contributes to assembly of Proposed Constrained Linkage 7. Further, the project site is located within the designated survey area for burrowing owl and Criteria Area Species Nevin's barberry, smooth tarplant, and round-leaved filaree. Based on the result of the habitat assessment, the Project site was determined not to provide suitable habitat for burrowing owl or the listed Criteria Area Plant Species. With implementation of Project design considerations, mitigation measures **MM BIO-1** through **MM BIO-15 and MM AES-1**, and payment of the MSHCP Local Development Mitigation Fee, the Project is fully consistent with the MSHCP. (ELMT(a) p. 48) Compliance with the MSHCP covers biological impacts to 146 species, and this Project complies with the MSHCP. Table 5.3-2 below shows the MSHCP Guidelines and how the Project features comply.

Table 5.3-2 - Project Compliance with MSHCP Urban/Wildlands Interface Guidelines

MSHCP Guidelines	Project Features
Drainage	
Proposed Developments in proximity to the MSHCP Conservation Area shall incorporate measures, including measures required through the National Pollutant Discharge Elimination System (NPDES) requirements to ensure that the quantity and quality of runoff discharged to the MSHCP Conservation Area is not altered in an adverse way when compared with existing conditions. In particular, measures shall be put in place to avoid discharge of untreated surface runoff from developed and paved areas into the MSHCP Conservation Area. Stormwater systems shall be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant materials or other elements that may degrade or harm biological resources or ecosystem processes within the MSHCP Conservation Area. This can be accomplished using a variety of methods including natural detention basins, grass swales or mechanical trapping devices. Regular maintenance shall occur to ensure effective operations of runoff control systems.	There are no on-site water features within the upland portion of the Project site. The majority of the Project site does not support any discernible drainage courses, inundated areas, wetland vegetation, or hydric soils that would be considered jurisdictional. However, the southwest corner of the Project site contains a jurisdictional feature. Based on design plans, no temporary or permanent impacts are anticipated to occur to the drainage. The proposed drainage patterns will preserve the existing site drainage discharge locations. There are no other storm drain improvements on the undeveloped vacant Project site. On-site storm water runoff and erosion would be minimized through site development, including buildings, parking and paved areas and storm drain infrastructure. Storm drain infrastructure planned for the site includes various size storm drains (8, 12, 18, and 24-inch), inlet catch basin, 24 x 24-inch drain box, underground detention system, 12-inch landscape catch basin with atrium grate, and 12-inch diameter angular rip rap at two storm drain outlets along the western development boundary. Additionally, as stated in mitigation measure **MM BIO-10** a Stormwater Pollution Prevention Plan (SWPPP) shall be implemented by the construction contractor as required by the California General Construction Storm Water Permit pursuant the Regional Board regulations prior to grading permit issuance. The SWPPP shall identify BMPs related to the control of toxic substances, including construction fuels, oils, and other liquids. These BMPs would be implemented by the

	construction contractor prior to the start of any ground clearing activity.
Toxics	
Land uses proposed in proximity to the MSHCP Conservation Area that use chemicals or generate bioproducts such as manure that are potentially toxic or may adversely affect wildlife species, habitat, or water quality shall incorporate measures to ensure that application of such chemicals does not result in discharge to the MSHCP Conservation Area. Measures such as those employed to address drainage issues shall be implemented.	The proposed apartment Project includes a total of 237 one-, two-, and three-bedroom residential apartment units in five 3-story buildings and two 2-4 split story-buildings. The Project does not propose to use chemicals, or generate bioproducts, such as manure, that are potentially toxic or may adversely affect wildlife species and therefore is consistent with the MSHCP Urban/Wildlands Interface Drainage Guidelines.
Lighting	
Night lighting shall be directed away from the MSHCP Conservation Area to protect species within the MSHCP Conservation Area from direct night lighting. Shielding shall be incorporated in project designs to ensure ambient lighting in the MSHCP Conservation Area is not increased.	The proposed Project's exterior lighting from the residential units or from the parking area will meet the City's Zoning Code requirements for support structure height, intensity, flickering/ flashing, placement, shielding, orientation, and style. The City will require an exterior lighting plan as a condition of project approval (City of Riverside Zoning Code, Chapter 19.566). The exterior facades of the Project's structures will feature muted, earth-toned colors and non-reflective materials, reducing their capacity to reflect light. Overall levels of light generated by the new buildings and passing cars would be comparable to typical light levels in an urban environment and the surrounding areas. Additionally, the Project shall be designed to prevent light spillage from the Project to the adjacent open space, to be confirmed with review and approval of a Photometric Plan by the City's Community & Economic Development Department, as outlined in mitigation measures **MM AES-1**.
Noise	

Proposed noise generating land uses affecting the MSHCP Conservation Area shall incorporate setbacks, berms or walls to minimize the effects of noise on MSHCP Conservation Area resources pursuant to applicable rules, regulations and guidelines related to land use noise standards. For planning purposes, wildlife within the MSHCP Conservation Area should not be subject to noise that would exceed residential noise standards.	Per Section 5.9 Noise, the Project would not exceed any of the noise thresholds of significance at the nearest sensitive residential receivers. As outlined in mitigation measure **MM BIO-4** to minimize indirect impacts to species protected under Section 6.1.2 of the MSHCP, that have the potential to be present within the riparian habitat on the southwest corner of the Project site, from noise generated by project construction equipment, a 12-foot high temporary noise barrier shall be installed at the perimeter of the limits of disturbance between the construction activities and the adjacent riparian habitat on the southwest corner of the Project site. The barrier will provide a reduction of at least 13 dB(A) to ensure noise levels do not exceed 65 dB(A) at the on-site conservation area. The use of heavy equipment shall be limited as well as other portable stationary noise sources per mitigation measure **MM BIO-5**. As stated in mitigation measure **MM BIO-6** if pile driving and rock blasting activities are needed, these activities should be conducted outside of avian nesting season. A pre-construction nesting bird clearance survey shall be conducted prior to pile driving and rock blasting activities to ensure avian species are not actively nesting. With the implementation of the above mitigation measures, the Project would not result in increased noise that would adversely affect sensitive wildlife and the Project is consistent with the MSHCP Urban/Wildlands Interface Guidelines.
Invasives	
When approving landscape plans for Development that is proposed adjacent to the MSHCP Conservation Area, Permittees shall consider the invasive, non-native plant species listed in Table 6.2 [of the MSHCP] and	Plant species acceptable for the Project's landscaping must not be considered an invasive species pursuant to Table 6.2 of the MSHCP. To ensure this the final landscape plans must be reviewed and verified by the

shall require revisions to landscape plans (subject to the limitations of their jurisdiction) to avoid the use of invasive species for the portions of Development that are adjacent to the MSHCP Conservation Area. Considerations in reviewing the applicability of this list shall include proximity of planting areas to the MSHCP Conservation Areas, species considered in the planting plans, resources being protected within the MSHCP Conservation Area and their relative sensitivity to invasion, and barriers to plant and seed dispersal, such as walls, topography, and other features.	RCA and the City for consistency with the plant species list in Table 6.2 of the MSHCP. (ELMT(a) p.38) Therefore, the Project is consistent with the MSHCP Urban/Wildlands Interface Invasive Guidelines.
Barriers	
Proposed land uses adjacent to the MSHCP Conservation Area shall incorporate barriers, where appropriate in individual project designs to minimize unauthorized public access, domestic animal predation, illegal trespass or dumping in the MSHCP Conservation Area. Such barriers may include native landscaping, rocks/boulders, fencing, walls, signage and/or other appropriate mechanisms.	Barriers would restrict direct access to the MSHCP Conservation Area from the project site by unauthorized public access or domestic animals. Under the MSHCP, suitable barriers include native landscaping, rocks/boulders, fencing, walls, signage, and/or other appropriate mechanisms. The barriers need to be placed within the boundaries of the development and will be outside of the confines of the open space/MSHCP Conservation Area. The project will need to install a barrier to separate the project footprint from the willow forest plant community or its associated drainage on the southwest corner of the project site. The project proposes a perimeter concrete walkway and 6-foot high tubular steel fence around the outer edge of the apartments and associated amenities. In the southwest portion of the site this walkway and fence is located on top of a 5-foot high retaining wall. Due to the steep topography change in the southwest corner of the site, the project proposes to build a series of terraced retaining walls, ranging from 1 retaining wall up to a total of 6 retaining walls from west to south, with 2:1 slopes between the retaining walls, to separate the western boundary from open areas and riparian habitat to the west. The retaining wall will be placed within the boundaries of the project footprint, outside of

	the proposed Conservation Area. (ELMT(a) p. 28) Therefore, the Project is consistent with the MSHCP Urban/Wildlands Barriers Guidelines.
Grading/Land Development	
Manufactured slopes associated with proposed site development shall not extend into the MSHCP Conservation Area.	Manufactured slopes associated with proposed site development shall not extend into the MSHCP Conservation Area. No manufactured slopes are anticipated to be constructed within the MSHCP Conservation Area. Should manufactured slopes be necessary, they will be kept within the boundaries of the development footprint and not encroach into the open space/MSHCP Conservation Area or otherwise into the area of targeted conservation. Therefore, the Project is consistent with the MSHCP Urban/Wildlands Interface Grading/Land Development Guidelines. (ELMT (a) p.28)

The Project site is not located within a SKR-HCP Core Reserve; however, it is within the SKR fee assessment area. The Project proponent is required to pay the Stephens' Kangaroo Rat Preservation fee in effect at the time a grading permit is issued which is collected per Riverside Municipal Code Section 16.40.040. With payment of the SKR-HCP Local Development Mitigation Fee, the Project is fully consistent with the SKR-HCP.

With implementation of project design considerations, mitigation measures **MM BIO-1 through MM BIO-15**, and payment of both of the MSHCP and SKR-HCP Local Development Mitigation Fees the Project would not conflict with provisions of an adopted HCP or NCCP and impacts will be **less than significant with implementation of mitigation measures MM BIO-1 through MM BIO-15 and MM AES-1.**

5.3.6 Proposed Mitigation Measures

An Environmental Impact Report is required to describe feasible mitigation measures that could minimize significant adverse impacts (State CEQA Guidelines Section 15126.4).

MM BIO-1: Pursuant to the MBTA and Fish and Game Code, removal of any trees, shrubs, or any other potential nesting habitat should be conducted outside the avian nesting season. The nesting season generally extends from February 1 through August 31, beginning as early as January 1 for raptor species, but can vary slightly from year to year based upon seasonal weather conditions. If ground disturbance and vegetation removal cannot occur outside of the nesting season (September 1 through February 31), a pre-construction clearance survey for nesting birds shall be conducted within three (3) days of the start of any ground disturbing activities to ensure that no nesting birds will be disturbed during construction.

If the biologist finds an active nest on the Project site and determines that the nest may be impacted, the biologist shall delineate an appropriate buffer zone around the nest. The size of the buffer shall be determined by the biologist and shall be based on the nesting species, its sensitivity to disturbance, expected types of disturbance, and location in relation to the construction activities. These buffers are typically 300 feet from the nests of non-listed species and 500 feet from the nests of raptors and listed species. Any active nests observed during the survey shall be mapped on an aerial photograph. Only construction activities (if any) that have been approved by a Biological Monitor shall take place within the buffer zone until the nest is vacated. The biologist shall serve as a Construction Monitor when construction activities take place near active nest areas to ensure that no inadvertent impacts on these nests occur. Results of the pre-construction survey and any subsequent monitoring shall be provided to the Property Owner/Developer and the City. The monitoring report shall summarize the results of the nest monitoring, describe construction restrictions currently in place, and confirm that construction activities can proceed within the buffer area without jeopardizing the survival of the young birds.

MM BIO-2: In accordance with the *Burrowing Owl Survey Instructions for the Western Riverside County Multiple Species Habitat Conservation Plan*, a 30-day pre-construction survey for burrowing owls is required prior to initial ground-disturbing activities (e.g., vegetation clearing, clearing and grubbing, grading, tree removal, site watering, equipment staging) to ensure that no burrowing owls have colonized the site in the days or weeks preceding the ground-disturbing activities. If burrowing owls have colonized the project site prior to the initiation of ground-disturbing activities, the project proponent will immediately inform the Regional Conservation Authority (RCA) and the Wildlife Agencies, and will need to coordinate further with RCA and the Wildlife Agencies, including the possibility of preparing a Burrowing Owl Protection and Relocation Plan, prior to initiating ground disturbance. If ground-disturbing activities occur, but the site is left undisturbed for more than 30 days, a pre-construction survey will again be necessary to ensure that burrowing owl have not colonized the site since it was last disturbed. If burrowing owl is found, the same coordination described above will be necessary.

If burrowing owls are observed on the project site during the pre-construction surveys, a burrowing owl relocation plan shall be prepared and submitted to CDFW and the RCA for review and approval prior to commencement of vegetation clearing/grubbing, grading, and construction activities on the project site. The burrowing owl relocation plan shall outline methods to relocate any burrowing owls occurring on the project site and ensure compliance with the MSHCP, MBTA and California Fish and Game Code. If an active burrow is found during the breeding season (February 1 through August 31) occupied burrows will not be disturbed and will be provided with a protective buffer unless a qualified biologist verifies through noninvasive means that either: (1) the birds have not begun egg laying, or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. The size of the buffer will depend on the time of year and level of disturbance.

MM BIO-3: To ensure grading activities and/or construction equipment does not encroach into the 0.53-acre conservation area on the southwest corner of the project site, prior to ground disturbing and construction activities, temporary flagging (i.e. stakes with bright colored flagging

or bright colored temporary construction fencing) shall be installed to visually demark the conservation area. A biological monitor shall be required to ensure that no encroachment into the conservation area occurs.

MM BIO-4: To minimize indirect impacts to species protected under Section 6.1.2 of the MSHCP, that have the potential to be present within the riparian habitat on the southwest corner of the project site, from noise generated by project construction equipment, the following measures shall be implemented prior to ground disturbing and construction activities:

- Install a 12-foot high temporary noise barrier at the perimeter of the limits of disturbance between the construction activities and the adjacent riparian habitat on the southwest corner of the project site. The barrier shall be continuous without openings, holes or cracks, and shall reach the ground. The barrier may be constructed with 1-inch plywood and provide a reduction of at least 13 dB(A) to ensure noise levels do not exceed 65 dB(A) at the on-site conservation area. Other materials providing the same reduction shall also be permitted.

MM BIO-5: To minimize indirect impacts to species protected under Section 6.1.2 of the MSHCP, that have the potential to be present within the riparian habitat on the southwest corner of the project site, from noise generated by project construction equipment, the following measures shall be implemented during ground disturbing and construction activities:

- Heavy grade rubber mats/pads shall be used within the bed of the trucks. These mats will help attenuate initial impact noise generated when an excavator drops rock and debris into the bed of the truck. These mats must be maintained and/or replaced as necessary.

- During all project site excavation and grading on-site, construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturer standards.

- The contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

- Equipment shall be shut off and not left to idle when not in use.

- The contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise/vibration sources and sensitive receptors nearest the project site during all project construction.

- The project proponent shall mandate that the construction contractor prohibit the use of music or sound amplification on the project site during construction.

- The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment (7:00 am to 7:00 pm on weekdays, and 8:00 am to 5:00 pm on Saturdays).

- Limit the use of heavy equipment or vibratory rollers and soil compressors along the project boundaries to the greatest extent possible. It is acknowledged that some soil compression may be necessary along the project boundaries.

- Any jackhammers, pneumatic equipment and all other portable stationary noise sources shall be shielded and noise shall be directed away from sensitive receptors.

MM BIO-6: Project Construction Vibration – If pile driving and rock blasting activities are needed, in order to minimize indirect impacts to species protected under Section 6.1.2 of the MSHCP from construction vibration generated by these activities, the following measures shall be implemented:

- All pile driving and rock blasting activities shall be conducted outside of the avian nesting season (generally February 1 to August 31).

- Out of abundance of caution, a pre-construction nesting bird clearance survey shall be conducted prior to pile driving and rock blasting activities to ensure avian species are not actively nesting, within the sensitive riparian habitat on the southwest corner of the project site, or within 500 feet of the limits of disturbance.

MM BIO-7: The Project has been designed to avoid direct construction impacts to riparian plant communities and wildlife corridors by staying within previously disturbed areas. Avoidance and minimization measures shall be included in the Project specifications for implementation during construction to further reduce the potential for any temporary, indirect impacts to occur to these areas during ground disturbing and construction activities, including the following:

- During ground disturbing and consruction activities, a biological monitor shall be required to ensure that no encroachment into the conservation area occurs. The biological monitor shall be present and monitor flagging installation, as well as all grading and construction activities in the southwest corner of the site including installation of the retaining walls and landscaping.

- During ground disturbing and construction activities trash and other debris shall be properly disposed of and not left on-site in areas where it could fall into protected habitat.

- During ground disturbing and construction activiites refueling, washing, or other vehicular maintenance activities shall occur a minimum of 100 feet away from riparian areas, including the conserved riparian habitat.

- During ground disturbing and construction activities equipment shall be maintained and checked at least on a daily basis for leaks.

- During ground disturbing and construction activities all vehicles leaks or other hazardous material leaks shall be contained and cleaned up immediately. All contaminated soil shall be removed from the site and disposed of properly.

MM BIO-8: During soil excavation, grading, or other subsurface disturbances, the construction contractor shall supervise provision and maintenance of all standard dust control Best

Management Practices (BMPs) to reduce fugitive dust emissions, including but not limited to the following actions:

- Water any exposed soil areas a minimum of twice per day, or as allowed under any imposed drought restrictions. On windy days or when fugitive dust can be observed leaving the construction site, additional water shall be applied at a frequency to be determined by the on-site construction superintendent.
- Pave, periodically water, or apply chemical stabilizer to construction access/egress points.
- Minimize the amount of area disturbed by clearing, grading, earthmoving, or excavation operations at all times.
- Operate all vehicles on graded areas at speeds less than 15 miles per hour.
- Cover all stockpiles that would not be utilized within three days with plastic or equivalent material, to be determined by the on-site construction superintendent, or spray them with a non-toxic chemical stabilizer.

MM BIO-9: During ground disturbing and construction activities the on-site construction contractor shall implement the following measures to minimize short-term noise levels caused by construction activities. Measures to reduce construction noise shall be included in contractor specifications and include, but not be limited to, the following:

- Properly outfit and maintain construction equipment with manufacturer-recommended noise-reduction devices to minimize construction-generated noise.
- Operate all diesel equipment with closed engine doors and equip with factory-recommended mufflers.
- Use electrical power, when feasible, to operate air compressors and similar power tools.
- Employ additional noise attenuation techniques, as needed, to reduce excessive noise levels within the conserved Riparian/Riverine Habitat on-site, such as placement of temporary sound barriers or sound blankets at the top of slope adjacent to these areas.
- Locate construction staging areas at least 100 feet from the conserved riparian habitat.

MM BIO-10: To address potential short-term impacts to water quality within the on-site drainages from construction runoff that may carry storm water pollutants, a Stormwater Pollution Prevention Plan (SWPPP) shall be implemented by the construction contractor as required by the California General Construction Storm Water Permit pursuant the Regional Board regulations prior to grading permit issuance. The SWPPP shall identify BMPs related to the control of toxic substances, including construction fuels, oils, and other liquids. These BMPs would be implemented by the construction contractor prior to the start of any ground clearing activity, shall be subject to periodic inspections by the City and the Project's hydrological consultant, shall be

maintained throughout the construction period and remain in place until all landscape and permanent BMPs are in place. BMPs shall be monitored and repaired if necessary, to ensure maximum erosion, sediment, and pollution control.

- The use of erosion control materials potentially harmful to fish and wildlife species, such as mono-filament netting (erosion control matting) or similar material, within and adjacent to conserved riparian habitat shall be prohibited.
- All fiber roles,[1] straw waddles, and/or hay bales utilized within and adjacent to the Project site shall be free of non-native plant materials.
- Construction contractor shall comply with all litter and pollution laws. All contractors, subcontractors, and employees shall also obey these laws.
- Water containing mud, silt, or other pollutants from grading, aggregate washing, or other activities shall not be allowed to enter the conserved riparian habitat or be placed in locations that may be subjected to high storm flows.
- Spoil sites shall not be located within jurisdictional areas and MSHCP Conservation Areas or locations that may be subjected to high storm flows, where spoil shall be washed back into the conserved riparian habitat where it would impact streambed habitat and aquatic or riparian vegetation.
- Raw cement/concrete or washings thereof, asphalt, paint, or other coating material, oil or other petroleum products, or any other substances which could be hazardous to fish and wildlife resources resulting from Project related activities shall be prevented from contaminating the soil and/or entering the conserved riparian habitat. These materials, placed within or where they may enter the conserved riparian habitat or any party working under contract to the construction contractor, shall be removed immediately.
- No equipment maintenance shall be done within or near the conserved riparian habitat where petroleum products or other pollutants from the equipment may enter these areas under any flow.

MM BIO-11: The following measures shall also be incorporated into the construction documents and specifications, and implemented by the contractor, to avoid potential construction-related impacts to the conserved riparian habitat outside of the approved disturbance limits:

- Prior to grading and construction activites construction worker training shall be provided by a qualified biologist at the first on-site construction meeting;

[1] Fiber rolls or erosion control mesh shall be made of loose-weave mesh that is not fused at the intersections of the weave, such as jute, or coconut (coir) fiber, or other products without welded weaves. Non-welded weaves reduce entanglement risks to wildlife by allowing animals to push through the weave, which expands when spread.

- Prior to grading and construction activities Project boundaries shall be clearly marked and or signs shall be erected near the top of slope adjacent to the conserved riparian habitat to prevent accidental/unauthorized intrusions during construction; and
- During all construction activities staging areas for storage of materials and heavy equipment, and for fueling, cleaning, or maintenance of construction vehicles or equipment, shall be prohibited within 20 feet from the top of slope adjacent to the conserved riparian habitat.

MM BIO-12: During construction the Project shall incorporate special edge treatments to minimize edge effects by providing a safe transition between developed areas and the conserved riparian habitat, and which would be compatible with Project operation and the protection and sustainability of conserved areas. The following special edge treatments are applicable to the Project, and shall be implemented:

- The Project is required to stage construction vehicles and equipment outside of the limits of CDFW jurisdictional streambed and riparian habitat to the maximum feasible distance;
- Construction-related noise shall not exceed 65 dBA at the on-site conservation area; and
- Any manufactured slopes shall be kept within the boundaries of the Project footprint and not encroach into the conserved riparian habitat or the MSHCP Conservation Area.

MM BIO-13: Prior to issuance of a grading permit, the applicant and/or grading contractor shall submit to the Community & Economic Development Department, Planning Division proof that a qualified biologist has been retained and is available to conduct biological monitoring of ground disturbing and construction activities, as identified in MM BIO-3 and MM BIO-7.

MM BIO-14: Prior to issuance of a grading permit, the conservation area in the southwest corner of the project site shall be plotted on the grading plans, as well as the temporary flagging (identified in MM BIO-3) and the temporary noise barrier (identified in MM BIO-4). The grading plans shall be reviewed and approved by the Public Works Department and the Community & Economic Development Department, Planning Division.

MM BIO-15: Prior to issuance of a grading permit, all Mitigation Measures that must be satisfied prior to, and during, ground disturbing and construction activities (MM BIO-1, -2, -3, -4, -5, -6, -7, -8, -10, -11, and -12) shall be added to the grading plans as notes. The grading plans shall be reviewed and approved by the Public Works Department and the Community & Economic Development Department, Planning Division.

MM AES-1: Prior to the issuance of building permits, the applicant shall submit a photometric (lighting) plan for approval by the Community & Economic Development Department, Planning Division. The approved light design requirements shall be included on the final building plan sheets. The lighting plan shall incorporate the following requirements:

- The project shall be designed in such a manner as to prevent light spillage from the project to the adjacent and nearby open space areas
- Project lighting shall not exceed an intensity of one foot-candle
- Shielding shall be employed, where feasible
- Any night lighting shall be directed away from natural open space areas and directed downward and towards the center of the development
- No project lights shall blink, flash, oscillate, or be of unusually high intensity or brightness
- Energy-efficient LPS or HPS lamps shall be used exclusively throughout the project site to dampen glare
- Exterior lights shall be only “warm” LED lights (<3000K color temperature).

5.3.7 Cumulative Environmental Effects

This cumulative impact analysis considers development of the Project in conjunction with other development projects in the geographic area covered by the MSHCP based on a summary of projections approach resulting from full General Plan buildout in Riverside County and other jurisdictions in the region within the boundaries of the MSHCP.

The primary effects of the proposed Project, when considered with the buildout of long-range plans in the geographic area covered by the MSHCP, would be the cumulative loss of habitat for sensitive species throughout the MSHCP area. Although the Project site is disturbed it still provides open space for foraging, refuge, and potentially nesting habitat for birds, including raptors and passerines.

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

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

The MSHCP goes on to state that:

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

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

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

Compliance with the MSHCP covers biological impacts to 146 species, and this Project complies with the MSHCP. With implementation of Project design considerations, mitigation measures **MM BIO-1** through **MM BIO-15**, **MM AES-1**, and payment of the MSHCP Local Development Mitigation Fee, the Project is fully consistent with the MSHCP. As the Project complies with the MSHCP, compliance with the MSHCP provide a mechanism of mitigation for both project specific and cumulative development mitigation. All development projects within the City of Riverside as well as the City of Moreno Valley and Riverside County are required to comply with the MSHCP as these agencies are all permittees under the plan. With implementation of mitigation measures MM BIO-1 through MM BIO-12 and payment of the MSHCP Local Development Mitigation Fee, potential cumulative impacts to sensitive biological resources were found to be **less than significant with implementation of mitigation measures MM BIO-1 through MM BIO-15 and AES-1**.

5.3.8 References

The following references were used in the preparation of this section of the EIR:

ELMT(a)	ELMT Consulting, Inc., *Sycamore Canyon Boulevard and Central Avenue Project, City of Riverside, Riverside County, Habitat Assessment and Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis*, October 2020 (Appendix C)
ELMT(b)	ELMT Consulting, Inc., *Sycamore Canyon Boulevard and Central Avenue Project, City of Riverside, Riverside County, California, Delineation of State and Federal Jurisdictional Water*s, January 2020 (Appendix C)
JPR	Regional Conservation Authority Joint Project Review, JPR #: 08 01 29 01, February 12, 2008, Amended November 18, 2020. (Appendix C)
PW	City of Riverside Public Works Department, *Urban Forestry Policy Manual*, August 2015. (Available at https://www.riversideca.gov/publicworks/trees/pdf/UrbanForestry-TOC.pdf, accessed January 2021.)
SCRCB	State Water Resources Control Board (SWRCB). 2017. Preliminary Draft State Wetland Definition and Procedures for Discharges of Dredged or Fill Materials to Waters of the State. Staff report. Sacramento, CA. July 21, 2017.
SKR-HCP	Stephens' Kangaroo Rat Habitat Conservation Plan. 1996. https://rchca.us/187/SKR-Habitat-Conservation-Plan (Accessed August 2020).
MSHCP	Western Riverside County Multiple Species Habitat Conservation Plan. https://rctlma.org/Portals/0/mshcp/volume1/index.html (Accessed August 2020).

5.4 Cultural Resources

Based on Appendix G of the State CEQA Guidelines and comments received during the NOP public comment period, this section evaluates the Project's potential impacts to historical resources, unique archaeological resources, and disturbing human remains.

The following discussion is based on the *Cultural Resources Assessment, Crestview Apartments Project* prepared by BCR Consulting LLC (BCR; July 2020). This report is included as Appendix D of this EIR.

5.4.1 Setting

This section provides an overview of the existing physical setting and historical context of the Project site.

Natural Setting

The Project site exhibits variable slopes with variable aspects that generally convey water in a south and southwesterly direction towards Box Springs Canyon located along the Project site's southern boundary. Sources show that the property was crossed by unimproved roads from prior to 1901 until at least 1962. Aerial photo research and other sources show that approximately 80 percent of the Project site has been subject to severe disturbances associated with mechanical excavation in 1995, which completely altered the natural setting of the eastern half of the Project site, and during construction on Sycamore Canyon Boulevard between 2002 and 2005. The property was annexed into the City in 2016.

Biological Setting

Although mechanical grading has severely impacted the native vegetation, remnants of coastal sage scrub habitat have been observed in the western half, and remnants of creek side habitat in the southwestern portion of the Project site.

Prehistoric Context

The local prehistoric cultural setting has been organized into many chronological frameworks, although there is no definitive sequence for the region. The difficulties in establishing cultural chronologies for Riverside County are a function of its enormous size and the small amount of archaeological excavations conducted there. Moreover, throughout prehistory many groups have occupied the area and their territories often overlap spatially and chronologically resulting in mixed artifact deposits. Due to dry climate and capricious geological processes, these artifacts rarely become integrated in-situ. Lacking a milieu hospitable to the preservation of cultural midden, local chronologies have relied upon temporally diagnostic artifacts, such as projectile points, or upon the presence/absence of other temporal indicators, such as groundstone. Such methods are instructive but can be limited by prehistoric occupants' concurrent use of different artifact styles, or by artifact re-use or re-sharpening, as well as researchers' mistaken diagnosis, and other factors.

On a larger scale, the prehistoric chronology for Southern California is generally divided into the following periods: The Early Man Horizon (ca. 10,000-6,000 Before Common Era; BCE), the Milling Stone Horizon (6,000-3,000 BCE), the Intermediate Horizon (3,000 BCE-Common Era; CE 500), and the Late Prehistoric Horizon (CE 500- Historic Contact).

The Early Man Horizon (ca. 10,000-6,000 BCE) is generally characterized by an economy with a diverse mixture of hunting and gathering, including a significant focus on aquatic resources on the coast and on inland Pleistocene lakeshores.

The Milling Stone Horizon (6,000-3,000 BCE) is defined by a widespread use of milling stones indicating a subsistence strategy focused on collecting plant foods. The mortar and pestle, associated with acorns or other foods processed through pounding, were first used during the Milling Stone Horizon and increased dramatically in later periods. Variability in artifact collections over time and from the coast to inland sites indicates that Milling Stone Horizon subsistence strategies adapted to environmental conditions.

The Intermediate Horizon (3,000 BCE to CE 500) is characterized by a shift toward a hunting and maritime subsistence strategy, as well as greater use of plant foods. During the Intermediate Horizon, a noticeable trend occurred toward greater adaptation to local resources including a broad variety of fish and land mammals. Tool kits for hunting, fishing, and processing food and materials reflect this increased diversity, with flake scrapers, drills, various projectile points, and shell fishhooks being manufactured.

During the Late Prehistoric Horizon (CE 500 to Historic Contact) the diversity of plant food resources and land and sea mammal hunting increased even further than during the Intermediate Horizon. More classes of artifacts were observed during this period and high quality exotic lithic materials were used for small finely worked projectile points associated with the bow and arrow. Steatite containers were made for cooking and storage and an increased use of asphalt for waterproofing is noted. More artistic artifacts were recovered from Late Prehistoric sites and cremation became a common mortuary custom. Larger, more permanent villages supported an increased population size and social structure.

Ethnographic Overview

The Project site is situated within the traditional boundaries of the Cahuilla, and the area is claimed as ancestral territory by the Luiseño and Gabrielino and was potentially used by the Serrano as well.

Cahuilla

The Cahuilla are a member of the Cupan group of the Takic subfamily of languages. Like other Native American groups in Southern California, the Cahuilla practiced semi-nomadic hunter-gatherer subsistence strategies and commonly exploited seasonably available plant and animal resources. Spanish missionaries were the first outsiders to encounter the Cahuilla during the late 18th century. The Cahuilla are generally divided into three groups: Desert Cahuilla, Mountain Cahuilla, and Western (or Pass) Cahuilla. The term Western Cahuilla is preferred over Pass Cahuilla because this group is not confined to the San Gorgonio Pass area. The distinctions are

believed to be primarily geographic, although linguistic and cultural differences may have existed to varying degrees. Cahuilla territory lies within the geographic center of Southern California and the Cocopa-Maricopa Trail, a major prehistoric trade route, ran through it. The first written accounts of the Cahuilla are attributed to mission fathers and others.

The term Cahuilla is likely derived from the native word *káwiya*, meaning “master” or “boss.” Traditional Cahuilla ethnographic territory extended west to east from the present-day City of Riverside to the central portion of the Salton Sea in the Colorado Desert, and south to north from the San Jacinto Valley to the San Bernardino Mountains.

Cahuilla villages were usually located in canyons or on alluvial fans near a source of accessible water. Each lineage group maintained their own houses (*kish*) and granaries, and constructed ramadas for work and cooking. Each community also had a separate house for the lineage or clan leader. Houses and ancillary structures were often spaced apart, and a “village” could extend over a mile or two. Each lineage had ownership rights to various resource collecting locations.

The Cahuilla hunted a variety of game, including mountain sheep, cottontail, jackrabbit, mice, and wood rats, as well as predators such as mountain lion, coyote, wolf, bobcat, and fox. Various birds were consumed, including quail, duck, and dove, plus various types of reptiles, amphibians, and insects. The Cahuilla employed a wide variety of tools and implements to gather and collect food resources.

Foodstuffs were processed using a variety of tools, including portable stone mortars, bedrock mortars and pestles, basket hopper mortars, manos and metates, bedrock grinding slicks, hammer stones and anvils, and many others. Food was consumed from a number of woven and carved wood vessels and pottery vessels. The ground meal and unprocessed hard seeds were stored in large finely woven baskets, and the unprocessed mesquite beans were stored in large granaries woven of willow branches and raised off the ground on platforms to keep it from vermin. Pottery vessels were made by the Cahuilla and traded with the Yuman-speaking groups across the Colorado River and to the south.

The Cahuilla had adopted limited agricultural practices by the time Euro-Americans traveled into their territory. Their “proto-agricultural techniques and a marginal agriculture” consisting of beans, squash, and corn may have been adopted from the Colorado River groups to the east. By the time of the first Romero Expedition in 1823-24, they were observed growing corn, pumpkins, and beans in small gardens around springs in the Thermal area of the Coachella Valley. The introduction of European plants such as barley and other grain crops suggest an interaction with the missions or local Mexican rancheros. Despite the increasing use and diversity of crops, no evidence indicates that this small-scale agriculture was anything more than a supplement to Cahuilla subsistence, and it apparently did not alter social organization.

By 1819, several Spanish mission outposts, known as *asistencias*, were established near Cahuilla territory at San Bernardino and San Jacinto, including the *asistencia* near Redlands. Cahuilla interaction with Europeans at this time was not as intense as it was for native groups living along the coast. This was likely due to the local topography and lack of water, which made the area less

attractive to colonists. By the 1820s, however, European interaction increased as mission ranchos were established in the region and local Cahuilla were employed to work on them.

The Bradshaw Trail was established in 1862 and was the first major east-west stage and freight route through the Coachella Valley. Traversing the San Gorgonio Pass, the trail connected gold mines on the Colorado River with the coast. Bradshaw based his trail on the Cocomaricopa Trail, with maps and guidance provided by local Native Americans. Journals by early travelers along the Bradshaw Trail told of encountering Cahuilla villages and walk-in wells during their journey through the Coachella Valley. The continued influx of immigrants into the region introduced the Cahuilla to European diseases. The single worst recorded event was a smallpox epidemic that swept through Southern California in 1862-63, significantly reducing the Cahuilla population. By 1891, only 1,160 Cahuilla remained in what was left of their territory, down from an aboriginal population of 6,000–10,000. By 1974, approximately 900 people claimed Cahuilla descent, most of who resided on reservations.

Between 1875 and 1891, the United States established ten reservations for the Cahuilla in their traditional territory. These reservations include: Agua Caliente, Augustine, Cabazon, Cahuilla, Los Coyotes, Morongo, Ramona, Santa Rosa, Soboba, and Torres-Martinez. Four of the reservations are shared with other groups, including the Chemehuevi, Cupeño, and Serrano.

Luiseño

Typically, the native culture groups in Southern California are named after nearby Spanish missions, and such is the case for this Takic-speaking population. For instance, the term “Luiseño” is applied to the natives inhabiting the region within the “ecclesiastical jurisdiction of Mission San Luis Rey… [and who shared] an ancestral relationship which is evident in their cosmogony [theory regarding the origin of the universe], and oral tradition, common language, and reciprocal relationship in ceremonies”. The first written accounts of the Luiseño are attributed to the mission fathers. Prior to Spanish occupation of California, the territory of the Luiseño extended along the coast from Agua Hedionda Creek to the south, Aliso Creek to the northwest, and the Elsinore Valley and Palomar Mountain to the east. These territorial boundaries were somewhat fluid and changed through time. They encompassed an extremely diverse environment that included coastal beaches, lagoons and marshes, inland river valleys and foothills, and mountain groves of oaks and evergreens.

The Luiseño inhabited the north half of San Diego County and western edge of Riverside County. Prior to European contact, the Luiseño lived in permanent, politically autonomous villages, ranging in size from 50-400 people, and associated seasonal camps. Each village controlled a larger resource territory and maintained ties to other villages through trade and social networks. Trespassing in another village’s resource area was cause for war. Villages consisted of dome-shaped dwellings (*kish*), sweat lodges, and a ceremonial enclosure (*vamkech*). Leadership in the villages focused on the chief, or Nota, and a council of elders (*puuplem*). The chief controlled religious, economic, and war-related activities.

Luiseño subsistence focused on the acorn, supplemented by gathering other plant resources and shellfish, fishing, and hunting. Plant foods typically included pine nuts, seeds from various

grasses, manzanita, sunflower, sage, chia, lemonade berry, prickly pear, and lamb's quarter. Acorns were leached and served in different ways. Seeds were ground. Prey included deer, antelope, rabbit, quail, ducks, and other birds. Fish were caught in rivers and creeks. Fish and sea mammals were taken from the shore or caught from dugout canoes. Shellfish were collected from the shore and included abalone, turbans, mussels, clams, scallops, and other species.

Serrano

The Uto-Aztecan "Serrano" people occupied the western Mojave Desert periphery. The generic term "Serrano" has been applied to four groups, each with distinct territories: the Kitanemuk, Tataviam, Vanyume, and Serrano. Only one group, in the San Bernardino Mountains and West-Central Mojave Desert, ethnically claims the term Serrano. The Vanyume, an obscure Takic population, was found along the Mojave River at the time of Spanish contact. The Kitanemuk lived to the north and west, while the Tataviam lived to the west. The Serrano lived mainly to the south. All may have used the western Mojave area seasonally.

Most Serrano lived in small villages located near water sources. Houses measuring 12 to 14 feet in diameter were domed, constructed of willow branches and tule thatching. A single extended family occupied these houses. Many of the villages had a ceremonial house, used as a religious center and as the residence of the lineage leaders. Additional structures in a village might include granaries and a large circular subterranean sweathouse. The sweathouses were built along streams or pools. A village was usually composed of at least two lineages. The Serrano were loosely organized along patrilineal lines and associated themselves with one of two exogamous moieties or "clans"—the Wahiyam (coyote) or the Tukum (wildcat) moiety.

The subsistence economy of the Serrano was one of hunting and collecting plant goods, with occasional fishing. They hunted large and small animals, including mountain sheep, deer, antelope, rabbits, small rodents, and various birds, particularly quail. Plant staples consisted of seeds; acorn nuts of the black oak; piñon nuts; bulbs and tubers; and shoots, blooms, and roots of various plants, including yucca, berries, barrel cacti, and mesquite. The Serrano used fire as a management tool to increase yields of specific plants, particularly chía. Trade and exchange were important aspects of the Serrano economy. Those living in the lower-elevation, desert floor villages traded foodstuffs with people living in the foothill villages who had access to a different variety of edible resources.

Contact between Serrano and Europeans was minimal prior to the early 1800s. As early as 1790, however, Serrano began to be drawn into mission life. More Serrano were relocated to Mission San Gabriel in 1811 after a failed indigenous attack on that mission. Most of the remaining western Serrano were moved to an *asistencia* built near Redlands in 1819.

A smallpox epidemic in the 1860s killed many indigenous Southern Californians, including many Serrano. Oral history accounts of a massacre in the 1860s at Twentynine Palms may have been part of a larger American military campaign that lasted 32 days. Surviving Serrano sought shelter at Morongo with their Cahuilla neighbors; Morongo later became a reservation. Other survivors followed the Serrano leader Santos Manuel down from the mountains and toward the valley floors

and eventually settled in what later became the San Manuel Band of Mission Indians Reservation, formally established in 1891.

In 2003, most Serrano lived either on the Morongo or San Manuel reservations. The Morongo Band of Mission Indians of the Morongo Reservation, established through presidential executive orders in 1877 and 1889, includes both Cahuilla and Serrano members. Established in 1891, the San Manuel Band of Mission Indians Reservation included Serrano members. Both Morongo and San Manuel are federally recognized tribes. People of both reservations participate in cultural programs to revitalize traditional languages, knowledge, and practices.

Gabrielino (Gabrieleño)

Archaeological evidence points to the Gabrieleño arriving in the Los Angeles Basin sometime around 500 BCE, but this has been a subject of debate. Many contemporary Gabrieleño identify as descendants of the indigenous people living across the plains of the Los Angeles Basin and use the native term Tongva.

The name “Gabrieleño” denotes those people administered by the Spanish from the San Gabriel Mission, which included people from the Gabrieleño area proper and other social groups. Therefore, in the post-Contact period, the name does not necessarily identify a specific ethnic or tribal group. Many modern Gabrieleño identify as descendants of the indigenous people living across the plains of the Los Angeles Basin and refer to themselves as the Tongva. This term is used in the remainder of this section to refer to the pre-contact inhabitants of the Los Angeles Basin and their descendants. Surrounding native groups included the Chumash and Tataviam to the northwest, the Serrano and Cahuilla to the northeast, and the Juaneño and Luiseño to the southeast.

Tongva lands encompassed the greater Los Angeles Basin and three Channel Islands (San Clemente, San Nicolas, and Santa Catalina). The Tongva established large, permanent villages in the fertile lowlands along rivers and streams, and in sheltered areas along the coast, stretching from the foothills of the San Gabriel Mountains to the Pacific Ocean. A total tribal population is estimated of at least 5,000, but recent ethnohistoric work suggests a number approaching 10,000. The Tongva constructed houses that were large, circular, domed structures made of willow poles thatched with tule that could hold up to 50 people. Other structures served as sweathouses, menstrual huts, ceremonial enclosures, and probably communal granaries. Cleared fields were created for races and games, such as lacrosse and pole throwing, adjacent to Tongva villages. Archaeological sites composed of villages with various sized structures have been identified.

The Tongva subsistence economy centered on gathering and hunting. The surrounding environment was rich and varied, and the tribe exploited mountains, foothills, valleys, deserts, riparian, estuarine, and open and rocky coastal eco-niches. As for most native Californians, acorns were the staple food (an established industry by the time of the early Intermediate Period). Acorns were supplemented by the roots, leaves, seeds, and fruits of a wide variety of flora (e.g., islay, cactus, yucca, sages, and agave). Fresh water and saltwater fish, shellfish, birds, reptiles, and insects, and large and small mammals were also consumed.

The Tongva used a wide variety of tools and implements to gather and collect food resources. These included the bow and arrow, traps, nets, blinds, throwing sticks and slings, spears, harpoons, and hooks. Groups residing near the ocean used ocean-going plank canoes and tule balsa canoes for fishing, travel, and trade between the mainland and the Channel Islands. Tongva people processed food with a variety of tools, including hammer stones and anvils, mortars and pestles, manos and metates, strainers, leaching baskets and bowls, knives, bone saws, and wooden drying racks. Food was consumed from a variety of vessels. Catalina Island steatite was used to make ollas and cooking vessels.

Deceased Tongva were either buried or cremated, with burial more common on the Channel Islands and the neighboring mainland coast, and cremation dominating on the remainder of the coast and in the interior. Cremation ashes have been found in archaeological contexts buried in stone bowls and in shell dishes, as well as scattered among broken ground stone implements. Archaeological data such as these correspond with ethnographic descriptions of an elaborate mourning ceremony that included a wide variety of offerings, including seeds, stone grinding tools, otter skins, baskets, wood tools, shell beads, bone and shell ornaments, and projectile points and knives. At the behest of the Spanish missionaries, cremation essentially ceased during the post-Contact period.

Historic Overview

Historic-era California is generally divided into three periods: the Spanish or Mission Period (1769 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present).

Spanish Period

Spanish exploration of what was then known as Alta (upper) California began when Juan Rodriguez Cabrillo led the first European expedition into the region in 1542. For more than 200 years after his initial expedition, Spanish, Portuguese, British, and Russian explorers sailed the Alta California coast and made limited inland expeditions, but they did not establish permanent settlements. Spanish entry into what was to become Riverside County did not occur until 1774 when Juan Bautista de Anza led an expedition from Sonora, Mexico to Monterey in northern California.

The establishment of the Spanish missions between 1769 and 1823 marks the first sustained occupation of Alta California. In 1819, an *asistencia* was established near present-day Redlands to serve as an outpost for cattle grazing activities carried out by Mission San Gabriel's Rancho San Bernardino. The Spanish colonists enlisted the labor of the surrounding Native American population to manage and expand their herds of cattle on large ranchos. The influx of European settlers brought the local Native American population in contact with European diseases against which they had no immunity, resulting in catastrophic reduction in native populations throughout the state.

Mexican Period

The Mexican Period commenced when news of the success of the Mexican War of Independence (1810-1821) reached California in 1822. This period saw the federalization of mission lands in California with the passage of the Secularization Act of 1833. This Act enabled Mexican governors in California to distribute former mission lands to individuals in the form land grants. Successive Mexican governors made more than 700 land grants between 1822 and 1846, putting most of the state's lands into private ownership for the first time. About 15 land grants (ranchos) were located in Riverside County.

American Period

The American Period began with the Treaty of Guadalupe Hidalgo. In 1850, California was accepted into the Union of the United States primarily due to the population increase created by the Gold Rush of 1849. The cattle industry reached its greatest prosperity during the first years of the American Period. Mexican Period land grants had created large pastoral estates in California, and demand for beef during the Gold Rush led to a cattle boom that lasted from 1849–1855. However, beginning about 1855, the demand for beef began to decline due to imports of sheep from New Mexico and cattle from the Mississippi and Missouri Valleys. When the beef market collapsed, many California ranchers lost their ranchos through foreclosure. A series of disastrous floods in 1861–1862, followed by a significant drought diminished the economic impact of local ranching. This decline combined with ubiquitous agricultural and real estate developments of the late 19th century, set the stage for diversified economic pursuits that have continued to proliferate to this day.

Local Overview

City of Riverside

The City of Riverside comprised a portion of the Spanish and Mexican empires until 1848 when it became subject to United States authority. The area officially became part of California in 1850 when California became a state. The City of Riverside was founded in 1870 by John North and a group of Easterners who wished to establish a colony dedicated to furthering education and culture, Riverside was built on land that was once a Spanish rancho (City of Riverside). Successful introduction of citrus in the 1870s resulted in large scale development of the industry locally and soon a successful economy was flourishing. Riverside incorporated in 1883 and originally occupied approximately 52 square miles. Thirteen miles withdrew in 1908 and the remaining incorporated 39 square miles remained consistent until expansion began in 1954. Agriculture (specifically citrus cultivation) dominated the economy until World War II, during which several military installations resulted in an influx of population and diversified local industries. After the war, massive expansion accompanied significant demand for large scale housing, infrastructure, and accompanying commercial enterprises. Post war expansion and economic diversification have continued until the present. In 2018 top industries included universities, municipal services, medical services, and aerospace development. The Project site was annexed into the City from Riverside County in 2016.

5.4.2 Related Regulations

5.4.2.1 Federal Regulations

National Register of Historic Places

Cultural resources are considered during federal undertakings chiefly under Section 106 of the National Historic Preservation Act of 1966 (as amended) through one of its implementing regulations, 36 Code of Federal Regulations (CFR) 800 (Protection of Historic Properties), as well as the National Environmental Policy Act. Properties of traditional religious and cultural importance to Native Americans are considered under Section 101(d)(6)(A) of the National Historic Preservation Act. Other federal laws include the Archaeological and Historic Preservation Act of 1974, the American Indian Religious Freedom Act of 1978, the Archaeological Resources Protection Act of 1979, and the Native American Graves Protection and Repatriation Act of 1989, among others.

Section 106 of the National Historic Preservation Act (16 United States Code 470f) requires federal agencies to take into account the effects of their undertakings on any district, site, building, structure, or object included in or eligible for inclusion in the National Register of Historic Places (NRHP), and to give the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings (36 CFR 800.1). Under Section 106, the significance of any adversely affected cultural resource is assessed and mitigation measures are proposed to reduce any impacts to an acceptable level. Significant cultural resources are those listed in or eligible for listing in the NRHP per the criteria listed below (36 CFR 60.4).

Certain properties are usually not considered for eligibility for the NRHP. These include ordinary cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or use for religious purposes, moved or reconstructed structures, properties primarily commemorative in nature, or properties that have become significant within the last 50 years. These types of properties can qualify if they are an integral part of a district that does meet the criteria, or if they fall within certain specific categories relating to architecture or association with historically significant people or events. The vast majority of archaeological sites that qualify for listing do so under Criterion D, Research Potential.

5.4.2.2 State Regulations

California Register of Historic Resources

The California Register of Historical Resources (CRHR) is a guide to cultural resources that must be considered when a government agency undertakes a discretionary action subject to CEQA. The CRHR helps government agencies identify, evaluate, and protect California's historical resources, and indicates properties to be protected from substantial adverse change (California Public Resources Code [PRC], Section 5024.1(a)). The CRHR is administered through the State Office of Historic Preservation (OHP) that is part of the California State Parks system.

A historical resource is one listed in or determined to be eligible for listing in the CRHR, a resource included in a local register of historical resources, or any object, building, structure, site, area,

place, record, or manuscript that a lead agency determines to be historically significant (State CEQA Guidelines, Section 15064.5[a][1-3]). A resource shall be considered *historically significant* if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage
2. Is associated with the lives of persons important in our past
3. 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
4. Has yielded, or may be likely to yield, information important in prehistory or history

In addition to meeting one or more of the above criteria, the CRHR requires sufficient time to have passed to allow a "scholarly perspective on the events or individuals associated with the resource." Fifty years is a general estimate of the time needed to understand the historical importance of a resource, according to the state Office of Historic Preservation. The CRHR also requires a resource to possess integrity, defined as "the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association." Archaeological resources can sometimes qualify as "historical resources" (State CEQA Guidelines, Section 15064.5[c][1]).

According to CEQA, all buildings constructed over 50 years ago and that possess architectural or historical significance may be considered potential historic resources. Most resources must meet the 50-year threshold for historic significance, but resources less than 50 years in age may be eligible for listing on the CRHR if it can be demonstrated that sufficient time has passed to understand their historical importance.

If a project can be demonstrated to cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a], [b], and [c]).

PRC Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, the probability is high it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person

The state administers two other programs: California Historical Landmarks and California Points of Historical Interest. California Historical Landmarks are buildings, sites, features, or events of statewide significance with anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other historical value. California Points of Historical Interest are buildings, sites, features, or events of local (County or City) significance with anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other historical value.

Public Resources Codes Governing Human Remains

The disposition of human remains is governed by Health and Safety Code Section 7050.5 and PRC Sections 5097.94 and 5097.98. It falls within the jurisdiction of the Native American Heritage Commission (NAHC). If human remains are discovered, the county coroner must be notified within 48 hours and there no further disturbance to the site where the remains were found should occur. If the remains are determined by the coroner to be Native American, the coroner is responsible to contact the NAHC within 24 hours. Pursuant to PRC Section 5097.98, the NAHC will immediately notify those persons it believes to be most likely descended from the deceased Native Americans, so they can inspect the burial site and make recommendations for treatment or disposal.

5.4.2.3 Local Regulations

Riverside Municipal Code, Title 20

The City's historical preservation program is among the most active in the state. Riverside adopted Title 20 of the Riverside Municipal Code (RMC), otherwise known as the "preservation ordinance," and created the Cultural Heritage Board in 1969. This ordinance forms the primary body of local historical preservation law. The California Office of Historic Preservation designated Riverside as a Certified Local Government; a distinction that ensures the City's preservation program meets all federal and state standards.

RMC Title 20 establishes procedures for preserving, protecting, and designating significant cultural resources should the resource be considered a historical/cultural resource, and outlines the criteria for Cultural Heritage Landmarks (RMC, Title 20, Section 20.50.010[U]), Structures or Resources of Merit (RMC, Title 20, Section 20.50.010[FF]), and Historic Districts (RMC, Title 20, Section 20.50.010[O]). A cultural resource may be eligible for one of the three City designations:

Cultural Heritage Landmark Designation Criteria

"Landmark" means any improvement or natural feature that is an exceptional example of a historical, archaeological, cultural, architectural, community, aesthetic or artistic heritage of the City, retains a high degree of integrity, and meets one or more of the following criteria:

1. Exemplifies or reflects special elements of the City's cultural, social, economic, political, aesthetic, engineering, architectural, or natural history
2. Is identified with persons or events significant in local, state or national history

3. Embodies distinctive characteristics of a style, type, period or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship
4. Represents the work of a notable builder, designer, or architect, or important creative individual
5. Embodies elements that possess high artistic values or represents a significant structural or architectural achievement or innovation
6. Reflects significant geographical patterns, including those associated with different eras of settlement and growth, particular transportation modes, or distinctive examples of park or community planning, or cultural landscape
7. Is one of the last remaining examples in the City, region, state, or nation possessing distinguishing characteristics of an architectural or historical type of specimen
8. Has yielded or may likely to yield, information important in history or prehistory

Resource or Structure of Merit Criteria

"Resource or Structure or Resource of Merit" means any improvement or natural feature that contributes to the broader understanding of the historical, archaeological, cultural, architectural, community, aesthetic or artistic heritage of the City, retains sufficient integrity, and:

1. Has a unique location or singular physical characteristics or is a view or vista representing an established and familiar visual feature of a neighborhood community or of the City
2. Is an example of a type of building which was once common but is now rare in its neighborhood, community, or area
3. Is connected with a business or use which was once common but is now rare
4. A Cultural Resource that could be eligible under Landmark Criteria no longer exhibiting a high level of integrity, however, retaining sufficient integrity to convey significance under one or more of the Landmark Criteria
5. Has yielded or may be likely to yield, information important in history or prehistory
6. An improvement or resource that no longer exhibits the high degree of integrity sufficient for Landmark designation, yet still retains sufficient integrity under one or more of the Landmark criteria to convey cultural resource significance as a Structure of Merit

Historic District

A "Historic District" contains either:

1. A concentration, linkage, or continuity of cultural resources, where at least fifty percent of the structures or elements retain significant history integrity (a "geographic Historic District")
2. A thematically-related grouping of cultural resources that contribute to each other and are unified aesthetically by plan or physical development, and which have been designated or determined eligible for designation as a historic district by the Historic Preservation Officer, Board, or City Council, or is listed in the National Register of Historic Places or the California Register of Historical Resources, or is a California Historical Landmark or a California Point of Historical Interest (a "thematic Historic District")

In addition to either number 1 or 2 above, the area must also:

1. Exemplify or reflect special elements of the City's cultural, social, economic, political, aesthetic, engineering, architectural, or natural history
2. Identify with persons or events significant in local, state, or national history
3. Embody distinctive characteristics of a style, type, period, or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship
4. Represent the work of notable builders, designers, or architects
5. Embody a collection of elements of architectural design, detail, materials, or craftsmanship that represents a significant structural or architectural achievement or innovation
6. Reflect significant geographical patterns, including those associated with different eras of settlement and growth, particular transportation modes, or distinctive examples of park or community planning
7. Convey a sense of historic and architectural cohesiveness through its design, setting, materials, workmanship or association
8. Yield or may be likely to yield, information important in history or prehistory

City of Riverside General Plan 2025

The Historic Preservation Element of the General Plan 2025 contains policies related to the historic and prehistoric cultural resources in the City. The policies are used in conjunction with present and future goals of land use planning for the preservation of cultural resources. The Historic Preservation Element contains information pertaining to the City's historic context, which identifies themes important in the development of the City and can be used to identify historic resources that reflect those themes. The Historic Preservation Element also discusses available federal, state, and local incentives for historic preservation. Objectives and policies from the Historic Preservation Element that are relevant to the project include:

Objective HP-1: To use historic preservation principles as an equal component in the planning and development process.

> **Policy HP-1.3:** The City shall protect sites of archaeological and paleontological significance and ensure compliance with all applicable State and Federal cultural resources protection and management laws in its planning and project review process.
>
> **Policy HP-1.4:** The City shall protect natural resources such as geological features, heritage trees, and landscapes in the planning and development review process and in park and open space planning.
>
> **Policy HP-1.6:** The City shall use historic preservation as a tool for "smart growth" and mixed use development.

Objective HP-2: To continue an active program to identify, interpret and designate the City's cultural resources.

> **Policy HP-2.2:** The City shall continually update its identification and designation of cultural resources that are eligible for listing in local, state and national registers based upon the 50 year age guideline for potential historic designation eligibility.

Objective HP-4: To fully integrate the consideration of cultural resources as a major aspect of the City's planning, permitting and development activities.

> **Policy HP-4.3:** The City shall work with the appropriate tribe to identify and address, in a culturally appropriate manner, cultural resources and tribal sacred sites through the development review process.

Objective HP-5: To ensure compatibility between new development and existing cultural resources.

> **Policy HP-5.1:** The City shall use its design and plot plan review processes to encourage new construction to be compatible in scale and character with cultural resources and historic districts.
>
> **Policy HP-5.2:** The City shall use its design and plot plan review processes to encourage the compatibility of street design, public improvements, and utility infrastructure with cultural resources and historic districts.

5.4.3 Project Design Considerations

The Project does not include specific design considerations related to reducing potential impacts to cultural resources as no existing resources have been identified within the Project site (described in further detail below). Nonetheless, appropriate mitigation measures have been recommended and will be implemented as part of the Project to ensure any potential impacts to previously unidentified cultural resources would be minimized and/or avoided. Mitigation measures MM CUL-1 through MM CUL-4 described below were accepted by the consulting tribes for the Project.

5.4.4 Methodology

The analysis of cultural resources impacts is based on empirical research presented in the Cultural Resources Assessment prepared for the Project. The full report is included as Appendix D of this EIR. Beyond those described in Section 5.4.2, Related Regulations, the methodologies and significance thresholds employed for the cultural resources impact analyses follow.

Cultural Resources Records Search

Prior to fieldwork, a records search was conducted at the Eastern Information Center (EIC) at the University of California, Riverside, which serves as the local clearinghouse for cultural resource records, on November 15, 2019. This archival research reviewed the status of all recorded historic and prehistoric cultural resources and survey and excavation reports completed within one mile of the Project site. Additional resources reviewed included the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), and documents and inventories published by the California Office of Historic Preservation. These include the lists of California Historical Landmarks, California Points of Historical Interest, Listing of National Register Properties, and the Inventory of Historic Structures.

Previously Conducted Studies

Research completed through the EIC revealed that 30 cultural resource studies have taken place resulting in 40 cultural resources recorded within one mile of the Project site. Of the 30 previous studies on file at the EIC, three have previously assessed the entire Project site.

Previously Identified Cultural Resources

Two cultural resources (a prehistoric bedrock milling site designated P-33-6002 and a historic-period refuse scatter designated P-33-6003) have been previously recorded within the Project site's boundaries. These resources were recorded and destroyed during mechanical grading activities during a 1995 construction job. This mechanical grading was monitored and recorded by archaeologists in 1995 and the resources were determined to have been destroyed by grading. An additional bedrock milling slick site (designated P-33-1194) had been previously identified within the project site boundaries, but field survey has shown that this resource is clearly outside.

Cultural Resources Survey

BCR personnel conducted an archaeological field survey of the Project site on December 20, 2019. The survey was conducted by walking parallel transects spaced approximately 15 meters apart across 100 percent of the Project site. Soil exposures were carefully inspected for evidence of cultural resources. Boulders were also carefully inspected for evidence of prehistoric cultural utility, including indications of milling, rock art, or shelter.

The Project site exhibited approximately 90 percent surface visibility in the previously graded eastern portion, and approximately 40 percent in the more highly vegetated western portion. Some rilling and sheetwashing are evident along slopes within the Project site, particularly in the southwestern portion. Native vegetation included buckwheat, cholla, arroyo willow, white sage, and one palm tree accompanied by non-native shrubs and seasonal grasses.

During the field survey, BCR archaeologists did not identify any cultural resources within the Project site boundaries. As previously discussed above, two cultural resources have been previously recorded within the site's boundary but were destroyed in 1995 by a construction excavation project. A third cultural resource was previously identified as being located within the project site boundaries, but the field survey conducted by BCR archaeologists has shown that this resource is clearly outside the Project site. Careful inspection of the areas that formerly contained the resources failed to yield any remaining evidence of either resource. This entire eastern portion of the Project site has been subject to grading activities that have completely altered the native landscape and have destroyed the resources.

5.4.5 Thresholds of Significance

The City of Riverside has not established local CEQA significance thresholds as described in Section 15064.7 of the State CEQA Guidelines. The City generally utilizes the CEQA significance thresholds in Appendix G ("Environmental Checklist") of the State CEQA Guidelines. The Environmental Checklist prepared by the City for the Project (see Appendix A of this document)

indicates that impacts related to the Crestview Apartment Project may be considered potentially significant if the proposed project would:

- (Threshold A) cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5,
- (Threshold B) cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5,
- (Threshold C) disturb any human remains, including those interred outside of formal cemeteries.

5.4.6 Environmental Impacts

Threshold A: *Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5 of the CEQA Guidelines?*

As discussed, the two previously-recorded cultural resources, prehistoric bedrock milling site P-33-6002 and historic-period refuse scatter P-33-6003, had been destroyed during mechanical grading activities during a 1995 construction job. This mechanical grading was monitored and recorded by archaeologists in 1995 and the resources were determined to have been destroyed by grading. Moreover, the entire eastern portion of the Project site, within which these resources were contained, had been subject to grading activities that completely altered the native landscape. Careful inspection during the December 2019 field survey of these areas that formerly contained the resources failed to yield any remaining evidence of either resource. As P-19-6002 and -6003 have both been destroyed, these resources lack integrity and are therefore not recommended as eligible for the CRHR, and accordingly, neither are considered a historical resource under CEQA.

The December 2019 field survey, site plotting utilizing GPS and aerial photo review confirmed no additional resources are evident within the Project site.

Since two cultural resources (P-33-6002 and P-33-6003) were previously recorded within the Project site boundaries, although they were destroyed during construction of a 1995 project, the Project site is considered to be sensitive for buried cultural resources. However, tribes will be notified of, and invited to consult on, any changes to site plans in order to avoid and/or preserve as many cultural and paleontological resources on the site as possible (see MM CUL-1, discussed below). Also, archaeological and paleontological monitoring will be performed for any ground-breaking activities in an effort to identify any unknown archaeological resources (MM CUL-2). Additionally, if any cultural resources are inadvertently discovered, the detailed provisions for the treatment and disposition of the resources in MM CUL-3 will be followed. Finally, cultural sensitivity training will be provided for all construction personnel (MM CUL-4). These mitigation measures will ensure that any inadvertently discovered cultural resources are avoided and/or preserved. Therefore, with the implementation of these recommended mitigation measures, potential Project impacts to historical resources would be **less than significant with implementation of mitigation measures MM CUL-1 through MM CUL-4**.

Threshold B: *Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5 of the CEQA Guidelines?*

Per the findings of the Project's Cultural Resource Assessment (2020), no known archaeological resources occur within the Project site. Previously recorded resources P-33-6002 and -6003 had both been destroyed during mechanical grading activities during a 1995 construction job. This mechanical grading was monitored and recorded by archaeologists in 1995 and the resources were determined to have been destroyed by grading. The two resources were identified to lack the integrity to be eligible for the CRHR. Other resources occur or have occurred within the vicinity of the Project site. Though the Project site is considered to be sensitive for buried cultural resources, with the implementation of recommended mitigation measures (see above, Threshold A discussion, and below, Mitigation Measures), potential Project impacts to archaeological resources would be **less than significant with implementation of mitigation measures MM CUL-1 through MM CUL-4**.

Threshold C: *Would the Project disturb any human remains, including those interred outside of formal cemeteries?*

The Project's Cultural Resource Assessment did not report the presence or discovery of human remains. However, as discussed in the Project's Initial Study (Appendix A), where construction is proposed in undeveloped areas, disturbance on vacant lands could have the potential to disturb or destroy buried Native American human remains as well as other human remains, including those interred outside of formal cemeteries. Consistent with State laws protecting these remains, sites containing human remains must be identified and treated in a sensitive manner. In the event that Native American human remains, or other human remains are inadvertently discovered during Project-related construction activities, the implementation of the City's standard condition of approval (as outlined below), in accordance with State Law, would reduce potential Project-related impacts to **less than significant.**.

5.4.7 Proposed Mitigation Measures

Mitigation measures MM CUL-1 through MM CUL-4 described below were accepted by the consulting tribes for the Project.

MM CUL-1: Prior to grading permit issuance, if there are any changes to Project site design and/or proposed grades, the Applicant and the City shall contact consulting tribes to provide an electronic copy of the revised plans for review. Additional consultation shall occur between the City, developer/applicant, and consulting tribes to discuss any proposed changes and review any new impacts and/or potential avoidance/preservation of the cultural resources on the Project site. The City and the developer/applicant shall make all attempts to avoid and/or preserve in place as many cultural and paleontological resources as possible that are located on the project site if the site design and/or proposed grades should be revised. In the event of inadvertent discoveries of archaeological resources, work shall temporarily halt until agreements are executed with consulting tribe, to provide tribal monitoring for ground disturbing activities.

MM CUL-2: Archaeological and Paleontological Monitoring: At least 30 days prior to application for a grading permit and before any grading, excavation and/or ground disturbing activities take place, the developer/applicant shall retain a Secretary of Interior Standards qualified archaeological monitor to monitor all ground-disturbing activities in an effort to identify any unknown archaeological resources.

1. The project archaeologist, in consultation with consulting tribes, the Developer, and the City, shall develop an Archaeological Monitoring Plan to address the details, timing, and responsibility of all archaeological and cultural activities that will occur on the project site. Details in the plan shall include:
    a. Project grading and development scheduling:
    b. The development of a rotating or simultaneous schedule in coordination with the developer/applicant and the project archaeologist for designated Native American Tribal Monitors from the consulting tribes during grading, excavation, and ground-disturbing activities on the site, including the scheduling, safety requirements, duties, scope of work, and Native American Tribal Monitors' authority to stop and redirect grading activities in coordination with all Project archaeologists;
    c. The protocols and stipulations that the Applicant, tribes, and Project archaeologist/paleontologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits, or nonrenewable paleontological resources that shall be subject to a cultural resources evaluation;
    d. Treatment and final disposition of any cultural and paleontological resources, sacred sites, and human remains if discovered on the project site; and
    e. The scheduling and timing of the Cultural Sensitivity Training noted in mitigation measure MM-CUL-4.

MM CUL-3: **Treatment and Disposition of Cultural Resources:** In the event Native American cultural resources are inadvertently discovered during the course of grading for this Project, the following procedures will be carried out for treatment and disposition of the discoveries:

1. **Consulting Tribes Notified:** within 24 hours of discovery, the consulting tribe(s) shall be notified via email and phone. The developer shall provide the City evidence of notification to consulting tribes. Consulting tribe(s) will be allowed access to the discovery, in order to assist with the significance evaluation.
2. **Temporary Curation and Storage:** During the course of construction, all discovered resources shall be temporarily curated in a secure location on site or at the offices of the project archaeologist. The removal of any artifacts from the Project site will need to be thoroughly inventoried with tribal monitor oversight of the process; and
3. **Treatment and Final Disposition:** The landowner(s) shall relinquish ownership of all cultural resources, including sacred items, burial goods, and all archaeological artifacts

and non-human remains as part of the required mitigation for impacts to cultural resources. The Applicant shall relinquish the artifacts through one or more of the following methods and provide the City of Riverside Community and Economic Development Department with evidence of same:

a. Accommodate the process for on-site reburial of the discovered items with the consulting Native American tribes or bands. This shall include measures and provisions to protect the future reburial area from any future impacts. Reburial shall not occur until all cataloguing and basic recordation have been completed;

b. A curation agreement with an appropriate qualified repository within Riverside County that meets federal standards per 36 CFR Part 79 and therefore will be professionally curated and made available to other archaeologists/researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility within Riverside County, to be accompanied by payment of the fees necessary for permanent curation;

c. If more than one Native American tribe or band is involved with the project and cannot come to a consensus as to the disposition of cultural materials, they shall be curated at the Western Science Center or Museum of Riverside by default; and

At the completion of grading, excavation, and ground-disturbing activities on the site, a Phase IV Monitoring Report shall be submitted to the City documenting monitoring activities conducted by the project archaeologist and Native Tribal Monitors within 60 days of completion of grading. This report shall document the impacts to the known resources on the property; describe how each mitigation measure was fulfilled; document the type of cultural resources recovered and the disposition of such resources; provide evidence of the required cultural sensitivity training for the construction staff held during the required pre-grade meeting; and, in a confidential appendix, include the daily/weekly monitoring notes from the archaeologist. All reports produced will be submitted to the City of Riverside, Eastern Information Center, and consulting tribes.

MM CUL-4: Cultural Sensitivity Training: The Secretary of Interior Standards County certified archaeologist and Native American monitors shall attend the pre-grading meeting with the developer/permit holder's contractors to provide Cultural Sensitivity Training for all construction personnel. This shall include the procedures to be followed during ground disturbance in sensitive areas and protocols that apply in the event that unanticipated resources are discovered. Only construction personnel who have received this training can conduct construction and disturbance activities in sensitive areas. A sign-in sheet for attendees of this training shall be included in the Phase IV Monitoring Report.

Consistent with State Law the project will be required to comply with the following standard condition of approval:

Discovery of Human Remains: In the event that human remains (or remains that may be human) are discovered at the Project site during grading or earthmoving, the construction contractors,

Project Archaeologist, and/or designated Native American Monitor shall immediately stop all activities within 100 feet of the find. The Project proponent shall then inform the Riverside County Coroner and the City of Riverside Community & Economic Development Department immediately, and the coroner shall be permitted to examine the remains as required by California Health and Safety Code Section 7050.5(b) unless more current State law requirements are in effect at the time of the discovery. Section 7050.5 requires that excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If human remains are determined as those of Native American origin, the Applicant shall comply with the state relating to the disposition of Native American burials that fall within the jurisdiction of the NAHC (PRC Section 5097). The coroner shall contact the NAHC to determine the most likely descendant(s). The MLD shall complete his or her inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site. The Disposition of the remains shall be overseen by the most likely descendant(s) to determine the most appropriate means of treating the human remains and any associated grave artifacts.

The specific locations of Native American burials and reburials will be proprietary and not disclosed to the general public. The County Coroner will notify the Native American Heritage Commission in accordance with California Public Resources Code 5097.98.

According to California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052). The disposition of the remains shall be determined in consultation between the Project proponent and the MLD. In the event that the Project proponent and the MLD are in disagreement regarding the disposition of the remains, State law will apply and the median and decision process will occur with the NAHC (see Public Resources Code Section 5097.98(e) and 5097.94(k)).

5.4.8 Cumulative Environmental Effects

The Project, in conjunction with other planned and pending projects in the Project vicinity (described in Chapter 4 Environmental Setting of this EIR), would cumulatively increase the potential to encounter sensitive cultural and archaeological resources. There would be cumulatively considerable impacts to cultural resources if the project level impacts were significant for any of the cumulative projects. In the event that cultural and/or archaeological resources are discovered, each individual project would be required to comply with the applicable regulatory requirements and mitigate any potential impacts to resources on the individual project site. Potential impacts of the Project would be reduced to a less than significant level due to implementation of mitigation measures **MM CUL-1** through **MM CUL-4** that would protect cultural and archaeological resources and state law, California Health and Safety Code Section 7050.5(b), that would protect human remains. Compliance with CEQA requirements, including the implementation of recommendations provided in project-specific cultural resource studies, on all new development would ensure that, cumulative impacts to cultural resources would be **less than significant with mitigation** and would not be cumulatively considerable.

5.4.9 References

The following references were used in the preparation of this section of the EIR:

BCR 2020	BCR Consulting LLC, *Cultural Resources Assessment, Crestview Apartments Project*, July 2020. (Appendix D)
CITY OF RIVERSIDE	History of Riverside, accessed October 22, 2020 at (https://www.riversideca.gov/visiting-aboutriv.asp).
GP 2025	City of Riverside General Plan 2025. Riverside, CA. November 2007. (https://riversideca.gov/cedd/planning/city-plans/general-plan-0)

5.5 Energy

The focus of this section is to analyze potential impacts related to Energy. Based upon the analysis in the Initial Study/Notice of Preparation (IS/NOP) prepared for this Project (Appendix A), all thresholds related to Energy will be analyzed below. The analysis in this section is based on data and information in the *Crestview Apartments Energy Analysis* prepared by Urban Crossroads (August 2020, Appendix E). Additionally, the discussion and analysis contained herein is informed by comments received during the NOP of an EIR public review period (Appendix A).

5.5.1 Setting

This section provides an overview of the existing energy conditions in the Project area and region.

Existing Energy Setting

Energy use can affect air quality and other natural resources adversely. Energy is primarily categorized in three areas: electricity, used in buildings and cities for lighting and other services; natural gas used for building heating, cooking, and other industrial processes; and fuels used for transportation. Fossil fuels used for any of these types of energy must be burned to create electricity that powers homes and commercial/industrial buildings, to create heat, and to power vehicles. The burning or combusting of fuels releases pollutants and greenhouse gas (GHG) emissions. Many factors affect the level of impact from fuels. When used in transportation, the impact from energy is corresponds to the fuel efficiency of cars, trucks, and public transportation; the mode of travel, such as auto, carpool, and public transit; and miles traveled by these modes as well as the type of fuel. Construction and routine operation and maintenance of transportation infrastructure also consume energy as do residential, commercial, and industrial land uses. This typically occurs through the use of natural gas for heating, cooking, and industrial processes along with the use of electricity.

California Energy Use Overview

The most recent data for California's estimated energy use, Energy Information Administration's (EIA) California State Profile and Energy Estimates in 2020 included:

- Approximately 7,881 trillion British Thermal Unit (BTU) of energy was consumed;
- Approximately 683 million barrels of petroleum;
- Approximately 2,137 billion cubic feet of natural gas; and
- Approximately 1 million short tons of coal.

The most recent data provided by the United States Energy Information Administration (EIA) for energy use in California by demand sector is from 2017 and is reported as follows:

- Approximately 40.3 percent transportation
- Approximately 23.1 percent industrial
- Approximately 18.7 percent commercial

- Approximately 18.0 percent residential

In 2018, total system electric generation for California was 277,704 gigawatt-hours (GWh). California's massive electricity in-State generation system generated approximately 200,475 GWh which accounted for approximately 72 percent of the electricity it uses; the rest was imported from the Pacific Northwest (approximately 9 percent) and the U.S. Southwest (approximately 19 percent). Natural gas is the main source for electricity generation at approximately 43 percent of the total in-State electric generation system power as shown in Table 5.5-1.

Table 5.5-1 – Total Electricity System Power (California 2019)

Fuel Type	California In-State Generation (GWh)	Percent of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	California Energy Mix (GWh)	Total California Power Mix
Coal	248	0.12%	219	7,765	8,223	2.96%
Large Hydro	33,145	16.53%	6,387	1,071	40,603	14.62%
Natural Gas	86,136	42.97%	62	8,859	95,057	34.23%
Nuclear	16,163	8.06%	39	8,743	24,945	8.98%
Oil	36	0.02%	0	0	36	0.01%
Other	411	0.20%	0	11	422	0.15%
Renewables	64,336	32.09%	10,615	13,081	88,032	31.70%
Biomass	*5,851*	*2.92%*	*903*	*33*	*6,787*	*2.44%*
Geothermal	*10,943*	*5.46%*	*99*	*2,218*	*13,260*	*4.77%*
Small Hydro	*5,349*	*2.67%*	*292*	*4*	*5,646*	*2.03%*
Solar	*28,513*	*14.22%*	*282*	*5,295*	*34.090*	*12.28%*
Wind	*13,680*	*6.82%*	*9,038*	*5,531*	*28,249*	*10.17%*
Unspecified Sources of Power	0	0.00%	6,609	13,767	20,376	7.34%
Total	**200,475**	**100%**	**23,930**	**53,299**	**277,704**	**100%**

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:

- California was the seventh-largest producer of crude oil among the 50 states in 2018, and, as of January 2019, third in oil refining capacity.
- California is the largest consumer of jet fuel among the 50 states and accounted for one-fifth of the nation’s jet fuel consumption in 2018.
- California's total energy consumption is second-highest in the nation, but, in 2018, the State's per capita energy consumption was the fourth-lowest, due in part to its mild climate and its energy efficiency programs.

- In 2018, California ranked first in the nation in conventional as a producer of electricity from solar, geothermal, and biomass resources and fourth in the nation in conventional hydroelectric power generation.
- In 2018, large- and small-scale solar photovoltaic (PV) and solar thermal installations provided about 19 percent of California's net electricity generation.

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. Given the nature of the Project being residential uses, the remainder of this discussion will focus on the three sources of energy that are most relevant to the project—namely, electricity, natural gas, and transportation fuel for vehicle trips associated with the residential uses planned for the Project.

Electricity

The Southern California region's electricity reliability has been of concern for the past several years due to the planned retirement of aging facilities that depend upon once-through cooling technologies, as well as the June 2013 retirement of the San Onofre Nuclear Generating Station. While the once-through cooling phase-out has been ongoing since the May 2010 adoption of the State Water Resources Control Board's once-through cooling policy, the retirement of San Onofre complicated the situation. California Independent Service Operator (ISO) studies had revealed the extent to which the Basin region was vulnerable to low-voltage and post-transient voltage instability concerns. A preliminary plan to address these issues was detailed in the 2013 Integrative Energy Policy Report (2013 IEPR) after a collaborative process with other energy agencies, utilities, and air districts. If the resource development outlined in the preliminary plan continues as detailed, reliability in Southern California would likely be assured; however, tight resource margins have led energy agencies and the ARB to develop a contingency plan. This contingency plan was discussed at a public workshop in Los Angeles on August 20, 2014. Similarly, the 2019 and 2020 IEPRs identify broad strategies that are aimed at maintaining electricity system reliability.

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 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's homes and communities. While utilities 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.

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 RPU) 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.

Electricity is provided to the Project by Riverside Public Utilities (RPU). RPU derives electricity from varied sources including natural gas, coal, nuclear, biomass, geothermal, solar, wind, and hydroelectric. Table 5.5-2 identifies RPU's specific proportional shares of electricity sources in 2019. As indicated in Table 5.5-2, the 2019 RPU Power Mix has renewable energy at 37.6 percent of the overall energy resources. Power content mixes are generally released in July each year.

Table 5.5-2 – RPU 2019 Power Content Mix

Energy Resources	2019 RPU Power Mix
Eligible Renewable	37.6%
Biomass & waste	*0.1%*
Geothermal	*22.5%*
Eligible Hydroelectric	*0%*
Solar	*11.8%*
Wind	*3.2%*
Coal	29.2%
Large Hydroelectric	1.3%
Natural Gas	4.1%
Nuclear	4.9%
Other	0%
Unspecified Sources of power*	22.9%
Total	100%
*Unspecified sources of power means electricity from transactions that are not traceable to specific generation sources.	

Natural Gas

The usage associated with natural gas use were calculated using the California Emissions Estimator Model (CalEEMod). 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 (CPUC).

> *"The CPUC 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 percent 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 percent of the natural gas delivered by California utilities in 2012.

The CPUC 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 percent of their natural gas supply from basins located in the Southwest, 16 percent from Canada, 40 percent from the Rocky Mountains, and 9 percent 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, 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 CPUC 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 CPUC has regulatory jurisdiction over 150,000 miles of utility-owned natural gas pipelines, which transported 82 percent 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.

RPU 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.

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 CPUC 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."

As indicated in the preceding discussions, natural gas is available from a variety of in-State and out-of-State sources and is provided throughout the State in response to market supply and demand. Complementing available natural gas resources, biogas may soon be available via existing delivery systems, thereby increasing the availability and reliability of resources in total. The CPUC oversees utility purchases and transmission of natural gas to ensure reliable and affordable natural gas deliveries to existing and new consumers throughout the State.

Transportation Energy Resources

The Project would generate additional vehicle trips with resulting consumption of energy resources, predominantly gasoline and diesel fuel. In March 2019, the Department of Motor Vehicles (DMV) identified 36.4 million registered vehicles in California, and those vehicles (as noted previously) consume an estimated 17.8 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.

California's on-road transportation system includes 394,383 land miles, more than 27.5 million passenger vehicles and light trucks, and almost 8.1 million medium- and heavy-duty vehicles. While gasoline consumption has been declining since 2008, it is still by far the dominant fuel. Petroleum comprises about 91 percent of all transportation energy use, excluding fuel consumed for aviation and most marine vessels. Nearly 17.8 billion gallons of on-highway fuel are burned each year, including 14.6 billion gallons of gasoline (including ethanol) and 3.2 billion gallons of diesel fuel (including biodiesel and renewable diesel). In 2019, Californians also used 194 million

cubic feet of natural gas as a transportation fuel, or the equivalent of 183 billion gallons of gasoline.

5.5.2 Related Regulations

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 USEPA are three Federal agencies with substantial influence over energy policies and programs. On the State level, the CPUC and the California Energy Commission (CEC) are two agencies with authority over different aspects of energy. Relevant Federal and State energy-related laws and plans are summarized below.

5.5.2.1 Federal Regulations

Intermodal Surface Transportation Efficiency Act of 1991

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.

The Transportation Equity Act for the 21st Century

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.

Energy Policy and Conservation Act

Enacted in 1975, this legislation established fuel economy standards for new light-duty vehicles (autos, pickups, vans, and sport-utility vehicles). The law placed responsibility on the National Highway Traffic and Safety Administration, a part of the U.S. Department of Transportation, for establishing and regularly updating vehicle standards. The USEPA administers the Corporate Average Fuel Economy program, which determines vehicle manufacturers' compliance with existing fuel economy standards. Since the inception of the program, the average fuel economy for new light-duty vehicles steadily increased from 13.1 miles per gallon (mpg) for the 1975 model year to 30.7 mpg for the 2014 model year and can increase to 54.5 by 2025.

Energy Star Program

In 1992, the USEPA introduced Energy Star as a voluntary labeling program to identify and promote energy-efficient products to reduce GHG emissions. The program applies to major household appliances, lighting, computers, and building components, such as windows, doors, roofs, and heating and cooling systems. Under this program, appliances that meet specification for maximum energy use established under the program are certified to display the Energy Star label. In 1996, the USEPA joined with the Energy Department to expand the program, which now includes qualifying commercial and industrial buildings as well as homes.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 was designed to improve vehicle fuel economy and help reduce nationwide dependence on foreign oil. It expands the production of renewable fuels, reducing dependence on oil, and confronting global climate change. Specifically, it increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard by requiring fuel producers to use at least 36 billion gallons of biofuel in 2022 and reduces U.S. demand for oil by setting a national fuel economy standard of 35 miles per gallon by 2020.

5.5.2.2 State Regulations

Integrated Energy Policy Report

SB 1389 (Bowen, Chapter 568, Statutes of 2002) requires the CEC to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the State's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the State's economy; and protect public health and safety (Public Resources Code § 25301a]). The Energy Commission prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the Integrated Energy Policy Report.

The 2019 IEPR was adopted January 31, 2020, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2019 IEPR focuses on a variety of topics such as including the environmental performance of the electricity generation system, landscape-scale planning, the response to the gas leak at the Aliso Canyon natural gas storage facility, transportation fuel supply reliability issues, updates on Southern California electricity reliability, methane leakage, climate adaptation activities for the energy sector, climate and sea level rise scenarios, and the California Energy Demand Forecast. (15) The 2020 IEPR Update is currently in progress but is not anticipated to be adopted until February 2021.

California Energy Action Plan

The CEC, in collaboration with CPUC, is responsible for preparing the California Energy Action Plan (EAP), which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The California EAP 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 (VMT) and accommodate pedestrian and bicycle access.

California Code Title 24, Part 6, Energy Efficiency Standards

California Code of Regulations (CCR) Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas (GHG) emissions. The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020 and as such are applicable to building permit applications submitted on or after that date. The 2019 Title 24 standards require solar PV systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, update indoor and outdoor lighting for nonresidential buildings. The CEC anticipates that single-family homes built with the 2019 standards will use approximately 7% less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar PV systems, homes built under the 2019 standards will about 53% less energy than homes built under the 2016 standards. Nonresidential buildings will use approximately 30% less energy due to lighting upgrades.

SB 1078: California Renewables Portfolio Standard Program

First established in 2002 under Senate Bill (SB) 1078, California's Renewable Portfolio Standards (RPS) requires retail sellers of electric services to increase procurement from eligible renewable resources to 33 percent of total retail sales by 2020.

SB 350: Clean Energy and Pollution Reduction Act of 2015

In October 2015, the legislature approved, and the Governor signed, SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the renewables portfolio standard (RPS), higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33 percent to 50 percent by 2030, with interim targets of 40 percent by 2024, and 45 percent by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the California Energy Commission (CEC), and local publicly owned utilities.

- Reorganize the Independent System Operator (ISO) to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.

AB 1493: Pavley Regulations and Fuel Efficiency Standards

California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHG emitted by passenger vehicles and light-duty trucks. Under this legislation, CARB adopted regulations to reduce GHG emissions from non-commercial passenger vehicles (cars and light-duty trucks). Although aimed at reducing GHG emissions, specifically, a co-benefit of the Pavley standards is an improvement in fuel efficiency and consequently a reduction in fuel consumption.

AB 939: The Integrated Waste Management Act

California AB 393 established the "California Integrated Waste Management Act (IWMA) of 1989. The IWMA repealed the majority of Title 7.3 of the Government Code regulating solid waste management and codified the new Act in the Public Resources Code. The Act also repealed the provisions of the Health and Safety Code related to garbage and refuse disposal and codified them in the Public Resources Code. The Act established an integrated waste management hierarchy to guide the California Integrated Waste Management Board and local agencies in implementation, in order of priority: (1) source reduction, (2) recycling and composting, and (3) environmentally safe transformation and land disposal (CalRecycle 2019).

5.5.2.3 Regional Regulations

There are no regional regulations that relate to energy and this Project.

5.5.2.4 Local Regulations

City of Riverside General Plan 2025

The City's General Plan 2025 contains objectives and policies that seek to reduce energy use in the City and to provide renewable energy sources. The Open Space and Conservation Element and Public Facilities and Infrastructure Element contain energy conservation items. Objectives and policies that relate to the Project include:

Open Space and Conservation Element

Objective OS-8: Encourage the efficient use of energy resources by residential and commercial users.

Policy OS-8.2: Require incorporation of energy conservation features in the design of all new construction and substantial rehabilitation projects pursuant to Title 24 and encourage the installation of conservation devices in existing developments.

Policy OS-8.3: Encourage private energy conservation programs that minimize high energy demand and that use alternative energy sources.

Policy OS-8.4: Incorporate solar considerations into development regulations that allow existing and proposed buildings to use solar facilities.

Policy OS-8.5: Develop landscaping guidelines that support the use of vegetation for shading and wind reduction and otherwise help reduce energy consumption in new development for compatibility with renewable energy sources (i.e., solar pools).

Policy OS-8.6: Require all new development to incorporate energy efficient lighting, heating and cooling systems pursuant to the Uniform Building Code and Title 24.

Policy OS-8.7: Encourage mixed-use development as a means of reducing the need for auto travel.

Policy OS-8.9: Encourage construction and subdivision design that allows the use of solar energy systems.

Policy OS-8.10: Support the use of public transportation, bicycling and other alternative transportation modes in order to reduce the consumption of nonrenewable energy supplies.

Policy OS-8.11: Support public education programs for City residents and businesses to provide information on energy conservation and on alternative to nonrenewable energy resources.

Policy OS-8.12: Require bicycle parking in new nonresidential development.

Public Facilities and Infrastructure Element (PF)

Objective PF-6: Provide affordable, reliable, and, to the extent practical, environmentally sensitive energy resources to residents and businesses.

Policy PF-6.3: Promote and encourage energy conservation.

Policy PF-6.4: Encourage energy-efficient development through its site plan and building design standard guidelines.

Policy PF-6.5: Promote green building design.

City of Riverside Restorative GrowthPrint Climate Action Plan

The City of Riverside collaborated with the Western Riverside Council of Governments (WRCOG) on a Subregional Climate Action Plan (CAP). The City of Riverside Restorative Growthprint Climate Action Plan (RRG CAP) builds on the WRCOG Subregional CAP commitments and provides the City GHG reduction goals beyond 2020 to 2035. The RRG-CAP contains measures that promote energy efficiency and renewable energy for municipal operations and the community.

5.5.3 Project Design Considerations

The Project would adhere to applicable California Code Title 24, Part 6 energy efficiency standards as described in Section 5.5.2.2 above.

5.5.4 Thresholds of Significance

The City of Riverside has not established local CEQA significance thresholds as described in Section 15064.7 of the State CEQA Guidelines. The City generally utilizes the CEQA significance thresholds in Appendix G ("Environmental Checklist") of the State CEQA Guidelines. The Environmental Checklist prepared by the City for the Project (see Appendix A of this document) indicates that impacts related to the Crestview Apartments Project may be considered potentially significant if the proposed project would:

- (Threshold A) result in potentially significant environmental impact due to wasteful, inefficient, unnecessary consumption of energy resources, during project construction or operation;
- (Threshold B) conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

In addition, Appendix F of the State CEQA Guidelines states that the means of achieving the goal of energy conservation includes the following:

- (Threshold C)
    - Decreasing overall per capita energy consumption;
    - Decreasing reliance on fossil fuels such as coal, natural gas and oil; and
    - Increasing reliance on renewable energy sources.

5.5.5 Methodology

Information from the CalEEMod 2016.3.2 outputs for the Project's *Air Quality Impact Analysis* (Appendix B of this EIR) was utilized in the Project's energy analysis, detailing Project related construction equipment, transportation energy demands, and facility energy demands. The purpose of the CalEEMod is to calculate construction-source and operational-source criteria pollutant (VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$) and GHG emissions from direct and indirect sources as well as energy usage. Accordingly, the latest version of CalEEMod (2016.3.2) has been used to determine the Project's anticipated transportation and facility energy demands.

On August 19, 2019, the EPA approved the 2017 version of the Emission Factor model (EMFAC) web database for use in State Implementation Plan and transportation conformity analyses. EMFAC2017 is a mathematical model that was developed to calculate emission rates, fuel consumption, and VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the CARB to project changes in future emissions from on-road mobile sources. The *Energy Analysis* (Appendix E) utilizes summer, winter, and annual EMFAC2017 emission factors in order to derive vehicle emissions associated with Project operational activities, which vary by season.

5.5.6 Environmental Impacts

Threshold A: *Would the Project result in potentially significant environmental impact due to wasteful, inefficient, unnecessary consumption of energy resources, during project construction or operation?*

Construction Energy Demands

The Project would require site preparation (including blasting) and grading; pavement and asphalt installation; building construction; architectural coating; and landscaping and hardscaping. All construction would be typical for the region and building types. Construction is expected to commence in October 2021 and will last through April 2023. The duration of construction activity represents a reasonable approximation as required per *CEQA Guidelines*. The duration of construction activity was based on information provided by the Project applicant. The Project is anticipated to be fully built and occupied in 2023 (see Table 5.5-3).

Table 5.5-3 – Construction Duration

Phase Name	Start Date	End Date	Days
Site Preparation (including Blasting)	10/04/2021	10/15/2021	10
Crushing	10/16/2021	11/12/2021	20
Grading	11/13/2021	12/10/2021	20
Building Construction	12/11/2021	02/03/2023	300
Paving	02/04/2023	03/03/2023	20
Architectural Coating	03/04/2023	04/30/2023	40
Source: Construction activity based upon information provided by the Project applicant.			

Electricity

The Project would consist of 237 multifamily residential DUs (75 multifamily housing low rise and 162 multifamily housing mid- rise) and 427 parking spaces, which would be constructed within an 18-month period. Based on the 2019 National Construction Estimator (Urban Crossroads 2020), the typical power cost per 1,000 square feet (SF) of building construction per month is estimated to be $2.32. As specific building and unit areas were unavailable during the time of the Project's Energy Analysis, the CalEEMod default square footage of 75,000 SF for the 75 DU multifamily housing low rise, 162,000 SF for the 162 DU multifamily housing mid-rise, and 35,719 SF of parking space was used in calculating the total power cost of the on-site electricity usage during construction of the Project. Per the Project's Energy Analysis, the total power cost of on-site electricity usage during construction of the Project is estimated to be approximately $11,388.75. Additionally, as of January 1, 2019, RPU's domestic service rate schedule for residential uses (which was not updated in 2020) is $0.11 per kWh of electricity.

Table 5.5-4 provides the total electricity usage from on-site Project construction-related activities, which is estimated to be approximately 103,534 kilowatt hours (kWh).

Table 5.5-4 – Project Construction Electricity Usage

Land Use	Cost per kWh	Project Construction Electricity Usage (kWh)
Multifamily Housing (Low Rise)	$0.11	28,473
Multifamily Housing (Mid Rise)	$0.11	61,501
Parking	$0.11	13,560
Total Project Construction Electricity Usage (kWh)		**103,534**

Fuel

Construction Equipment Fuel Estimates

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 5.5-5. Eight-hour daily use of all equipment is assumed. The aggregate fuel consumption rate for all equipment is estimated at 18.5 hp-hr-gal., obtained from California Air Resources Board (CARB) 2018 Emissions Factors Tables and cited fuel consumption rate factors presented in Table D-24 of the Moyer guidelines. The calculations are based on all construction equipment being diesel-powered which is standard practice consistent with industry standards. Diesel fuel would be supplied by existing commercial fuel providers serving the City and region.

Table 5.5-5 – Construction Equipment Fuel Consumption Estimates

Phase Name	Equipment	HP Rating	Quantity	Usage Hours	Load Factor	HP-hrs/day	Total Fuel Consumption (gal. diesel fuel)
Site Preparation (10 days)	Crawler Tractors	212	4	8	0.43	2,917	1,577
	Rubber-Tired Dozers	247	3	8	0.40	2,371	1,282
Crushing (20 days)	Generator Sets	1,050	1	8	0.74	6,216	6,720
Grading (20 days)	Crawler Tractors	212	3	8	0.43	2,188	2,365
	Excavators	158	1	8	0.38	480	519
	Graders	187	1	8	0.41	613	663
	Rubber-Tired Dozers	247	1	8	0.40	790	854
Building Construction (310 days)	Cranes	231	1	8	0.29	536	8,691
	Crawler Tractors	212	3	8	0.43	2,188	35,478
	Forklifts	89	3	8	0.20	427	6,928
	Generator Sets	84	1	8	0.74	497	8,064
	Welders	46	1	8	0.45	166	2,685
Paving (20 days)	Pavers	130	2	8	0.42	874	944
	Paving Equipment	132	2	8	0.36	760	822
	Rollers	80	2	8	0.38	486	526
Architectural Coating (40 days)	Air Compressors	78	1	8	0.48	300	648
Construction Fuel Demand (Gallons Diesel Fuel)							78,767

As presented in Table 5.5-5, construction equipment used by the Project would result in single event consumption of approximately 78,767 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 equipment use of fuel would not be atypical for the type of construction proposed because there are no aspects of the Project's proposed construction process that are unusual or energy-intensive, and Project construction equipment would conform to the applicable CARB emissions standards, acting to promote equipment fuel efficiencies.

CCR Title 13, Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Best available control measures inform construction equipment operators of this requirement. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints.

Construction Worker Fuel Estimates

It is assumed that all construction worker trips are from light duty autos (LDA) along area roadways. Data regarding Project related construction worker trips were based on CalEEMod 2016.3.2 model defaults utilized within the Project's Air Quality Impact Analysis (AQIA). Output from the model runs for construction activity are provided in Appendix 4.1 of the Project's Energy Analysis. Vehicle fuel efficiencies for LDAs were estimated using information generated within the 2017 version of the EMFAC developed by the CARB. EMFAC2017 was run for the LDA vehicle class within the California sub-area for the 2021 through 2023 calendar years. Data from EMFAC2017 is shown in Appendix 4.2 of the Energy Analysis.

As generated by EMFAC2017, an aggregated fuel economy of LDAs ranging from model year 1974 to model years 2021 through 2023 are estimated to have fuel efficiencies of 31.83 miles per gallon (mpg), 32.77 mpg, and 33.79 mpg, respectively. Table 5.5-6 provides an estimated annual fuel consumption resulting from the Project, generated by LDAs related to construction worker trips. Based on Table 5.5-6, it is estimated that 26,099 gallons of fuel will be consumed related to construction worker trips during full construction of the Project. Project construction worker trips would represent a "single-event" gasoline fuel demand and would not require on-going or permanent commitment of fuel resources for this purpose.

Table 5.5-6 – Construction Worker Fuel Consumption Estimates

Phase Name	Worker Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2021					
Site Preparation (10 days)	3	14.7	441	31.83	14
Crushing (20 days)	18	14.7	5,292	31.83	166
Grading (20 days)	15	14.7	4,410	31.83	139
Building Construction (15 days)	186	14.7	41,013	31.83	1,288
2022					
Building Construction (260 days)	186	14.7	710,892	32.77	21,694
2023					
Building Construction (25 days)	186	14.7	68,335	33.79	2,023
Paving (20 days)	15	14.7	4,410	33.79	131
Architectural Coating (40 days)	37	14.7	21,756	33.79	644
Total Construction Worker Fuel Consumption					**26,099**

Construction Vendor/Hauling Fuel Estimates

It is assumed that 50 percent of all vendor trips are from Medium-Heavy-Duty-Trucks (MHDT), 50 percent are from Heavy-Heavy-Duty Trucks (HHDT), and 100 percent of hauling trips are from HHDT. These assumptions are consistent with the 2016.3.2 CalEEMod defaults utilized within the within the Project's AQIA. Vehicle fuel efficiencies for MHDTs and HHDTs were estimated using information generated within EMFAC2017. EMFAC2017 was run for the MHDT and HHDT vehicle class within the California sub-area for the 2021 through 2023 calendar years.

As generated by EMFAC2017, an aggregated fuel economy of MHDTs ranging from model year 1974 to model years 2021 through 2023 are estimated to have fuel efficiencies of 10.02 mpg, 10.34 mpg, and 10.74 mpg, respectively. Additionally, HHDTs are estimated to have fuel efficiencies of 6.89 mpg, 7.06 mpg, and 7.44 mpg, respectively. As presented in Table 5.5-7, it is estimated that 3,199 gallons of fuel will be consumed related to construction vendor trips (MHDTs) during full construction of the proposed Project. Table 5.5-8 shows the estimated fuel economy of HHDTs accessing the Project site. Based on Table 5.5-8, fuel consumption from construction vendor trips (HHDTs) will total approximately 222,507 gallons. The total fuel consumption from construction vendor trips (MHDTs and HHDTs) is 225,706 gallons. Project construction vendor trips would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

Table 5.5-7 – Construction Vendor Fuel Consumption Estimates (MHDT)

Phase Name	Vendor Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2021					
Building Construction (15 days)	16	6.9	1,656	10.02	165
2022					
Building Construction (260 days)	16	6.9	28,704	10.34	2,776
2023					
Building Construction (25 days)	16	6.9	2,760	10.74	257
				Project MHDT Total	**3,199**

Table 5.5-8 – Construction Vendor/Hauling Fuel Consumption Estimates (HHDT)

Phase Name	Vendor Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Vendor					
2021					
Building Construction (15 days)	16	6.9	1,656	6.89	240
2022					
Building Construction (260 days)	16	6.9	28,704	7.06	4,065
2023					
Building Construction (25 days)	16	6.9	2,760	7.44	371
Hauling					
2021					
Grading (20 days)	3,750	20	1,500,000	6.89	217,831
				Project HHDT Total	**222,507**

Summary of Construction Energy Demands

The estimated power cost of on-site electricity usage during the construction of the Project is assumed to be approximately $11,388.75. Additionally, based on the assumed power cost, it is estimated that the total electricity usage during construction, after full Project build-out, will be approximately 103,534 kWh.

Construction equipment fuel consumption is estimated to be 78,767 gallons of diesel fuel. Additionally, construction worker trips for full construction of the proposed Project would result in the estimated fuel consumption of 26,099 gallons of fuel and fuel consumption from construction vendor trips (Medium-Heavy-Duty-Trucks, MHDTs) will total approximately 3,199 gallons. Fuel consumption from vendor and hauling trips (Heavy-Heavy-Duty Trucks, HHDTs) would total 222,507 gallons. Thus, total estimated fuel consumption during construction would be approximately 330,572 gallons. Diesel fuel would be supplied by City and regional commercial vendors. Indirectly, construction energy efficiencies and energy conservation would be achieved through the use of bulk purchases, transport and use of construction materials. The 2019 IEPR

released by the CEC has shown that fuel efficiencies are getting better within on and off-road vehicle engines due to more stringent government requirements.

The equipment used for Project construction would conform to CARB regulations and California emissions standards. 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).

The Project would utilize construction contractors which practice compliance with applicable CARB regulations regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants (TAC). Compliance with anti-idling and emissions regulations would result in a more efficient use of construction-related energy and the minimization or elimination of wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

Further, certain incidental construction-source energy efficiencies would likely accrue through implementation of California regulations and best available control measures (BACM). More specifically, California Code of Regulations Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. To this end, “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.” In this manner, construction equipment operators are informed that engines are to be turned off at or prior to five minutes of idling.

Indirectly, construction energy efficiencies and energy conservation would be achieved for the proposed development through energy efficiencies realized from bulk purchase, transport and use of construction materials. In general, the construction processes 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 materials in bulk reduces energy demands associated with preparation and transport of construction materials as well as the 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.

As supported by the preceding discussions, Project construction energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Operational Energy Demands

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 Proposed Project-generated traffic is a function of total VMT and estimated vehicle fuel economies of vehicles accessing the Project site. The following vehicle subcategories included in this analysis are consistent with CalEEMod and EMFAC.

Light-Duty Autos

With respect to estimated VMT and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 2,281,579 annual VMT along area roadways for all light-duty autos (LDAs) with full build-out of the Project. Table 5.5-9 provides an estimated range of annual fuel consumption resulting from Project generated LDAs. Based on Table 5.5-9, it is estimated that 67,530 gallons of fuel will be consumed from Project generated LDA trips.

Light-Duty Trucks

With respect to estimated VMT and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 150,761 annual VMT along area roadways for all Light-Duty Truck (LDT1) vehicles with full build-out of the Project. Table 5.5-9 provides an estimated range of annual fuel consumption resulting from Project generated LDT1s. Based on Table 5.5-9, it is estimated that 5,312 gallons of fuel will be consumed from Project generated LDT1 trips.

Additionally, the Project would generate an estimated 777,292 annual VMT along area roadways for all LDT2 vehicles with full build-out of the Project. Table 5.5-9 provides an estimated range of annual fuel consumption resulting from Project generated LDT2s. Based on Table 5.5-9, it is estimated that 28,766 gallons of fuel will be consumed from Project generated LDT2 trips.

Medium-Duty Trucks

With respect to estimated VMT and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 468,060 annual VMT along area roadways for all Medium-Duty Trucks (MDV) vehicles with full build-out of the Project. Table 5.5-9 provides an estimated range of annual fuel consumption resulting from Project generated MDVs. Based on Table 5.5-9, it is estimated that 21,816 gallons of fuel will be consumed from Project generated MDV trips.

Light-Heavy Duty Trucks

With respect to estimated VMT and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 59,406 annual VMT along area roadways for all Light-Heavy-Duty Trucks (LHDT1) vehicles with full build-out of the Project. Table 5.5-9 provides an estimated range of annual fuel consumption resulting from Project generated LHDT1s. Based on Table 5.5-9, it is estimated that 4,075 gallons of fuel will be consumed from Project generated LHDT1 trips.

Additionally, the Project would generate an estimated 19,988 annual VMT along area roadways for all LHDT2 vehicles with full build-out of the Project. Table 5.5-9 provides an estimated range of annual fuel consumption resulting from Project generated LHDT2s. Based on Table 5.5-9, it is estimated that 1,310 gallons of fuel will be consumed from Project generated LHDT2 trips.

Medium-Heavy Duty Trucks

With respect to estimated VMT and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 73,213 annual VMT along area roadways for all MHDTs with full build-out of the Project. Table 5.5-9 provides an estimated range of annual fuel consumption resulting from Project generated MHDTs. Based on Table 5.5-9, it is estimated that 6,818 gallons of fuel will be consumed from Project generated MHDT trips.

Heavy-Heavy Duty Trucks

With respect to estimated VMT and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 291,681 annual VMT along area roadways for all HHDTs with full build-out of the Project. Table 5.5-9 provides an estimated range of annual fuel consumption resulting from Project generated HHDTs. Based on Table 5.5-9, it is estimated that 39,227 gallons of fuel will be consumed from Project generated HHDT trips.

Other Buses

With respect to estimated VMT and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 5,860 annual VMT along area roadways for all Other Buses (OBUS) with full build-out of the Project. Table 5.5-9 provides an estimated range of annual fuel consumption resulting from Project generated OBUS vehicles. Based on Table 5.5-9, it is estimated that 884 gallons of fuel will be consumed from Project generated OBUS trips.

Urban Buses

With respect to estimated VMT and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 4,770 annual VMT along area roadways for all Urban Buses (UBUS) with full build-out of the Project. Table 5.5-9 provides an estimated range of annual fuel consumption resulting from Project generated UBUS vehicles. Based on Table 5.5-9, it is estimated that 961 gallons of fuel will be consumed from Project generated UBUS trips.

Motorcycles

With respect to estimated VMT and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 18,748 annual VMT along area roadways for all Motorcycles (MCY) with full build-out of the Project. Table 5.5-9 provides an estimated range of annual fuel consumption resulting from Project generated MCY vehicles. Based on Table 5.5-9, it is estimated that 495 gallons of fuel will be consumed from Project generated MCY trips.

Motor Homes

With respect to estimated VMT and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 3,735 annual VMT along area roadways for all Motor Homes (MH) with full build-out of the Project. Table 5.5-9 provides an estimated range of annual fuel consumption resulting from Project generated MH vehicles. Based on Table 5.5-9, it is estimated that 605 gallons of fuel will be consumed from Project generated MH trips.

Table 5.5-9 – Total Project-Generated Traffic Annual Fuel Consumption (All Vehicles)

Vehicle Type	Annual VMT	Estimated Annual Fuel Consumption (gallons)
LDA	2,281,579	67,530
LDT1	150,761	5,312
LDT2	777,292	28,766
MDV	468,060	21,816
LHDT1	59,406	4,075
LHDT2	19,988	1,310
MHDT	73,213	6,818
HHDT	291,681	39,227
OBUS	5,860	884
UBUS	4,770	961
MCY	18,748	495
SBUS	3,818	474
MH	3,735	605
Total (All Vehicles)	**4,158,911**	**178,273**

Summary of Operational Transportation Energy Demands

Transportation energy demands for the proposed Project were calculated for each vehicle category (LDA, LDT1, LDT2, MDV, LHDT1, LHDT2, MHDT, HHDT, OBUS, UBUS, MH, SBUS, and MH) by dividing the annual VMT by the average vehicle fuel economy. The estimated annual fuel consumption of all vehicles for the proposed Project is estimated to be 178,273 gallons of fuel per year for the year 2023.

Fuel would be provided by current and future commercial vendors. Trip generation and VMT generated by the Project are consistent with other residential uses of similar scale and configuration, as reflected respectively in the Institute of Transportation Engineers (ITE) Trip Generation Manual and CalEEMod. 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 LDAs to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. Location of the Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands. The Project would implement sidewalks, facilitating and encouraging pedestrian access. Facilitating pedestrian and bicycle access would reduce VMT and associated energy consumption. In compliance with the California Green Building

Standards Code, the Project would promote the use of bicycles as an alternative mean of transportation by providing short-term and/or long-term bicycle parking accommodations. As supported by the preceding discussions, Project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Facility Energy Demands

Project facility operational energy demands are estimated at: 2,432,854 kBTU/year of natural gas; and 919,955 kWh/year of electricity. Natural gas would be supplied to the Project by SoCalGas; electricity would be supplied by RPU. The Project proposes conventional residential 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 residential projects of similar scale and configuration.

Implementation of these project design features, including required Title 24 standards will ensure that the Project energy demands would not be considered inefficient, wasteful, or otherwise unnecessary.

As supported by the preceding analyses, Project operations would not result in the inefficient, wasteful or unnecessary consumption of energy. 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. The Project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservations goals within the State of California. Potential impacts would be **less than significant**.

Threshold B: *Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

The Project's consistency with the applicable state and local plans is discussed below.

Consistency with IEPR

Electricity would be provided to the Project by RPU and natural gas is provided by SoCalGas. RPU's Integrated Resource Plan: 2017-2021 and SoCalGas 2018 Corporate Sustainability Report build on existing state programs and policies. As such, the Project is consistent with, and would not otherwise interfere with, nor obstruct implementation the goals presented in the 2019 IEPR.

Additionally, the Project will comply with the applicable Title 24 standards which would ensure that the Project energy demands would not be inefficient, wasteful, or otherwise unnecessary. As such, development of the proposed Project would support the goals presented in the 2019 IEPR.

Consistency with State of California Energy Plan

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 VMT, takes advantage of existing infrastructure systems, and promotes land use compatibilities through

the introduction of residential uses on a commercial-designated site. It should be noted that Project's proposed residential uses will generate less traffic than if the Project site were developed consistent with the commercial land use designation (retail, sales, service and office use). 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.

Consistency with California Code Title 24, Part 6, Energy Efficiency Standards

The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020. The analysis herein assumes compliance with the 2019 Title 24 Standards.

Consistency with RPS

California's Renewable Portfolio Standard is not applicable to the Project as it is a statewide measure that establishes a renewable energy mix. No feature of the Project would interfere with implementation of the requirements under RPS.

Consistency with AB 1493

AB 1493 is not applicable to the Project as it is a statewide measure establishing vehicle emissions standards. No feature of the Project would interfere with implementation of the requirements under AB 1493.

Consistency with SB 350

This measure is not directly applicable to development projects, but the proposed Project would use energy from Southern California Edison, which has committed to diversify its portfolio of energy sources by increasing energy from wind and solar sources. No feature of the Project would interfere with implementation of SB 350. Refer to Tables 3-5 and 3-6 in the Greenhouse Gas Analysis Report for an analysis of the Project's consistency with SB 350.

Consistency with City of RRG CAP

The Project would implement energy-saving features and operational programs, consistent with the reduction measures set forth in the RRG CAP.

Therefore, the Project will not conflict with or obstruct a state or local plan for renewable energy or energy efficiency and potential impacts would be **less than significant**.

Threshold C: *Would the Project achieve the goal of energy conservation by the following?*

- *Decreasing overall per capita energy consumption;*
- *Decreasing reliance on fossil fuels such as coal, natural gas and oil; and*
- *Increasing reliance on renewable energy sources.*

As previously stated, the proposed Project is subject to California Building Code requirements. New buildings must achieve compliance with 2019 Building and Energy Efficiency Standards and the 2019 California Green Building Standards requirements. As discussed in Section 3.3.1 Project Description, the residential units of the Project would include five 3-story buildings and two 2-4

split-story buildings. Per Energy Code definitions, multifamily buildings of three (3) habitable stories or less above grade are addressed in the residential requirements of the Energy Code, while multifamily buildings four (4) habitable stories or more above grade are addressed in the non-residential requirements of the Energy Code (Ace Resources 2021). Therefore, the Project is partially considered residential and partially considered multifamily per the code definitions. As discussed, the 2019 Title 24 standards require solar PV systems for all low-rise residential buildings (single family homes and multifamily buildings three stories or less). Further, for residential buildings, the standards encourage demand responsive technologies, including heat pump water heaters and improvement of buildings' thermal envelopes through walls and windows to improve energy savings. For non-residential buildings, the standards update indoor and outdoor lighting and make maximum use of LED technology. Overall, adherence to the 2019 Title 24 standards would increase building efficiency and affect the energy grid less (CEC 2018).

On this basis, the Project would decrease overall per capital energy consumption, reliance on fossil fuels such as coal, natural gas, and oil, and increase reliance on renewable energy sources. Therefore, potential impacts would be **less than significant**.

5.5.7 Proposed Mitigation Measures

The Project does not exceed any of the energy thresholds of significance and potential Project-related impacts would be less than significant. Therefore, no energy-related mitigation measures have been proposed for the Project.

5.5.8 Cumulative Environmental Effects

As described, no mitigation measures have been proposed for the Project as the Project would not exceed energy thresholds of significance. Energy consumed by the Project is calculated to be comparable to, or less than, energy consumed by other residential, commercial, and recreational uses of similar scale and intensity that are constructed and operating in the State. Further, the energy demands of the Project can be accommodated within the context of available resources and energy delivery systems; thus, the Project would not cause or result in the need for additional energy producing or transmission facilities. The Project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservations goals within the State of California and does not conflict with or obstruct applicable State or local plans for renewable energy or energy efficiency. Potential impacts to energy from the proposed Project would be **less than significant** and no mitigation is required.

As discussed in Chapter 4 Environmental Setting of this EIR, cumulative development in the City and surrounding cities and county would include residential development, warehouses, commercial, office, and public facilities. Each of the proposed developments would increase the consumption of energy and energy demand in the region. Energy consumption by the cumulative projects would be regulated by Energy Efficiency Standards embodied in Title 24 of the California Building Code, which apply to new construction of both residential and non-residential buildings, and indirect energy reduction measures from GHG reduction policies. Therefore, the cumulative projects would not result in the wasteful use of energy.

The City of Riverside has a number of green power projects that would reduce overall energy consumption in the City. The City is funding various solar projects throughout the City that will reduce energy use from current users and from ongoing, the cumulative projects in the City. Additionally, RPU has a number of incentive programs for residences and businesses to reduce their electricity consumption and that will result in cumulatively reducing GHG emissions from energy use.

Further, the cumulative projects in the area would consume a fraction of the energy supplies provided by RPU and SoCalGas and have an insignificant demand in the State's overall energy supply. Moreover, SoCalGas projects natural gas demands to decrease at an annual average rate of approximately 0.74 percent from 2018 to 2035 and RPU projects its electrical portfolio will be 40 percent renewable resources by 2020. As indicated in Table 5.5-2, the 2019 RPU Power Mix has renewable energy at 37.6 percent of the overall energy resources. Power content mixes are generally released in July each year and 2020 data was not available at the time this Draft EIR was being prepared.

Therefore, SoCalGas and RPU would have adequate supplies and the cumulative projects would not place a significant demand on the suppliers. Potential cumulative impacts would be **less than significant**.

5.5.9 References

The following references were used in the preparation of this section of the DEIR:

Ace Resources 2021	Ace Resources. "Title 24, Part 6 (Building Energy Efficiency Standards) Fact Sheet." (file:///C:/Users/RVA-12/AppData/Local/Temp/2019.Whats%20Changed.Nonres.pdf).
CEC 2018	California Energy Commission. "2019 Building Efficiency Standards: Frequently Asked Questions." (https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf).
California Public Utilities Commission	California Public Utilities Commission. "Natural Gas and California." (http://www.cpuc.ca.gov/general.aspx?id=4802).
CalRecycle 2019	California Department of Resources, Recycling, and Recovery (CalRecycle). "History of California Solid Waste Law, 1985-1989." (https://www.calrecycle.ca.gov/laws/legislation/calhist/1985to1989).
GP 2025	City of Riverside General Plan 2025. November 2007. (https://riversideca.gov/cedd/planning/city-plans/general-plan-0)

Urban Crossroads 2020	Urban Crossroads. *Crestview Apartments Energy Analysis, City of Riverside*. August 2020.
Urban Crossroads 2020	Urban Crossroads. *Crestview Apartments Air Quality Impact Analysis, City of Riverside*. August 2020.

5.6 Geology and Soils

This section analyzes the Project's potential impacts related to geology and soils. Based upon the analysis in the Initial Study/Notice of Preparation (IS/NOP) prepared for this Project (Appendix A), some thresholds related to geology and soils were found to have a potentially significant impact and will be analyzed further below. The analysis in this section is based, in part, on the September 2020 Geotechnical Evaluation Report prepared by NOVA (included as Appendix F), the 2020 Phase I Environmental Site Assessment prepared by Ardent Environmental, Inc. (included in Appendix A of this EIR), the 2020 Jurisdictional Delineation prepared by ELMT Consulting (included in Appendix C of this EIR), and the 2020 Cultural Resources Assessment prepared by BCR Consulting, LLC (included in Appendix D of this EIR). The discussion and analysis contained herein is informed by comments received during the NOP public review period.

5.6.1 Setting

Geology and Soils

The Project site is located within the southern part of the Los Angeles Basin in the Peninsular Ranges Geomorphic Province. The Peninsular Ranges Geomorphic Province is a series of mountain ranges separated by northwest-trending valleys, which characterizes the southwest portion of California. This geomorphic province encompasses an area that extends about 900 miles from the Transverse Ranges and the Los Angeles Basin south to the southern tip of Baja California. The province varies in width from approximately 30 to 100 miles. The surface topography is characterized geomorphically by eroded and dissected mesa terrain. As shown in Figure 5.6-1- Geologic Mapping of the Site Vicinity the Project site itself is set in an area of widely varying topography with Cretaceous-aged, Val Verde Tonalite occurring at the near surface. Alluvial soils locally infill some scattered lower lying areas (NOVA, p. 26).

The review of previous geotechnical investigations of the site, as well as observation of the current surface topography, indicates that the Project site has been extensively graded. However, it is not known if appropriate earthwork or grading permits were obtained for this previous earthwork. The ground surface descends in elevation from northeast to southwest, from about 1,375 feet mean sea level (msl) to 1,315 feet msl. This grade occurs over a distance of about 750 feet, at a surface gradient averaging about 7 percent. The Project site is lightly vegetated, with areas of bare soil and windrows of rocks and boulders. An approximately 38-foot high cut slope exposing granitic bedrock is located in the northwest corner of the property. (NOVA, p. 6-7)

Geologic and Soils Conditions

Test pits were conducted at various locations throughout the site during three (3) different studies; one in November 2006, another in June 2018, and the most recent in July 2020. During the November 2006 study a total of 11 test pits were excavated to a maximum depth of 33 feet below ground surface (bgs). A geophysical study was conducted in 2007 where five (5) seismic refraction waves were performed that traversed throughout the Project site. The June 2018 test pit study was conducted with a total of 18 test pits that were excavated to a maximum depth of 34 feet bgs. Approximate ground surface elevation, total depth below ground surface, terminal

elevation, identification of trenches ending in rock presence, and thickness of fill and alluvium were analyzed. The most recent study totaled 18 test pits to address data gaps from previous geotechnical investigations. A revised seismic study was conducted in August 2020 where NOVA performed six (6) seismic refraction lines and one (1) seismic shear wave line. Figure 5.6-2 shows the locations of previous test pits on the proposed development. Figure 5.6-3 shows the locations of the July 2020 test pits.

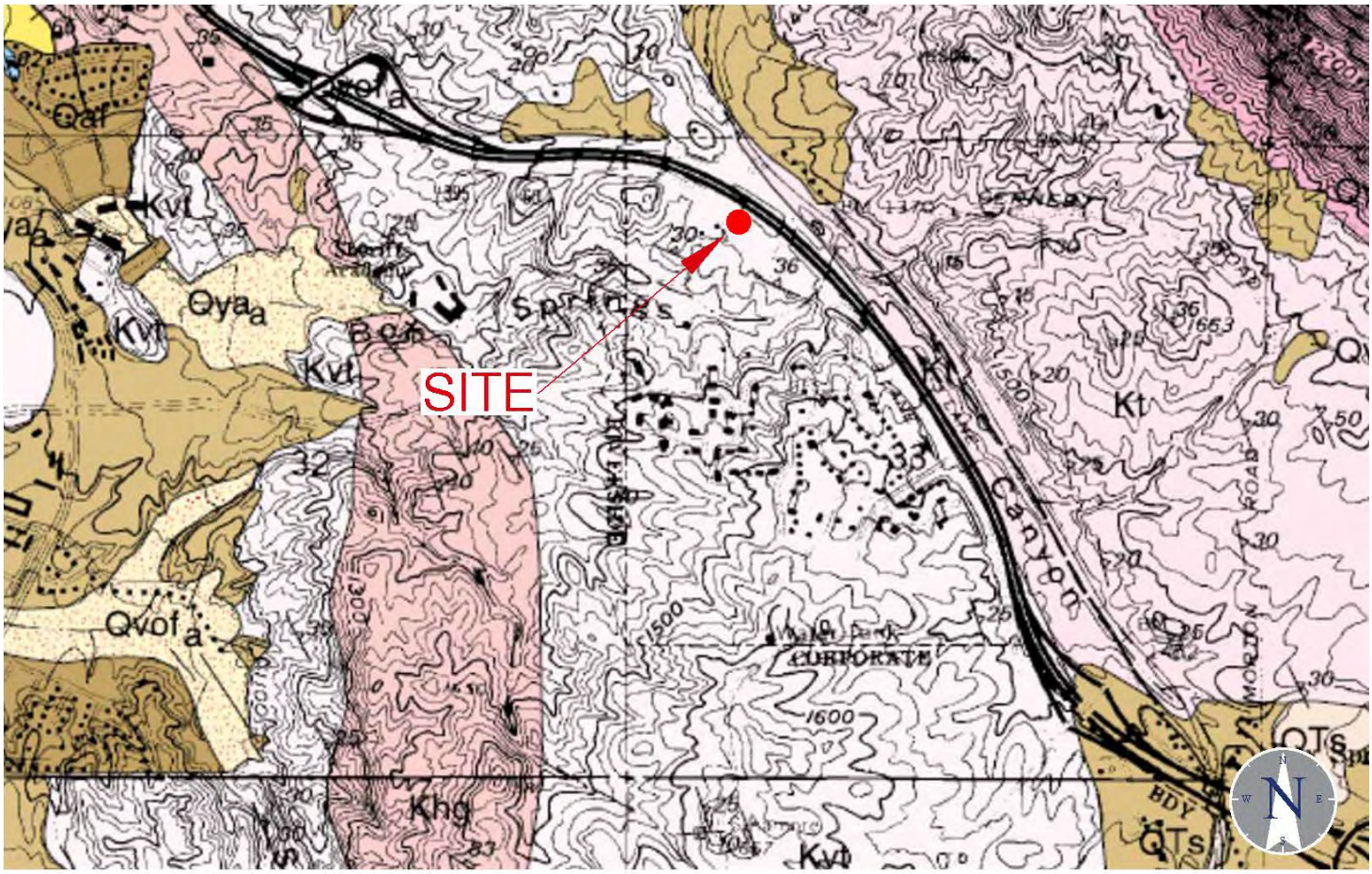
As outlined in the Jurisdictional Delineation report, soils within and adjacent to the Project site were researched using the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), and Custom Soils Resource Report for Riverside County. According to the Custom Soil Resource Report, the Project site is underlain by the following soil units; Cieneba rocky sandy loam (15 to 60 percent slopes, eroded), Cieneba sandy loam (15 to 50 percent slopes, eroded), Hanford coarse sandy loam (2 to 8 percent slopes), Monserate sandy loam (8 to 15 percent slopes, eroded), and Terrace Escarpments. (ELMT, p. 11) Figure 5.6-4 shows the soil types found at the Project site.

Subsurface soils present on the Project site have been categized into three (3) units.

1. Unit 1, Undocumented Fill: Much of the Project site is covered with uncontrolled sand/cobble/ boulder fill that ranges in thickness from a few feet to greater than 35 feet. The fill is characteristically loose/compressible and extremely heterogeneous (i.e., widely varying in quality and consistency over short horizontal and vertical distance). Some wood was encountered in test pits, though it appears that the amounts of wood or other organics is not of a scale that would affect the mechanical behavior of the fill. Boulders of up to 11 feet in maximum dimension were commonly encountered during the subsurface investigations.
2. Unit 2, Quaternary Alluvial Deposits: Quaternary Alluvial Deposits were encountered below the fill in the central and southern portions of the site. This unit was deposited in old drainage channels that have since been filled in with the artificial fil. The alluvial deposits generally consisted of slightly moist to moist clayey sand to sand with clay. The alluvial deposits encountered ranged in thickness from about two feet to thirteen feet thick.
3. Unit 3, Granitic Rock (Tonalite): The entire Project site is underlain by Cretaceous-aged Val Verde Tonalite, a type of plutonic rock. Tonalite was encountered across the Project site from the surface at the northern portion of the site, to depths up to 26 feet below ground surface in the central and southern portions of the site. The upper few feet of this unit are generally weathered and excavated to sand and cobbles with larger scale construction equipment. Below the upper few feet of this unit, this rock is sound and less weathered and may be difficult to excavate with heavy equipment. (NOVA, p.28)

Groundwater

Groundwater was not encountered to the maximum depths explored, about 34 feet below ground surface in the test pits by NOVA or others. (NOVA p. 28)



KEY TO SYMBOLS

Kvt	VAL VERDE TONALITE	Kt	TONALITE, UNDIFFERENTIATED	Qya	YOUNG AXIAL CHANNEL DEPOSITS
Qvof	VERY OLD ALLUVIAL FAN DEPOSITS	Khg	HETEROGENEOUS GRANITIC ROCKS	Kgb	GABBRO

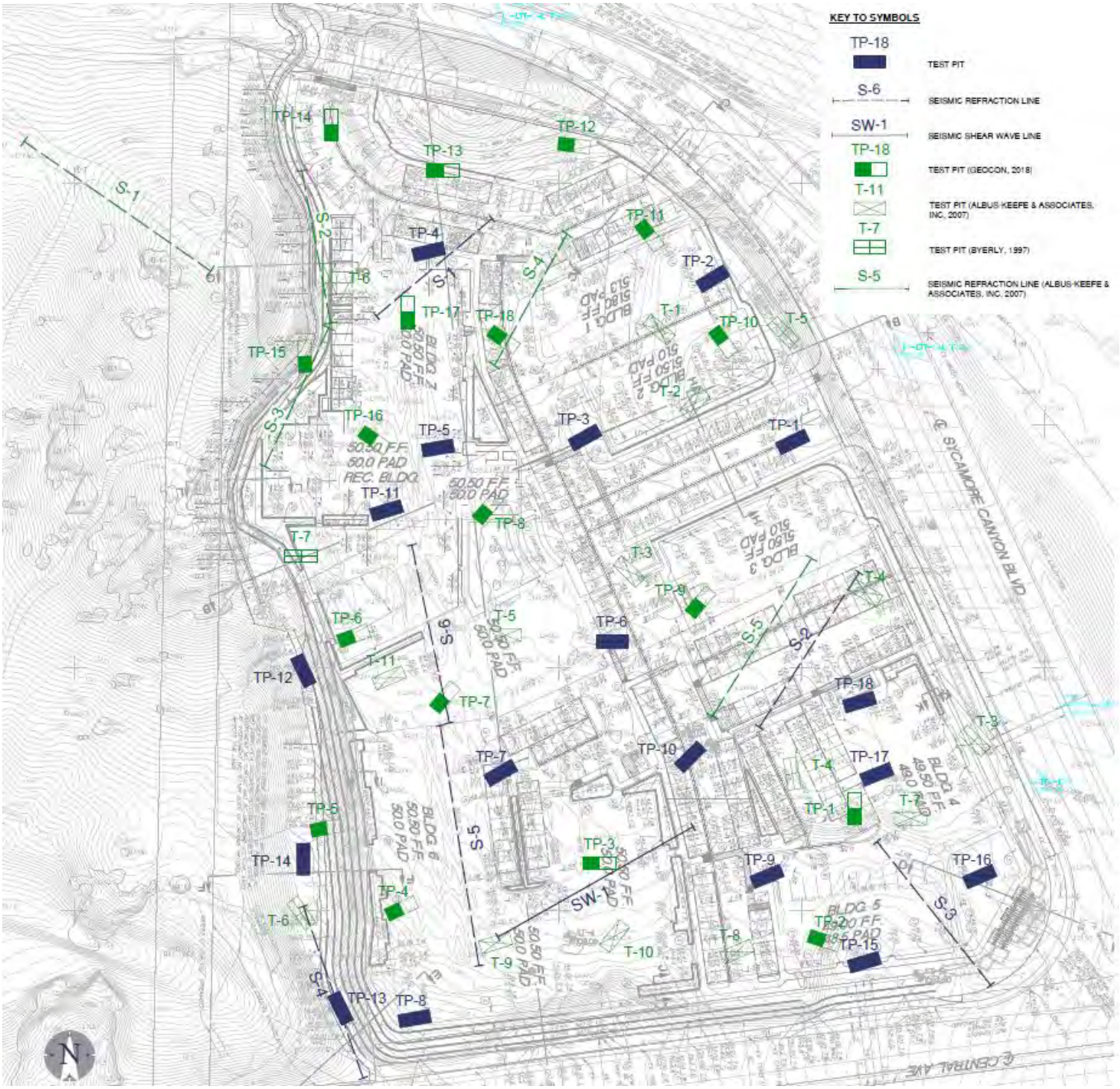
CRESTVIEW APARTMENTS

Geologic Mapping of the Site Vicinity

Figure 5.6-1

RVA

NOVA Services



CRESTVIEW APARTMENTS

Locations of the Previous Site Explorations

Figure 5.6-2



CRESTVIEW APARTMENTS

RVA NOVA Services

Subsurface Exploration July 2020

Figure 5.6-3



CRESTVIEW APARTMENTS

Soils Map

Figure 5.6-4

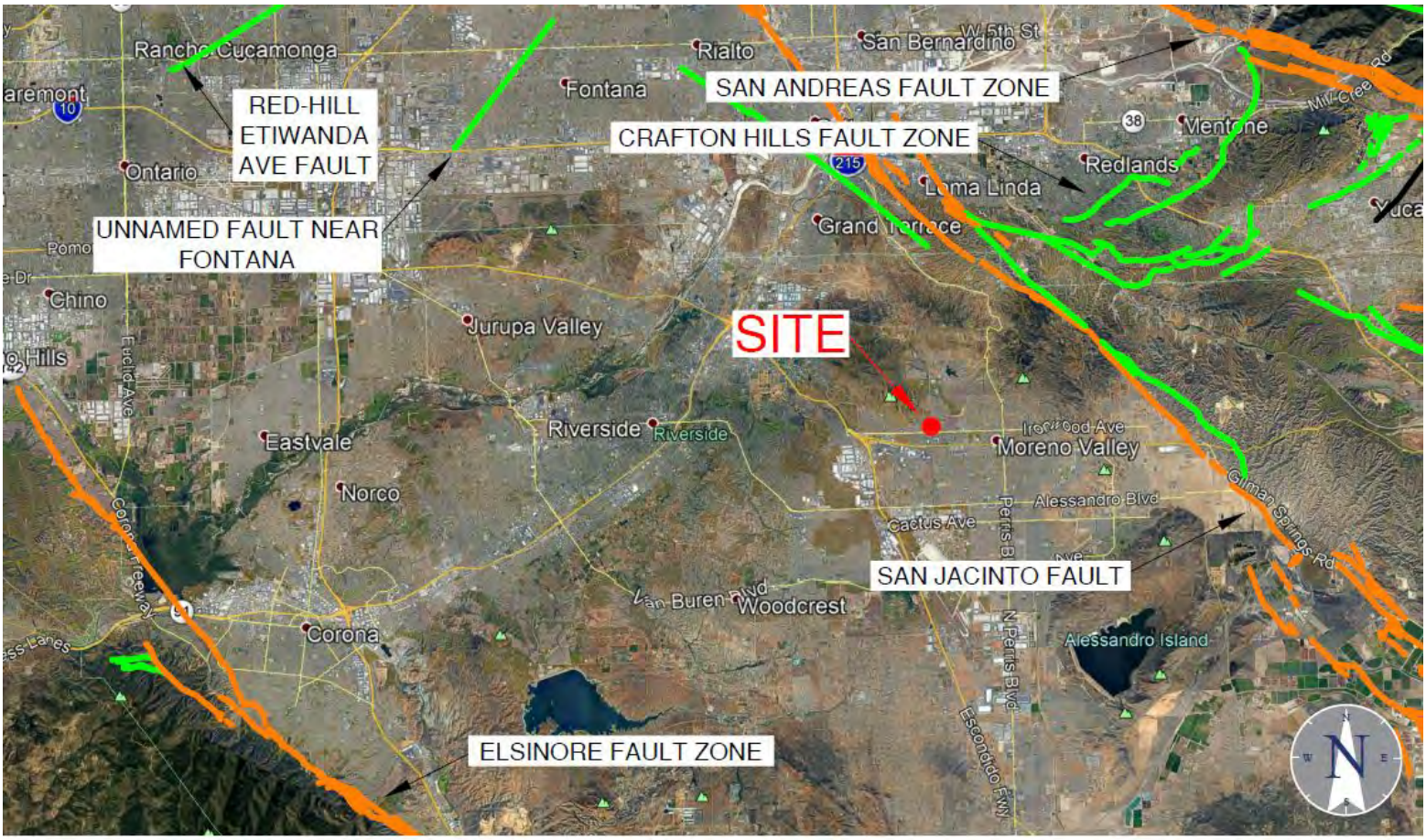
Geologic Hazards

Faulting and Surface Rupture

The numerous faults in Southern California include active, potentially active, and inactive faults. The criteria for these major groups are based on criteria developed by the California Geological Survey (CGS) for the Alquist-Priolo Earthquake Fault Zone Program. By definition, an active fault is one that has had surface displacement within the Holocene time (about the last 11,000 years). A potentially active fault has demonstrated surface displacement during the Quaternary time (approximately the last 1.6 million years) but has had no known Holocene movement. Faults that have not moved in the last 1.6 million years are considered inactive. (NOVA, p. 29)

The Project site is not within an Alquist-Priolo Earthquake Fault Zone and no active or potentially active faults with the potential rupture are known to pass directly beneath the Project site. The closest known active faults are associated with the San Bernardino Valley section of the San Jacinto Fault, located approximately 5.8 miles northeast of the Project site. Another nearby active fault is the Glen Ivy section of the Elsinore Fault Zone, located approximately 16.3 miles southwest of the Project site. The Project site is located approximately 0.19 miles west of an unnamed fault in the San Jacinto Fault Zone. The fault is not mapped by the State of California (CGS 2010) but its designated as a fault by Riverside County. Figure 5.6-5 shows the faulting in the site region per the State of California and Figure 5.6-6 shows the Riverside County unnamed fault. (NOVA p.30)

As with all of Southern California, the Project site is located in a seismically active area and is at risk for moderate-to-severe ground shaking in response to large-magnitude earthquakes during the lifetime of the planned development. (NOVA, p. 29)



KEY TO SYMBOLS

ACTIVE <15,000 YEARS

LATE QUATERNARY<130,000 YEARS

UNDIFFERENTIATED QUATERNARY<1.6 MILLION YEARS

CRESTVIEW APARTMENTS

Faulting in the Site Vicinity

Figure 5.6-5

RVA

NOVA Services



CRESTVIEW APARTMENTS

RVA

NOVA Services

Faulting in Site Vicinity

(Riverside County 2017)

Figure 5.6-6

Liquefaction

Liquefaction describes a phenomenon in which loose, saturated, relatively cohesionless soil deposits lose shear strength during strong ground motions. Primary factors controlling liquefaction include intensity and duration of ground motion, gradation characteristics of the subsurface soils, on-site stress conditions, and the depth of groundwater. Liquefaction is typified by loss of shear strength in the liquefied layers due to rapid increases in pore water pressure generated by earthquake accelerations. Liquefaction typically occurs in areas where the soils below the water table are composed of poorly consolidated, fine to medium-grained, primarily sandy soil. In additional to the requisite soil conditions, the ground acceleration and during of the earthquake must also be of a sufficient level to induce liquefaction.

Due to the lack of groundwater and related lack of the potential for saturated soils to occur in the near surface, the Project site is not at risk for liquefaction and related soil phenomena (i.e., lateral spreading, ground lurching, etc.). The Project site is not in an area designated by the County of Riverside to be susceptible to liquefaction. (NOVA, p.33)

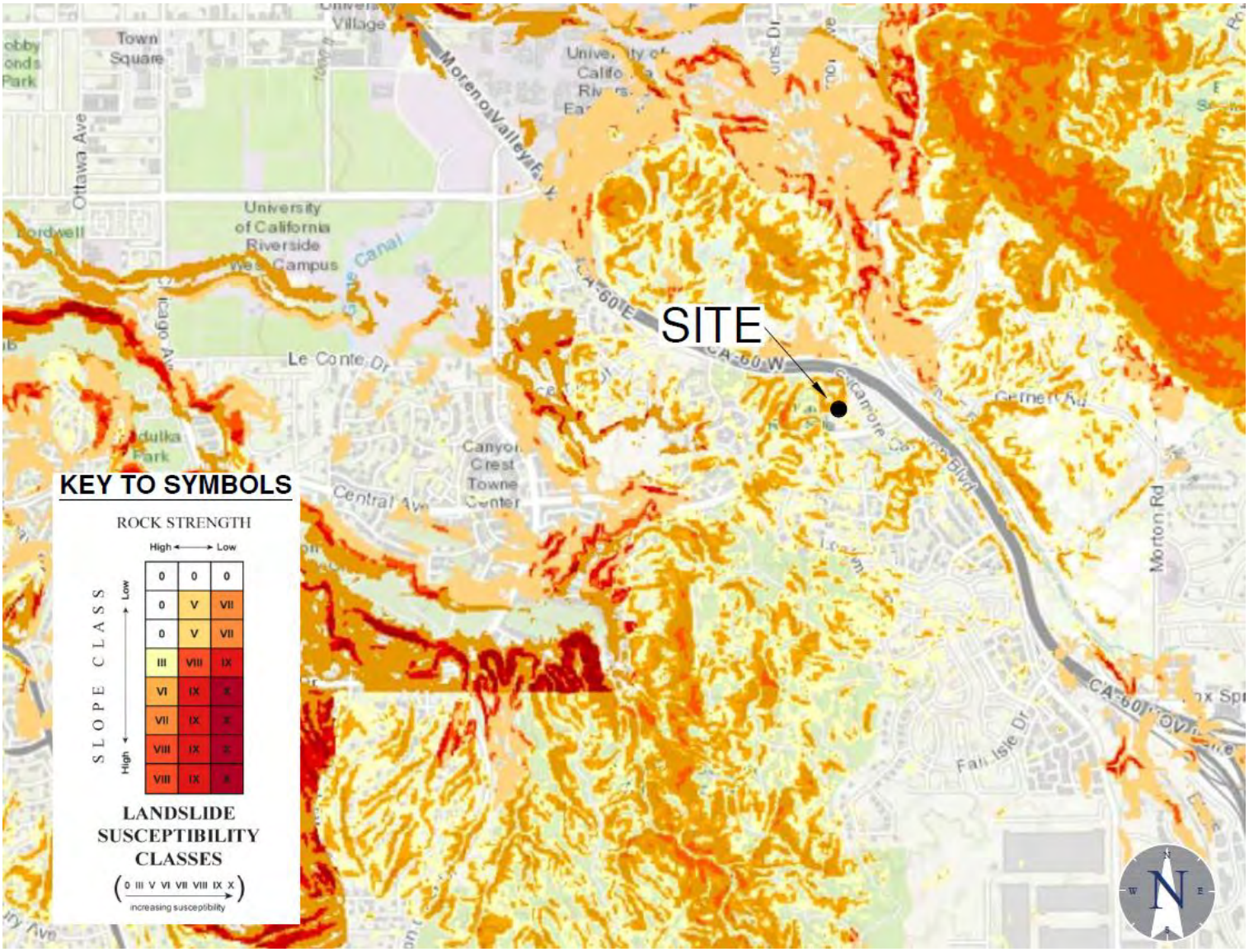
Settlement

Apart from liquefaction, a strong seismic event can induce settlement within loose to moderately dense, unsaturated granular soils. The unsaturated sandy soils of the onsite undocumented fill (Unit 1) are presently of sufficient loose consistency so that these soils will be prone to measurable seismic settlement. (NOVA, p. 33)

Landslide

Landslide describes downslope displacement of a mass of rock, soil, and/or debris by sliding, flowing, or falling. Such mass earth movements may be greater than about 10 feet thick and larger than 300 feet across. Landslides typically may include cohesive block glides and disrupted slumps that are formed by translation or rotation of the slope materials along one or more slip surfaces. These mass displacements can also include more narrowly confined modes such as rock topples, ‘mud flows,’ and ‘debris flows.’ The causes of classic landslides start with a preexisting condition - characteristically, a plane of weak soil or rock - inherent within the rock or soil mass. Thereafter, movement may be precipitated by earthquakes, wet weather, and changes to the structure or loading conditions on a slope (e.g., by erosion, cutting, filling, release of water from broken pipes, etc.). (NOVA, p.31)

Clues to the landslide hazard for an area can also be obtained by review of mapping that depicts both historic landslides and landslide prone geology/topography. Figure 5.6-7 provides such mapping for the Project site area. The mapping indicates that the Project site is in an area judged to be at lower relative risk for landsliding. No indication of large scale landsliding was observed at the time of the geotechnical investigation. In addition, the previous 2006 and 2018 surveys showed no evidence of active landsliding at the Project site. Figure 5.6-7 shows an aerial photograph of the Project site and the potential landslide hazard. Based on the Figure, the Project site and surrounding area is located in a ‘low’ landslide hazard location (NOVA, p.31).



CRESTVIEW APARTMENTS

RVA

NOVA Services

Landslide Susceptibility

Mapping of the Site Area

Figure 5.6-7

Expansive Soil

Expansive soils are clayey soils characterized by their ability to undergo significant volume changes (shrinking or swelling) due to variations in moisture content, the magnitude of which is related to both clay content and plasticity index. These volume changes can be damaging to structures. Nationally, the annual value of real estate damage caused by expansive soils is exceeded only by that caused by termites. The dominantly sandy soils that comprise Unit 1 (undocumented fill) and Unit 2 (alluvial deposits) are not at risk for volume change on wetting and drying. (NOVA, p. 33)

Hydro-Collapsible Soils

Hydro-collapsible soils are common in the arid climates of the western United States in specific depositional environments - principally, in areas of young alluvial fans, debris flow sediments, and loess (wind-blown sediment) deposits. These soils are characterized by low in-situ density, low moisture contents, and relatively high unwetted strength. (NOVA, p. 33)

The soil grains of hydro-collapsible soils were initially deposited in a loose state (i.e., high initial 'void ratio') and thereafter lightly bonded by water sensitive binding agents (e.g., clay particles, low-grade cementation, etc.). While relatively strong in a dry state, the introduction of water into these soils causes the binding agents to fail. Destruction of the bonds/binding causes relatively rapid densification and volume loss (collapse) of the soil. This change is manifested at the ground surface as subsidence or settlement. Ground settlements from the wetting can be damaging to structures and civil works. Human activities that can facilitate soil collapse include irrigation, water impoundment, changes to the natural drainage, disposal of wastewater, etc. (NOVA, pp. 33-34)

The site is not within an area designated by the County of Riverside to be susceptible to subsidence. However, the loosely placed sands of Unit 1 are at some risk of soil collapse upon wetting. (NOVA, p. 34)

Paleontological Resources

Paleontological resources are the fossilized remains or impressions of plants and animals, including vertebrates (animals with backbones; mammals, birds, fish, etc.), invertebrates (animals without backbones; starfish, clams, coral, etc.), and microscopic plants and animals (microfossils). They are valuable, non-renewable, scientific resources used to document the existence of extinct life forms and to reconstruct the environments in which they lived. Fossils can be used to determine the relative ages of the depositional layers in which they occur and of the geologic events that created those deposits. The age, abundance, and distribution of fossils depend on the geologic formation in which they occur and the topography of the area in which they are exposed. The geologic environments within which the plants or animals became fossilized usually were quite different from the present environments in which the geologic formations now exist.

As identified in the Cultural Resources Assessment, the Project site is located in an area mapped by Riverside County for Paleontological Sensitivity as Low Potential (BCR, p. 35).

5.6.2 Related Regulations

5.6.2.1 Federal Regulations

International Building Code

The International Building Code (IBC) is published by the International Code Council. The scope of this code covers major aspects of construction and design of structures and buildings. The IBC has replaced the Uniform Building Code as the basis for the California Building Code and contains provisions for structural engineering design. The 2019 IBC addresses the design and installation of structures and building systems through requirements that emphasize performance. The IBC includes codes governing structural as well as fire and life safety provisions covering seismic, wind, accessibility, egress, occupancy, and roofs.

Earthquake Hazards Reduction Act

U.S. Congress passed the Earthquake Hazards Reduction Act in 1977 to reduce the risks to life and property from future earthquakes through the establishment and maintenance of an effective earthquake hazards reduction program. To accomplish this goal, the act established the National Earthquake Hazards Reduction Program. This program was substantially amended in November 1990 by the National Earthquake Hazards Reduction Program Act, which refined the description of agency responsibilities, program goals, and objectives to focus on minimizing loss from earthquakes after they occur. The National Earthquake Hazards Reduction Program promotes the adoption of earthquake hazard reduction activities by all scales of government and works to develop national building standards and model codes for use by engineers, architects, and all others involved in the planning and construction of buildings and infrastructure.

5.6.2.2 State Regulations

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (Alquist-Priolo Act; Public Resources Code Section 2621-2630) was passed into law following the destructive February 9, 1971 San Fernando earthquake that had a magnitude of 6.6. The Alquist-Priolo Act provides a mechanism for reducing losses from surface fault rupture on a statewide basis. The intent of the Alquist-Priolo Act is to ensure public safety by prohibiting the siting of most structures from human occupancy across traces of active faults that constitute a potential hazard to structures from surface faulting or fault creep. Generally, siting of structures for human occupancy must be set back from the fault by approximately 50 feet. Therefore, if a project site is located in an Earthquake Fault Zone, the City must withhold development permits for sites within the fault zones until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting.

Seismic Safety Act

The California Seismic Safety Commission was established by the Seismic Safety Act in 1975 with the intent of providing oversight, review, and recommendations to the Governor and State Legislature regarding seismic issues. The Commission's name was changed to Alfred E. Alquist Seismic Safety Commission in 2006. Since then, the Commission has prepared several

documents based on recorded earthquakes, such as the 1994 Northridge earthquake, 1933 Long Beach earthquake, and the 1971 Sylmar earthquake. Some of these documents are listed as follows:

- Research and Implementation Plan for Earthquake Risk Reduction in California 1995 to 2000, report dated December 1994
- Seismic Safety in California's Schools, 2004, "Findings and Recommendations on Seismic Safety Policies and Requirements for Public, Private, and Charter Schools," report dated December 1994
- Findings and Recommendations on Hospital Seismic Safety, report dated November 2001
- Commercial Property Owner's Guide to Earthquakes Safety, report dated October 2006
- California Earthquake Loss Reduction Plan 2007–2011, report dated July 2007

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 was enacted, in part, to address seismic hazards not included in the Alquist-Priolo Act, including strong ground shaking, landslides, and liquefaction. Under this Act, the State Geologist is assigned the responsibility of identifying and mapping seismic hazards. CGS Special Publication 117, adopted in 1997 by the State Mining and Geology Board, constitutes guidelines for evaluating seismic hazards other than surface faulting, and for recommending mitigation measures as required by Public Resources Code Section 2695(a). In accordance with the mapping criteria, the CGS seismic hazard zone maps identifies areas with the potential for a ground shaking event that corresponds to 10 percent probability of exceedance in 50 years.

The purpose of the Seismic Hazards Mapping Act is to reduce the threat to public health and safety and to minimize the loss of life and property by identifying and mitigating seismic hazards. Cities, counties, and State agencies are directed to use seismic hazard zone maps developed by CGS in their land-use planning and permitting processes. The Seismic Hazards Mapping Act requires site-specific geotechnical investigations prior to permitting most urban development projects in seismic hazard zones.

California Building Code

The California Building Code (CBC), Title 24, Part 2, provides building codes and standards for the design and construction of structures in California. The purpose of the CBC is to establish minimum standards to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, and general stability by controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of building and structures. The CBC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control. Chapter 16 of the CBC contains definitions of seismic sources and the procedure used to calculate seismic forces on structures.

The CBC is updated every three years by order of the legislature, with supplements published in intervening years. State Law mandates that local government enforce the CBC. In addition, a city

and/or county may establish more restrictive building standards reasonably necessary because of local climatic, geological, or topographical conditions.

Natural Hazards Disclosure Act

The Natural Hazards Disclosure Act, as codified in California Civil Code Section 1103-1103.14, requires real estate sellers and brokers to prepare Natural Hazards Disclosure Statements upon transfer of real property if such property is located within a number of Federally or State-mapped natural hazard areas. Hazard areas covered under the disclosure form include special flood hazard areas, areas of potential flooding due to dam failure inundation, fire hazard severity zones, wildland areas, earthquake fault zones, and seismic hazard zones. The natural hazard areas most relevant to geology and soils are earthquake fault zones and seismic hazard zones. As discussed above, the Project site is not located within an earthquake fault zone.

National Pollutant Discharge Elimination System

The Federal government administers the National Pollutant Discharge Elimination System (NPDES) permit program, which regulates discharges into surface waters under the Clean Water Act (CWA). The primary regulatory control relevant to the protection of water quality is the NPDES permit administered by the State Water Resources Control Board, which establishes requirements prescribing the quality of point sources of discharge and water quality objectives. These objectives are established based on the designated beneficial uses (e.g. water supply, recreation, and habitat) for a particular surface waterbody. The NPDES permits are issued to point source dischargers of pollutants to surface waters pursuant to Water Code Chapter 5.5, which implements the Federal CWA. Examples include, but are not limited to, public wastewater treatment facilities, industries, power plants, and groundwater cleanup programs discharging to surface waters (State Water Resources Control, Title 23, Chapter 9, Section 2200). The Regional Water Quality Control Board (RWQCB) establishes and regulates discharge limits under the NPDES permits.

Construction projects which disturb one or more acres of soil or are part of a larger common plan of development that disturbs one or more acres of soil must obtain coverage under the statewide NPDES General Permit for Discharges of Stormwater Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ). In order to obtain coverage under the Construction General Permit, a project-specific Stormwater Pollution Prevention Plan (SWPPP) must be prepared. The SWPPP outlines Best Management Practices to reduce stormwater and non-stormwater pollutant discharges, including erosion control, minimizing contact between construction materials and precipitation, and strategies to prevent equipment leakage or spills.

Public Resources Code

PRC Section 5097.5 addresses Paleontological Resources, stating that:

No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission

of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

In this PRC section, “public lands” means those owned by or under the jurisdiction of the state or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, local agencies are required to comply with PRC 5097.5 for activities that include construction, maintenance, and permit actions (e.g., encroachment permits) undertaken by others.

5.6.2.3 Regional Regulations

Santa Ana Regional Water Quality Control Board

The City of Riverside is under the jurisdiction of RWQCB Region 8, the Santa Ana Regional Water Quality Control Board (SARWQCB). The SARWQCB provides permits for projects that may affect surface waters and groundwater locally and is responsible for preparing the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan). The Basin Plan designates beneficial uses of water in the region and establishes narrative and numerical water quality objectives. The Basin Plan serves as the basis for the SARWQCB’s regulatory programs and incorporates an implementation plan to ensure water quality objectives are met.

5.6.2.4 Local Regulations

Riverside General Plan

The Public Safety Element of the City’s General Plan 2025 contains objectives and policies that seek to reduce hazards that pose a risk to residents, including geologic hazards (City of Riverside 2007). The project would be subject to the following objectives and policies:

Objective PS-1: Minimize the potential damage to existing and new structures and loss of life that may result from geologic and seismic hazards.

> **Policy PS-1.1:** Ensure that all new development in the City abides by the most recently adopted City and State seismic and geotechnical requirements.

Objective PS-9: Minimize the effects from natural and urban disasters by providing adequate levels of emergency response services to all residents in Riverside.

> **Policy PS-9.8:** Reduce the risk to the community from hazards related to geologic conditions, seismic activity, flooding and structural and wildland fires by requiring feasible mitigation of such impacts on discretionary development projects.

Riverside Municipal Code

Title 14- Public Utilities

The Riverside Municipal Code (RMC) contains a number of ordinances relevant to geology and soils. Title 14 addresses the City’s public utilities infrastructure. Section 14.08.030 requires anyone desiring to obtain a building permit for a new house or structure to connect to the public sewer system when the property on which such house or structure is situated is not more than 160 feet from the public sewer and the right-of-way admits such connection, or if the house or

structure is located within an area where the use of a septic tank poses a potential contamination risk to the City's drinking water wells in the area, as specified by resolution of City Council.

Title 17-Grading Code

Title 17 of the RMC contains the City's grading ordinance, which establishes procedures for grading plan approval, issuance of grading permits, and subsequent inspection and enforcement protocols.

With a few exceptions detailed in Section 17.12.010, the grading ordinance prohibits grading on any lot, parcel, or tract of land without issuance of a grading permit from the City's Public Works Director. Materials required as part of a grading permit application include grading plans, interim erosion control plans, and a preliminary soils report prepared by a geotechnical engineer. Pursuant to Section 17.16.010(B), recommendations specified in the preliminary soils report must be incorporated into the design of the grading plan. Additionally, the grading permit application incorporates the requirements of the NPDES Construction General Permit, such as preparation of a SWPPP, and requires documentation of water quality best management practices required under the Riverside County Drainage Area Management Plan.

Section 17.28.010 contains minimum grading standards and general requirements, including standards for cuts, fills, retaining walls, setbacks, drainage and terracing, and excavation blasting. Additionally, the grading ordinance establishes supplementary regulations for grading in hillsides and arroyos. The Project site is not located in a hillside or arroyo grading area, as delineated in Exhibits A-F of the grading ordinance, however, due to the average natural slope of the project site and the presence of the blue line stream, the project is subject to the Hillside Grading Ordinance, Section 17.28.020 of the Riverside Municipal Code The project is proposing a Grading Exception as allowed under Chapter 17.32 of the RMC in order to construct retaining walls greater than 3 feet in height in an area open to the public view and greater than 6 feet in height in an area open to the public view. A Grading Exception is also being requested for slopes to exceed 20 feet in height where an existing hill in the northern part of the site will be partially recontoured.

5.6.3 Project Design Considerations

Project design considerations are outlined in the 2020 Geotechnical Evaluation Report prepared by NOVA (included as Appendix F), Section 7.0 Ground Improvement, Section 8.0 Earthwork and Foundations, 9.0 Pavements, and Construction Review, Observations, and Testing. All recommendations in the Geotechnical Evaluation Report will be project conditions of approval. Key recommendations from the report are outlined below.

Ground Improvement

The structures proposed for development at this site are relatively light. However, subsurface conditions of undocumented fill and near surface rock pose two concerns for proposed development:

Concern 1, Undocumented Fill. Much of the site is covered with uncontrolled sand/cobble/ boulder fill. This fill ranges in thickness from a few feet to greater than 35 feet. The fill is characteristically

loose/compressible and extremely heterogeneous (i.e., widely varying in quality and consistency over short horizontal and vertical distances).

Concern 2, Near Surface Rock. Sound granitic bedrock occurs in the near surface in several areas of the site. This rock will be difficult to excavate, posing a challenge to site development and related foundation design.

Near surface rock will be encountered during various phases of grading. Rock will need to be removed from the upper portions of building pads and streets, and within utility corridors. Rock will need to be either re-utilized for landscaping features, hauled away off-site or can be placed within approved areas meeting criteria and recommendations as described below under *Placement of New Fills*.

While the undocumented fill onsite is of an age that most settlement has already occurred, the performance of foundations for the separate apartment buildings can be affected by (i) the differential thickness (ranging to about 35 feet) of fill beneath structures and (ii) longer-term collapse of zones of loosely placed fill.

Though the existing fill extends to depths greater than 30 feet, NOVA does not believe that the entire fill thickness needs to be densified. The new structures will not materially change the state of stress for soils below a depth of about 25 feet. Site improvements outside the limits of structures - roadways, utility lines, common areas, landscaped areas, etc. will not require improvement. Longer-term settlements of unimproved fill will be relatively small. A relatively homogenous, well-densified cap of soils above this level will be suitable for excellent long-term performance of structures. Thus, the objectives of any ground improvement at the separate apartment building structures are:

- Objective 1, Depth of Improvement. Densify the undocumented fill as it may occur beneath the finished pad levels of structures to depths of up to 25 feet.
- Objective 2, Foundation Bearing. Densify the near-surface soils sufficient to develop an allowable bearing pressure (i.e., contact stress) as great as about 6,000 psf for shallow foundations.

Deep dynamic compaction (DDC) is recommended as the ground improvement technique at this site.

General

DDC utilizes a heavy tamper (or ‘pounder’) that is repeatedly raised and dropped with a single cable from varying heights to impact the ground. The mass of the tampers generally ranges from 5 to 20 tons, while drop heights range from 30 feet to 80 feet. While specialty equipment can be developed for larger sites in order to effect higher drops of greater weights, the usual project employs a tracked crane to lift and drop the tamper. Figure 5.6-8 shows a typical operation.

Figure 5.6-8: Crane Lifting the Tamper



The pounding energy from DDC is generally applied in 'phases' (or 'passes') on a grid pattern over the entire area using either single or multiple passes. Following each pass, the impact craters formed by the tampers are either leveled with a dozer or filled with granular fill material before the next pass of energy is applied. A final pass - intended to densify the upper several feet of soil loosened by previous work and sometimes called an 'ironing pass - consists of overlapping short drops of the tamper. DDC has been successfully used to improve a great variety of loose/weak ground deposits including those listed below.

- Loose naturally occurring soils such as alluvial, flood plain, or hydraulic fill deposits.
- Municipal solid waste (MSW) landfills.
- Building rubble and construction debris deposits.
- Strip mine spoil.
- Collapsible soils (i.e., soils that may settle as they become wetted).
- Loose sands and silts with high liquefaction potential.

At least 900 DDC projects have been completed in the U.S., mostly for commercial purposes.

Depth of Improvement

Estimates of the depth of improvement by dynamic compaction are empirical. Both the degree of improvement and the depth of improvement is a function of the energy applied: i.e., the mass of the tamper, the drop height, the grid spacing, and the number of drops at each grid point location.

Lighter tampers and smaller drop heights result in lesser depths of improvement, while heavier tampers and greater drop heights result in improvements to a significant depth.

The depth of improvement is generally estimated by the following expression:

D = n (WH)1/2, where D = Depth of improvement, in meters
W = Weight of the Tamper, in metric tons
H = Height the Tamper is dropped from
n = reduction coefficient based on soil type

For the expression above n = 0.5 to 0.6 for unsaturated granular soils. Utilizing the above equation, NOVA estimates that a 14-ton tamper dropped from about 26 feet can affect improvement to about 15-feet depth of improvement. This same pounder dropped from about 50 feet can affect improvement to 25 feet depth.

Applicability at This Site

DDC can meet all of the densification at this site, including the need to effect densification of the uncontrolled fill to depths ranging from about 10 feet to 25 feet. DDC has a well-established track record in densification of uncontrolled and heterogeneous fills of this genre to these depths. Areas of near-surface rock will not require improvement by DDC.

Seismic Design Parameters

- The Project shall use seismic design coefficients for Site Class C as required by the 2019 CBC and American Society of Civil Engineers (ASCE) 7-16, as provided in the geotechnical report.

Earthwork

General

Following large-scale ground improvement, earthwork will include (i) finish grading to create the new ground form for the separate structures, and (ii) excavations for foundations and utilities.

Earthwork should be performed in accordance with Section 300 of the most recent approved edition of the "*Standard Specifications for Public Works Construction*" and "*Regional Supplement Amendments*."

Select Fill

Materials

All fill and backfill should be Select Fill, a mineral soil free of organics or regulated constituents, with the characteristics listed below:

- maximum particle size of 4-inches;
- classified as GM, GC, SC, SM or SP-SM after ASTM D 2487; and,
- expansion index (EI) of less than 10 (i.e., EI < 10, after ASTM D 4829).

Most of the Unit 1 fill that is now in place will conform to the above criteria.

Placement

All fill and backfill should be compacted to a minimum of 90% relative compaction after ASTM D1557 (the 'modified Proctor') following moisture conditioning to slightly over the optimum moisture content.

The fill must be densified using vibratory compaction methods. Fill should be placed in loose lifts no thicker than the ability of the vibratory compaction equipment to thoroughly densify the lift. For most self-propelled construction equipment, this will limit loose lifts to on the order of 10-inches or less. Lift thickness for hand-operated equipment used in constrained spaces (e.g., walk behind compactors) will be limited to about 4-inches or less.

Oversized Material

Oversized materials in excess of 6 inches in maximum dimension should be removed from fills and properly disposed of off-site. If feasible, crushing oversized materials onsite and incorporating them into "rock fills" (windrows, rock blankets, or individual rock burial) may be considered. Another alternative is to export the oversized materials. Isolated core stones consisting of slightly weathered to fresh bedrock may be encountered buried in a more weathered matrix in the tonalite bedrock. Specially recommendations should be provided on a case-by-case basis, if core stones are encountered.

Site Preparation

Prior to the start of any land-disturbing activities, the Contractor should establish construction Best Management Practices ('BMPs') to control erosion of graded/excavated areas. BMPs must be maintained until permanent stormwater infiltration BMPs are operable.

At the outset of work, the site should be cleared of vegetation and related root systems, and existing pavement. The deleterious materials should be disposed of in approved off-site locations. It is unlikely that site preparation will expose relic foundations, utilities, etc.

Site Grading

Based upon review of the preliminary grading plans, it is expected that significant earthwork will be required for ground improvement, site preparation and to create level pads for the structures. Grading should be performed in 3 separate phases for the development of the site.

- Phase 1 grading will consist of site preparation, leveling areas for preparation of DDC techniques. DDC areas should be considered for all building pads, paved areas and retaining walls where existing fills extend beyond about 5 feet thick.
- Phase 2 rough grading will follow DDC operations, taking the surfaces from ground improvement elevations to near design grades as indicated on the Civil grading plans.
- Phase 3 grading will be precise grading building pads and other areas supporting new improvements including appropriate drainage within appropriate tolerances.

Excavation Characteristics

The Unit 1 fill will be readily excavated by earthwork equipment usual for developments of this nature. No heavy ripping or special excavation techniques will be required. Unbraced slopes less

than 4 feet in height will stand for short periods (less than 2 weeks) at slopes as steep as 0.5H:1V. The handling of rock and boulders should be planned for, as boulders as great as 11 feet in diameter were encountered during site exploration.

The Unit 3 granitic rock occurs in the near surface in areas of the site. This rock unit will be difficult to excavate potentially requiring mid-size to heavy size equipment to excavate this material.

Rippability

Rippability refers to the ability of a subsurface unit to be excavated by conventional heavy-duty earthwork equipment. Generally, the undocumented artificial fill and alluvial deposits are anticipated to be rippable utilizing conventional heavy-duty earthwork equipment. The upper portions of the site bedrock are anticipated to be rippable to non-rippable utilizing conventional heavy-duty earthwork equipment. Based on the data from the seismic refraction lines, the excavation difficulty of the bedrock increases with depth. Localized zones of potentially non-rippable bedrock (such as core stones) should be anticipated to be encountered above the estimated non-rippable depths.

Blasting

Where ripping with heavy equipment is difficult, explosives or blasting techniques may be necessary to remove dense bedrock or to breakdown oversize boulders.

Trenching and Backfilling for Utilities

Excavation for utility trenches must be performed in conformance with OSHA regulations contained in 29 CFR Part 1926.

Utility trench excavations have the potential to degrade the properties of the adjacent soils. Utility trench walls that are allowed to move laterally will reduce the bearing capacity and increase settlement of adjacent footings and overlying slabs.

Backfill for utility trenches is as important as the original subgrade preparation or engineered fill placed to support either a foundation or slab. Backfill for utility trenches must be placed to meet the project specifications for the engineered fill of this Project.

Unless otherwise specified, the backfill for the utility trenches should be placed in 4 to 6-inch loose lifts and compacted to a minimum of 90% relative compaction after ASTM D 1557 (the ‘modified Proctor’) at soil moisture +2% of the optimum moisture content. Up to 4-inches of bedding material placed directly under the pipes or conduits placed in the utility trench can be compacted to 90% relative compaction with respect to the Modified Proctor.

Compaction testing should be performed for every 20 cubic yards of backfill placed or each lift within 30 linear feet of trench, whichever is less.

Backfill of utility trenches should not be placed with water standing in the trench. If granular material is used for the backfill, the material should have a gradation that will filter protect the backfill material from the adjacent soils. If this gradation is not available, a geosynthetic non-woven filter fabric should be used to reduce the potential for the migration of fines into the backfill material.

Retaining Walls

Based on the planned configuration for planned mechanically stabilized earth (MSE) retaining walls, ground improvement will be required. Leveling of the existing terrain within the area at the base of planned retaining walls will be required for DDC. A Phase 1 grading plan should include excavating a +60 foot-wide horizontal bench at the base of planned walls into sloping conditions (for retaining walls located in the western and southwestern portions of the site, that would be in the easterly direction towards the Project site) to allow for DDC equipment access. The +60 foot-wide horizontal bench will not be located outside of the project boundary or within the onsite conservation area.

Building Pad Undercuts

General

Should building pads expose weathered Unit 3 granitic rock and/or shallow fill, it should be over excavated to a depth of 5 feet below the final pad grade, or to at least 3 feet below the bottom of footing, whichever is deeper, and this excavation backfilled with Select Fill.

This removal and replacement should extend at least 5 feet beyond the perimeter building footings.

Building Pad 6

Based on the configuration and siting of Building 6 including proximity to planned retaining walls, ground improvement will require leveling of the existing sloping terrain within the area. A Phase 1 grading plan will be required for DDC. Building pad undercuts may require excavation of about +20 from existing site grades.

Street Undercuts

Like the building pads, granitic bedrock that is within a few feet of the finish grades of streets should be undercut at least 3 feet or 1 foot below the lowest utility, whichever is deeper, and backfilled with Select Fill. The intent is to allow placement of utility lines within the streets.

Planning for street development should consider future utility hookups and the potential problems created by the near surface occurrence of rock.

Placement of New Fills

The Geotechnical Engineer-of-Record (GEOR) will work with the Contractor to develop planning for control in placement of oversized rock. At a minimum, such control will involve the actions listed below.

- No 'Nesting.' The mass of fill soils should contain sufficient finer grained granular soils such that the 'nesting' (i.e., close accumulation or close spacing) of rocks larger than 8 inches is avoided.
- Boulders. No rock larger than 3 feet in diameter may be placed in a new fill. However, rocks larger than 12 inches and less than 3 feet in diameter may be placed within engineered fill if the rock is placed greater than 10 feet below proposed finish grades and

setback at least 15 feet from the face of newly constructed fill slopes. Placement of rock of this dimension range will require specialty seating and placement and will require the surrounding fill soils to consist of granular soils compacted to at least 90 percent relative compaction. No rock greater than 3 feet in diameter may be used in any fill.

- Keyways and Benching. Fill slopes equal to or greater than 5 feet in height should be constructed with a keyway having a minimum width of at least 5 feet and a minimum embedment of at least 2 feet into competent bedrock. New fill placed against ground sloping more steeply than 5H :1V (horizontal: vertical) should include vertical benches excavated into the adjacent slope.

- Fill Slope Construction. Fill placed on surfaces greater than 5V:1H should include a keyway cut into firm and competent soils. Benching of the existing soils at temporary back-cut slopes should be performed during fill placement operations.

  Fill slope faces should also be compacted to minimum Project recommendations. This may be accomplished by overbuilding the fill slope and cutting back to proposed grades, or by tracking the slope face at 5-foot vertical intervals during fill slope construction.

  Any oversized rock should be setback and placed at least 15 feet from the slope face as recommended within item 2 above.

  Upon completion of fill slope construction, landscaping and stormwater BMPs should be installed.

- Existing Fill Slopes. Along the western portion of the site, the existing fill slope extends outside the limits of proposed grading. This slope is composed of undocumented, potentially uncompacted artificial fill. NOVA observed erosional rills and minor surficial sloughing within this slope. It is recommended that these areas be reconstructed in accordance with the fill slope construction recommendations and that the areas be maintained and protected from further erosion and sloughing. As the soils are relatively granular in nature, and the proposed grading plans indicates drainage towards some of these areas, it is recommended that drainage areas include slope armor or energy dissipating structures to reduce erosion potential or be relocated further west, off of the fill slope.

5.6.4 Thresholds of Significance

The City has not established local CEQA significance thresholds as described in Section 15064.7 of the State CEQA Guidelines. The City generally utilizes the CEQA significance thresholds in Appendix G (“Environmental Checklist”) of the State CEQA Guidelines. The Environmental Checklist prepared by the City for the Project (see Appendix A of this document) indicates that impacts related to the Crestview Apartments Project may be considered potentially significant if the proposed project would:

- (Threshold A) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

- i) rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42;
- ii) strong seismic ground shaking;
- iii) seismic-related ground failure, including liquefaction;
- iv) landslides;

- (Threshold B) 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;
- (Threshold C) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property; and
- (Threshold D) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

5.6.5 Environmental Impacts

Threshold A: *Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42; ii) strong seismic ground shaking; iii) seismic-related ground failure, including liquefaction; and/or iv) landslides?*

i) Faulting and Surface Rupture

Unlike damage from ground shaking, which can occur at great distances from the fault, impacts from fault rupture are limited to the immediate area of the fault zone where the fault breaks along the surface. The Project site does not lie within or adjacent to an Alquist-Priolo Earthquake Fault Zone and no faults were identified on the site during site evaluations. Additionally, the site is not located within a fault zone as designated by the County of Riverside. The possibility of damage due to ground rupture is considered low since no active faults are known to cross the site. The closest known active faults are associated with the San Bernardino Valley section of the San Jacinto Fault, located approximately 5.8 miles northeast of the Project site, and the Glen Ivy section of the Elsinore Fault Zone, located approximately 16.3 miles southwest of the Project site. As shown on Figure 5.6-5 and Figure 5.6-6, the site is located approximately 0.19 miles west of an unnamed fault in the San Jacinto Fault Zone that is not mapped by the State of California but is designated as a fault by Riverside County (NOVA, pp. 29-30). Thus, the potential for damage due to fault rupture is considered remote. Even so, the Project is required to comply with the building design standards of the California Building Code (CBC) for construction of new buildings related to seismicity. Therefore, the potential hazards associated with fault rupture are considered **less than significant**.

ii) Strong Seismic Ground Shaking

The Project site is located within the seismically active region of Southern California and may be subject to ground-shaking events. While no known active faults traverse the City, several faults in the region have the potential to produce seismic impacts within the City. As mentioned above, the two significant faults that are closest to the Project site are the Jacinto and Lake Elsinore Fault. The Project site is at risk for moderate-to-severe ground shaking in response to large-magnitude earthquakes during the lifetime of the Project (NOVA, p. 46).

The shear wave testing showed that the average shear wave velocity of the upper 100 feet of the subsurface (V100) averages 2,109.1 feet per second. This average shear wave velocity meets the criterion for Site Class C per ASCE 7-16. In accordance with 2019 CBC and ASCE 7-16 the Site Class determination is made by the geotechnical engineer for the structural engineer to base their seismic design considerations for habitable structures on.

Also, the Project will be designed to resist seismic impacts in accordance with the applicable Municipal Code Title 16-Buildlings and Construction standards. Such building code compliance is required for development of all structures in the City. Project plans will be reviewed during the plan check process to confirm seismic safety measures and the structural engineer's seismic design considerations are incorporated. Moreover, there is nothing unique about the Project site that would require additional measures beyond compliance with the adopted building code and the structural engineer's seismic design considerations. Therefore, potential impacts associated with seismic ground shaking will be **less than significant**.

iii) Seismic-Related Ground Failure, Including Liquefaction

The entire Project site is underlain by Cretaceous-aged Val Verde Tonalite, a type of plutonic rock. Tonalite was encountered across the Project site from the surface at the northern portion of the site to depths up to 26 feet below ground surface in the central and southern portions of the site (NOVA, p. 28). In consideration of the lack of groundwater and related lack of the potential for saturated soils to occur in the near surface, the Project site is not at risk for liquefaction and related soil phenomena (i.e., lateral spreading, ground lurching, etc.). Further, the Project site is not in an area designated by the County of Riverside to be susceptible to liquefaction (NOVA, p. 32). Therefore, potential impacts associated with seismic ground failure, including liquefaction, would be **less than significant**.

Apart from liquefaction, a strong seismic event can induce settlement within loose to moderately dense, unsaturated granular soils. The unsaturated sandy soils of Unit 1 (unconsolidated fill) are presently of sufficiently loose consistency so that these soils will be prone to measurable seismic settlement. Ground improvement by densification is required to reduce this risk to less than significant levels. Mitigation measure **MM GEO-1** includes densification of the unconsolidated fill by method of Deep Dynamic Compaction (DDC). Implementation of mitigation measure **MM GEO-1** is required to reduce potential impacts from settlement to **less than significant with mitigation**.

iv) Landslides

Seismically induced landslides and other slope failures are common occurrences during or soon after earthquakes. The susceptibility of a geologic unit to landslides is dependent upon various factors, primarily: 1) the presence and orientation of weak structures, such as fractures, faults,

and joints; 2) the height and steepness of the pertinent natural or cut slope; 3) the presence and quality of groundwater; and 4) the occurrence of strong seismic shaking.

Strong ground shaking can also worsen existing unstable slope conditions. The Project site is located near northeastern Riverside which has areas with low to locally moderate susceptibility to landslides and rock falls. The Project site does contain an approximately 38-foot high cut slope exposing granitic bedrock at the northwest corner of the property (NOVA, p. 7). However, as discussed in threshold A i) and ii) above, there are no active faults on the Project site and the possibility of damage due to ground rupture is considered low since no active faults are known to cross the site. The closest known active fault is the San Jacinto Fault approximately 5.8 miles northeast from the Project site.

Moreover, clues to the landslide hazard for an area can additionally be obtained by review of mapping that depicts both historic landslides and landslide prone geology/topography. As previously shown in Figure 5.6-6, mapping indicates that the Project site is in an area judged to be at lower relative risk for landsliding. Further, no indication of large scale landsliding was observed at the time of Nova's investigation of the site, nor was there evidence of active landsliding in previous reports of the site. (NOVA, p. 31)

Per previous geologic reconnaissance studies, published maps, and the review of aerial photography, the site and surrounding area is considered to have a 'low' probability of landslide hazards (NOVA, p. 32). Potential impacts associated with seismically inducted landslides would be **less than significant**.

Threshold B: *Will 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?*

The Project site is not susceptible to liquefaction and has a low risk of landsliding (NOVA, pp. 31-33). Due to the lack of groundwater and related lack of the potential for saturated soils to occur in the near surface, the site is not at risk for liquefaction and related soil phenomena (i.e., lateral spreading, ground lurching, etc.) (NOVA, p. 33).

The soil grains of hydro-collapsible soils were initially deposited in a loose state (i.e., high initial 'void ratio') and thereafter lightly bonded by water sensitive binding agents (e.g., clay particles, low-grade cementation, etc.). While relatively strong in a dry state, the introduction of water into these soils causes the binding agents to fail. Destruction of the bonds/binding causes relatively rapid densification and volume loss (collapse) of the soil. This change is manifested at the ground surface as subsidence or settlement. Ground settlements from the wetting can be damaging to structures and civil works. Human activities that can facilitate soil collapse include irrigation, water impoundment, changes to the natural drainage, disposal of wastewater, etc. (NOVA, pp. 33-34) The site is not within an area designated by the County of Riverside to be susceptible to subsidence. However, the loosely placed sands of Unit 1 are at some risk of soil collapse upon wetting. (NOVA, p. 34) Implementation of mitigation measure **MM GEO-1** is required to reduce potential impacts from subsidence and settlement to **less than significant with mitigation**.

Threshold C: *Will the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?*

Expansive soils are clayey soils characterized by their ability to undergo significant volume changes (shrinking or swelling) due to variations in moisture content, the magnitude of which is related to both clay content and plasticity index. These volume changes can be damaging to structures. Nationally, the annual value of real estate damage caused by expansive soils is exceeded only by that caused by termites. The dominantly sandy soils that comprise Unit 1 (unconsolidated fill) and Unit 2 are not at risk for volume change on wetting and drying. (NOVA, p.33) Potential impacts associated with expansive soils would be **less than significant**.

Threshold D: *Will the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

A site-specific paleontological resource assessment has not been conducted for the Project site. The Paleontological Sensitivity map included in the Project's Cultural Resources Assessment (Appendix D to this EIR) indicates the Project site and surrounding areas have low potential for paleontological sensitivity. Due to extent of prior disturbances to and onsite undocumented fill, the Project site is not anticipated to have sensitive paleontological resources or unique geological features that would be destroyed with project implementation. However, as previously stated under Section 5.4 Cultural Resources, **MM CUL-1**, the City and the developer/applicant shall make all attempts to avoid and/or preserve cultural and paleontological resources. If a discovery is found, all work shall temporarily halt and the protocols listed in the Archaeological Monitoring Plan shall be followed as listed in **MM CUL-2**. Therefore, impacts related to paleontological or unique geological resources would be **less than significant with mitigation**.

5.6.6 Proposed Mitigation Measures

A EIR is required to describe feasible mitigation measures which could minimize significant adverse impacts (State CEQA Guidelines, Section 15126.4). Implementation of the Project requires implementation of the following mitigation measures to ensure potential impacts related to geology and soils are reduced to less than significant levels.

MM GEO-1 – Deep dynamic compaction (DDC) shall be used for ground improvement at this site to accomplish the following:

> Objective 1, Depth of Improvement. Densify the undocumented fill as it may occur beneath the finished pad levels of structures to depths of up to 25 feet.
>
> Objective 2, Foundation Bearing. Densify the near-surface soils sufficient to develop an allowable bearing pressure (i.e., contact stress) as great as about 6,000 pressure per square foot (psf) for shallow foundations.

MM CUL-1 – Prior to grading permit issuance, if there are any changes to Project site design and/or proposed grades, the Applicant and the City shall contact consulting tribes to provide an electronic copy of the revised plans for review. Additional consultation shall occur between the City, developer/applicant, and consulting tribes to discuss any proposed changes and review

any new impacts and/or potential avoidance/preservation of the cultural resources on the Project site. The City and the developer/applicant shall make all attempts to avoid and/or preserve in place as many cultural and paleontological resources as possible that are located on the project site if the site design and/or proposed grades should be revised. In the event of inadvertent discoveries of archaeological resources, work shall temporarily halt until agreements are executed with consulting tribe, to provide tribal monitoring for ground disturbing activities.

MM CUL-2 – **Archaeological and Paleontological Monitoring**: At least 30 days prior to application for a grading permit and before any grading, excavation and/or ground disturbing activities take place, the developer/applicant shall retain a Secretary of Interior Standards qualified archaeological monitor to monitor all ground-disturbing activities in an effort to identify any unknown archaeological resources.

1. The project archaeologist, in consultation with consulting tribes, the Developer, and the City, shall develop an Archaeological Monitoring Plan to address the details, timing, and responsibility of all archaeological and cultural activities that will occur on the project site. Details in the plan shall include:
    a. Project grading and development scheduling:
    b. The development of a rotating or simultaneous schedule in coordination with the developer/applicant and the project archaeologist for designated Native American Tribal Monitors from the consulting tribes during grading, excavation, and ground-disturbing activities on the site, including the scheduling, safety requirements, duties, scope of work, and Native American Tribal Monitors' authority to stop and redirect grading activities in coordination with all Project archaeologists;
    c. The protocols and stipulations that the Applicant, tribes, and Project archaeologist/paleontologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits, or nonrenewable paleontological resources that shall be subject to a cultural resources evaluation;
    d. Treatment and final disposition of any cultural and paleontological resources, sacred sites, and human remains if discovered on the project site; and
    e. The scheduling and timing of the Cultural Sensitivity Training noted in mitigation measure MM-CUL-4.

5.6.7 Cumulative Environmental Effects

Implementation of mitigation measure **MM GEO-1** is required to reduce impacts from subsidence and settlement to life or property. Implementation of mitigation measure **MM CUL-1** would require the City and the developer/applicant to make all attempts to avoid and/or preserve in place as many cultural and paleontological resources. Mitigation measure **MM CUL-2** would require the development of an Archaeological Monitoring Plan which includes protocols for the discovery of a paleontological resource.

The planned and pending projects near the Project site, listed in Table 4-1 of this EIR, include residential, warehouse, commercial, office, fast food, gas station, hotel, church, carwash, and school-related land uses. These planned and pending projects would increase structural development near the Project site, in turn exposing new residents and property to potential risks from seismic hazards or soil instability in the area. Like the Project, all new planned and pending development in the City and adjacent jurisdictions would be subject to current seismic and erosion control standards. Although new development would be exposed to existing geologic and seismic hazards, it would not increase the potential for such hazards to occur. Geologic hazards are site-specific, and individual developments would not create additive impacts that would affect geologic conditions on other sites. Therefore, development of individual projects would not exacerbate existing geologic conditions, and cumulative impacts would be **less than significant with mitigation.**

5.6.8 References

The following references were used in the preparation of this section of the EIR:

Ardent	Ardent Environmental Group, Inc. *Phase I environmental Site Assessment and Subsurface Investigation, Northwest Corner of Central Avenue and Sycamore Canyon Boulevard Riverside, California*. April 27, 2020 (Appendix A).
BCR	BCR Consulting LLC, *Cultural Resources Assessment, Crestview Apartments Project*, July 2020.
ELMT	ELMT Consulting, Inc. *Sycamore Canyon Boulevard and Central Avenue Project, Delineation of State and Federal Jurisdictional Waters*, City of Riverside, Riverside County, California, Prepared January 2020 (Appendix C).
FEMA	Possible Explanations For "Extent" For Expansive Soils (Available at https://www.fema.gov/media-library-data/20130726-1825-25045-8152/expansive_soils_explanations.txt, accessed September 23, 2020).
GP 2025	City of Riverside, *General Plan 2025,* certified November 2007 with subsequent amendments to various elements. (Available at https://riversideca.gov/cedd/planning/city-plans/general-plan-0, August 2020.)
EQ Zapp	EQ Zapp: California Earthquake Hazards Zone Application, https://maps.conservation.ca.gov/cgs/EQZApp/app/ (Accessed August 19, 2020)
NOVA	NOVA Services, Inc., *Report Preliminary Geotechnical Evaluation Proposed Crestview Apartment Complex, Sycamore Canyon Boulevard and Central Avenue,* Riverside, California, Prepared September 18, 2020 (Appendix F)

Southern California Earthquake Data Center	Southern California Earthquake Data Center. 2020. Significant Earthquakes and Faults. [website]: https://scedc.caltech.edu/significant/index.html. (Accessed July 2020)

5.7 Greenhouse Gas Emissions

Based upon Appendix G of the CEQA Guidelines and comments received during the NOP public review comment period, this section evaluates the Project's impacts related to greenhouse (GHG) emissions. The analysis in this section is based on data and information in the September 2020 *Crestview Apartments Greenhouse Gas Analysis* prepared by Urban Crossroads for the Project (Appendix G of this DEIR).

5.7.1 Setting

5.7.1.1 Climate Change and Greenhouse Gases

Global Climate Change

Global Climate Change (GCC) is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The majority of scientists believe that the climate shift taking place since the Industrial Revolution is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHGs in the earth's atmosphere, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases. The majority of scientists believe that this increased rate of climate change is the result of GHG emissions resulting from human activity and industrialization over the past 200 years.

Global temperatures are regulated by naturally occurring atmospheric gases such as water (H_2O) vapor, CO_2, N_2O, CH_4, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the earth's atmosphere, but prevent radioactive heat from escaping, thus warming the earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages.

Greenhouse Gases

Gases that trap heat in the atmosphere are often referred to as GHGs. GHGs are released into the atmosphere by both natural and anthropogenic (human) activity. Without the natural GHG effect, the earth's average temperature would be approximately 61° Fahrenheit cooler than it is currently. The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature. Gases that demonstrate these heat-trapping properties are discussed in Table 5.7-1.

Table 5.7-1 – Greenhouse Gases

H_2O	
Description	H_20 is the most abundant, important, and variable GHG in the atmosphere. H_2O 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 H_2O is involved is critically important to projecting future climate change. As the temperature of the atmosphere rises, more H_2O 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 H_2O when it is warmer), leading to more H_2O vapor in the atmosphere. As a GHG, the higher concentration of H_2O 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 H_2O vapor and so on and so on. This is referred to as a "positive feedback loop." The extent to which this positive feedback loop will continue is unknown as there are also dynamics that hold the positive feedback loop in check. As an example, when H_2O vapor increases in the atmosphere, more of it will eventually condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the earth's surface and heat it up.
Source	The main source of H_2O vapor is evaporation from the oceans (approximately 85 percent). Other sources include evaporation from other H_2O bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.
Health Effects	There are no known direct health effects related to H_2O vapor at this time. It should be noted however that when some pollutants react with H_2O vapor, the reaction forms a transport mechanism for some of these pollutants to enter the human body through H_2O vapor.
CO_2	
Description	CO_2 is an odorless and colorless GHG. 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 CO_2 in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources.
Source	CO_2 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. CO_2 is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks.
Health Effects	Outdoor levels of CO_2 are not high enough to result in negative health effects. According to the National Institute for Occupational Safety and Health (NIOSH) high concentrations of CO_2 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 CO_2 in the earth's atmosphere are estimated to be approximately 370 ppm, 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.
CH_4	

Description	CH_4 is an extremely effective absorber of radiation, although its atmospheric concentration is less than CO_2 and its lifetime in the atmosphere is brief (10-12 years), compared to other GHGs.
Source	CH_4 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 CH_4. Other anthropocentric sources include fossil-fuel combustion and biomass burning.
Health Effects	CH_4 is extremely reactive with oxidizers, halogens, and other halogen-containing compounds. Exposure to high levels of CH_4 can cause asphyxiation, loss of consciousness, headache and dizziness, nausea and vomiting, weakness, loss of coordination, and an increased breathing rate.
N_2O	
Description	N_2O, also known as laughing gas, is a colorless GHG. Concentrations of N_2O also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb).
Source	N_2O is produced by microbial processes in soil and H_2O, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant, i.e., in whipped cream bottles. It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. N_2O can be transported into the stratosphere, be deposited on the earth's surface, and be converted to other compounds by chemical reaction.
Health Effects	N_2O can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's Lesions (brain damage).
Chlorofluorocarbons (CFCs)	
Description	CFCs are gases formed synthetically by replacing all hydrogen atoms in CH_4 or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the earth's surface).
Source	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.
Health Effects	In confined indoor locations, working with CFC-113 or other CFCs is thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation.
HFCs	
Description	HFCs are synthetic, man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential (GWP). The HFCs with the largest measured atmospheric abundances are (in order), HFC-23 (CHF_3), HFC-134a (CH_2FCF), and HFC-152a (CH_3CF_2). Prior to 1990, the only significant emissions were of HFC-23. HFC-134a emissions are increasing due to its use as a refrigerant.
Source	HFCs are manmade for applications such as automobile air conditioners and refrigerants.
Health Effects	No health effects are known to result from exposure to HFCs.
PFCs	

Description	PFCs have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur about 60 kilometers above earth's surface, are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). The EPA estimates that concentrations of CF_4 in the atmosphere are over 70 parts per trillion (ppt).
Source	The two main sources of PFCs are primary aluminum production and semiconductor manufacturing.
Health Effects	No health effects are known to result from exposure to PFCs.
	SF_6
Description	SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated (23,900). The EPA indicates that concentrations in the 1990s were about 4 ppt.
Source	SF_6 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.
Health Effects	In high concentrations inconfined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing.
	Nitrogen Trifluoride (NF_3)
Description	NF_3 is a colorless gas with a distinctly moldy odor. The World Resources Institute (WRI) indicates that NF_3 has a 100-year GWP of 17,200.
Source	NF_3 is used in industrial processes and is produced in the manufacturing of semiconductors, LCD (Liquid Crystal Display) panels, types of solar panels, and chemical lasers.
Health Effects	Long-term or repeated exposure may affect the liver and kidneys and may cause fluorosis.

The potential health effects related directly to the emissions of CO_2, CH_4, and N_2O as they relate to development projects such as the Project are still being debated in the scientific community. Their cumulative effects to GCC have the potential to cause adverse effects to human health. Increases in Earth's ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Scientists also purport that higher ambient temperatures would increase disease survival rates and result in more widespread disease. Climate change will likely cause shifts in weather patterns, potentially resulting in devastating droughts and food shortages in some areas.

Global Warming Potential

GHGs have varying global warming potential (GWP) values. The GWP of a GHG indicates the amount of warming a gas causes over a given period of time and represents the potential of a gas to trap heat in the atmosphere. CO_2 is utilized as the reference gas for GWP, and thus has a GWP of one (1). Carbon dioxide equivalent (CO_2e) is a term used for describing the different GHGs in a common unit. CO_2e signifies the amount of CO_2 which would have the equivalent GWP.

The atmospheric lifetime and GWP of selected GHGs are summarized at Table 5.7-2. As shown, GWPs for the Second Assessment Report (SAR), the Intergovernmental Panel on Climate Change (IPCC)'s scientific and socio-economic assessment on climate change, range from one (1) for CO_2 to 23,900 for SF_6 and GWPs for the IPCC's 5th Assessment Report range from 1 for CO_2 to 23,500 for SF_6.

Table 5.7-2 – Global Warming Potential and Atmospheric Lifetimes of Select Gases

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)	
		SAR	5th Assessment Report
CO_2	See*	1	1
CH_4	12 .4	21	28
N_2O	121	310	265
HFC-23	222	11,700	12,400
HFC-134a	13.4	1,300	1,300
HFC-152a	1.5	140	138
SF_6	3,200	23,900	23,500

*As per Appendix 8.A. of the IPCC's 5th Assessment Report, no single lifetime can be given.
Source: Table 2.14 of the IPCC Fourth Assessment Report, 2007

GHG Emissions Inventories

Global

Worldwide anthropogenic (human) GHG emissions are tracked by the IPCC for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Human GHG emissions data for Annex I nations are available through 2017. Based on the latest available data, the sum of these emissions totaled approximately 29,216,501 Gg CO_2e, as summarized in Table 5.7-3.

Table 5.7-3 – Top GHG Producing Countries and the European Union

Emitting Countries	GHG Emissions[1] (Gg CO_2e)
China	11,991,710[2]
United States	6,456,718
European Union (28-member countries)	4,323,163
India	3,079,810[2]
Russian Federation	2,155,470
Japan	1,289,630
Total	**29,216,501**

Gg = gigagram
[1]The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF). For countries without 2017 data, the United Nations Framework Convention on Climate Change, "Annex I Parties – GHG total without LULUCF," was used.
[2]The most recent GHG emissions for China and India are from 2014.

State of California

California has significantly slowed the rate of growth of GHG emissions due to the implementation of energy efficiency programs as well as adoption of strict emission controls but is still a substantial contributor to the U.S. emissions inventory total. The California Air Resource Board (CARB) compiles GHG inventories for the State of California. Based upon the 2018 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2016 GHG emissions period, California emitted an average 429.4 million metric tons of CO_2e ($MMTCO_2e$) per year including emissions resulting from imported electrical power in 2015.

Effects of Climate Change in California

Public Health

Higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation could increase from 25 to 35 percent under the lower warming range to 75 to 85 percent under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55 percent 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 degrees Fahrenheit (°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 might be many years with insufficient snow for skiing and snowboarding.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta – a major fresh water supply.

Agriculture

Increased temperatures could cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25 percent of the water supply needed. 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 ozone 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, and landscape and vegetation conditions, future risks will not be uniform throughout the State. In contrast, 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. Elevations of this magnitude would inundate low-lying coastal areas with saltwater, 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 12-14 inches.

5.7.2 Related Regulations

The following regulations address both climate change and GHG emissions.

5.7.2.1 International Regulations

Climate change is a global issue involving GHG emissions from all around the world; therefore, countries such as the ones discussed below have made an effort to reduce GHGs.

Intergovernmental Panel on Climate Change

In 1988, the United Nations and the World Meteorological Organization established the IPCC to assess the scientific, technical and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

United Nations' Framework Convention on Climate Change ('Convention')

On March 21, 1994, the U.S. joined a number of countries around the world in signing the Convention. Under the Convention, governments gather and share information on GHG

emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

International Climate Change Treaties

The Kyoto Protocol is an international agreement linked to the Convention. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing GHG emissions at an average of five percent against 1990 levels over the five-year period 2008–2012. The Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities."

In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended American involvement in the Kyoto Protocol. In December 2009, international leaders met in Copenhagen to address the future of international climate change commitments post-Kyoto. No binding agreement was reached in Copenhagen; however, the Committee identified the long-term goal of limiting the maximum global average temperature increase to no more than 2° Celsius above pre-industrial levels, subject to a review in 2015. The UN Climate Change Committee held additional meetings in Durban, South Africa in November 2011; Doha, Qatar in November 2012; and Warsaw, Poland in November 2013. The meetings are gradually gaining consensus among participants on individual climate change issues.

On September 23, 2014 more than 100 Heads of State and Government and leaders from the private sector and civil society met at the Climate Summit in New York hosted by the United Nations. At the Summit, heads of government, business and civil society announced actions in areas that would have the greatest impact on reducing emissions, including climate finance, energy, transport, industry, agriculture, cities, forests, and building resilience.

Parties to the United Nations' Framework Convention on Climate Change (UNFCCC) reached a landmark agreement on December 12, 2015 in Paris, charting a fundamentally new course in the two-decade-old global climate effort. Culminating a four-year negotiating round, the new treaty ends the strict differentiation between developed and developing countries that characterized earlier efforts, replacing it with a common framework that commits all countries to put forward their best efforts and to strengthen them in the years ahead. This includes, for the first time, requirements that all parties report regularly on their emissions and implementation efforts and undergo international review.

The agreement and a companion decision by parties were the key outcomes of the conference, known as the 21st session of the UNFCCC Conference of the Parties (COP) 21. Together, the Paris Agreement and the accompanying COP decision:

- Reaffirm the goal of limiting global temperature increase well below 2 degrees Celsius, while urging efforts to limit the increase to 1.5 degrees;
- Establish binding commitments by all parties to make "nationally determined contributions" (NDCs), and to pursue domestic measures aimed at achieving them;
- Commit all countries to report regularly on their emissions and "progress made in implementing and achieving" their NDCs, and to undergo international review;
- Commit all countries to submit new NDCs every five years, with the clear expectation that they will "represent a progression" beyond previous ones;
- Reaffirm the binding obligations of developed countries under the UNFCCC to support the efforts of developing countries, while for the first time encouraging voluntary contributions by developing countries too;
- Extend the current goal of mobilizing $100 billion a year in support by 2020 through 2025, with a new, higher goal to be set for the period after 2025;
- Extend a mechanism to address "loss and damage" resulting from climate change, which explicitly will not "involve or provide a basis for any liability or compensation;"
- Require parties engaging in international emissions trading to avoid "double counting;" and
- Call for a new mechanism, similar to the Clean Development Mechanism under the Kyoto Protocol, enabling emission reductions in one country to be counted toward another country's NDC.

On June 2, 2017 President Donald Trump announced his intention to withdraw from the Paris Agreement. It should be noted that under the terms of the agreement, the United Sates could not formally announce its resignation until November 4, 2019. The United States did formally announce its resignation on November 4, 2019. Subsequently, withdrawal would be effective one year after notification, on November 4, 2020.

5.7.2.2 Federal Regulations

Prior to the last decade, there have been no concrete Federal regulations of GHGs or major planning for climate change adaptation. The following are actions regarding the Federal government, GHGs, and fuel efficiency.

GHG Endangerment

In *Massachusetts v. Environmental Protection Agency* 549 U.S. 497 (2007), decided on April 2, 2007, the Supreme Court found that four GHGs, including CO_2, are air pollutants subject to regulation under Section 202(a)(1) of the Federal Clean Air Act (CAA). The Court held that the EPA Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7,

2009, the EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the CAA:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six (6) key well-mixed GHGs – CO_2, CH_4, N_2O, HFCs, PFCs, and sulfur hexafluoride – in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed in the section "Clean Vehicles" below. After a lengthy legal challenge, the U.S. Supreme Court declined to review an Appeals Court ruling that upheld the EPA Administrator's findings.

Clean Vehicles

Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the U.S. On April 1, 2010, the EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the U.S.

The first phase of the national program applies to passenger cars, light-duty trucks, and medium-duty (MD) passenger vehicles, covering model years 2012 through 2016. These vehicles are required to meet an estimated combined average emissions level of 250 grams of CO_2 per mile, equivalent to 35.5 miles per gallon (mpg) if the automobile industry were to meet this CO_2 level solely through fuel economy improvements. Together, these standards would cut CO_2 emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). The EPA and the NHTSA issued final rules on a second-phase joint rulemaking establishing national standards for light-duty vehicles for model years 2017 through 2025 in August 2012. The new standards for model years 2017 through 2025 apply to passenger cars, light-duty trucks, and MD passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams/mile of CO_2 in model year 2025, which is equivalent to 54.5 mpg if achieved exclusively through fuel economy improvements.

The EPA and the U.S. Department of Transportation issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty (HD) trucks and buses on September 15, 2011, effective November 14, 2011. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20 percent reduction in CO_2 emissions and fuel consumption by the 2018 model

year. For HD pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10-percent reduction for gasoline vehicles and a 15 percent reduction for diesel vehicles by the 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10 percent reduction in fuel consumption and CO_2 emissions from the 2014 to 2018 model years.

On April 2, 2018, the EPA signed the Mid-term Evaluation Final Determination, which finds that the model year 2022-2025 GHG standards are not appropriate and should be revised. This Final Determination serves to initiate a notice to further consider appropriate standards for model year 2022-2025 light-duty vehicles. On August 24, 2018, the EPA and NHTSA published a proposal to freeze the model year 2020 standards through model year 2026 and to revoke California's waiver under the CAA to establish more stringent standards.

Mandatory Reporting of GHGs

The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of GHGs Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the U.S. and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons per year (MT/yr) or more of GHG emissions are required to submit annual reports to the EPA.

New Source Review

The EPA issued a final rule on May 13, 2010, that establishes thresholds for GHGs that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule "tailors" the requirements of these CAA permitting programs to limit which facilities will be required to obtain Prevention of Significant Deterioration and Title V permits. In the preamble to the revisions to the Federal Code of Regulations, the EPA states:

> *"This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the Clean Air Act, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to GHG sources, starting with the largest GHG emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for GHG emissions until at least April 30, 2016."*

The EPA estimates that facilities responsible for nearly 70 percent of the national GHG emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation's largest GHG emitters—power plants, refineries, and cement production facilities.

Standards of Performance for GHG Emissions for New Stationary Sources: Electric Utility Generating Units

As required by a settlement agreement, the EPA proposed new performance standards for emissions of CO_2 for new, affected, fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatts would be required to meet an output-based standard of 1,000 pounds of CO_2 per megawatt-hour, based on the performance of widely used natural gas combined cycle technology. It should be noted that on February 9, 2016 the U.S. Supreme Court issued a stay of this regulation pending litigation. Additionally, the current EPA Administrator has also signed a measure to repeal the Clean Power Plan, including the CO_2 standards.

Cap-and-Trade

Cap-and-trade refers to a policy tool where emissions are limited to a certain amount and can be traded or provides flexibility on how the emitter can comply. Successful examples in the U.S. include the Acid Rain Program and the Nitrous Oxide (NO_X) Budget Trading Program and Clean Air Interstate Rule in the northeast. There is no Federal GHG cap-and-trade program currently; however, some states have joined to create initiatives to provide a mechanism for cap-and-trade.

The Regional GHG Initiative is an effort to reduce GHGs among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Each state caps CO_2 emissions from power plants, auctions CO_2 emission allowances, and invests the proceeds in strategic energy programs that further reduce emissions, save consumers money, create jobs, and build a clean energy economy. The Initiative began in 2008.

The Western Climate Initiative partner jurisdictions have developed a comprehensive initiative to reduce regional GHG emissions to 15 percent below 2005 levels by 2020. The partners were originally California, British Columbia, Manitoba, Ontario, and Quebec. However, Manitoba and Ontario are not currently participating. California linked with Quebec's cap-and-trade system January 1, 2014, and joint offset auctions took place in 2015.

SmartWay Program

The SmartWay Program is a public-private initiative between the EPA, large and small trucking companies, rail carriers, logistics companies, commercial manufacturers, retailers, and other Federal and State agencies. Its purpose is to improve fuel efficiency and the environmental performance (reduction of both GHG emissions and air pollution) of the goods movement supply chains. SmartWay is comprised of four components (EPA 2014):

1. SmartWay Transport Partnership: A partnership in which freight carriers and shippers commit to benchmark operations, track fuel consumption, and improve performance annually.

2. SmartWay Technology Program: A testing, verification, and designation program to help freight companies identify equipment, technologies, and strategies that save fuel and lower emissions.
3. SmartWay Vehicles: A program that ranks light-duty cars and small trucks and identifies superior environmental performers with the SmartWay logo.
4. SmartWay International Interests: Guidance and resources for countries seeking to develop freight sustainability programs modeled after SmartWay.

SmartWay effectively refers to requirements geared towards reducing fuel consumption. Most large trucking fleets driving newer vehicles are compliant with SmartWay design requirements. Moreover, over time, all HD trucks will have to comply with the CARB GHG Regulation that is designed with the SmartWay Program in mind, to reduce GHG emissions by making them more fuel-efficient. For instance, in 2015, 53 foot or longer dry vans or refrigerated trailers equipped with a combination of SmartWay-verified low-rolling resistance tires and SmartWay-verified aerodynamic devices would obtain a total of 10 percent or more fuel savings over traditional trailers.

Through the SmartWay Technology Program, the EPA has evaluated the fuel saving benefits of various devices through grants, cooperative agreements, emissions and fuel economy testing, demonstration projects and technical literature review. As a result, the EPA has determined the following types of technologies provide fuel saving and/or emission reducing benefits when used properly in their designed applications, and has verified certain products:

- Idle reduction technologies – less idling of the engine when it is not needed would reduce fuel consumption.
- Aerodynamic technologies minimize drag and improve airflow over the entire tractor-trailer vehicle. Aerodynamic technologies include gap fairings that reduce turbulence between the tractor and trailer, side skirts that minimize wind under the trailer, and rear fairings that reduce turbulence and pressure drop at the rear of the trailer.
- Low rolling resistance tires can roll longer without slowing down, thereby reducing the amount of fuel used. Rolling resistance (or rolling friction or rolling drag) is the force resisting the motion when a tire rolls on a surface. The wheel will eventually slow down because of this resistance.
- Retrofit technologies include things such as diesel particulate filters, emissions upgrades (to a higher tier), etc., which would reduce emissions.
- Federal excise tax exemptions.

5.7.2.3 State Regulations

Legislative Actions to Reduce GHGs

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation such as the landmark

Assembly Bill (AB) 32 was specifically enacted to address GHG emissions. Other legislation such as Title 24 and Title 20 energy standards were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes the major provisions of the legislation.

Assembly Bill 32

The California State Legislature enacted Assembly Bill (AB) 32, which requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. "GHGs" as defined under AB 32 include CO_2, CH_4, N_2O, HFCs, PFCs, and sulfur hexafluoride. Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs. The CARB is the State agency charged with monitoring and regulating sources of GHGs. AB 32 states the following:

> *"Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems."*

CARB Scoping Plan

CARB adopted the Scoping plan to achieve the goals of AB 32. In November 2017, CARB released the *Final 2017 Scoping Plan Update*, which identifies the State's post-2020 reduction strategy. The *Final 2017 Scoping Plan Update* reflects the 2030 target of a 40 percent reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Key programs that the proposed Second Update builds upon include the Cap-and-Trade Regulation, the Low Carbon Fuel Standard (LCFS), and much cleaner cars, trucks and freight movement, utilizing cleaner, renewable energy, and strategies to reduce CH_4 emissions from agricultural and other wastes.

The *Final 2017 Scoping Plan Update* establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030.

California's climate strategy will require contributions from all sectors of the economy, including the land base, and will include enhanced focus on zero- and near-zero-emission (ZE/NZE) vehicle technologies; continued investment in renewables, including solar roofs, wind, and other distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (CH_4, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for direct GHG reductions at refineries will further support air quality co-benefits in neighborhoods, including in disadvantaged communities historically located adjacent to these large stationary sources, as well as efforts with California's local air pollution control and air quality management districts (air districts) to tighten emission limits on a broad

spectrum of industrial sources. Major elements of the *Final 2017 Scoping Plan Update* framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZEV buses and trucks.
- LCFS, with an increased stringency (18 percent by 2030).
- Implementing SB 350, which expands the RPS to 50 percent RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of zero-emission vehicles (ZEV) trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing CH_4 and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- 20 percent reduction in GHG emissions from refineries by 2030.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

Note, however, that the *Final 2017 Scoping Plan Update* acknowledges that:

> *"[a]chieving net zero increases in GHG emissions, resulting in no contribution to GHG impacts, may not be feasible or appropriate for every project, however, and the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA."*

In addition to the statewide strategies listed above, the *Final 2017 Scoping Plan Update* also identifies local governments as essential partners in achieving the State's long-term GHG reduction goals and identifies local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends that local governments achieve a community-wide goal to achieve emissions of no more than 6 metric tons of CO_2e ($MTCO_2e$) or less per capita by 2030 and 2 $MTCO_2e$ or less per capita by 2050. For CEQA projects, CARB states that lead agencies may develop evidenced-based bright-line numeric thresholds—consistent with the Scoping Plan and the State's long-term GHG goals—and projects with emissions over that amount may be required to incorporate on-site design features and mitigation measures that avoid or minimize project emissions to the degree feasible; or, a performance-based metric using a CAP or other plan to reduce GHG emissions is appropriate.

According to research conducted by the Lawrence Berkeley National Laboratory (LBNL) and supported by CARB, California, under its existing and proposed GHG reduction policies, could

achieve the 2030 goals under SB 32. The research utilized a new, validated model known as the California LBNL GHG Analysis of Policies Spreadsheet (CALGAPS), which simulates GHG and criteria pollutant emissions in California from 2010 to 2050 in accordance to existing and future GHG-reducing policies. The CALGAPS model showed that by 2030, emissions could range from 211 to 428 $MTCO_2e$ per year ($MTCO_2e$/yr), indicating that "even if all modeled policies are not implemented, reductions could be sufficient to reduce emissions 40% below the 1990 level [of SB 32]." CALGAPS analyzed emissions through 2050 even though it did not generally account for policies that might be put in place after 2030. Although the research indicated that the emissions would not meet the State's 80 percent reduction goal by 2050, various combinations of policies could allow California's cumulative emissions to remain very low through 2050.

Senate Bill 32

On September 8, 2016, Governor Jerry Brown signed the Senate Bill (SB) 32 and its companion bill, Assembly Bill (AB) 197. SB 32 requires the State to reduce statewide GHG emissions to 40 percent below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal of 1990 levels by 2020 and provides an intermediate goal to achieving S-3-05, which sets a statewide GHG reduction target of 80 percent below 1990 levels by 2050. AB 197 creates a legislative committee to oversee regulators to ensure that CARB not only responds to the Governor, but also the Legislature.

Cap-and-Trade Program

The Scoping Plan identifies a Cap-and-Trade Program as one of the key strategies for California to reduce GHG emissions. According to CARB, a cap-and-trade program will help put California on the path to meet its goal of reducing GHG emissions to 1990 levels by the year 2020 and ultimately achieving an 80 percent reduction from 1990 levels by 2050. Under cap-and-trade, an overall limit on GHG emissions from capped sectors is established, and facilities subject to the cap will be able to trade permits to emit GHGs within the overall limit.

CARB adopted a California Cap-and-Trade Program pursuant to its authority under AB 32. (See Title 17 of the CCR §§ 95800 to 96023). The Cap-and-Trade Program is designed to reduce GHG emissions from major sources (deemed "covered entities") by setting a firm cap on statewide GHG emissions and employing market mechanisms to achieve AB 32's emission-reduction mandate of returning to 1990 levels of emissions by 2020. The statewide cap for GHG emissions from the capped sectors (e.g., electricity generation, petroleum refining, and cement production) commenced in 2013 and will decline over time, achieving GHG emission reductions throughout the program's duration.

Covered entities that emit more than 25.000 $MTCO_2e$ per year must comply with the Cap-and-Trade Program. Triggering of the 25.000 $MTCO_2e$ per year "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of GHG Emissions (Mandatory Reporting Rule or "MRR").

Under the Cap-and-Trade Program, CARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities.

Covered entities are allocated free allowances in whole or part (if eligible), and may buy allowances at auction, purchase allowances from others, or purchase offset credits. Each covered entity with a compliance obligation is required to surrender "compliance instruments" (30) for each $MTCO_2e$ of GHG they emit. There also are requirements to surrender compliance instruments covering 30 percent of the prior year's compliance obligation by November of each year. For example, in November 2014, a covered entity was required to submit compliance instruments to cover 30 percent of its 2013 GHG emissions.

The Cap-and-Trade Program provides a firm cap, ensuring that the 2020 statewide emission limit will not be exceeded. An inherent feature of the Cap-and-Trade program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis. As summarized by CARB in the First Update:

> *"The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. But as the cap declines, aggregate emissions must be reduced. In other words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a reduction in GHG emissions from other covered entities. Such a focus on aggregate GHG emissions is considered appropriate because climate change is a global phenomenon, and the effects of GHG emissions are considered cumulative."*

The Cap-and-Trade Program works with other direct regulatory measures and provides an economic incentive to reduce emissions. If California's direct regulatory measures reduce GHG emissions more than expected, then the Cap-and-Trade Program will be responsible for relatively fewer emissions reductions. If California's direct regulatory measures reduce GHG emissions less than expected, then the Cap-and-Trade Program will be responsible for relatively more emissions reductions. Thus, the Cap-and-Trade Program assures that California will meet its 2020 GHG emissions reduction mandate:

> *"The Cap-and-Trade Program establishes an overall limit on GHG emissions from most of the California economy—the "capped sectors." Within the capped sectors, some of the reductions are being accomplished through direct regulations, such as improved building and appliance efficiency standards, the [Low Carbon Fuel Standard] LCFS, and the 33 percent [Renewables Portfolio Standard] RPS. Whatever additional reductions are needed to bring emissions within the cap is accomplished through price incentives posed by emissions allowance prices. Together, direct regulation and price incentives assure that emissions are brought down cost-effectively to the level of the overall cap. The Cap-and-Trade Regulation provides assurance that California's 2020 limit will be met because the regulation sets a firm limit on 85 percent of California's GHG emissions. In sum, the Cap-and-Trade Program will achieve aggregate, rather than site specific or project-*

> *level, GHG emissions reductions. Also, due to the regulatory architecture adopted by CARB in AB 32, the reductions attributed to the Cap-and-Trade Program can change over time depending on the State's emissions forecasts and the effectiveness of direct regulatory measures."*

As of January 1, 2015, the Cap-and-Trade Program covered approximately 85 percent of California's GHG emissions. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program.

The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period. While the Cap-and-Trade Program technically covered fuel suppliers as early as 2012, they did not have a compliance obligation (i.e., they were not fully regulated) until 2015. The Cap-and-Trade Program covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported. The point of regulation for transportation fuels is when they are "supplied" (i.e., delivered into commerce). Accordingly, as with stationary source GHG emissions and GHG emissions attributable to electricity use, virtually all, if not all, of GHG emissions from CEQA projects associated with VMT are covered by the Cap-and-Trade Program. In addition, the Scoping Plan differentiates between "capped" and "uncapped" strategies. "Capped" strategies are subject to the proposed cap-and-trade program. The Scoping Plan states that the inclusion of these emissions within the Program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by 2020 to achieve the emission target contained in AB 32. "Uncapped" strategies that will not be subject to the cap-and-trade emissions caps and requirements are provided as a margin of safety by accounting for additional GHG emission reductions.

SB 375 – The Sustainable Communities and Climate Protection Act of 2008

Passing the Senate on August 30, 2008, Senate Bill (SB) 375 was signed by the Governor on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40 percent of the total GHG emissions in California. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: it (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans (RTP) for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

Concerning CEQA, SB 375, as codified in Public Resources Code Section 21159.28, states that CEQA findings for certain projects are not required to reference, describe, or discuss (1) growth inducing impacts, or (2) any project-specific or cumulative impacts from cars and light-duty truck

trips generated by the project on global warming or the regional transportation network, if the project:

1. Is in an area with an approved sustainable communities strategy or an alternative planning strategy that the CARB accepts as achieving the GHG emission reduction targets.
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies).
3. Incorporates the mitigation measures required by an applicable prior environmental document.

AB 1493 Pavley Regulations and Fuel Efficiency Standards

California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.

The standards phase in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards will result in about a 22 percent reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards will result in about a 30 percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program referred to as LEV III or the Advanced Clean Cars program. The Advanced Clean Car program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The new rules will clean up gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles and hydrogen fuel cell cars. The package will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.

SB 350 – Clean Energy and Pollution Reduction Act of 2015

In October 2015, the legislature approved, and the Governor signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the RPS, higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Provisions for a 50 percent reduction in the use of petroleum statewide were

removed from the Bill because of opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33 percent to 50 percent by 2030, with interim targets of 40 percent by 2024, and 45 percent by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utilities Commission (CPUC), the California Energy Commission (CEC), and local publicly owned utilities.
- Reorganize the Independent System Operator to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.

Executive Orders Related to GHG Emissions

California's Executive Branch has taken several actions to reduce GHGs through the use of Executive Orders. Although not regulatory, they set the tone for the State and guide the actions of State agencies.

Executive Order B-55-18 and SB 100

Executive Order B-55-18 and SB 100. SB 100 and Executive Order B-55-18 were signed by Governor Brown on September 10, 2018. Under the existing RPS, 25 percent of retail sales are required to be from renewable sources by December 31, 2016, 33 percent by December 31, 2020, 40 percent by December 31, 2024, 45 percent by December 31, 2027, and 50 percent by December 31, 2030. SB 100 raises California's RPS requirement to 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030. In addition to targets under AB 32 and SB 32, Executive Order B-55-18 establishes a carbon neutrality goal for the State of California by 2045; and sets a goal to maintain net negative emissions thereafter. The Executive Order directs the California Natural Resources Agency (CNRA), California Environmental Protection Agency (CalEPA), the Department of Food and Agriculture (CDFA), and CARB to include sequestration targets in the Natural and Working Lands Climate Change Implementation Plan consistent with the carbon neutrality goal.

Executive Order S-3-05

Former California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.

- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

Executive Order S-01-07 – Low Carbon Fuel Standard

The Governor signed Executive Order S-01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the Executive Order established a LCFS and directed the Secretary for Environmental Protection to coordinate the actions of the CEC, the CARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. This analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (State Alternative Fuels Plan adopted by CEC on December 24, 2007) and was submitted to CARB for consideration as an "early action" item under AB 32. The CARB adopted the LCFS on April 23, 2009.

The LCFS was challenged in the U.S. District Court in Fresno in 2011. The court's ruling issued on December 29, 2011, included a preliminary injunction against CARB's implementation of the rule. The Ninth Circuit Court of Appeals stayed the injunction on April 23, 2012, pending final ruling on appeal, allowing CARB to continue to implement and enforce the regulation. The Ninth Circuit Court's decision, filed September 18, 2013, vacated the preliminary injunction. In essence, the court held that LCFS adopted by CARB were not in conflict with Federal law. On August 8, 2013, the Fifth District Court of Appeal (California) ruled CARB failed to comply with CEQA and the Administrative Procedure Act (APA) when adopting regulations for LCFS. In a partially published opinion, the Court of Appeal reversed the trial court's judgment and directed issuance of a writ of mandate setting aside Resolution 09-31 and two executive orders of CARB approving LCFS regulations promulgated to reduce GHG emissions. However, the court tailored its remedy to protect the public interest by allowing the LCFS regulations to remain operative while CARB complies with the procedural requirements it failed to satisfy.

To address the Court ruling, CARB was required to bring a new LCFS regulation to the Board for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low-carbon intensity fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. On November 16, 2015 the Office of Administrative Law (OAL) approved the Final Rulemaking Package. The new LCFS regulation became effective on January 1, 2016.

Executive Order S-13-08

Executive Order S-13-08 states that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures,

thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the Order, the 2009 California Climate Adaptation Strategy (CNRA 2009) was adopted, which is the ". . . first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States." Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order B-30-15

On April 29, 2015, Governor Edmund G. Brown Jr. issued an executive order to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's executive order aligns California's GHG reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris late 2015. The Order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050 and directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of $MMTCO_2e$. The Order also requires the State's climate adaptation plan to be updated every three years, and for the State to continue its climate change research program, among other provisions. As with Executive Order S-3-05, this Order is not legally enforceable for local governments and the private sector. SB 32 is an extension of AB 32 and requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal and provides an intermediate goal to achieving S-3-05, which sets a statewide GHG reduction target of 80% below 1990 levels by 2050. AB 197 creates a legislative committee to oversee regulators to ensure that CARB not only responds to the Governor, but also the Legislature.

California Regulations and Building Codes

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth.

Title 24 Appliance Efficiency Standards

CCR, Title 20: Division 2, Chapter 4, Article 4, Sections 1601-1608: Appliance Efficiency Regulations regulates the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. 23 categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the State and those designed and sold exclusively for use in recreational vehicles or other mobile equipment.

Title 24 Energy Efficiency Standards and California Green Building Standards

CCR Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's

energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020. As such, the analysis herein is compliant with the 2019 Title 24 Standards.

The CEC indicates that the 2019 Title 24 standards will require solar photovoltaic systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, update indoor and outdoor lighting for nonresidential buildings. The CEC anticipates that single-family homes built with the 2019 standards will use approximately seven (7) percent less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar photovoltaic systems, homes built under the 2019 standards will use about 53 percent less energy than homes built under the 2016 standards. Nonresidential buildings will use approximately 30 percent less energy due to lighting upgrades.

CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on January 1, 2011, and is administered by the California Building Standards Commission (CBSC). CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2019 California Green Building Code Standards that became effective January 1, 2020. Local jurisdictions are permitted to adopt more stringent requirements, as State law provides methods for local enhancements. CALGreen recognizes that many jurisdictions have developed existing construction and demolition (C&D) ordinances and defers to them as the ruling guidance provided they establish a minimum 65 percent diversion requirement. CalGreen's 65 percent diversion requires covered projects to recycle and/or salvage for reuse a minimum 65 percent of the non-hazardous construction and demolition waste or meet a local construction and demolition waste management ordinance, whichever is more stringent. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. The State Building Code provides the minimum standard that buildings must meet in order to be certified for occupancy, which is generally enforced by the local building official. 2019 CALGreen standards are applicable to the Project and require:

- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).

- Designated parking. In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1. 5.405.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Excavated soil and land clearing debris. 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed (5.408.3).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (5.410.1).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
    - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1)
    - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).
    - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). When a shower is served by more than one showerhead, the combine flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).
    - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of note more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (5.303.3.4.5).
- Outdoor potable water use in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California

Department of Water Resources' Model Water Efficient (MWELO), whichever is more stringent (5.304.1).

- Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 square feet or for excess consumption where any tenant within a new building or within an addition that is projected to consume more than 1,000 gal/day (5.303.1.1 and 5.303.1.2).
- Outdoor water use in rehabilitated landscape projects equal or greater than 2,500 square feet. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit (5.304.3).
- Commissioning. For new buildings 10,000 square feet and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (5.410.2).

CARB Refrigerant Management Program

CARB adopted a regulation in 2009 to reduce refrigerant GHG emissions from stationary sources through refrigerant leak detection and monitoring, leak repair, system retirement and retrofitting, reporting and recordkeeping, and proper refrigerant cylinder use, sale, and disposal. The regulation is set forth in sections 95380 to 95398 of Title 17, CCR. The rules implementing the regulation establish a limit on statewide GHG emissions from stationary facilities with refrigeration systems with more than 50 pounds of a high GWP refrigerant. The refrigerant management program is designed to (1) reduce emissions of high-GWP GHG refrigerants from leaky stationary, non-residential refrigeration equipment; (2) reduce emissions from the installation and servicing of refrigeration and air-conditioning appliances using high-GWP refrigerants; and (3) verify GHG emission reductions.

Tractor-Trailer GHG Regulation

The tractors and trailers subject to this regulation must either use EPA SmartWay certified tractors and trailers or retrofit their existing fleet with SmartWay verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the HD tractors that pull them on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low rolling resistance tires. Sleeper cab tractors model year 2011 and later must be SmartWay certified. All other tractors must use SmartWay verified low rolling resistance tires. There are also requirements for trailers to have low rolling resistance tires and aerodynamic devices.

Phase 1 and 2 Heavy-Duty (HD) Vehicle GHG Standards

CARB has adopted a new regulation for GHG emissions from HD trucks and engines sold in California. It establishes GHG emission limits on truck and engine manufacturers and harmonizes with the EPA rule for new trucks and engines nationally. Existing HD vehicle regulations in

California include engine criteria emission standards, tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy-Duty Tractor-Trailer Greenhouse Gas Regulation), and in-use fleet retrofit requirements such as the Truck and Bus Regulation. In September 2011, the EPA adopted their new rule for HD trucks and engines. The EPA rule has compliance requirements for new compression and spark ignition engines, as well as trucks from Class 2b through Class 8. Compliance requirements begin with model year (MY) 2014 with stringency levels increasing through MY 2018. The rule organizes truck compliance into three groupings, which include a) HD pickups and vans; b) vocational vehicles; and c) combination tractors. The EPA rule does not regulate trailers.

CARB staff has worked jointly with the EPA and the NHTSA on the next phase of Federal GHG emission standards for MD and HD vehicles, called Federal Phase 2. The Federal Phase 2 standards were built on the improvements in engine and vehicle efficiency required by the Phase 1 emission standards and represent a significant opportunity to achieve further GHG reductions for 2018 and later model year HD vehicles, including trailers. But as discussed above, the EPA and NHTSA have proposed to roll back GHG and fuel economy standards for cars and light-duty trucks, which suggests a similar rollback of Phase 2 standards for MD and HD vehicles may be pursued.

SB 97 and the CEQA Guidelines Update

Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states "(a) On or before July 1, 2009, the Office of Planning and Research (OPR) shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the OPR pursuant to subdivision (a)." Section 21097 was also added to the Public Resources Code. It provided CEQA protection until January 1, 2010 for transportation projects funded by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 or projects funded by the Disaster Preparedness and Flood Prevention Bond Act of 2006, in stating that the failure to analyze adequately the effects of GHGs would not violate CEQA.

On December 28, 2018, the Natural Resources Agency announced the OAL approved the amendments to the CEQA Guidelines for implementing the CEQA. The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing CEQA Guidelines to reference climate change.

Section 1506.4 was amended to state that in determining the significance of a project's GHG emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving

scientific knowledge and State regulatory schemes. Additionally, a lead agency may use a model or methodology to estimate GHG emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use.

5.7.2.4 Regional Regulations

The Project is within the South Coast Air Basin (Basin), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

South Coast Air Quality Management District

SCAQMD is the agency responsible for air quality planning and regulation in the Basin. The SCAQMD addresses the impacts to climate change of projects subject to SCAQMD permit as a lead agency if they are the only agency having discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for the project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions.

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the Basin. The Working Group developed several different options that are contained in the SCAQMD Draft Guidance Document – Interim CEQA GHG Significance Threshold, that could be applied by lead agencies. The working group has not provided additional guidance since release of the interim guidance in 2008. The SCAQMD Board has not approved the thresholds; however, the Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in adopting its own threshold. The current interim thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a GHG reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.
- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to the project's operational emissions. If a project's emissions are below one of the following screening thresholds, then the project is less than significant:
    - Residential and Commercial land use: 3,000 $MTCO_2e$ per year

  - Industrial land use: 10,000 $MTCO_2e$ per year
  - Based on land use type: residential: 3,500 $MTCO_2e$ per year; commercial: 1,400 $MTCO_2e$ per year; or mixed use: 3,000 $MTCO_2e$ per year

- Tier 4 has the following options:
  - Option 1: Reduce BAU emissions by a certain percentage; this percentage is currently undefined.
  - Option 2: Early implementation of applicable AB 32 Scoping Plan measures
  - Option 3, 2020 target for service populations (SP), which includes residents and employees: 4.8 $MTCO_2e$/SP/year for projects and 6.6 $MTCO_2e$/SP/year for plans;
  - Option 3, 2035 target: 3.0 $MTCO_2e$/SP/year for projects and 4.1 $MTCO_2e$/SP/year for plans
- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD's interim thresholds used the Executive Order S-3-05-year 2050 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap CO_2 concentrations at 450 ppm, thus stabilizing global climate.

SCAQMD only has authority over GHG emissions from development projects that include air quality permits. At this time, it is unknown if the project would include stationary sources of emissions subject to SCAQMD permits. Notwithstanding, if the Project requires a stationary permit, it would be subject to the applicable SCAQMD regulations.

SCAQMD Regulation XXVII, adopted in 2009 includes the following rules:

- Rule 2700 defines terms and post global warming potentials.
- Rule 2701, SoCal Climate Solutions Exchange, establishes a voluntary program to encourage, quantify, and certify voluntary, high quality certified GHG emission reductions in the SCAQMD.
- Rule 2702, GHG Reduction Program created a program to produce GHG emission reductions within the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

5.7.2.5 Local Regulations

City of Riverside General Plan 2025

The Air Quality, Land Use and Urban Design, and Open Space and Conservation elements of the General Plan 2025 contain policies intended to reduce GHG emissions. Many of the policies described in Section 5.2, Air Quality, Section 5.5, Energy Conservation, and Section 4.8, Land Use and Planning of this DEIR would apply to reducing GHG emissions. Additional policies that may be applicable to the Project include:

Objective AQ-5: Increase energy efficiency and conservation in an effort to reduce air pollution.

Policy AQ-5.1: Utilize source reduction, recycling, and other appropriate measures to reduce the amount of solid waste disposed of in landfills.

Policy AQ-5.3: Continue and expand use of renewable energy sources such as wind, solar, water, landfill gas, and geothermal sources.

Policy AQ-5.6: Support the use of automated equipment for conditional facilities to control heating and air conditioning.

Policy AQ-5.7: Require residential building construction to meet or exceed energy use guidelines in Title 24 of the California Administrative Code.

Objective AQ-8: Make sustainability and global warming education a priority for the City's effort to protect public health and achieve State and Federal clean air standards

Policy AQ 8.17: Develop measures that a minimum of 40 percent of the waste from all construction sites throughout Riverside be recycled by the end of 2008.

City of Riverside Restorative Growthprint Climate Action Plan

The City of Riverside collaborated with the Western Riverside Council of Governments (WRCOG) on a Subregional Climate Action Plan. The City of Riverside Restorative Growthprint-Climate Action Plan (RRG-CAP) builds on the WRCOG Subregional CAP commitments and provides the City GHG reduction goals beyond 2020 to 2035. Through the WRCOG Subregional CAP process, the City has adopted a 2020 community-wide GHG emissions target of 2,224,908 MT CO2E, which represents a 15 percent reduction from the City's 2010 GHG emissions baseline inventory, and a 2035 emissions target of 1,532,274 MT CO2E, 49 percent below the 2007 baseline. These reduction targets are consistent with the statewide AB 32 goal of reducing emissions to 1990 levels and fulfill the requirements of SB 375.

The RRG-CAP contains GHG reduction measures organized into four primary sectors to meet these targets:

- **Energy:** Promote energy efficiency and renewable energy for municipal operations and the community
- **Transportation and Land Use:** Measures to reduce single-occupancy travel, increase non-motorized travel, improve transit access, encourage alternative fuels, and promote sustainable growth patterns.
- **Water:** Measures to reduce water demand by community and municipal operations and to conserve potable water.
- **Solid Waste:** Measures to reduce solid waste during construction and operational activities

The City of Riverside Code of Ordinances Title 19 Article VIII Chapter 19.570 complies with Governor's Executive Order No. B-29-15 and the State Model Water Efficient Landscape Ordinance. Ordinance requirements apply to:

1. New development projects with an aggregate landscape area equal to or greater than 500 square feet requiring a building or landscape permit, plan check or design review.
2. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check or design review.
3. Existing landscapes are limited to Section 19.570.080 - Existing Landscapes.
4. Recognizing the special landscape management needs of cemeteries, new and rehabilitated cemeteries are limited to Section 19.570.090 - Cemeteries (A). Existing cemeteries are limited to Section 19.570.090 - Cemeteries (B).
5. Notwithstanding Section 19.040.110 - Public Projects, all public projects shall comply with the provisions of this chapter.
6. Any project with an aggregate landscape area of 2,500 square feet or less may comply with the performance requirements of this ordinance or conform to the prescriptive measures contained in Section 19.570.130 (State Model WELO Appendix D - Sample Water Efficient Landscape Worksheet).
7. For projects using treated or untreated graywater or rainwater captured on site, any lot or parcel within the project that has less than 2,500 square feet of landscape and meets the lot or parcel's landscape water requirement (Estimated Total Water Use) entirely with treated or untreated graywater or through stored rainwater captured on site is subject only to Section 19.570.130.B.5.

The City of Riverside's Water Efficiency Landscape Ordinance requires the following:

- Prepare and submit an application to the Planning Division for review and approval by the Community & Economic Development Director or his/her designee.
    - Elements of a complete application are landscape document package, Water Efficient Landscape Worksheet, Soil Management Report, Landscape Design Plan, Irrigation Design Plan, and Grading Design Plan (if applicable)
- Receipt of Certificate of Completion prior to issuance of a certificate of occupancy.

All requirements shall be met by the Project in accordance with The City of Riverside Code of Ordinances Title 19 Article VIII Chapter 19.570.

5.7.3 Project Design Considerations

The Project would adhere to applicable 2019 CalGreen building code standards as described in Section 5.7.3.4 above as they relate to reducing GHG emissions.

5.7.4 Methodology

California Emissions Estimator Model™ Employed to Analyze GHG Emissions

On October 17, 2017, the SCAQMD, in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the California Emissions Estimator Model™ (CalEEMod) v2016.3.2. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (volatile organic compounds (VOCs), NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures. Accordingly, the latest version of CalEEMod™ has been used for this Project to determine GHG emissions. Output from the model runs for construction and operational activity are provided in Appendix 3.1 of the Project's *Greenhouse Gas Analysis*. CalEEMod includes GHG emissions from the following source categories: construction, area, energy, mobile, waste, water.

Emission Factor Model 2017 Emission Rates

On August 19, 2019, the EPA approved the 2017 version of the Emission Factor model (EMFAC) web database for use in State Implementation Plan and transportation conformity analyses. EMFAC2017 is a mathematical model that was developed to calculate emission rates, fuel consumption, and VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the CARB to project changes in future emissions from on-road mobile sources. This Project's *Greenhouse Gas Analysis* utilizes summer, winter, and annual EMFAC2017 emission factors in order to derive vehicle emissions associated with Project operational activities, which vary by season.

Land Uses Modeled in CalEEMod

CalEEMod does not provide an extensive selection of land use subtype categories, therefore land uses that most closely fit the Project were utilized. For purposes of analysis, the following land uses were modeled consistent with the Project's *Focused Traffic Analysis* (Urban Crossroads, 2020; Appendix I of this DEIR):

- 75 DU Apartments Low Rise
- 162 DU Apartments Mid Rise
- 427 Space Parking Lot on 0.82 acre

5.7.5 Thresholds of Significance

The City of Riverside has not established local CEQA significance thresholds as described in Section 15064.7 of the State CEQA Guidelines. The City generally utilizes the CEQA significance thresholds in Appendix G ("Environmental Checklist") of the State CEQA Guidelines. The Environmental Checklist prepared by the City for the Project (see Appendix A of this DEIR) indicates that impacts related to the Crestview Apartments Project may be considered potentially significant if the proposed project would:

- (Threshold A) generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment;

- (Threshold B) conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

5.7.6 Environmental Impacts

Threshold A: *Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

Construction Emissions

Project construction activities would generate CO_2 and CH_4 emissions. As discussed in the Project's *Air Quality Impact Analysis* (Urban Crossroads, 2020; Appendix B of this EIR), construction-related emissions are expected from the following construction activities:

- site preparation (including blasting)
- crushing
- grading
- building construction
- paving
- architectural coating

For construction phase Project emissions, GHGs are quantified and amortized over the life of the Project. To amortize the emissions over the life of the Project, the SCAQMD recommends calculating the total GHG emissions for the construction activities, dividing it by a 30-year project life then adding that number to the annual operational phase GHG emissions. As such, construction emissions were amortized over a 30-year period and added to the annual operational phase GHG emissions. The amortized construction emissions are presented in Table 5.7-4 below

Table 5.7-4 – Amortized Annual Construction Emissions

Year	Emissions (MT/yr)			
	CO_2	CH_4	N_2O	Total CO_2E
2021	333.71	0.04	0.00	334.70
2022	789.33	0.14	0.00	792.90
2023	109.04	0.02	0.00	109.55
Total Annual Construction Emissions	1,232.07	0.20	0.00	1,237.16
Amortized Construction Emissions ($MTCO_2e$)	**41.07**	**0.01**	**0.00**	**41.24**
MT/yr = Metric Tonne per year Source: CalEEMod model output; see Appendix 3.1 of the Project's *GHG Analysis* for detailed model outputs.				

Operational Emissions

Operational activities associated with the Project will result in emissions of CO_2, CH_4, and N_2O from the following primary sources:

- area source emissions

- energy source emissions
- mobile source emissions; water supply, treatment, and distribution
- solid waste

The annual GHG emissions associated with the operation of the Project and the amortized annual construction emissions are estimated to be 2,706.33 $MTCO_2e$ per year, as summarized in Table 5.7-5 below.

Table 5.7-5 – Project GHG Emissions

Emission Source	Emissions (MT/yr)			
	CO_2	CH_4	N_2O	TotalCO_2E
Annual construction-related emissions amortized over 30 years	41.07	0.01	0.00	41.24
Area Source	60.92	4.97e-03	1.04e-03	61.35
Energy Source	683.00	0.01	4.88e-03	684.82
Mobile Source	1,655.18	0.06	0.00	1,656.79
Waste	22.13	1.31	0.00	54.83
Water Usage	190.83	0.51	0.01	207.31
Total CO_2E (All Sources)	**2,706.33**			

MT/yr = Metric Tonne per year
Source: CalEEMod model output; see Appendix 3.1 of the Project's *GHG Analysis* for detailed model outputs.

Conclusions

The City has not adopted its own numeric threshold of significance for determining impacts with respect to GHG emissions. A screening threshold of 3,000 $MTCO_2e$ per year to determine if additional analysis is required is an acceptable approach for small projects. This approach is a widely accepted screening threshold used by the City and numerous cities in the Basin and is based on the SCAQMD staff's proposed GHG screening threshold for stationary source emissions for non-industrial projects, as described in the SCAQMD's *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans* ("SCAQMD Interim GHG Threshold"). The SCAQMD Interim GHG Threshold identifies a screening threshold to determine whether additional analysis is required.

As shown in Table 5.7-5, the Project will result in approximately 2,706.33 $MTCO_2e$ per year, which would not exceed the SCAQMD/City's screening threshold of 3,000 $MTCO_2e$ per year. Thus, Project-related emissions would have a **less than significant** direct or indirect impact on GHG emissions and climate change.

Threshold B: *Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

Pursuant to 15604.4 of the CEQA Guidelines, a lead agency may rely on qualitative analysis or performance-based standards to determine the significance of impacts from GHG emissions. As such, the Project's consistency with AB 32 and SB 32 are discussed below.

2008 Scoping Plan Consistency

CARB's *Scoping Plan* identifies strategies to reduce California's GHG emissions in support of AB 32, which requires the State to reduce its GHG emissions to 1990 levels by 2020. Many of the strategies identified in the Scoping Plan are not applicable at the project level, such as long-term technological improvements to reduce emissions from vehicles. Some measures are applicable and supported by the Project, such as energy efficiency. Finally, while some measures are not directly applicable, the Project would not conflict with their implementation.

Table 5.7-6 summarizes the Project's consistency with the State Scoping Plan. As summarized, the Project will not conflict with any of the provisions of the Scoping Plan and in fact supports seven of the action categories through energy efficiency, water conservation, recycling, and landscaping.

Table 5.7-6 – 2008 Scoping Plan Consistency Summary

Action	Supporting Measures	Consistency
Cap-and-Trade Program	--	Not applicable. These programs involve capping emissions from electricity generation, industrial facilities, and broad scoped fuels. Caps do not directly affect residential projects.
Light-Duty Vehicle Standards	T-1 -Advanced Clean Cars	Not Applicable. This is a statewide measure establishing vehicle emissions standards.
Energy Efficiency	E-1 – Building, Appliance, Utility Energy Efficiency (Electric)	Consistent. The Project will include a variety of building, water, and solid waste efficiencies consistent with current CALGreen requirements.
	E-2 – Combined Heat & Power	
	CR-1 - Building, Appliance, Utility Energy Efficiency (Natural Gas)	
	CR-2 – Solar Water Heating	
Renewables Portfolio Standard	E-3 – 33% Renewable Portfolio Standard	Consistent. Establishes the minimum statewide renewable energy mix. The Project is within the service area of RPU, which is subject to the RPS.
Low Carbon Fuel Standard	T-2 – Low Carbon Fuel Standards	Not Applicable. This measure establishes reduced carbon intensity of transportation fuels. As such, this measure is not within the purview of this Project.
Regional Transportation-Related GHG Targets	T-3 – Regional Transportation Related Greenhouse Gas Targets	Not Applicable. This is a statewide measure and is not within the purview of this Project.
Vehicle Efficiency Measures	T-4 – Vehicle Efficiency Measures	Not Applicable. Identifies measures such as minimum tire-fuel efficiency, lower friction oil, and reduction in air conditioning use.

Goods Movement	T-5 – Ship Electrification at Ports (Shore Power)	Not applicable. Identifies measures to improve goods movement efficiencies such as advanced combustion strategies, friction reduction, waste heat recovery, and electrification of accessories. While these measures are yet to be implemented and will be voluntary, the Project would not interfere with their implementation.
	T-6 – Goods Movement Efficiency Measures	
Million Solar Roofs (MSR) Program	E-4 – Senate Bill 1 Million Solar Roofs (California Solar Initiative, New Solar Home Partnership, Public Utility Programs) and earlier solar programs	Consistent. The MSR program sets a goal for use of solar systems throughout the State as a whole. As previously stated, the Project will be consistent with the current Title 24 standards which require solar photovoltaic systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, update indoor and outdoor lighting for nonresidential buildings. As such, the Project would be consistent with this action.
Medium- & Heavy-Duty Vehicles	T-7 – Heavy-Duty Vehicle GHG Emission Reduction	Not applicable. MD and HD trucks and trailers working from industrial uses are subject to aerodynamic and hybridization requirements as established by CARB; no feature of the Project would interfere with implementation of these requirements and programs.
	T-8 – Medium- and Heavy-Duty Vehicle Hybridization Voucher Incentives	
Industrial Emissions	I-1 – Energy Efficiency and Co-benefit audits for Large Industrial Sources	Not Applicable. These measures are applicable to large industrial facilities (> 500,000 $MTCO_2e/yr$) and other intensive uses such as refineries.
	I-2 – Oil & Gas Extraction GHG Emissions Reductions	
	I-3 – GHG Emission Reductions from Natural Gas Transmission and Distribution	
	I-4 – Refinery Flare Recover Process Improvements	
	I-5	
High Speed Rail	T-9 – High-Speed Rail	Not Applicable. Supports increased mobility choice.
Green Building Strategy	GB-1 – Green Building Measures	Consistent. The Project will include a variety of building, water, and solid waste efficiencies consistent with current CALGreen requirements.
High Global Warming Potential Gases	H-1 – Motor Vehicle Air-Conditioning Systems	Not Applicable. The Project is not a substantial source of high GWP emissions and will comply with any future changes in air conditioning, fire protection suppressant, and other requirements.
	H-2 - SF_6 Limits in Non-Utility and Non-Semiconductor Applications	
	H-3 – Reduction of Perfluorocarbons in Semiconductor Manufacturing	

	H-4 – Limits Use of Compounds with High Global Warming Potentials I Consumer Products	
	H-5 - Low Global Warming Potential Refrigerants for New Motor Vehicle Air-Conditioning Systems, Air Conditioner Refrigerant Leak Test During Vehicle Smog Check, Refrigerant Recovery from Decommissioned Refrigerated Shipping Containers, Enforcement of Federal Ban on Refrigerant Release During Servicing or Dismantling of Motor Vehicle Air Conditioning Systems	
	H-6 - Stationary Equipment Refrigerant Management Program – Refrigerant Tracking/Reporting/Repair Program, Stationary Equipment Refrigerant Management Program – Specifications for Commercial and Industrial Refrigeration, Foam Recovery and Destruction Program, SF_6 Leak Reduction Gas Insulated Switchgear, Alternative Suppressants in Fire Protection Systems, Residential Refrigeration Early Retirement Program	
	H-7 – Mitigation Fee on High-GWP Gases	
Recycling and Waste	RW-1 – Landfill Methane Control	Consistent. The Project will be required recycle a minimum of 50 percent from construction activities and operations per State and City requirements.
	RW-2 – Increasing the Efficiency of Landfill Methane Capture	

	RW-3 – Mandatory Commercial Recycling, Increase Production and Markets, Anaerobic/Aerobic Digestion, Extended Producer Responsibility, Environmentally Preferable Purchasing.	
Sustainable Forests	F-1 – Sustainable Forest Target	Consistent. The Project will increase carbon sequestration by increasing on-site trees per the Project landscaping plan.
Water	W-1 – Water use Efficiency	Consistent. The Project will include use of low-flow fixtures and efficient landscaping per State requirements.
	W-2 – Water Recycling	
	W-3 – Water System Energy Efficiency	
	W-4 – Reuse Urban Runoff	
	W-5 – Renewable Energy Production	
	W-6 – Water Public Goods Charge	
Agriculture	A-1 - Methane Capture at Large Dairies	Not Applicable. The Project is not an agricultural use.

SB 32/2017 Scoping Plan Consistency

The 2017 Scoping Plan Update reflects the 2030 target of a 40 percent reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Table 5.7-7 summarizes the Project's consistency with the 2017 Scoping Plan. As summarized, the Project will not conflict with any of the provisions of the 2017 Scoping Plan and in fact supports seven of the action categories.

Table 5.7-7 – 2017 Scoping Plan Consistency Summary

Action	Responsible Parties	Consistency
Implement SB 350 by 2030		
Increase the Renewables Portfolio Standard to 50 percent of retail sales by 2030 and ensure grid reliability.	CPUC, CEC, CARB	Consistent. The Project would use energy from Riverside Public Utilities (RPU). RPU has committed to diversify its portfolio of energy sources by increasing energy from wind and solar sources. The Project would not interfere with or obstruct RPU energy source diversification efforts.
Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.		Consistent. Although this measure is directed towards policymakers, the Project would be designed and constructed to implement the energy efficiency measures for new residential developments and would include several measures designed to reduce energy consumption.
Reduce GHG emissions in the electricity sector through the implementation of the above measures and other actions as modeled in Integrated Resource Planning (IRP) to meet GHG emissions reductions planning targets in the IRP process. Load-serving entities and publicly- owned utilities meet GHG emissions reductions planning targets through a combination of measures as described in IRPs.		Consistent. The Project would be designed and constructed to implement the energy efficiency measures, where applicable by including several measures designed to reduce energy consumption. The Project includes energy efficient lighting and fixtures that meet the current Title 24 Standards throughout the Project Site and would be a modern development with energy efficient boilers, heaters, and air conditioning systems.
Implement Mobile Source Strategy (Cleaner Technology and Fuels)		
At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025.	CARB, California State Transportation Agency (CalSTA), Strategic Growth Council (SGC), California Department of Transportation (Caltrans), CEC, OPR, Local Agencies	Not applicable. This measure is not within the purview of this Project.
At least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.		Not applicable. This measure is not within the purview of this Project.
Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean cars regulations.		Not applicable. This measure is not within the purview of this Project.

Action	Responsible Parties	Consistency
Medium- and Heavy-Duty GHG Phase 2.		Not applicable. This measure is not within the purview of this Project.
Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100 percent of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NO_X standard.		Not applicable. This measure is not within the purview of this Project.
Last Mile Delivery: New regulation that would result in the use of low NO_X or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030.		Not applicable. This measure is not within the purview of this Project.
Further reduce VMT through continued implementation of SB 375 and regional Sustainable Communities Strategies; forthcoming statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the Mobile Source Strategy but included in the document "Potential VMT Reduction Strategies for Discussion."		Not applicable. This measure is not within the purview of this Project.
Increase stringency of SB 375 Sustainable Communities Strategy (2035 targets).	CARB	Not applicable. The Project is not within the purview of SB 375 and would therefore not conflict with this measure.
By 2019, adjust performance measures used to select and design transportation facilities		
Harmonize project performance with emissions reductions and increase competitiveness of transit and active transportation modes (e.g. via guideline	CalSTA, SGC, OPR, CARB, Governor's Office of Business and	Not applicable. Although this is directed towards CARB and Caltrans, the Project would be designed to promote and support pedestrian activity on-site and in the Project Site area.

Action	Responsible Parties	Consistency
documents, funding programs, project selection, etc.).	Economic Development (GO-Biz), California Infrastructure and Economic Development Bank (IBank), Department of Finance (DOF), California Transportation Commission (CTC), Caltrans	
By 2019, develop pricing policies to support low-GHG transportation (e.g. low-emission vehicle zones for heavy duty, road user, parking pricing, transit discounts).	CalSTA, Caltrans, CTC, OPR, SGC, CARB	Not applicable. This measure is not within the purview of this Project.
Implement California Sustainable Freight Action Plan		
Improve freight system efficiency.	CalSTA, CalEPA, CNRA, CARB, Caltrans, CEC, GO-Biz	Not applicable. This measure is not within the purview of this Project.
Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.		Not applicable. This measure is not within the purview of this Project.
Adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18 percent.	CARB	Not applicable. This measure is not within the purview of this Project.
Implement the Short-Lived Climate Pollutant Strategy by 2030		
40 percent reduction in methane and hydrofluorocarbon emissions below 2013 levels.	CARB, CalRecycle, CDFA, SWRCB, Local Air Districts	Not applicable. This measure is not within the purview of this Project.

Action	Responsible Parties	Consistency
50 percent reduction in black carbon emissions below 2013 levels.		Not applicable. This measure is not within the purview of this Project.
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	CARB, CalRecycle, CDFA SWRCB, Local Air Districts	Not applicable. Although this measure is directed towards policymakers, the Project would comply with AB 939, which sets a statewide policy that not less than 65 percent of solid waste generated be source reduced, recycled, or composted. Additionally, the Project would be required to have a recycling program and recycling collection. During construction, the Project shall recycle and reuse construction and demolition waste per City Solid Waste procedures.
Implement the post-2020 Cap-and-Trade Program with declining annual caps.	CARB	Not applicable. This measure is not within the purview of this Project.
By 2018, develop Integrated Natural and Working Lands Implementation Plan to secure California's land base as a net carbon sink		
Protect land from conversion through conservation easements and other incentives.	CNRA, Departments Within CDFA, CalEPA, CARB	Not applicable. This measure is not within the purview of this Project.
Increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity		Not applicable. This measure is not within the purview of this Project.
Utilize wood and agricultural products to increase the amount of carbon stored in the natural and built environments		Not applicable. This measure is not within the purview of this Project.
Establish scenario projections to serve as the foundation for the Implementation Plan		Not applicable. This measure is not within the purview of this Project.
Establish a carbon accounting framework for natural and working lands as described in SB 859 by 2018	CARB	Not applicable. This measure is not within the purview of this Project.

Action	Responsible Parties	Consistency
Implement Forest Carbon Plan	CNRA, California Department of Forestry and Fire Protection (CAL FIRE), CalEPA and Departments Within	Not applicable. This measure is not within the purview of this Project.
Identify and expand funding and financing mechanisms to support GHG reductions across all sectors.	State Agencies & Local Agencies	Not applicable. This measure is not within the purview of this Project.

City of Riverside RRG CAP

The RRG CAP includes individual measures that would reduce GHG emissions in the City. Consistency with these measures are discussed in Table 5.7-8 below.

Table 5.7-8 – RRG CAP Project Consistency

Measure	Description	Project Consistency
State and Regulatory Measures		
SR-1 Renewable Portfolio Standards	Utilities must secure 33% of their power from renewable sources by 2020.	Not Applicable. Establishes the minimum statewide renewable energy mix.
SR-12 2013 California Building Energy Efficiency Standards (Title 24, Part 6)	Mandatory energy efficiency standards for buildings.	Consistent. The Project will include a variety of building, water, and solid waste efficiencies consistent with current Title 24 requirements.
SR-3 HERO Residential Program	Financing for homeowners to make energy efficient, renewable energy, and water conservation improvements.	Not applicable. This objective is aimed at government agencies, not private developers.
SR-4 HERO Commercial Program	Financing for business owners to make energy efficient, renewable energy, and water conservation improvements.	Not applicable. This objective is aimed at government agencies, not private developers.
SR-6 Pavley & Low Carbon Fuel Standard	Requirements for vehicles to use cleaner fuels.	Not applicable. This objective is aimed at government agencies, not private developers.

Measure	Description	Project Consistency
SR-7 Metrolink Expansions	Additional Metrolink transit service provided to Western Riverside County.	Not applicable. The Project is a multi-family residential apartment development. As such, this measure is not within the purview of this Project.
SR-8 Express Lanes	Additional express lanes added along major freeways in Western Riverside County.	Not applicable. The Project is a multi-family residential apartment development. As such, this measure is not within the purview of this Project.
SR-9 Congestion Pricing	Expansion of the toll lanes along the State Route 91 (SR-91).	Not applicable. This objective is aimed at government agencies, not private developers.
SR-10 Telecommuting	Work arrangement in which employees do not commute to a central place of work.	Not applicable. The Project is a multi-family residential apartment development. As such, this measure is not within the purview of this Project.
SR-11 Goods Movement	Efficient movement of goods through inland Southern California.	Not applicable. The Project is a multi-family residential apartment development. As such, this measure is not within the purview of this Project.
SR-12 Electric Vehicle Plan and Infrastructure	Facilitate electric vehicle use by providing necessary infrastructure.	Consistent. The Project would include pre-wired electric vehicle charging spaces, as required by CALGreen Code.
SR-13 Construction and Demolition Waste Diversion	Meet mandatory requirement to divert 50% of C&D waste from landfills by 2020 and exceed requirement by diverting 75% of C&D waste from landfills by 2035.	Consistent. The Project will be required recycle a minimum of 50 percent from construction activities and operations per State and City requirements.
Local Reduction Measures		
E-1 Traffic and Street Lights	Replace traffic and streetlights with high-efficiency bulbs.	Not applicable. This objective is aimed at government agencies, not private developers. Nonetheless, the project would comply with applicable energy efficiency requirements related to lighting detailed in the Green Building Standards Code (Title 24, California Code of Regulations).
E-2 Shade Trees	Strategically plant trees at new residential developments to reduce the urban heat island effect.	Consistent. The Project landscaping includes trees throughout the development in the common open spaces.

Measure	Description	Project Consistency
E-3 Local Utility Programs - Electricity	Financing and incentives for business and homeowners to make energy efficient, renewable energy, and water conservation improvements.	Not applicable. This objective is aimed at government agencies, not private developers. Nonetheless, the project would comply with applicable energy efficiency requirements related to lighting detailed in the Green Building Standards Code (Title 24, California Code of Regulations).
E-4 Renewable Energy Production on Public Property	Large scale renewable energy installation on publicly-owned property and in public rights of way.	Not applicable. This objective is aimed at government agencies, not private developers.
E5 University of California, Riverside (UCR) Carbon Neutral Program	Collaborate with UCR to achieve a carbon neutral campus.	Not applicable. This objective is aimed at government agencies and the University of California, Riverside, not private developers.
T-1 Bicycle Infrastructure Improvements	Expand on-street and off-street bicycle infrastructure, including bicycle lanes and bicycle trails.	Consistent. All collector and arterial streets around the proposed Project have bike lanes. Class II bike lanes are provided along Central Avenue and Sycamore Canyon Boulevard. These bike lanes are consistent with the bicycle routes shown in the City of Riverside Master Plan Trails and Bikeways exhibit as detailed in the Focused Traffic Analysis.
T-2 Bicycle Parking	Provide additional options for bicycle parking.	Consistent. The Project would comply with the Riverside Municipal Code (RMC) Chapter 10.64 regarding bicycle accommodations.
T-3 End of Trip Facilities	Encourage use of non-motorized transportation modes by providing appropriate facilities and amenities for commuters.	Consistent. The Project would comply with RMC Chapter 10.64 regarding bicycle accommodations.
T-4 Promotional Transportation Demand Management	Encourage Transportation Demand Management (TDM) strategies.	Not applicable. This objective is aimed at large employment centers with 100 or more employees. The Project is a multifamily residential apartment development. As such, this measure is not within the purview of this Project.
T-5 Traffic Signal Coordination	Incorporate technology to synchronize and coordinate traffic signals along local arterials.	Not applicable. This objective is aimed at government agencies, not private developers.

Measure	Description	Project Consistency
T-6 Density	Improve jobs-housing balance and reduce vehicle miles traveled by increasing household and employment densities.	Consistent. The Project proposes a multifamily residential apartment development on a previously commercial-zoned site. As such, the proposed residential use will generate less traffic than a project conforming to the commercial land use designation. Additionally, the Project would increase household density with 24.3 DUs per acre and is located in proximity to an approved commercial use which would also help to reduce vehicle miles traveled by local residents.
T-7 Mixed-Used Development	Provide a variety of development types and uses.	Consistent. The project is a multifamily residential apartment development located in proximity to an approved commercial use which would help to reduce vehicle miles traveled by local residents.
T-8 Pedestrian Only Areas	Encourage walking by providing pedestrian-only community areas.	Consistent. The Crestview Apartments provides a pedestrian network along streets and on-site internal pedestrian walkways. Sidewalks are required on all arterial and collector streets.
T-9 Limited Parking T-7 Mixed-Used Development	Reduce requirements for vehicle parking in new development projects.	Consistent. The Project would provide the minimum parking required to comply with applicable City parking requirements.
T-10 Bus Rapid Transit Services	Implement bus rapid transit service in the subregion to provide alternative transportation options.	Not applicable. This objective is aimed at government agencies, not private developers. However, the proposed Project would be located less than a half-mile from the Central and Quail Run bus stop, which would encourage residents to use transit.
T-11 Voluntary Transportation Demand Management	Encourage employers to create TDM programs for their employees.	Not applicable. This objective is aimed at large employment centers with 100 or more employees. The Project is a multifamily residential apartment development. As such, this measure is not within the purview of this Project.
T-12 Accelerated Bike Plan Implementation	Accelerate the implementation of all or specified components of a jurisdiction's adopted bike plan.	Not applicable. This objective is aimed at government agencies, not private developers. However, the proposed Project would not obstruct the implementation of the adopted bike plan.
T-13 Fixed Guideway Transit	By 2020, complete feasibility study and by 2025 introduce a fixed-route transit service in the jurisdiction.	Not applicable. This objective is aimed at government agencies, not private developers.

Measure	Description	Project Consistency
T-14 Neighborhood Electric Vehicle Programs	Implement development requirements to accommodate Neighborhood Electric Vehicles and supporting infrastructure.	Not applicable. This objective is aimed at government agencies, not private developers.
T-15 Subsidized Transit	Increase access to transit by providing free or reduced passes.	Not applicable. This objective is aimed at large employment centers with 100 or more employees. The Project is a multifamily residential apartment development. As such, this measure is not within the purview of this Project.
T-16 Bike Share Program	Create nodes offering bike sharing at key locations throughout the City.	Not applicable. This objective is aimed at government agencies, not private developers.
T-17 Car Share Program	Offer Riverside residents the opportunity to use car sharing to satisfy short-term mobility needs.	Consistent. The Project would provide parking areas for residents and would not inhibit the opportunity to use car sharing.
T-18 SB 743 as Alternative to LOS	Use SB 743 to incentivize development in the downtown and other areas served by transit.	Not applicable. This objective is aimed at government agencies, not private developers.
W-1 Water Conservation and Efficiency	Reduce per capita water use by 20% by 2020.	Consistent. The proposed Project would be required to be consistent with applicable water efficiency requirements detailed in the Green Building Standards Code (Title 24, California Code of Regulations). As such, the Project would be equipped with low-flow plumbing fixtures that reduce water use.
SW-1 Yard Waste Collection	Provide green waste collection bins community-wide.	Consistent. The Project would comply with applicable solid waste requirements.
SW-2 Food Scrap and Paper Diversion	Divert food and paper waste from landfills by implementing commercial and residential collection programs.	Consistent. The Project would be required to participate in applicable waste diversion programs. The Project would also be subject to all applicable State and City requirements for solid waste reduction.

As summarized by Tables 5.7-6, -7, and -8, while some measures are not directly applicable, the Project will not conflict with any of the provisions of the 2008 Scoping Plan, SB 32/2017 Scoping Plan, or the City RRG CAP or conflict with their implementation and in fact supports several of

the action categories. Thus, the Project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions and potential impacts would be **less than significant**.

5.7.7 Proposed Mitigation Measures

As the Project does not exceed any of the GHG significance thresholds, no GHG-related mitigation measures have been proposed for the Project.

5.7.8 Cumulative Environmental Effects

As discussed in Chapter 4 Environmental Setting of this DEIR, cumulative development in the City and surrounding cities and County would include residential development, warehouses, commercial, office, and public facilities. Each of the proposed developments would generate GHG emissions from vehicle trips, electrical and water use, and other sources. The analysis of GHG emissions is cumulative in nature, as emissions affect the accumulation of GHGs in the earth's atmosphere. Projects that fall below provided thresholds are considered to have a less than significant impact, both individually and cumulatively.

The City has a number of green power projects that would reduce overall GHG emissions in the City. The City is helping fund solar projects throughout the City that will reduce emissions from energy from current users and the cumulative projects in the City. The Riverside Public Utilities (RPU) has a number of incentive programs for residences and businesses to reduce their electricity consumption and cumulatively reduce GHG emissions from energy use.

As discussed, the Project would not exceed the SCAQMD/City's screening threshold of 3,000 $MTCO_2e$ per year, nor would the Project conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions. Further, while some measures are not directly applicable, the Project will not conflict with any of the provisions of the 2008 Scoping Plan, SB 32/2017 Scoping Plan, or the City RRG CAP or conflict with their implementation and in fact, supports several of the action categories. Thus, the Project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions and potential impacts would be **less than significant**. Therefore, cumulative impacts would be **less than significant**.

5.7.9 References

The following references were used in the preparation of this section of the DEIR:

Urban Crossroads 2020	Urban Crossroads. *Crestview Apartments Greenhouse Gas Analysis, City of Riverside*. August 2020.
Urban Crossroads 2020	Urban Crossroads. *Crestview Apartments Air Quality Impact Analysis, City of Riverside*. August 2020.

5.8 Land Use and Planning

This section analyzes the effects of the Project on land use and planning. Based upon the analysis in the Initial Study/Notice of Preparation (IS/NOP) prepared for this Project (Appendix A), all thresholds related to Land Use and Planning will be analyzed below. The analysis consists of a description of the regulatory framework specific to land use and planning, existing land use conditions on-site and in the surrounding area, and a discussion of potential impacts the Project would have and any mitigation measures required to reduce the impacts.

5.8.1 Setting

Current Land Use and Zoning

The project site is currently vacant and undeveloped. The General Plan land use designation for the Project site is C - Commercial, and it is zoned CG - Commercial General.

Surrounding Land Uses

The Project site is vacant, undeveloped land that has been heavily disturbed in the past. There is no established community on the Project site; there are no existing structures or other improvements on the site. The Project site is directly bordered by Sycamore Canyon Boulevard to the north and east, Central Avenue to the south, and the City's Quail Run Open Space to the west. To the east, across Sycamore Canyon Boulevard, is a currently undeveloped site; however, a drive-thru restaurant and convenient store/ gas station development was approved by the City in 2019. The Project site is in close proximity to the University of California, Riverside (UCR) (the southeast extent of the campus is approximately 1.4 miles northwest). Land uses and zoning designations surrounding the Project site are described in Table 5.8-1 below.

Table 5.8-1 – Surrounding Land Uses

	Existing Land Use	General Plan Designation	Zoning Designation
Project Site	Vacant Land	C - Commercial	CG - Commercial General Zone
North (across Sycamore Canyon Blvd. & SR-60/I-215)	Vacant, undeveloped	HR - Hillside Residential	RC – Residential Conservation Zone
East (across Sycamore Canyon Blvd.)	Recently approved Commercial Development by applicant	C - Commercial	CG - Commercial General Zone

South (across Central Ave.)	Vacant, undeveloped (Riverside County)	OS-C – Open Space Conservation, (Riverside County) P – Public Park (City of Riverside Sphere of Influence)	C-P-S- Scenic Highway Commercial (Riverside County)
West	City's Quail Run Open Space	OS – Open Spaces / Natural Resources	RC – Residential Conservation Zone

Project Site Existing General Plan Land Use Designation and Zoning Regulations

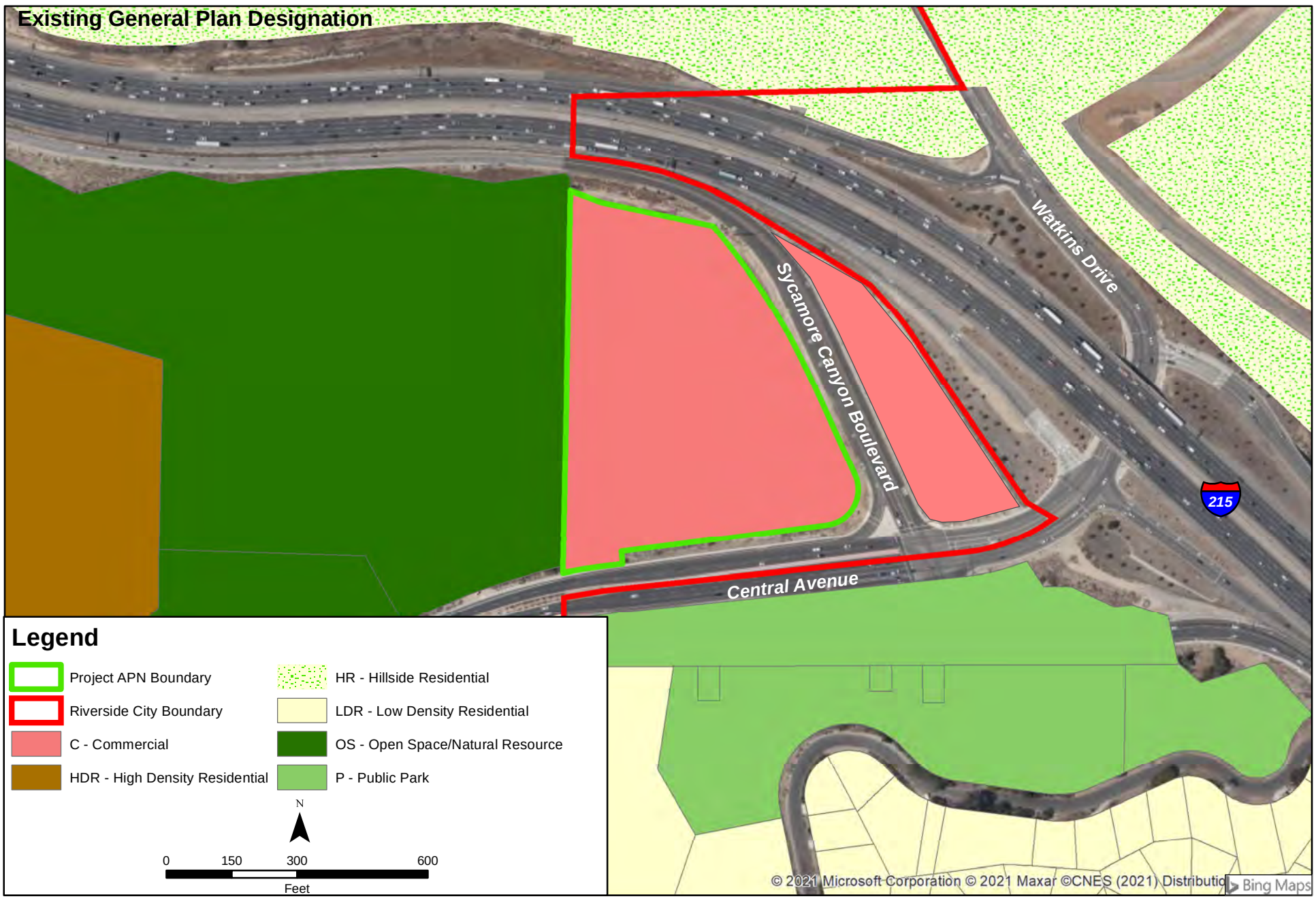
The 9.44-acre Project site currently has a GP 2025 Land Use designation of C - Commercial and is zoned CG – Commercial General Zone. Tables 5.8-2 and 5.8-3 details the existing land use and zoning regulations with its intended designation. Figure 5.8-1 and Figure 5.8-2 illustrate the existing land use designation and zoning for the site and the Project's proposed changes to land use designation and zoning.

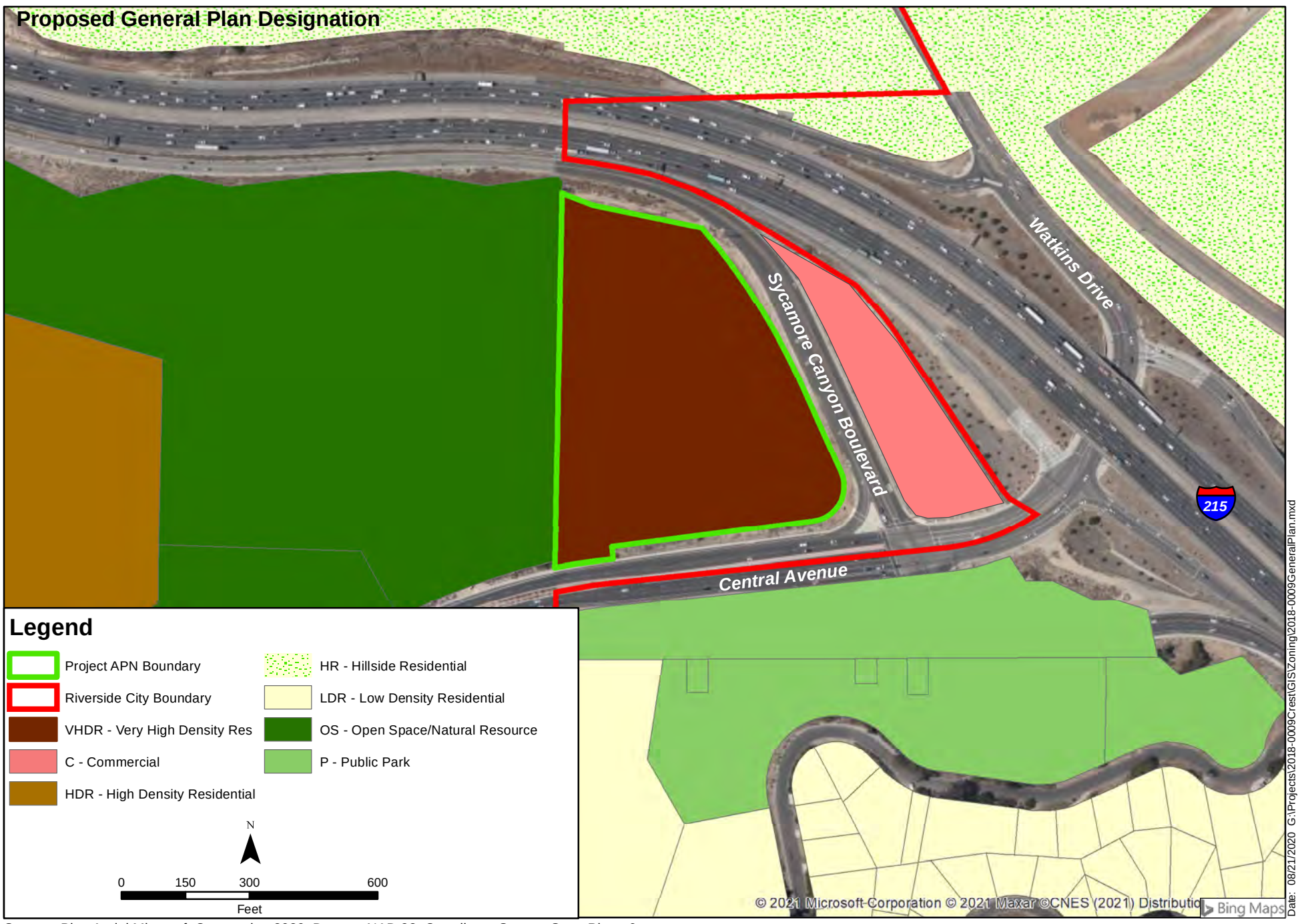
Table 5.8-2 – Existing General Plan Land Use Requirements

Regulation	Current Land Use Designation: C – Commercial
Maximum Dwelling Unit	N/A
Typical Dwelling Unit per acre	N/A
Maximum Population Density	N/A
Floor Area Ratio (FAR) per Acre - Maximum	0.50 FAR
Typical Floor Area per Acre	0.30 FAR
Intent of Land Use Designation	Retail shops, services, and other similar commercial development
Source: Title 19 Riverside Municipal Code (RMC); Riverside GP 2025 Table LU-3	

Table 5.8-3 – Existing Zoning Development Standards

Development Standard	Current Zoning Designation: CG – Commercial General Zone
Floor Area Ratio – Maximum	0.50
Lot Area – Min.	20,000 square feet
Lot Width – Min.	100 feet
Lot Depth – Min.	100 feet
Building Height – Max.	75 feet
Front Yard Setback Min.	0 feet[1]
Side Yard Setback Min. **A. Interior** **B. Street Side**	A. 0 feet[2] B. 0 feet[2]
Rear Yard Setback Min.	15 feet
Landscape Setback	15 feet
[1]Front yard setback shall be increased by 2 ½ feet per story for any story over the second story. [2]Side yard setbacks shall be increased by 2 ½ feet per story for any story over the second story. Source: Title 19 Riverside Municipal Code (RMC), Table 19.110.030	





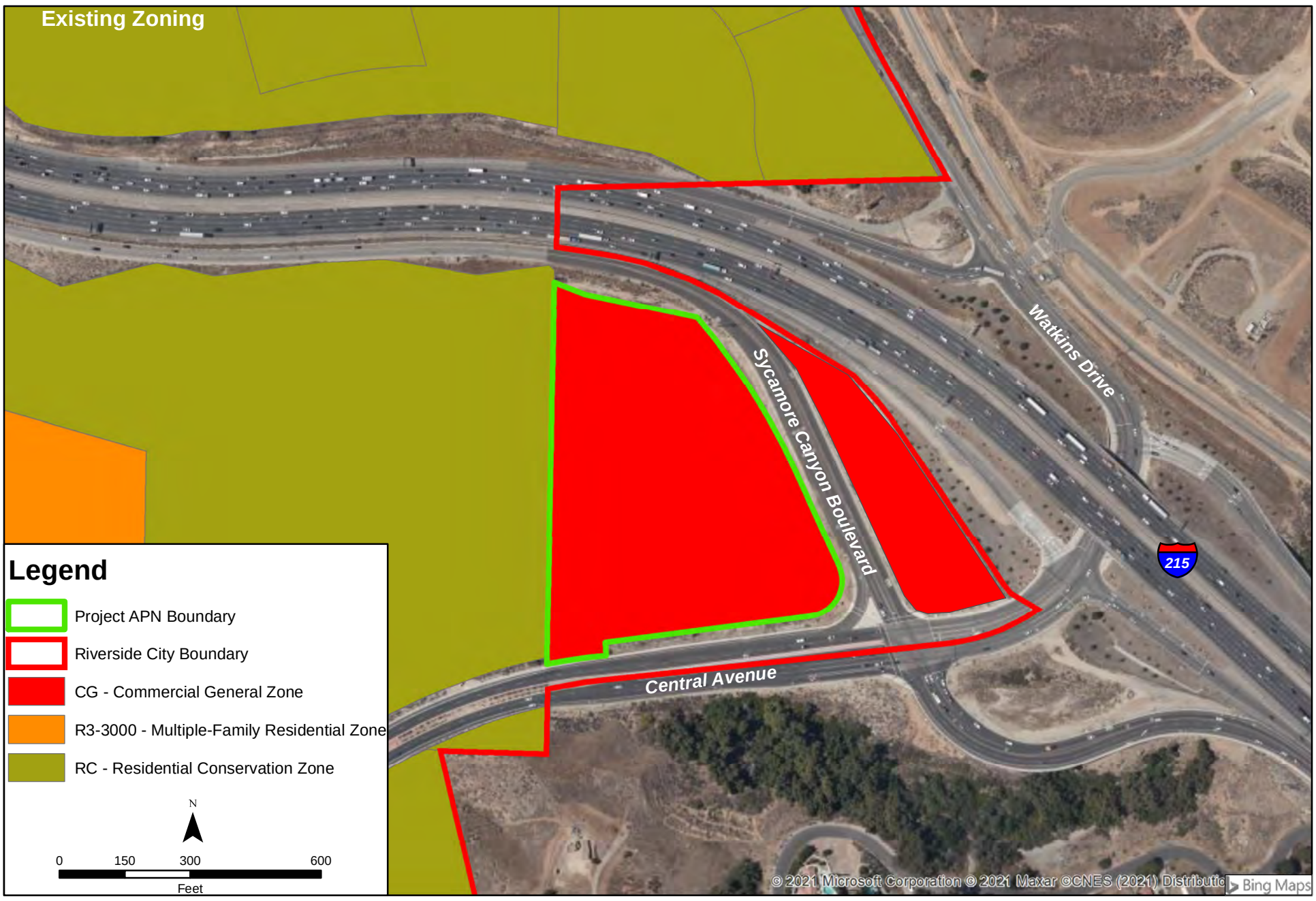
Source: Bing Aerial Microsoft Corporation 2020, Datum: NAD 83, Coordinate Sytem: State Plane 6

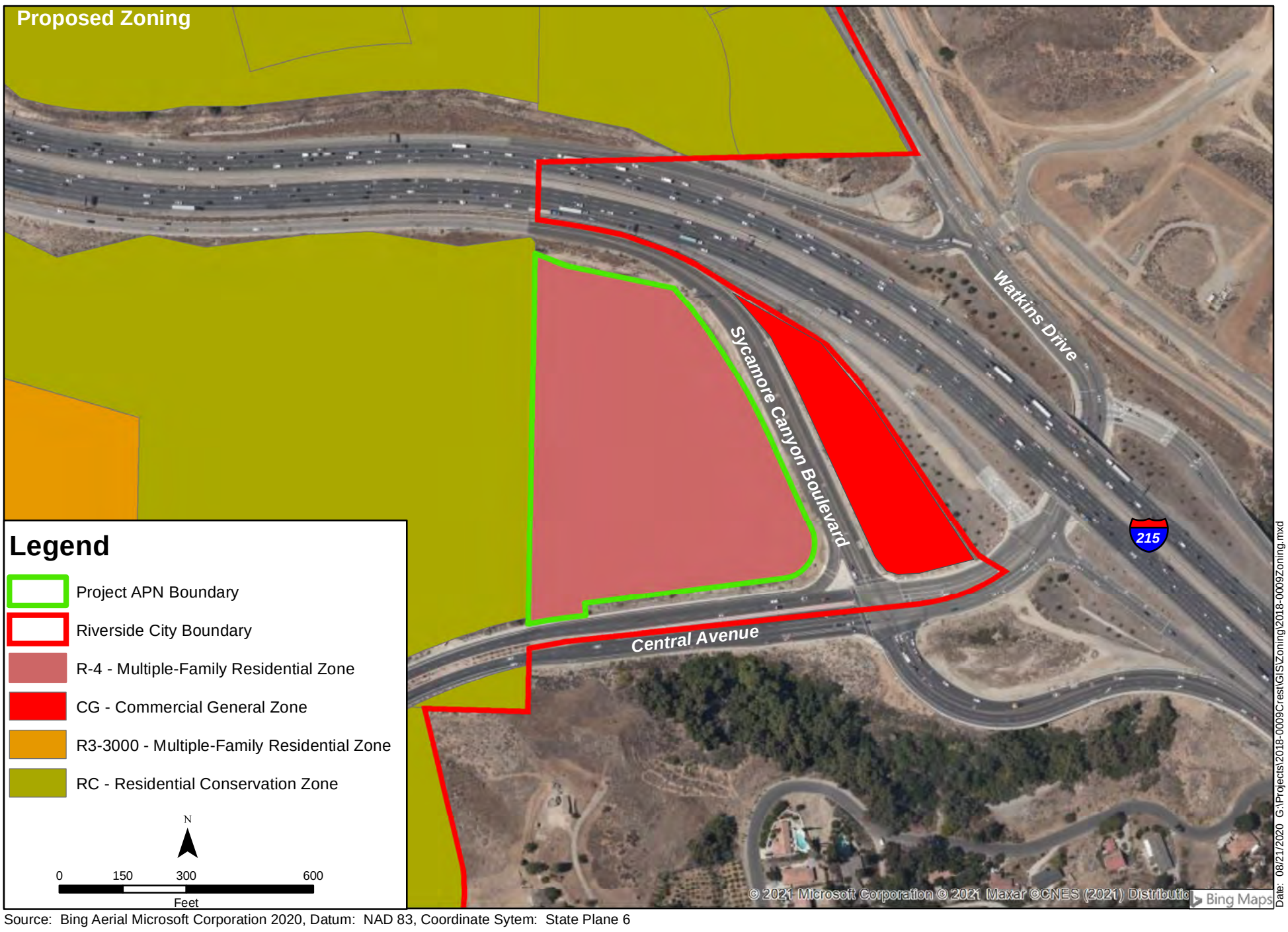
CRESTVIEW APARTMENTS

RVA

General Plan Land Use Map

Figure 5.8-1





Source: Bing Aerial Microsoft Corporation 2020, Datum: NAD 83, Coordinate Sytem: State Plane 6

CRESTVIEW APARTMENTS

RVA

Zoning Map

Figure 5.8-2

5.8.2 Related Regulations

The City has various tools to regulate land use and plan for future development in the City. Specific to the Project site, the City's GP 2025 and the City's Zoning Ordinance (RMC, Title 19) serve as the primary land use tools for the development of the Project site.

5.8.2.1 Federal Regulations

No Federal regulations would be applicable to land use and planning with respect to the Project.

5.8.2.2 State Regulations

No State regulations would be applicable to land use and planning with respect to the Project.

5.8.2.3 Regional Regulations

Western Riverside County MSHCP

As discussed in Section 5.3 Biological Resources, the Western Riverside County MSHCP is a comprehensive, multi-jurisdictional habitat conservation plan that focuses on conservation of species and their associated habitats in western Riverside County. The MSHCP Plan Area encompasses approximately 1.26 million acres (1,966 square miles); it includes all unincorporated Riverside County land west of the crest of the San Jacinto Mountains to the Orange County line, and the jurisdictional areas of Temecula, Murrieta, Lake Elsinore, Canyon Lake, Norco, Corona, Riverside, Moreno Valley, Banning, Beaumont, Calimesa, Perris, Hemet, Eastvale, Jurupa Valley, Wildomar, Menifee, and San Jacinto.

The MSHCP serves as a habitat conservation plan pursuant to Section 10(a)(1)(B) of FESA, as well as a natural communities conservation plan under the National Communities Conservation Plan Act of 2001. The MSHCP is used to allow the participating jurisdiction to authorize "take" of plant and wildlife species identified in the MSHCP Plan Area under specific conditions/measures. Under the MSHCP, USFWS and CDFW will grant "take authorization" for otherwise lawful actions in exchange for the assembly and management of a coordinated MSHCP conservation area.

5.8.2.4 Local Regulations

City of Riverside General Plan 2025

The GP 2025 serves as a guide for land use decision making and the implementation of the community's vision for the City. Each of the 12 elements in the GP 2025 contain objectives and policies to help guide development and decisions in the City. Of these, the Housing, Land Use and Urban Design, and Circulation and Community Mobility elements apply to the analysis in this section and will be discussed further in Section 5.8.4 below.

Housing Element

The Housing Element seeks to maintain and build healthy, strong neighborhoods with an adequate supply for quality and affordable housing. The Housing Element is required by State law to detail objectives, policies, and programs that facilitate development, improvement, and preservation of housing in the City. Objectives and policies that relate to the Project include:

Objective H-2: To provide adequate diversity in housing types and affordability levels to accommodate housing needs of Riverside residents, encourage economic development and sustainability, and promote an inclusive community.

Policy H-2.2: Smart Growth. Encourage the production and concentration of quality mixed-use and high-density housing along major corridors and infill sites throughout the City in accordance with smart growth principles articulated in the General Plan.

Policy H-2.3: Housing Design. Require excellence in the design of housing through the use of materials and colors, building treatments, landscaping, open space, parking, sustainable concepts, and environmentally sensitive building and design practices.

Policy H-2.4: Housing Diversity. Provide development standards and incentives to facilitate live-work housing, mixed-use projects, accessory dwellings, student housing, and other housing types.

Land Use and Urban Design Element

This GP 2025 Land Use and Urban Design Element identifies the location of present and planned land uses and their relationship to the vision of the City and guides development and growth in the City and overall planning area through its objectives and policies. The element also relates how the land uses integrate with other areas addressed in the GP 2025, such as Public Safety and Parks and Recreation. City-wide and neighborhood specific objectives and policies that relate to land use are included in the Land Use Element. The Project site was annexed into the City of Riverside limits in 2016. As the GP 2025 was prepared in 2007, the Project site was not located in the City limits at that time, but in the Northern Sphere of Influence, in unincorporated Riverside County limits. The Project site is located west of and just outside of the Canyon Crest Neighborhood as identified in the GP 2025 Hillsides

Riverside's many hills provide textured and often dramatic visual backdrops. Preservation of the City's hillsides will protect the many benefits of these areas for future generations. Besides their visual qualities, protected hillsides provide recreational opportunities and wildlife habitat.

Objective LU-3: Preserve prominent ridgelines and hillsides as important community visual, recreational and biological assets.

Policy LU-3.1: Pursue methods to preserve hillside open space and natural habitat.

Objective LU-4: Minimize the extent of urban development in the hillsides, and mitigate any adverse impacts associated with urbanization to the extent feasible.

Policy LU-4.1: Adhere to the protections for hillside development set forth in Proposition R and Measure C.

Policy LU-4.2: Enforce the hillside grading provisions of the City's Grading Code (Title 17) to minimize ground disturbance associated with hillside development; respect existing land contours to maximum feasible extent.

Natural Resources

As discussed in Section 5.3 Biological Resources, the GP 2025 Land Use and Urban Design element additionally seeks to preserve existing natural resources in the City.

Objective LU-7: Preserve and protect significant areas of native wildlife and plant habitat, including endangered species.

> **Policy LU-7.2:** Design new development adjacent and in close proximity to native wildlife in a manner which protects and preserves habitat.
>
> **Policy LU-7.4:** Continue to participate in the Western Riverside county MSHCP.

Smart Growth Principles

Objective LU-8: Emphasize smart growth principles through all steps of the land development process.

> **Policy LU-8.1:** Ensure well-planned infill development Citywide, allow for increased density in selected areas along established transportation corridors.
>
> **Policy LU-8.2:** Avoid density increases or intrusion of non-residential uses that are incompatible with existing neighborhoods.

Objective LU-9: Provide for continuing growth within the General Plan Area, with land uses and intensities appropriately designated to meet the needs of anticipated growth and to achieve the community's objectives.

> **Policy LU-9.7:** Protect residentially designated areas from encroachment by incompatible uses and from the effects of incompatible uses in adjacent areas. Uses adjacent to planned residential areas should be compatible with the planned residential uses and should employ appropriate site design, landscaping, and building design to buffer the non-residential uses.

Circulation and Community Mobility Element

This Circulation and Community Mobility Element recognizes the ability of the City's transportation network to serve its needs and shape its community in positive ways, and to allow the City to effectively use alternatives to the private automobile to reach our destinations within Riverside and the region.

Objective CCM-2: Build and maintain a transportation system that combines a mix of transportation modes and transportation system management techniques, and that is designed to meet the needs of Riverside's residents and businesses, while minimizing the transportation system's impacts on air quality, the environment, and adjacent development.

> **Policy CCM-2.3:** Maintain LOS D or better on Arterial Streets wherever possible. At key locations, such as City Arterials used by regional freeway bypass traffic and at heavily traveled freeway interchanges, allow LOS E at peak hours as the acceptable standard on a case-by-case basis.

Policy CCM-2.4: Minimize the occurrence of streets operating at LOS F by building out the planned street network and by integrating land use and transportation in accordance with the General Plan principles.

Policy CCM-2.8: Design street improvements considering the effect on aesthetic character and livability of residential neighborhoods, along with traffic engineering criteria.

Policy CCM-2.9: Design all street improvement projects in a comprehensive fashion to include consideration of street trees, pedestrian walkways, bicycle lanes, equestrian pathways, signing, lighting, noise, and air quality wherever any of these factors are applicable.

Policy CCM-2.10: Emphasize the landscaping of parkways and boulevards.

Public Safety Element

The overall purpose of the Public Safety Element is to ensure that the City takes all necessary proactive measures to reduce the risk of hazards and adequately, expediently and efficiently respond to immediate safety threats.

Objective PS-6: Protect property in urbanized and nonurbanized areas from fire hazards.

Policy PS-6.1: Ensure that sufficient fire stations, personnel and equipment are provided to meet the needs of the community as it grows in size and population.

Policy PS-6.2: Endeavor to meet/maintain a response time of five minutes for Riverside's urbanized areas.

Policy PS-6-3: Integrate fire safety considerations in the planning process.

Policy PS-6.4: Evaluate all new development to be located in or adjacent to wildland areas to assess its vulnerability to fire and its potential as a source of fire.

Policy PS-6.5: Mitigate existing fire hazards related to urban development or patterns of urban development as they are identified and as resources permit.

Policy PS-6.6: Continue to implement stringent brush-clearance requirements in areas subject to wildland fire hazards.

Policy PS-6.7: Continue to involve the City Fire Department in the development review process.

Policy PS-6.8: Pursue strategies that maintain and improve the City's Class 2 ISO rating.

Policy PS-6.9: Provide outreach and education to the community regarding fire safety and prevention.

Policy PS-6.10: Identify noncontiguous streets and other barriers to rapid response and pursue measures to eliminate the barriers.

Policy PS-6.11: Promote the prevention, detection, investigation and prosecution of accidental and arson fires through coordinated investigative and training partnerships with fire and law enforcement agencies and prosecuting authorities.

Objective PS-10: Improve the community's ability to respond effectively to emergencies.

Policy PS-10.1: Ensure that Police and Fire service facilities are strategically located to meet the needs of all areas of the City.

Policy PS-10.3: Ensure that public safety infrastructure and staff resources keep pace with new development planned or proposed in Riverside and the Sphere of Influence.

Policy PS-10.4: Continue to ensure that each development or neighborhood in the City has adequate emergency ingress and egress, and review neighborhood access needs to solve problems, if possible.

Policy PS-10.6: Improve communications between public safety agencies and other City departments, particularly with regard to new development or annexation areas.

Policy PS-10.7: Encourage the development of financial programs to improve emergency response services.

City of Riverside Municipal Code

Title 7 – Noise Control

The proposed Project will be subject to Title 7 the City's Noise Control Code both during construction and afterward during operation. It is determined that certain noise levels are detrimental to the public health, safety and welfare and are contrary to the public interest. Therefore, the City has created the Noise Control Chapter of the Municipal Code. Maintaining that causing any noise in a manner not in conformity with the provisions of this Code, is a public nuisance and shall be punishable as such. In order to control unnecessary, excessive and/or annoying noise in the City, it is declared to be the policy of the City to prohibit such noise generated by the sources specified in this Chapter. It shall be the goal of the City to minimize noise levels and mitigate the effects of noise to provide a safe and healthy living environment. See Section 5.9 Noise for information on compliance with Title 7.

Title 16 – Buildings and Construction

The purpose of Title 16 is to provide minimum standards to safeguard life or limb, health, property and public welfare by regulating the design, construction, quality of materials, use and occupancy, location and maintenance of buildings, equipment, structures and grading within the City; the electrical, plumbing, heating, comfort cooling and certain other equipment specifically regulated in the City.

Title 17 - Grading Code

The RMC contains regulations the City designed to implement the General Plan. RMC Title 17 Grading, sets forth:

> Rules and regulations intended to control evacuation, grading and earthwork construction which includes fills and embankments. Title 17-Grading also establishes the framework for the administrative procedures for grading plans, inspections, and establishes penalties for unauthorized grading activities. The purpose of this title is to protect life, limb, property, the public welfare and the physical environment by regulating grading on private property.

Title 19 – Zoning Code

RMC Title 19 Zoning states:

> The purpose of the Zoning Code is to encourage, classify, designate, regulate, restrict and segregate the highest and best location and use of buildings, structures and land for agriculture, residence, commerce, trade, industry, water conservation or other purposes in appropriate places; to regulate and limit the height, number of stories and size of buildings and other structures hereafter erected or altered; to regulate and determine the size of yards and other open spaces; and, to regulate and limit the density of population and for such purpose to divide the City into zones of such number, shape and area as may be deemed best suited to carry out these regulations and provide for their enforcement.

Title 20 – Cultural Resources

The Project was reviewed pursuant to Title 20 for the purpose of promoting and providing for the identification, protection, enhancement, perpetuation and use of objects, features, sites, places, areas, works of art, natural features and significant permanent landscaping having special historical, archaeological, cultural, architectural, community, aesthetic or artistic value in the City. Doing so safeguards the City's heritage as embodied and reflected in such resources; encourages public knowledge, understanding and appreciation of the City's past; fosters civic and neighborhood pride and a sense of identity based on the recognition and use of cultural resources; promotes the enjoyment and use of cultural resources appropriate for the education and recreation of the people of the City; protects and enhances the City's attraction to tourists and visitors, thereby stimulating business and industry; identifies as early as possible and resolves conflicts between the preservation of cultural resources and alternative land uses; and integrates the preservation of cultural resources and the extraction of relevant data from such resources into public and private land management and development processes. Further analysis is provided in Section 5.4 for Cultural Resources and Section 5.11 for Tribal Cultural Resources.

City of Riverside Restorative Growthprint Climate Action Plan

As discussed in Section 5.7 Greenhouse Gases, the City of Riverside collaborated with the Western Riverside Council of Governments (WRCOG) on a Subregional Climate Action Plan. The City of Riverside Restorative Growthprint-Climate Action Plan (RRG-CAP) builds on the WRCOG Subregional CAP commitments and provides the City GHG reduction goals beyond 2020 to 2035. Through the WRCOG Subregional CAP process, the City has adopted a 2020 community-wide GHG emissions target of 2,224,908 MT CO2E, which represents a 15 percent reduction from the City’s 2010 GHG emissions baseline inventory, and a 2035 emissions target of 1,532,274 MT

CO2E, 49 percent below the 2007 baseline. These reduction targets are consistent with the statewide AB 32 goal of reducing emissions to 1990 levels and fulfill the requirements of SB 375.

The RRG-CAP contains GHG reduction measures organized into four primary sectors to meet these targets:

- **Energy:** Promote energy efficiency and renewable energy for municipal operations and the community
- **Transportation and Land Use:** Measures to reduce single-occupancy travel, increase non-motorized travel, improve transit access, encourage alternative fuels, and promote sustainable growth patterns.
- **Water:** Measures to reduce water demand by community and municipal operations and to conserve potable water.
- **Solid Waste:** Measures to reduce solid waste during construction and operational activities

Proposition R and Measure C

Proposition R has two main features. One is the preservation of agriculture through application of the RA-5 - Residential Agricultural Zone while the other is the protection of hillside areas through application of the RC - Residential Conservation Zone to areas of the City based on slopes over 15 percent. (GP 2025 Open Space Element) Measure C is an amendment to Proposition R which entitled the following: “Citizens’ Rights Initiative to Reduce Costly Urban Sprawl, to Reduce Traffic Congestion, to Minimize Utility Rate Increases and to Facilitate Preservation of Riverside’s Citrus and Agricultural Lands, its Scenic Hills, Ridgelines, Arroyos and Wildlife Areas. The overall purpose of Measure C is to promote encourage agriculture as an essential industry and a desirable open space use.” (GP 2025, Open Space Element) The Project site is not in the RA-5 or the RC Zone; however, the Quail Run Open Space to the west of the Project, the residential area south of Central Avenue, off of Lockmoor Drive, as well as property to the north of the Project (across the SR-60/I-215 freeway) are in the RC Zone.

Citywide Design and Sign Guidelines

The Citywide Design and Sign Guidelines (CDSG) reinforce the physical image of the City. The CDSG work to reinforce the physical image of Riverside. They are intended to promote quality, well-designed development throughout Riverside that enhances existing neighborhoods, creates identity and improves the overall quality of life within the City.

5.8.3 Project Design Considerations

The proposed Project will utilize the more flat and disturbed portions of the site for the apartment buildings, amenities and infrastructure. The western boundary is undisturbed with a large knoll near the northwesterly corner and a deep, vegetated drainage course and ravine near the southwestern corner. These areas with the greatest extent of topographic relief and lack of

disturbance will not be graded or impacted by the proposed development but will be preserved and left in place.

5.8.4 Thresholds of Significance

The City has not established local CEQA significance thresholds as described in Section 15064.7 of the State CEQA Guidelines. The City generally utilizes the CEQA significance thresholds in Appendix G ("Environmental Checklist") of the State CEQA Guidelines. The Environmental Checklist prepared by the City for the Project (see Appendix A of this document) indicates that impacts related to the Crestview Apartments Project may be considered potentially significant if the proposed project would:

- (Threshold A) physically divide an established community;
- (Threshold B) cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

5.8.5 Environmental Impacts before Mitigation

Threshold A: *Would the Project physically divide an established community?*

The Project site is currently vacant and undeveloped. There are no existing structures or other improvements on the site. There is no established community on the Project site. The development of the Project would not displace residents or any established community or infrastructure. Impacts would be **less than significant.**

Threshold B: *Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

The current commercial land use designation and zoning would not allow the proposed Project's multi-family residential development. Therefore, the proposed Project application includes requests for a General Plan Amendment (GPA) and Zoning Code Amendment. The Project requires a Variance to: 1) to allow perimeter solid masonry walls and tubular steel fencing up to 6 feet in height within the front yard setbacks along Central Avenue and Sycamore Canyon Boulevard, where 3 foot high solid walls and 4 foot open fencing are permitted by the Zoning Code; and 2) to allow on site improvements to encroach into the 15 foot landscaped front yard setback along Central Avenue, required in the R-4 Zone when adjacent to an arterial. Additionally, grading exceptions are required to: 1) to allow the height of retaining walls not open to public view to be up to 11.7 feet, where the Grading Code allows a maximum height of 6 feet; and to allow the height of retaining walls visible from the public right of way (Central Avenue and Sycamore Canyon Boulevard) to be up to 5 feet, where the Grading Code allows a maximum height of 3 feet; and 2) to allow slopes having a ratio of 3.9:1 or steeper to be up to 28 feet in vertical height, where the Grading Code limits slopes having a ratio of 3.9:1 or greater to a maximum vertical height of 20 feet.

City of Riverside General Plan 2025

General Plan Land Use Amendment

The General Plan Land Use Amendment request would change the land use designation from C - Commercial to VHDR - Very High Density Residential for approximately 9.44 acres, also refer to Figure 5.8-1 – General Plan Land Use Map. Table 5.8-4 details the proposed General Plan Land Use density regulations and intended land uses.

Table 5.8-4 – Proposed General Plan Land Use Designation – Density Regulations and Intended Land Uses

Regulation	VHDR – Very High Density Residential
Maximum Dwelling Unit per Acre	40 du/acre
Typical Dwelling Unit per Acre	30 du/acre
Maximum Population Density	120 persons per acre
Intent of Land Use Designation	Multi-family, condominiums, and apartments.
Source: GP 2025, Table LU-3	

Consistency with General Plan Policies

The proposed Project will comply with the applicable GP 2025 Housing Element objectives and policies (H-2.2, H-2.3 and H-2.4) by increasing the types and availability of housing in the City. The Project will comply with smart growth principles by providing high-density housing near the SR-60/I-215 freeway, a major regional transportation corridor. The Project site is approximately 4 miles drive on surface streets from the Hunter Park/ UCR Metrolink station and about 4 ½ miles from the Riverside Metrolink station. Metrolink is a commuter rail system that provides service to Los Angeles, Orange County, and San Diego County.

The Project will also provide appropriate site design, landscaping, and building design in order to comply with the GP 2025 Land Use and Urban Design Elements. The Project site includes a combination of undulating, undisturbed land, with a large, relatively flat area that was created previously by undocumented grading operations. The proposed Project will utilize the more flat and disturbed portions of the site for the apartment buildings, amenities and infrastructure. The western boundary is largely undisturbed with a large knoll near the northwesterly corner and a deep, vegetated ravine near the southwestern corner. These areas with the greatest extent of topographic relief and lack of disturbance will not be graded or impacted by the proposed development but will be preserved and left in place. Further, the Project would not impact adjacent RC-zoned areas (the Quail Run Open Space to the west of the Project, the residential area south of Central Avenue, off of Lockmoor Drive, as well as property to the north of the Project (across the SR-60/I-215 freeway) are in the RC Zone) in accordance with Proposition R and Measure C. The preservation of the drainage course and ravine in the southwest portion of the site will continue to allow for wildlife movement along this existing corridor (see Section 5.3 Biological Resources). With utilization of the disturbed portion of the site for development and preservation of the largely undisturbed areas, the Project will comply with objectives and policies related to the preservation of the City's hillsides (LU 3-1, LU-4.1 and LU-4.2).

As outlined above, the proposed Project will comply with the General Plan Land Use density guidelines and intended land uses of VHDR - Very High Density Residential land use designation. The proposed Project would comply with the development standards of the Zoning Code for the R-4 - Multiple-Family Residential Zone, with the exception of a fully landscaped front yard setbacks and solid walls within the front yard setback that re higher than allowed by the Zoning Code. Portions of various site improvements, including retaining walls and perimeter fencing, are proposed to encroach into the required 15-foot wide front yard setback. The variance will allow reasonable development of the property in accordance with the City's General Plan and Zoning Code. The granting of the variance will accommodate the required parking and amenities for the development. Further, the proposed walls will provide a safe, functional and stable transition between the Project site and the public roadways. The tiered retaining wall design provides better aesthetics and ample area to accommodate the desired front yard landscaping along Central Avenue. The site design provides ample landscape screening along the public street frontages and the required perimeter fencing. The multi-family residential development will provide quality rental opportunities with desired amenities in close proximity to public transportation and retail developments, in accordance with the objectives of the Housing Element. Implementation of the Project would include approval of the necessary General Plan Land Use Amendment, Zoning Code Amendment and Variance, and Grading Code Exceptions. No mitigation measures would be required. Therefore, the proposed Project will have less than significant environmental impacts as it will not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Table 5.8-5 provides a summary of the Project's consistency with applicable GP 2025 objectives and policies.

As outlined in the Transportation section, Section 5.10.5, based on the City's deficiency criteria, the following intersection was found to be deficient:

- Sycamore Canyon Boulevard & Central Avenue (#3) – The addition of Project traffic increases the pre-project delay by more than 2.0 seconds during the AM peak hour resulting in a cumulative deficiency.

Intersection improvements are required to alleviate this Project-related deficiency at the intersection of Sycamore Canyon Boulevard & Central Avenue (#3) in order to achieve consistency with GP 2025 goals and policies for transportation within the Circulation and Community Mobility Element. Where the Project will result in LOS deficiencies at intersections or roadway segments, below the standards set forth in the General Plan Circulation Element, the Project would conflict with General Plan policies addressing the circulation system and would be considered **significant.** Implementation of mitigation measure **MM LAND USE-1 through MM LAND USE-3** is required to ensure the Project is consistent with GP 2025 Circulation and Community Mobility Element goals and policies. Mitigation measure **MM LAND USE-1 through MM LAND USE-3** are detailed in Section 5.8.5 below. Potential impacts from conflict with GP 2025 Circulation and Community Mobility Element policies is reduced to **less than significant with implementation of mitigation measure MM LAND USE-1 through MM LAND USE-3**.

Table 5.8-5 – Summary of Consistency with Applicable General Plan Policies

General Plan Element and Objective	Policy	Project Consistency
Housing Element – Objective H-2: To provide adequate diversity in housing types and affordability levels to accommodate housing needs of Riverside residents, encourage economic development and sustainability, and promote an inclusive community.	H-2.2: Smart Growth. Encourage the production and concentration of quality mixed-use and high-density housing along major corridors and infill sites throughout the City in accordance with smart growth principles articulated in the General Plan.	The Project would comply with smart growth principles by providing high-density housing near the SR-60/I-215 freeway, a major regional transportation corridor, and less than 5 miles from two Metrolink (commuter rail) stations.
	H-2.3: Housing Design. Require excellence in the design of housing through the use of materials and colors, building treatments, landscaping, open space, parking, sustainable concepts, and environmentally sensitive building and design practices.	The Project would provide appropriate site design, landscaping, and building design.
	H-2.4: Housing Diversity. Provide development standards and incentives to facilitate live-work housing, mixed-use projects, accessory dwellings, student housing, and other housing types.	The Project would increase the types and availability of housing in the City by providing high-density housing near the SR-60/I-215 freeway, a major regional transportation corridor, and UCR.
Land Use and Urban Design Element – Objective LU-3: Preserve prominent ridgelines and hillsides as important community visual, recreational and biological assets.	LU-3.1: Pursue methods to preserve hillside open space and natural habitat.	The Project would utilize the more flat and disturbed portions of the site, created previously by undocumented grading operations. The western boundary is largely undisturbed with a large knoll near the northwesterly corner and a deep, vegetated ravine near the southwestern corner. These areas with the greatest extent of topographic relief and lack of disturbance would not be graded or impacted by the proposed development but would be preserved and left in place.

General Plan Element and Objective	Policy	Project Consistency
Land Use and Urban Design Element – Objective LU-4: Minimize the extent of urban development in the hillsides, and mitigate any adverse impacts associated with urbanization to the extent feasible.	LU-4.1: Adhere to the protections for hillside development set forth in Proposition R and Measure C.	As discussed above, the areas with the greatest extent of topographic relief and lack of disturbance on the site would not be graded or impacted by the proposed development but will be preserved and left in place. Further, the Project would not impact adjacent RC Zoned areas: the Quail Run Open Space to the west of the Project, the residential area south of Central Avenue, off of Lockmoor Drive, or property to the north of the Project, across the SR-60/I-215 freeway.
	LU-4.2: Enforce the hillside grading provisions of the City's Grading Code (Title 17) to minimize ground disturbance associated with hillside development; respect existing land contours to maximum feasible extent.	As discussed above, the Project would utilize the more flat and disturbed portions of the site created previously by undocumented grading operations. Areas with the greatest extent of topographic relief and lack of disturbance on the site would not be graded or impacted by the proposed development but will be preserved and left in place.
Land Use and Urban Design Element – Objective LU-7: Preserve and protect significant areas of native wildlife and plant habitat, including endangered species.	LU-7.2: Design new development adjacent and in close proximity to native wildlife in a manner which protects and preserves habitat.	The preservation of the drainage course and ravine in the southwest portion of the site would continue to allow for wildlife movement along this existing corridor (see Section 5.3 Biological Resources).
	LU-7.4: Continue to participate in the Western Riverside County MSHCP.	The City has reviewed the Project for consistency with the Western Riverside county MSHCP (see Section 5.3 Biological Resources) and determined consistency. The Project proposes to convey the 0.53-acre area of conservation in the southwest corner of the

General Plan Element and Objective	Policy	Project Consistency
		site, including the riparian/riverine area, to the Regional Conservation Authority (RCA) for long-term conservation. The RCA also review the project and determined it to be consistent with the MSHCP.
Land Use and Urban Design Element – Objective LU-8: Emphasize smart growth principles through all steps of the land development process.	LU-8.1: Ensure well-planned infill development Citywide, allow for increased density in selected areas along established transportation corridors.	As discussed, the Project would comply with smart growth principles by providing high-density housing near the SR-60/I-215 freeway, a major regional transportation corridor, and less than 5 miles from two Metrolink (commuter rail) stations.
	LU-8.2: Avoid density increases or intrusion of non-residential uses that are incompatible with existing neighborhoods.	The Project would comply with the General Plan Land Use density guidelines and intended land uses of VHDR - Very High Density Residential land use designation. The proposed Project would comply with the development standards of the Zoning Code for the R-4 - Multiple-Family Residential Zone, with the exception of a fully landscaped front yard setbacks and solid walls within the front yard setback that re higher than allowed by the Zoning Code. The Project is directly adjacent to, but appropriately buffered from, nearby single family residential neighborhoods by Central Avenue or SR-60/I-215 freeway.
Land Use and Urban Design Element – Objective LU-9: Provide for continuing growth within the General Plan Area, with land uses and intensities appropriately designated to	LU-9.7: Protect residentially designated areas from encroachment by incompatible uses and from the effects of incompatible uses in adjacent areas. Uses adjacent to planned	As discussed, the Project would comply with the General Plan Land Use density guidelines and intended land uses of the VHDR - Very High Density Residential land use designation. The

General Plan Element and Objective	Policy	Project Consistency
meet the needs of anticipated growth and to achieve the community's objectives.	residential areas should be compatible with the planned residential uses and should employ appropriate site design, landscaping, and building design to buffer the non-residential uses.	proposed Project would comply with the development standards of the Zoning Code for the R-4 - Multiple-Family Residential Zone, with the exception of a fully landscaped front yard setbacks and solid walls within the front yard setback that re higher than allowed by the Zoning Code. The Project is residential and is compatible with other surrounding residentially designated areas. The Project is directly adjacent to, but appropriately buffered from, nearby single family residential neighborhoods by Central Avenue or SR-60/I-215 freeway.
Circulation and Community Mobility Element – Objective CCM-2: Build and maintain a transportation system that combines a mix of transportation modes and transportation system management techniques, and that is designed to meet the needs of Riverside's residents and businesses, while minimizing the transportation system's impacts on air quality, the environment, and adjacent development.	CCM-2.3: Maintain LOS D or better on Arterial Streets wherever possible. At key locations, such as City Arterials used by regional freeway bypass traffic and at heavily traveled freeway interchanges, allow LOS E at peak hours as the acceptable standard on a case-by-case basis.	Improvements needed under Opening Year Cumulative (2022) and Horizon Year (2040) traffic conditions to meet LOS standards set forth in the General Plan Circulation Element are outlined in mitigation measures MM LAND USE-1 through MM LAND USE-3. With implementation of MM LAND USE-1 through LAND USE-3 to the Project will be in compliance with this policy.
	CCM-2.4: Maintain LOS D or better on Arterial Streets wherever possible. At key locations, such as City Arterials used by regional freeway bypass traffic and at heavily traveled freeway interchanges, allow LOS E at peak hours as the acceptable standard on a case-by-case basis.	Improvements needed under Opening Year Cumulative (2022) and Horizon Year (2040) traffic conditions to meet LOS standards set forth in the General Plan Circulation Element are outlined in mitigation measures MM LAND USE-1 through MM LAND USE-3. With implementation of MM LAND USE-1 through LAND USE-3 to the Project will be in compliance with this policy.
	CCM-2.8: Design street improvements considering the	The site design provides ample landscape screening along the

General Plan Element and Objective	Policy	Project Consistency
	effect on aesthetic character and livability of residential neighborhoods, along with traffic engineering criteria.	public street frontages and the required perimeter fencing. The encroachments into the setbacks are consistent with roadway/parkway design policies, such as aesthetic character.
	CCM-2.9: Design all street improvement projects in a comprehensive fashion to include consideration of street trees, pedestrian walkways, bicycle lanes, equestrian pathways, signing, lighting, noise, and air quality wherever any of these factors are applicable.	As discussed, the site design provides ample landscape screening along the public street frontages and the required perimeter fencing. The encroachments into the setbacks are consistent with roadway/parkway design policies, such as pedestrian walkways.
	CCM-2.10: Emphasize the landscaping of parkways and boulevards.	As discussed, the site design provides ample landscape screening along the public street frontages and the required perimeter fencing. The encroachments into the setbacks are consistent with roadway/parkway design policies, such as parkway landscaping.
Public and Safety Element – Objective PS-6: Protect property in urbanized and nonurbanized areas from fire hazards.	Policy PS-6.1: Ensure that sufficient fire stations, personnel and equipment are provided to meet the needs of the community as it grows in size and population.	The Project site is within RFD's 5-minute initial action response time. The nearest fire station is Fire Station 14 – Sycamore Canyon (725 Central Avenue) and is less than a mile from the Project site. The next closest station is Fire Station 9 – Canyon Crest (6674 Alessandro Boulevard), approximately 8 minutes from the Project. The Project site is already adequately served by RFD existing stations.
	Policy PS-6.2: Endeavor to meet/maintain a response time of five minutes for Riverside's urbanized areas.	As discussed above, the Project site is within RFD's 5-minute initial action response time.

General Plan Element and Objective	Policy	Project Consistency
	Policy PS-6-3: Integrate fire safety considerations in the planning process.	The Project site is located adjacent to open space and partially located within a Very High Fire Hazard Severity Zone (VHFHSZ) as shown in Figure 5.13-2 – Fire Hazard Areas. The Project's Fire Protection Plan (FPP) was prepared as a requirement of Cal Fire Code Chapter 49, Section 4902 and is based on RFD requirements. The Wildfire Project Design Considerations (Section 5.13.3) includes a list from Appendix E of the FPP with ignition resistant construction requirements for buildings located in a Wildland Urban Interface Area under the California Fire Code (CFC), Chapter 7A of the California Building Code (CBC), and the California Residential Code (CRC) R327. These requirements will be Project conditions of approval. The Project, including all exterior building construction including roofs, eaves, exterior walls, doors, windows, decks, and other attachments, will be required to meet, in full, all of the CBC Chapter 7A ignition resistance requirements, CRC R337, CFC requirements, and all current applicable codes and any exceptions or local requirements effective at the time of building permit application.
	Policy PS-6.4: Evaluate all new development to be located in or adjacent to wildland areas to assess its vulnerability to fire and its potential as a source of fire.	
	Policy PS-6.5: Mitigate existing fire hazards related to urban development or patterns of urban development as they are identified and as resources permit.	
	Policy PS-6.6: Continue to implement stringent brush-clearance requirements in areas subject to wildland fire hazards.	
	Policy PS-6.7: Continue to involve the City Fire Department in the development review process.	
	Policy PS-6.8: Pursue strategies that maintain and improve the City's Class 2 ISO rating.	This is a municipal measure and not directly applicable to the Project.
	Policy PS-6.9: Provide outreach and education to the community regarding fire safety and prevention.	This is a municipal measure for outreach and education to the community at large, and not directly applicable to the Project. However, the residents of the Project Mitigation Measure MM FIRE-5 requires that a copy of the Project's Fire Protection Plan be available in the

General Plan Element and Objective	Policy	Project Consistency
		Crestview Apartments Manager's office for review by any potential renter or employee.
	Policy PS-6.10: Identify noncontiguous streets and other barriers to rapid response and pursue measures to eliminate the barriers.	A Fire Access Plan was prepared and is part of the Project's FPP, also shown on Figure 5.13-3 to ensure access for RPD during rapid response.
	Policy PS-6.11: Promote the prevention, detection, investigation and prosecution of accidental and arson fires through coordinated investigative and training partnerships with fire and law enforcement agencies and prosecuting authorities.	This is a municipal measure and not directly applicable to the Project.
Public Safety Element – Objective PS-10: Improve the community's ability to respond effectively to emergencies.	Policy PS-10.1: Ensure that Police and Fire service facilities are strategically located to meet the needs of all areas of the City.	This is a municipal measure and not directly applicable to the Project. However, as outlined above, the Project site is within RFD's 5-minute initial action response time. The nearest fire station is Fire Station 14 – Sycamore Canyon (725 Central Avenue) and is less than a mile from the Project site. The next closest station is Fire Station 9 – Canyon Crest (6674 Alessandro Boulevard), approximately 8 minutes from the Project. The Project site is already adequately served by RFD existing stations.
	Policy PS-10.3: Ensure that public safety infrastructure and staff resources keep pace with new development planned or proposed in Riverside and the Sphere of Influence.	This is a municipal measure and not directly applicable to the Project. However, as outlined above, the Project site is already adequately served by RFD existing stations.
	Policy PS-10.4: Continue to ensure that each development or neighborhood in the City has adequate emergency ingress and egress, and review neighborhood access needs to solve problems, if possible.	This is a municipal measure and not directly applicable to the Project. However, a Fire Access Plan was prepared and is part of the Project's FPP to ensure access for RPD as well as for residents of the Project.
	Policy PS-10.6: Improve communications between public safety agencies and other City	This is a municipal measure and not directly applicable to the Project.

General Plan Element and Objective	Policy	Project Consistency
	departments, particularly with regard to new development or annexation areas.	
	Policy PS-10.7: Encourage the development of financial programs to improve emergency response services.	This is a municipal measure and not directly applicable to the Project.

Riverside Municipal Code

Title 7 – Noise Control

See Section 5.9 Noise for information on compliance with Title 7.

Title 16 – Buildings and Construction

The purpose of Title 16 is to provide minimum standards to safeguard public health, safety and general welfare by regulating the design, construction, quality of materials, use and occupancy, location and maintenance of buildings, equipment, structures and grading within City; the electrical, plumbing, heating, comfort cooling and certain other equipment specifically regulated by the City. The Project has been reviewed by the City's Departments and has been found consistent with Title 16.

As outlined in Sections 5.2, 5.5, and 5.7, the Project will meet or exceed all applicable standards under California's Green Building Code Title 24 Standards. As outlined in Section 5.13, the Project is required to and will include automatic fire sprinkler systems. Construction plans are required to be submitted and permitted prior to construction. Fire Department access shall be maintained during all phases of construction. Sycamore Canyon Boulevard shall be maintained clear and unobstructed at all times during construction. All required public and private fire hydrants will be in service and fire flow available prior to building permit issuance by the City. The Project will meet the applicable requirements of the Building Code.

Title 17 – Grading Code

Grading of the Project is regulated by Title 17 – Grading Code of the Riverside Municipal Code (RMC), which sets forth rules and regulations to control erosion, grading, and earthwork construction, including fills and embankments. The purpose of the Grading Code is to regulate grading in a manner that minimizes the adverse effects on natural landforms, soil erosion, dust control water runoff, and construction equipment emissions.

Exceptions to the Grading Code – Retaining Wall Height

As earlier mentioned, the Project would be subject to compliance with RMC Title 17 – Grading Code. As stated in section 17.32.010 (Conditional Exceptions) of RMC Title 17, conditional exceptions to Title 17 grading regulations may be permitted upon a finding of exception or special circumstances that apply to a property. Such exceptional or special circumstances include characteristics such as unusual lot size, shape, or topography, drainage problems, or the

impractibility of employing a conforming grading plan, by reason of prior existing recorded subdivisions or other characteristics of continuous properties.

The proposed Project requires a Grading Exception (GE) to allow retaining walls to be higher than allowed by the Grading Code, specifically, to allow retaining walls greater than 3 feet in an area open to public view and greater than 6 feet in an area not open to public view. The location of the retaining walls that require the variance are shown in Figure 3.0-7 – Grading Exceptions.

As outlined above, the subject property is significantly restricted due to topography and boundary conditions. More than 45 feet of elevation difference along the public street frontages, coupled by restrictions to public street access, create significant challenges for vehicular access and ADA-compliant pedestrian circulation within the site. The project design strikes a balance between all of these constraints. As a result, portions of retaining walls adjacent to Sycamore Canyon Boulevard, not visible from public view, will exceed the allowable 6 foot in height and retaining walls along Central Avenue, visible from public view, will exceed the allowable 3 foot in height. The wall segments that require exceptions are along Sycamore Canyon Boulevard and vary between 85-125 linear feet, with a maximum height of 11.7 feet. The walls along Central Avenue, which are open to public view, are approximately 470 linear feet with a maximum height of 5 feet. Walls along the ravine in the southwest corner of the site, which may be visible from public view, are approximately 390 linear feet and a maximum of 5 feet in height. The terraced, curvilinear walls along the southwest corner of the site are visible from public view and will not exceed 5 feet in height. This wall configuration is less obtrusive than a single retaining wall and provides a more subtle transition than a single, expansive slope surface. The design includes ample areas for landscaping to screen the walls and add visual interest. Further, the proposed walls will stabilize the existing slopes along the westerly boundary, allowing sensitive areas to remain undisturbed, preserving natural vegetation and historic drainage patterns.

Grading Code Exception – Slope Height

The proposed Project will also require a Grading Exception (GE) to allow slopes having a ratio of 3.9:1 or greater to exceed 20 feet in vertical height as specified in the Grading Code. The location of the slope that exceeds 20-feet in height is shown in Figure 3.0-7 – Grading Exceptions. The top of the isolated knoll near the northerly project boundary has an elevation of 1381.6 feet. The parkway along Central Avenue near the southwesterly project boundary has an elevation of 1316.5 feet. The total elevation difference between these two points is approximately 65 feet. Strict application of the code would limit the vertical slope height of the knoll to 20 feet in height. As a result, the conceptual grading design would have to accommodate an additional 25 feet of fall within the site. Such a profound grade differential creates significant challenges for vehicular access and ADA-compliant pedestrian circulation within the site, as well as controlling surface flows for water quality compliance. The grading exception is necessary to allow the project to moderately reshape the knoll to accommodate internal circulation, parking and emergency vehicle access to Sycamore Canyon Boulevard.

The granting of the grading exception will allow reasonable development of the property in accordance with the City's General Plan and development standards. The conceptual grading

design balances the significant and varied constraints and conditions described in the findings above. The granting of the grading exception will allow the development to moderately reshape the isolated knoll without increasing the overall height or altering the crown. Design measures, such as curvilinear, terraced retaining walls and enhanced landscaping, will be incorporated to minimize the visual impacts from the public view.

Title 19 – Zoning Code

Zoning Code Amendment

The Zoning Code Amendment request would change the on-site zoning designation from CG – Commercial General Zone to R-4 – Multiple-Family Residential Zone, also refer to Figure 5.8-2 – Zoning Map. Table 5.8-5 details the standard development regulations for the proposed zoning designations and how the Project will meet all but one of those standards shown in Table 5.8-4.

Table 5.8-6 – Proposed Zoning Designation –Development Standards: R-4 - Multiple-Family Residential Zone

Development Standard	R-4 – Multiple-Family Residential Zone Required	Multiple-Family Residential Development Proposed
Residential Density	40 dwelling unit/ acre	24.3 dwelling unit/ acre
Lot Area Minimum	30,000 square feet	425,581 square feet
Lot Width Minimum	100 feet	>100 feet
Lot Depth Minimum	150 feet	>150 feet
Building Height Maximum	50 feet	49 feet 10 inches
Number of Stories Maximum	4	4
Setbacks (Minimum) A. Front B. Interior Side (north)[1] C. Street Adjoining Side D. Rear	 A. 15 feet B. 7.5 feet C. 10 feet D. 10 feet	 A. 0 feet – requires variance B. 35 feet C. N/A D. N/A
Common Usable Open Space Minimum per Unit	200 square feet/dwelling unit	209.7 square feet/dwelling unit
Private Usable Open Space per unit	50 square feet/dwelling unit	64.4 average square feet/ dwelling unit

[1]Per Title 19 RMC, Table 19.100.040.B: "Whenever a Height Overlay Zone (S) has been applied to allow a structure to exceed two stories in height, the front, side, and rear yards shall be increased by two and one-half feet for each story in excess of two stories, except as otherwise stated in this footnote. No building or building portions of two stories or higher may be located within 35 feet of any side or rear property line that abuts property in the RA-5, RC, RR, RE or R-1 Zone, in such instance for each story in excess of two, the setback shall be increased by 15-feet."
Source: Title 19 RMC, Table 19.100.040.B; Crestview Apartments Conceptual Site Plan, Architects Orange.

The proposed Project requires a variance (VR): 1) to allow perimeter solid masonry walls and tubular steel fencing up to 6 feet in height within the front yard setbacks along Central Avenue and Sycamore Canyon Boulevard, where 3 foot high solid walls and 4 foot open fencing are permitted by the Zoning Code; and 2) to allow on site improvements to encroach into the 15 foot landscaped front yard setback along Central Avenue, required in the R-4 Zone when adjacent to an arterial. Refer to Figure 3.0-8 – Front Yard Setback Variances.

The Project site includes a combination of undulating, undisturbed land, with a large, relatively flat area that was created several years ago by undocumented grading operations. The Project site is bounded by Sycamore Canyon Boulevard, to the north and east, and on Central Avenue, to the south. Both streets have pronounced grades, with a total fall of more than 45 feet across the project frontages. As a result, a majority of the public street frontages contain graded slopes adjacent to the roadways. Vehicular access for the site is significantly restricted due to sight distance constraints and limitations on the proximity to the intersection. Direct access to Central Avenue is not allowed. The westerly boundary is undisturbed with a large knoll near the northwesterly corner and a deep, vegetated ravine near the southwesterly corner. The total elevation difference along the property line is approximately 120-feet. Due to these constraints and conditions, approximately 2 acres of the total 9.88-acre development site[1] must remain undisturbed and/or utilized for matchup grading. This land encumbrance includes relocating existing graded slopes outside of the public rights-of-way, as required by the City. As a result, portions of various site improvements are proposed to encroach into the designated 15' front yard setback area. Strict application of the Code would further reduce the available site by an additional 0.2 acres. The reduction directly impacts available parking spaces and amenities. These improvements would need to be eliminated, which in turn, could trigger additional variances or a reduction in dwelling units. In order to eliminate the potential for additional variances, reduction in the number of residential units would be required. Any such reduction would be contrary to the City's General Plan 2025, in particular, the Housing Element. The reduction in units would severely impact the City's required number of housing units to be available in the City to meet its Regional Housing Needs Numbers. This is a requirement imposed by the State and not by the property itself. As such, strict application of the Zoning Code would not further the purpose stated in RMC 19.020.010, particularly regarding encouraging the most appropriate use of land as well as conserving and stabilizing the value of property.

In order to address the challenging edge conditions and avoid extended slope grading, tiered retaining walls are proposed along Central Avenue. Each wall is proposed to be a maximum of 5 feet in height. Strict application of the Code would require lowering the site approximately 6-10 feet. This condition would significantly impact the edge condition along Sycamore Canyon Boulevard, negatively affecting vehicular and pedestrian access to the public street. Alternatively, maintaining 3 feet maximum wall heights would require installation of three additional terraced wall sections along Central Avenue. This would further reduce the usable area by an additional 0.2 acres. As such, strict application of the Zoning Code would not further the purpose stated in RMC 19.020.010, particularly regarding encouraging the most appropriate use of land as well as conserving and stabilizing the use of property. The location of the retaining walls that require the variance are shown in Figure 3.0-7 – Grading Exceptions.

[1] Project site parcel is 9.44 acre and with acquisition of 0.44 acre of excess City right-of-way the total Project development site or footprint is 9.88 acres.

Title 20 – Cultural Resources

See Section 5.4 Cultural Resources and Section 5.11 Tribal Cultural Resources for information on compliance with Title 20.

With implementation mitigation measure **MM LAND USE-1 through MM LAND USE-3,** the Project will not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect and potential impacts are **less than significant**.

5.8.6 Proposed Mitigation Measures

An EIR is required to describe feasible mitigation measures which could minimize significant adverse impacts (State CEQA Guidelines, Section 15126.4). The following mitigation measures are based on the improvements needed under Opening Year Cumulative (2022) and Horizon Year (2040) traffic conditions, mitigation measures **MM LAND USE-1** through **MM LAND USE-3**, to meet LOS standards set forth in the General Plan Circulation Element and not conflict with the General Plan. While the Traffic Analysis examined LOS within the Project vicinity, a deficiency in LOS is no longer considered a significant traffic related impact pursuant to updated CEQA guidelines. Instead, the assessment of LOS is intended to identify key access, circulation and operational issues within the Project area, and to confirm consistency with, and reduce potential impacts associated with conflict with, the City's land use/General Plan consistency analysis. Horizon Year (2040) traffic conditions are analyzed in Section 5.10.7. The improvements needed to address Opening Year Cumulative deficiencies are typically a sub-set of those improvements recommended under Horizon Year (2040) traffic conditions.

MM LAND USE-1: In order to alleviate an LOS deficiency and associated conflict with GP policies, prior to issuance of occupancy permits, the Sycamore Canyon Boulevard and Central Avenue intersection traffic signal shall be modified to implement overlap phasing on the northbound (NB) right turn lane. However, the Project will not be conditioned to pay fair share for these improvements as the adjacent Sycamore Commercial Development will construct them.

MM LAND USE-2: In order to alleviate an LOS deficiency and associated conflict with GP policies, prior to issuance of occupancy permits, the Sycamore Canyon Boulevard and Central Avenue intersection traffic signal shall be modified to add a 2nd NB right turn lane and to implement overlap phasing on the eastbound (EB) right turn lane. The Project shall contribute its fair share of 8.6% of the cost to the County of Riverside.

MM LAND USE-3: In order to alleviate an LOS deficiency and associated conflict with GP policies, prior to issuance of occupancy permits, Watkins Drive & SR-60/I-215 Westbound (WB) on-ramp shall be improved with installation of a traffic signal, addition of a 2nd NB left turn lane, and addition of a 2nd Southbound (SB) through lane. The Project shall contribute its fair share of 4.2% of the cost to the County of Riverside and Caltrans.

5.8.7 Cumulative Environmental Effects

Cumulative development in the City and the surrounding area would modify existing land use patterns through the development of vacant lots or through redevelopment. The planned and

pending projects in the area of the Project, listed in Table 4-1: Summary of Cumulative Development Projects include about 22 projects consisting of residential, retail, warehouse, office, institutional, hotel, gas station, fast food, church, health/fitness club, and carwash. In the immediate vicinity of the Project a recently approved drive thru restaurant and convenience store/ gas station located east across Sycamore Canyon Boulevard. Cumulatively the Project does not physically divide an established community or area in the City when considered alongside nearby cumulative projects. As previously discussed, there are no existing structures or other improvements on the site, nor is there an established community on the Project site. The development of the Project would not displace residents or any established community or infrastructure.

While the Traffic Analysis examined LOS within the Project vicinity, a deficiency in LOS is no longer considered a significant traffic related impact pursuant to updated CEQA guidelines. Instead, the assessment of LOS is intended to identify key access, circulation and operational issues within the Project area, and to confirm consistency with, and reduce potential impacts associated with conflict with, the City's land use/General Plan consistency analysis. The Project will contribute to the following intersection that is anticipated to operate at a deficient LOS during peak hours for Opening Year Cumulative (2022) without the Project:

- Sycamore Canyon Boulevard & Central Avenue (#3) – LOS E AM peak hour only

With implementation of mitigation measure **MM LAND USE-1**, the intersection would operate at acceptable LOS standard as set forth in the General Plan Circulation Element. The effectiveness of the proposed recommended intersection improvements from **MM LAND USE-1** to meet LOS standards is presented in the Transportation section, Table 5.10-15 below for Opening Year Cumulative (2022) traffic conditions.

With the implementation of the intersection recommendations in **MM LAND USE-1**, there are no Project-related deficiencies anticipated to the study area intersections. **MM LAND USE-1** is required to ensure the Project is consistent with GP 2025 Circulation and Community Mobility Element goals and policies. The Project would not conflict with General Plan policies addressing the circulation system and potential impacts would be **less than significant with mitigation**.

Similar to the Project, land use regulations and policy consistency impacts associated with other cumulative projects would be addressed on a case-by-case basis in order to determine their consistency with applicable plans and policies. The Project would be consistent with the proposed land use regulations and policies upon approval of the necessary land use entitlements. Therefore, the Project would have a **less than significant** cumulative land use and planning impact.

5.8.8 References

The following references were used in the preparation of this section of the EIR:

GP 2025	Riverside, City of. 2007. General Plan 2025. Riverside, CA. November 2012. (Available at :https://riversideca.gov/cedd/sites/riversideca.gov.cedd/files/pdf/planning/general plan/04_Land_Use_and_Urban_Design_Element_with%20maps%20COMPLETE%20AUGUST%202019.pdf accessed February 2020)
GP 2025 FEIR	City of Riverside General Plan 2025 PEIR – Volume 2: 5.9, Land Use https://riversideca.gov/cedd/sites/riversideca.gov.cedd/files/pdf/planning/general-plan/vol2/5-9_Land_Use_Planning.pdf accessed February 2020)
RMC, Title 17	City of Riverside, Code of Ordinances, Title 17 Zoning https://library.municode.com/ca/riverside/codes/code_of_ordinances?nodeId=PTIICOOR_TIT17GR accessed February 2020)
RMC, Title 19	City of Riverside, Code of Ordinances, Title 19 Zoning https://library.municode.com/ca/riverside/codes/code_of_ordinances?nodeId=PTIICOOR_TIT19ZO accessed February 2020)

5.9 Noise

This section analyzes both the temporary noise impacts related to construction activity and long-term operations from the Project. Based upon the analysis in the Initial Study/Notice of Preparation (IS/NOP) prepared for this Project (Appendix A), two of the thresholds (Thresholds A, increases in ambient noise and B, vibration) related to Noise will be analyzed below. The analysis is based on data from the Project's *Noise Impact Analysis*, (Urban Crossroads November 2020; Appendix H of this DEIR). Additionally, the discussion and analysis contained herein are informed by comments received during the NOP of an EIR public review period (Appendix A).

5.9.1 Setting

Noise has been simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against 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. Table 5.9-1 presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below. (Urban Crossroads, p. 7)

Range of Noise

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. 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. The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA at approximately 100 feet, which can cause serious discomfort. Another important aspect of noise is the duration of the sound and the way it is described and distributed in time. (Urban Crossroads, pp. 7-8)

Noise Descriptors

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most commonly used figure is the equivalent level (L_{eq}). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period and is commonly used to describe the "average" noise levels within the environment. (Urban Crossroads, p. 8)

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is

utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of 5 decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The City relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources. (Urban Crossroads, p. 8)

Table 5.9-1 – Typical Noise Levels

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 (3ft)	80		Speech Interference
Noisy Urban Area, Daytime	Vacuum Cleaner at 3m (10ft)	70	Loud	
Heavy Traffic at 90m (300ft)	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: Environmental Protection Agency Office of Noise Abatement and Control, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA/ONAC 550/9-74-004) March 1974.

Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. The way noise reduces with distance depends on the following factors.

Geometric Spreading

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of six (6) dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of three (3) dB for each doubling of distance from a line source. (Urban Crossroads, pp. 8-9)

Ground Absorption

The propagation path of noise from a highway to a receptor is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receptor, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receptor such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (Urban Crossroads, p. 9)

Atmospheric Effects

Receptors located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (Urban Crossroads, p. 9)

Shielding

A large object or barrier in the path between a noise source and a receptor can substantially attenuate noise levels at the receptor. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an “out of sight, out of mind” effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby resident. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The Federal Highway Administration (FHWA) does not consider the planting of vegetation to be a noise abatement measure. (Urban Crossroads, p. 9)

Noise Control

Noise control is the process of obtaining an acceptable noise environment for an observation point or receptor by controlling the noise source, transmission path, receptor, or all three. This concept is known as the source-path-receptor concept. In general, noise control measures can be applied to these three elements. (Urban Crossroads, p. 9)

Noise Barrier Attenuation

Effective noise barriers can reduce noise levels by 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receptor. Noise barriers, however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the path of the noise source. (Urban Crossroads, p. 9)

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 developments and related activities. As ambient noise levels affect the perceived amenity or livability 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. The FHWA encourages State and local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (Urban Crossroads, p. 10)

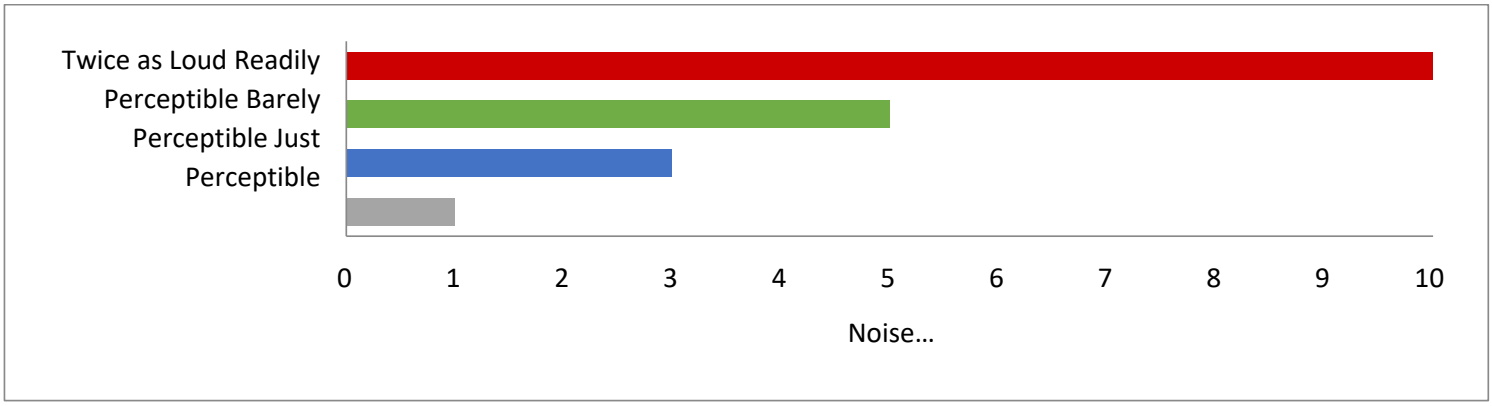
Community Response to Noise

Community responses to noise may range from registering a complaint by telephone or letter, to initiating court action, depending upon everyone'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;
- Socio-economic status and educational level;
- Perception that those affected are being unfairly treated;
- Attitudes regarding the usefulness of the noise-producing activity;
- Belief that the noise source can be controlled.

Approximately 10 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. Surveys have shown that about ten percent of the people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of one (1) dBA is associated with approximately two (2) percent more people being highly annoyed. When traffic

noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain. Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Figure 5.9-1. An increase or decrease of one (1) dBA cannot be perceived except in carefully controlled laboratory experiments, a change of three (3) dBA are considered *barely perceptible*, and changes of five (5) dBA are considered *readily perceptible*.



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Noise Level Increase Perception

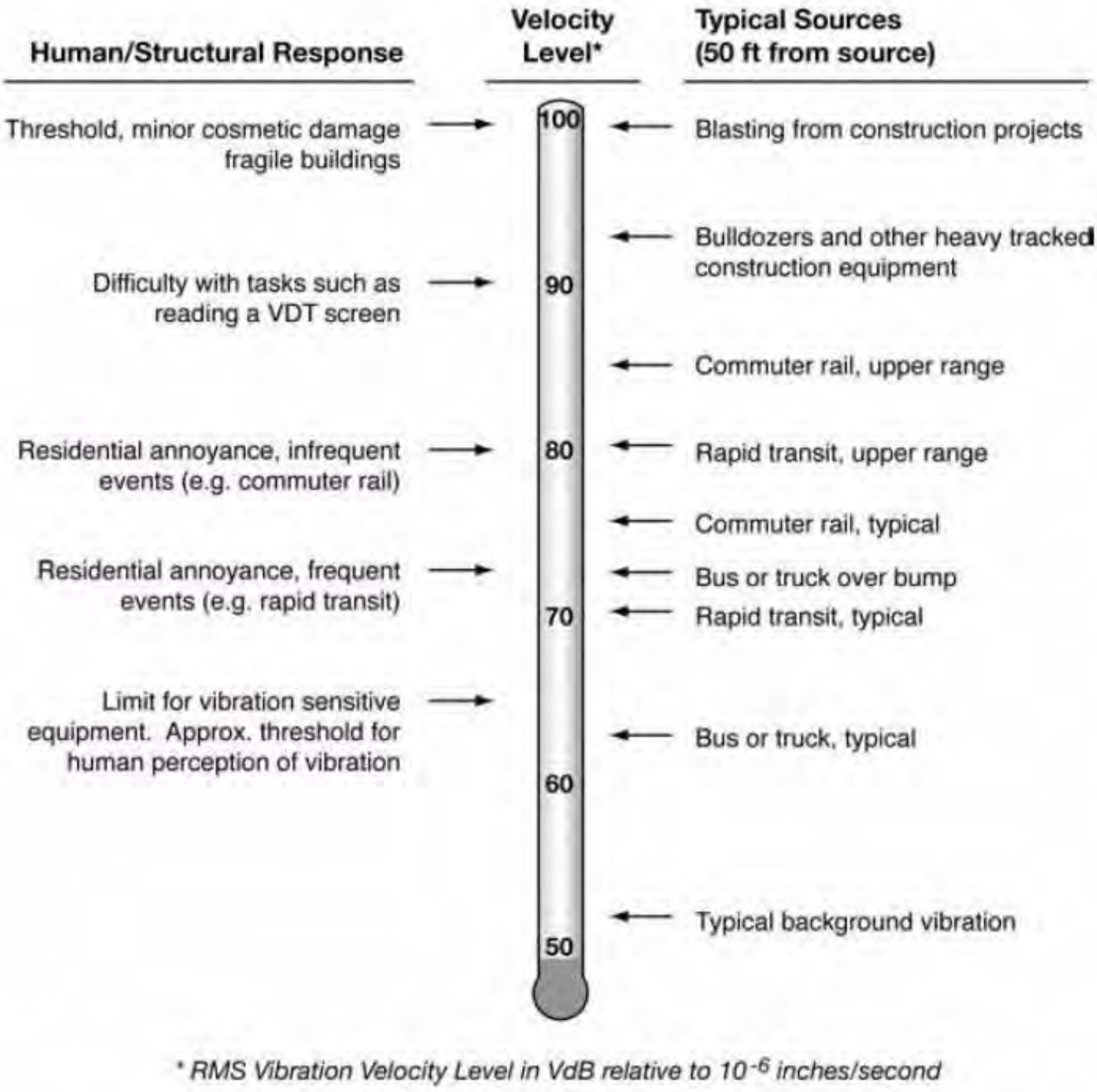
Figure 5.9-1

Vibration

Per the Federal Transit Administration (FTA) *Transit Noise Impact and Vibration Assessment*, vibration is the periodic oscillation of a medium or object. Vibration is the periodic oscillation of a medium of object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of groundborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, groundborne vibrations may be described by amplitude and frequency. (Urban Crossroads, p. 11)

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration. Typically, groundborne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment. (Urban Crossroads, p. 11)

The background vibration-velocity level in residential areas is generally 50 VdB. Groundborne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Figure 5.9-2 illustrates common vibration sources and the human and structural response to groundborne vibration. (Urban Crossroads, p. 11)



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Typical Levels of Groundborne Vibration

Figure 5.9-2

Blasting

The intensity of the noise and vibration impacts associated with rock blasting depends on location, size, material, shape of the rock, and the methods used to crack it. While a blasting contractor can design the blasts to stay below a given vibration level that could cause damage to nearby structures, it is difficult to design blasts that produce noise levels which are not perceptible to receivers near the blast site. The noise produced by blasting activities is referred to as air overpressure, or an "airblast," which is generated when explosive energy in the form of gases escape from the detonating blast holes. Much like a point source, airblasts radiate outward in a spherical pattern and attenuate with each doubling of distance from the blast location, depending on the design of the blast and amount of containment. (Urban Crossroads, p. 13)

Blasting activities generally include: the pre-drilling of holes in the hard rock area; preparation and placement of the charges in the drilled holes; a pre-blast horn signal; additional pre-blast horn signals immediately prior to the blast; and the blast itself. An additional horn signal is sounded to indicate the "all clear" after the blast and the blasting contractor has inspected the blasting area. The noise from the blast itself starts with a cracking sound from the detonator, located at a distance from the charges, and ends with the low crackling sound from each charge as they are subsequently set off. Blasts typically occur for only a few seconds, depending on their design. It is important to note that no other construction equipment will be operating during each blast in the blast area but will commence operation once the blasting contractor indicates it is safe to do so. The following calculations, analyses, and findings provided are based on the 18th Edition of the *International Society of Explosives Engineer's (ISEE's) Blasters' Handbook*. (Urban Crossroads, p. 13)

Blasting Noise Levels

Air overpressure, or "airblast," levels generated by blasting can travel up to 1,100 feet per second, depending on the size of the blast, distance from the blast, and amount of charge confinement. To determine potential airblast levels (dB) from a blast, the cubed-root scaled distance (SD_3) is used based on the planned maximum charge weight of the blast, and distance to the receiver location being analyzed. The following equation is provided in the Blasters' Handbook to calculate the cubed root scaled distance:

$$SD_3 = R / W^{1/3}$$

Where "R" is equal to the distance to the receiver location (e.g., residential homes), and "W" is equal to the maximum charge weight detonated within any 8-millisecond period per *Blasters' Handbook* guidelines. With known cubed root scaled distances for each blast, the anticipated airblast levels can be calculated at the receiver location. The following equation is provided in the *Blaster's Handbook* for calculating airblast levels in "P," which represents air pressure in pounds per inch squared (lbs/in^2):

$$P = A \times (SD_3)^{-8}$$

Where "A" is equal to the intercept of a reference line with the calculated SD_3 value. The "A" values are based on the Blasters' Handbook for a given reference industry blast (e.g.,

construction, mining, etc.), and vary depending on the amount of confinement of each blast. "B" is equal to the slope of the line per Blasters' Handbook reference data. It is important to note that airblast levels are calculated in terms of pressure in the air, and do not represent perceptible noise levels typically described using A-weighted decibels (dBA). Alternatively, airblast pressure levels can be converted to linear decibels (dB) using the following equation per the *Blasters' Handbook*:

$$P_s = 20 \times \log(P / P_0)$$

Where "P" equals the measured or calculated overpressure, and P_0 represents the reference ambient air pressure (2.9×10^{-9} pounds/inch^2) per the *Blasters' Handbook*.

Blasting Vibration Levels

Vibration levels generated by a blast can travel up to 20,000 feet per second, depending on the size of the blast, travel pathways (e.g., ground discontinuities), and site characteristics. To determine potential vibration levels (PPV) from a blast, the square-root scaled distance (SD_2) is used based on the planned maximum charge weight of the blast, and distance to the receiver location being analyzed. The following equation is provided in the *Blasters' Handbook* to calculate the square-root scaled distance:

$$SD_2 = R / W^{1/2}$$

Where "R" is equal to the distance to the receiver location (e.g., residential homes), and "W" is equal to the maximum charge weight detonated within any 8-millisecond period per *Blasters' Handbook* guidelines. With known square-root scaled distances for each blast, the anticipated PPV levels can be calculated at the receiver location. The following equation is provided in the *Blaster's Handbook* for calculating vibration levels:

$$PPV = A \times (SD_2)^{-B}$$

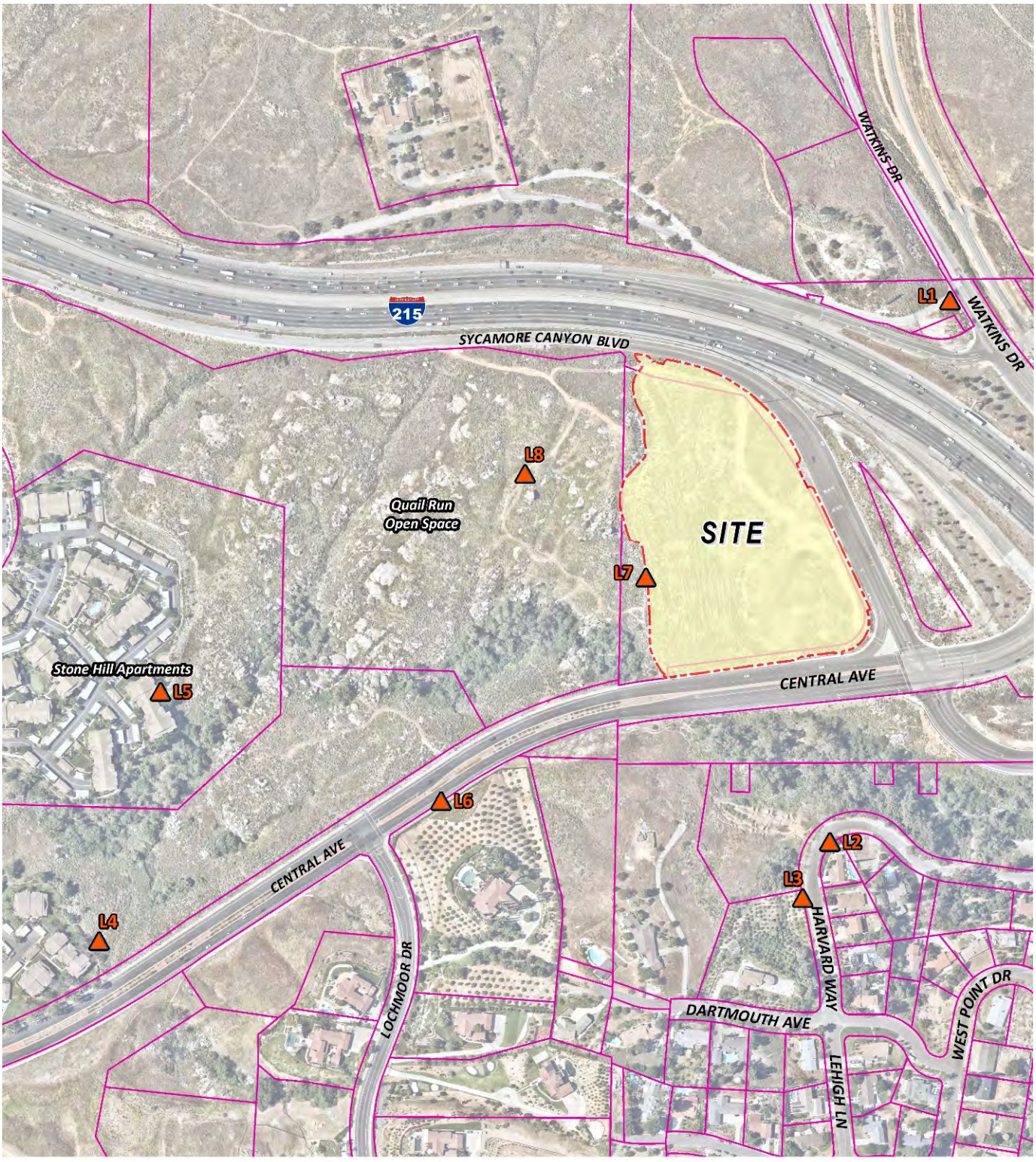
Where "A" is equal to the intercept of a reference line with the calculated SD_2 value. The "A" values are based on the lower, best fit, or upper bound lines (provided in the *Blasters' Handbook*) for a given reference industry blast (e.g., construction, mining, etc.), and "B" is equal to the slope of the line. (Urban Crossroads, pp. 13-14)

Existing Noise Setting

Major sources of noise in Riverside include traffic on freeways and major roadways, train movement on railroads, and flight activity associated with local airports. The dominant noise source in Riverside is from motor vehicles. Motor vehicle noise is of concern because it is characterized by a high number of individual events that often create a sustained noise level.

Existing Noise Level Measurements

To assess the existing noise level environment, 24-hour noise level measurements were taken at eight locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5.9-3 provides the boundaries of the limits of construction and the locations of where noise level measurements were taken. These noise level measurements were collected on Thursday, August 8th, 2019 and on Wednesday, July 9th, 2020.



N

LEGEND:

Limits of Construction

Measurement Locations

Parcel Boundaries

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Noise Measurement Locations

RVA

URBAN CROSSROADS

Figure 5.9-3

Table 5.9-2 identifies the average daytime (7:00 a.m. to 10:00 p.m.), average nighttime (10:00 p.m. to 7:00 a.m.), and CNEL noise levels at each noise level measurement location during typical weekday conditions.

Table 5.9-2 – 24-Hour Ambient Noise Level Measurements

Location[1]	Description	Energy Average Noise Level (dBA L_{eq})[2]		CNEL
		Daytime	Nighttime	
L1	Located northeast of the Project site on Watkins Drive Road outside the entry gate Gernert Road.	62.8	64.8	71.2
L2	Located south of Project site near the existing single-family residential home at 20098 Harvard Way.	50.1	50.1	56.9
L3	Located south of Project site across the street from the single-family residential home at 20088 Harvard Way.	51.9	52.1	58.8
L4	Located southwest of the Project site north of Central Avenue near existing multi-family residential homes at 375 Central Avenue.	57.0	59.4	65.8
L5	Located west of the Project site near the Stone Canyon Apartments at 5100 Quail Run Road.	47.3	49.9	56.0
L6	Located southwest of the Project site on Central Avenue north of existing single-family residential home at 5240 Lochmoor Drive.	70.8	63.7	72.6
L7	Located near the southwestern boundary of the Project site adjacent to the Quail Run open space.	51.5	50.1	57.1
L8	Located west of the Project site in the middle of the Quail Run open space.	51.3	51.1	58.0

[1] See Figure 5.9-3 for the noise level measurement locations.
[2] Energy (Logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2 of the Noise Analysis.

Table 5.9-2 above provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. The background ambient noise levels in the Project study area are dominated by the transportation-related noise associated with surface streets and the I-215 Freeway.

5.9.2 Related Regulations

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the Federal government, the State, 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. Traffic activity generally produces an average sound level that remains constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, State, and local agencies regulate different aspects of environmental noise. Federal and State agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies. (Urban Crossroads, p. 15)

5.9.2.1 Federal Regulations

No Federal noise requirements or regulations apply directly to the implementation of the Project, but Federal agencies have established guidelines and thresholds pertaining to noise and groundborne vibration as they relate to land use compatibility, human response, and structural integrity. These thresholds, as applicable, are discussed below in Section 5.9.5 Environmental Impacts before Mitigation.

5.9.2.2 State Regulations

The State regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires each county and city to adopt a General Plan that includes a Noise Element prepared per guidelines adopted by the Governor's Office of Planning and Research. The purpose of the Noise Element is to limit the exposure of the community to excessive noise levels. CEQA requires all known environmental effects of a project be analyzed, including environmental noise impacts. (Urban Crossroads, p. 15)

California Building Code

The State'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 developed 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 for noise-sensitive land uses 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. (Urban Crossroads, p. 15)

California General Plan Guidelines

The California General Plan Guidelines, published by the Governor's Office of Planning and Research, indicate acceptable, specific land use types in areas with specific noise exposure. The guidelines also offer adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution. These guidelines are advisory, and local jurisdictions, including the City, have the responsibility to set specific noise standards based on local conditions. Please refer to the discussion below for the compatibility guidelines adopted by the City.

5.9.2.3 Regional Regulations

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

The Project site is located within the Western Riverside County MSHCP. The Western Riverside County MSHCP is a comprehensive, multi-jurisdictional habitat conservation plan that focuses on

conservation of species and their associated habitats in western Riverside County. The MSHCP Plan Area encompasses approximately 1.26 million acres (1,966 square miles); it includes all unincorporated Riverside County land west of the crest of the San Jacinto Mountains to the Orange County line, and the jurisdictional areas of Temecula, Murrieta, Lake Elsinore, Canyon Lake, Norco, Corona, Riverside, Moreno Valley, Banning, Beaumont, Calimesa, Perris, Hemet, Eastvale, Jurupa Valley, Wildomar, Menifee, and San Jacinto.

Section 6.1.4 of the MSHCP provides guidelines to address indirect effects associated with locating development in proximity to the MSHCP conservation areas. The section states:

> Proposed noise generating land uses affecting the MSHCP Conservation Area shall incorporate setbacks, berms or walls to minimize the effects of noise on MSHCP Conservation Area resources pursuant to applicable rules, regulations, and guidelines related to land use noise standards. For planning purposes, wildlife within the MSHCP Conservation Area should not be subject to noise that would exceed residential noise standards.

5.9.2.4 Local Regulations

City of Riverside General Plan 2025

The City has adopted a Noise Element of the General Plan to control and abate environmental noise, and to protect the citizens of the City from excessive exposure to noise. In addition, the Noise Element identifies several polices to minimize the impacts of excessive noise levels throughout the community and establishes noise level compatibility criteria for different land uses.

Objective N-1: Minimize noise levels from point sources throughout the community and, whenever possible, mitigate the effects of noise to provide a safe and healthful environment

> **Policy N-1.1:** Continue to enforce noise abatement and control measures particularly within residential neighborhoods.
>
> **Policy N-1.2:** Require the inclusion of noise-reducing design features in development consistent with standards in Figure N–10 (Noise/Land Use Compatibility Criteria), Title 24 California Code of Regulations and Title 7 of the Municipal Code.
>
> **Policy N-1.3**: Enforce the City of Riverside Noise Control Code to ensure that stationary noise and noise emanating from construction activities, private developments/residences and special events are minimized.
>
> **Policy N-1.4:** Incorporate noise considerations into the site plan review process, particularly with regard to parking and loading areas, ingress/egress points and refuse collection areas.
>
> **Policy N-1.5:** Avoid locating noise-sensitive land uses in existing and anticipated noise-impacted areas.
>
> **Policy N-1.8:** Continue to consider noise concerns in evaluating all proposed development decisions and roadway projects.

Policy N-4.1: Ensure that noise impacts generated by vehicular sources are minimized through the use of noise reduction features (e.g., earthen berms, landscaped walls, lowered streets, improved technology).

Land Use Compatibility

The Noise/Land Use Noise Compatibility Criteria in the City of Riverside General Plan Noise Element provides guidelines to evaluate the land use compatibility, as shown in Table 5.9-3. The compatibility criteria, shown in Table 5.9-3, provides the City with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels. The Noise/Land Use Noise Compatibility Criteria describes categories of compatibility and not specific noise standards. To conservatively estimate the compatibility of the residential use, the Project is considered as infill single-family residential land use. According to the noise/land use categories of compatibility, infill single-family residential uses are considered *normally acceptable* with unmitigated exterior noise levels below 65 dBA CNEL, *conditionally acceptable* with noise levels below 75 dBA CNEL, *normally unacceptable* with noise levels below 80 dBA CNEL, and *conditionally unacceptable* with noise levels above 80 dBA CNEL. (Urban Crossroads, p. 16)

Table 5.9-3 – Land Use Compatibility for Community Noise Exposure

Land Use Category	Community Noise Equivalent Level (CNEL) or Day-Night Level (Ldn), dBA			
	Normally Acceptable[3]	Conditionally Acceptable[4]	Normally Unacceptable[5]	Conditionally Unacceptable[6]
Single Family Residential	<60	60-65	65-70	>70
Infill Residential	<65	65-75	75-80	>80
Commercial (Motels, Hotels, Lodging)	<60	60-70	70-80	>80
Schools, Libraries, Churches, Hospitals, Nursing Homes	<60	60-70	70-80	>80
Amphitheaters, Concert Hall, Auditorium, Meeting Hall	N/A	<65	N/A	>65
Sports Areas, Outdoor Spectator Sports	N/A	<70	N/A	>70
Playgrounds, Neighborhood Parks	<70	N/A	70-75	>75
Golf Courses, Riding Stables, Water Rec, Cemeteries	<70	N/A	70-80	>80
Office Buildings, Business, Commercial, Professional	<65	65-75	>75	N/A
Industrial, Manufacturing, Utilities, Agriculture	<70	70-80	>80	N/A
Freeway Adjacent Commercial, Office, and Industrial Uses	<65	65-80	>80	N/A

[3] **Normally Acceptable:** Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
[4] **Conditionally Acceptable:** New construction or development should be undertaken only after a detailed analysis of the noise reduction requirement is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
[5] **Normally Acceptable:** New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
[6] **Conditionally Acceptable:** New construction or development should generally not be undertaken, unless it can be demonstrated that noise reduction requirements can be employed to reduce noise impacts to an acceptable level. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Source: City of Riverside, 2007; Figure N-10

City of Riverside Sound Level Limits

To control unnecessary, excessive and/or annoying noise, the City has adopted exterior and interior sound level limits in the Noise Control section (Title 7) of the Municipal Code. Title 7 outlines exterior and interior noise level standards for affected land uses. Title 7 relies on the use of percentile noise descriptors to ensure that the duration of the noise source is fully considered. However, due to the relatively constant intensity of the Project noise activities, the L_{50} or average L_{eq} noise level metrics best describe the Project related operational noise source activities. (Urban Crossroads, p. 16)

The L_{eq} noise level metric accounts for noise fluctuations over time by averaging the louder and quieter events and giving more weight to the louder events. In addition, due to the mathematical relationship between the median (L_{50}) and the mean (L_{eq}), the L_{eq} will always be larger than or equal to the L_{50}. The more variable the noise becomes, the larger the L_{eq} becomes in comparison

to the L_{50}. Therefore, the Project's Noise Study conservatively relies on the average L_{eq} sound level limits to describe the Project noise levels. (Urban Crossroads, p. 16)

Exterior Noise Standards

For noise-sensitive residential properties, Table 7.25.010A of the Riverside Municipal Code identifies exterior noise standards for the daytime (7:00 a.m. to 10:00 p.m.) hours of 55 dBA L_{50} and 45 dBA L_{50} during the nighttime (10:00 p.m. to 7:00 a.m.) hours as shown on Table 5.9-4.

Table 5.9-4 – Exterior Noise Standards

Land Use	Time Period	Exterior Noise Level Standards (dBA)[7]				
		L_{50} (30 mins)	L_{25} (15 mins)	L_8 (5 mins)	L_2 (1 min)	L_{max} (0 min)
Residential	Daytime	55	60	65	70	75
	Nighttime	45	50	55	60	65

[7] The percent noise level is the level exceeded "n" percent of the time during the measurement period. L_{50} is the noise level exceeded 50% of the time.
Source: City of Riverside Municipal Code, Title 7 Noise Control, Section 7.25.010(A)
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Section 7.25.010 (A) the Riverside Municipal Code indicates that it is unlawful for any person to cause or allow the creation of any noise which exceeds the following:

1. The exterior noise standard of the applicable land use category up to 5 dBA for a cumulative period of 30 minutes in any hour (L_{50}); or
2. The exterior noise standard of the applicable land use category, plus 5 dBA, for a cumulative period of more than 15 minutes in any hour (L_{25}); or
3. The exterior noise standard of the applicable land use category, plus 10 dBA, for a cumulative period of more than 5 minutes in any hour (L_8); or
4. The exterior noise standard of the applicable land use category, plus 15 dBA, for a cumulative period of more than 1 minute in any hour (L_2).
5. The exterior noise standard for the applicable land use category, plus 20 dBA or the maximum measured ambient noise level, for any period of time (L_{max}).

In addition, Section 7.25.010 (B) the Riverside Municipal Code indicates that if the existing ambient noise level already exceeds any of the exterior noise level limit categories, then the standard shall be increased in five decibel increments in each category as appropriate to encompass the ambient noise level.

According to Section 7.25.010 (C) the Riverside Municipal Code, if possible, the ambient noise level shall be measured at the same location along the property line with the alleged offending noise source inoperative. If for any reason the alleged offending noise source cannot be shut down, then the ambient noise must be estimated by performing a measurement in the same general area of the source but at a sufficient distance that the offending noise is inaudible. If the measurement location is on the boundary between two different districts, the noise shall be the arithmetic mean of the two districts.

Interior Noise Standard

To assess the interior noise levels for noise sensitive residential properties, Table 7.30.015 of the Riverside Municipal Code identifies interior noise standards for the daytime (7:00 a.m. to 10:00 p.m.) hours of 45 dBA L_8 and 35 dBA L_8 during the nighttime (10:00 p.m. to 7:00 a.m.) hours as shown on Table 5.9-5.

Table 5.9-5 – Interior Noise Level Limits

Land Use	Time Period	Interior Noise Standard (dBA)[8]		
		L_8 (5 mins)	L_2 (1 min)	L_{max} (0 min)
Residential	Daytime	45	50	55
	Nighttime	35	40	45

[8] The percent noise level is the level exceeded in "n" percent of the time during the measurement period. L_{50} is the noise level exceeded 50% of the time.
Source: City of Riverside Municipal Code, Title 7 Noise Control, Section 7.30.015 (A)
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 a.m. to 7:00 a.m.

Section 7.30.015 (A) the Riverside Municipal Code indicates that no person shall operate or cause to be operated, any source of sound indoors which causes the noise level, when measured inside another dwelling unit, school or hospital, to exceed:

1. The interior noise standard for the applicable land category area, up to five decibels, for a cumulative period of more than five minutes in any (L_8); or
2. The interior noise standard for the applicable land use category, plus five decibels, for a cumulative period of more than one minute in any hour; (L_2); or
3. The interior noise standard for the applicable land use category, plus ten decibels or the maximum measured ambient noise level, for any period of time (L_{max}).

In addition, Section 7.25.015 (B) the Riverside Municipal Code indicates that if the measured interior ambient noise level exceeds that permissible within the first two noise limit categories in this section, the allowable noise exposure standard shall be increased in five decibel increments in each category as appropriate to reflect the interior ambient noise level. In the event the interior ambient noise level exceeds the third noise limit category, the maximum allowable interior noise level under said category shall be increased to reflect the maximum interior ambient noise level.

According to Section 7.25.010 (C) the Riverside Municipal Code, the interior noise standard for various land use districts shall apply, unless otherwise specifically indicated, within structures located in designated zones with windows opened or closed as is typical of the season.

Construction Noise Standards

To control noise impacts associated with the construction of the Project, the City has established limits to the hours of operation. Section 7.35.020 (G) of the General Noise Regulations indicates that *noise sources associated with construction, repair, remodeling, or grading of any real property; provided a permit has been obtained from the City as required; and provided said activities do not take place between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, between the hours of 5:00 p.m. and 8:00 a.m. on Saturdays, or at any time on Sunday or a Federal holiday.*

Therefore, Project construction noise levels are considered exempt from municipal regulation if activities occur within the hours specified Section 7.35.020 (G); provided a permit has been obtained from the City as required. (Urban Crossroads, p. 20)

However, neither the City General Plan nor Municipal Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers. Therefore, a numerical construction threshold based on Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* is used for analysis of daytime construction impacts. According to the FTA, local noise ordinances are typically not very useful in evaluating construction noise. They usually relate to nuisance and hours of allowed activity, and sometimes specify limits in terms of maximum levels, but are generally not practical for assessing the impact of a construction project. Project construction noise criteria should account for the existing noise environment, the absolute noise levels during construction activities, the duration of the construction, and the adjacent land use. Due to the lack of standardized construction noise thresholds, the FTA provides guidelines that can be considered reasonable criteria for construction noise assessment. The FTA considers a daytime exterior construction noise level of 80 dBA L_{eq} as a reasonable threshold for noise sensitive residential land use. (Urban Crossroads, p. 20)

Construction 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 such as air compressors, light trucks, hydraulic loaders, etc., generates little or no ground vibration. The City does not identify specific vibration level limits and instead will rely on FTA methodology for the purpose of analyzing vibration impacts from the Project. The FTA *Transit Noise and Vibration Impact Assessment Manual* general vibration assessment methodology provides guidelines for the maximum-acceptable vibration criteria for different types of land uses. These guidelines allow for 80 VdB for daytime residential uses in buildings where people normally sleep. (Urban Crossroads, p. 20)

Blasting Standards

The blasting contractor is required to obtain blasting permit(s) from the State and to notify Riverside County Sheriff's Department within 24 hours of planned blasting events. Air overpressure regulations are identified by the U.S. Bureau of Mines and the *ISEE's Blasters' Handbook*. (Urban Crossroads, p. 21)

Blasting Noise Limits

Based on Table 26.17 *Typical Air Overpressure Damage Criteria* of the *Blasters' Handbook*, an air overpressure of 133 dB is identified as a perception-based criteria level for blasting. As such, to present a conservative approach, the Project blasting-related vibration and airblast levels are based on the 133 dB criteria for airblasts identified by the ISEE and U.S. Bureau of Mines. (Urban Crossroads, p. 21)

Blasting Vibration Limits

Construction vibration is generally associated with pile driving and rock blasting. To analyze vibration impacts originating from the construction of the Project, vibration-generating rock blasting activities are appropriately evaluated against standards established under a City's Municipal Code, if such standards exist. However, the City does not identify specific vibration level limits. Therefore, for analysis purposes, the Caltrans *Transportation and Construction Vibration Guidance Manual*, Table 19, vibration criteria is used in the Project's Noise Study to assess potential temporary construction-related impacts at adjacent receiver locations. Since most of the buildings near the Project site can described as residential buildings, Caltrans guidance identifies a maximum acceptable transient PPV vibration threshold of 0.5 inches per second (in/sec). Therefore, the 0.5 PPV (in/sec) vibration threshold is used to evaluate the potential blasting-related vibration levels experienced at the nearby residential homes. (Urban Crossroads, p. 21)

5.9.3 Project Design Considerations

The Project would comply with the State's noise insulation standards as codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, and the California Building Code as described in Section 5.9.2.2 above.

5.9.4 Thresholds of Significance

The City has not established local CEQA significance thresholds as described in Section 15064.7 of the State CEQA Guidelines. The City generally utilizes the CEQA significance thresholds in Appendix G ("Environmental Checklist") of the State CEQA Guidelines. The Environmental Checklist prepared by the City for the Project (see Appendix A of this document) indicates that impacts related to Threshold C under Noise, related to exposure of people residing or working in the project area to excessive noise levels from an airport, were found to be less than significant during the preparation of the Project's IS/NOP and required no further analysis as part of this EIR. The Environmental Checklist additionally indicates that impacts related to the Crestview Apartments Project may be considered potentially significant if the proposed project would:

- (Threshold A) result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- (Threshold B) result in the generation of excessive groundborne vibration or groundborne noise levels.

5.9.5 Environmental Impacts

Threshold A: *Would the Project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines described above at the nearest sensitive receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise level increase represents a significant adverse environmental impact. In effect, there is no single noise increase that renders the noise impact significant. This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called ambient environment. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged. Since neither the City of Riverside General Plan Noise Element or Municipal Code identify any noise level increase thresholds, the substantial noise level increase criteria are derived from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual. To describe the amount to which a given noise level increase is considered acceptable, the FTA criteria is used to evaluate the incremental noise level increase and establishes a method for comparing future project noise with existing ambient conditions under CEQA Significance Threshold A. The amount to which a given noise level increase is considered acceptable is reduced based on existing ambient noise conditions. (Urban Crossroads, p. 23)

Noise impacts shall be considered significant if any of the following occur as a direct result of the Project. Table 5.9-6 shows the significance criteria summary matrix that includes the allowable criteria used to identify potentially significant incremental noise level increases.

Table 5.9-6 – Significance Criteria Summary

Analysis	Conditions	Significance Criteria	
		Daytime	Nighttime
Off-Site Traffic[9]	If ambient is <55 dBA CNEL	≥ 5 dBA CNEL Project increase	
	If ambient is 55 – 60 dBA CNEL	≥ 3 dBA CNEL Project increase	
	If ambient is 60 – 65 dBA CNEL	≥ 2 dBA CNEL Project increase	
	If ambient is >65 dBA CNEL	≥ 1 dBA CNEL Project increase	
On-Site	Exterior Noise Compatibility[10]	See Table 5.9-3	
	Exterior Noise Level Standards[11]	55 dBA L_{eq}	45 dBA L_{eq}
	Interior Noise Level Standard[12]	45 dBA L_{eq}	35 L_{eq}
	Interior Noise Level Standard[13]	45 dBA CNEL	
Operational[9]	Exterior Noise Level Standards[11]	55 dBA L_{eq}	45 dBA L_{eq}
	If ambient is < 55 dBA L_{eq}	≥ 5 dBA L_{eq} Project increase	
	If ambient is 55 – 60 dBA L_{eq}	≥ 3 dBA L_{eq} Project increase	
	If ambient is 60 – 65 dBA L_{eq}	≥ 2 dBA L_{eq} Project increase	
	If ambient is < 65 dBA L_{eq}	≥ 1 dBA L_{eq} Project increase	
Construction	Exempt from the exterior noise level standards between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, between the hours of 5:00 p.m. and 8:00 a.m. on Saturdays, or at any time on Sunday or a Federal holiday.[14]		
	Noise level threshold[9]	80 dBA L_{eq}	N/A
	Vibration Level Threshold[9]	78 VdB	N/A
Blasting	Airblast Threshold[15]	133 dBA L_{eq}	N/A
	Vibration Level Threshold[16]	0.5 PPV (in/sec)	N/A

[9] FTA, Transit Noise and Vibration Impact Assessment Manual
[10] City of Riverside General Plan Noise Element, Figure N-10
[11] City of Riverside Municipal Code, Title 7 Noise Control, Section 7.25.010 (A)
[12] City of Riverside Municipal Code, Title 7 Noise Control, Section 7.30.015 (A)
[13] State of California Building Code standards (Section 3.2)
[14] City of Riverside Municipal Code Section 7.35.020 (G)
[15] ISEE's Blasters' Handbook, Table 26.17 Typical Air Overpressure Damage Criteria, and U.S. Bureau of Mines standards.
[16] Caltrans Transportation and Construction Vibration Manual, April 2020 Table 19
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.; "PPV" = Peak Particle Velocity

Project Traffic Noise Level Increases

To assess the off-site transportation CNEL noise level impacts associated with development of the proposed Project, noise contours were developed based on Crestview Apartments Focused Traffic Analysis (Appendix I). Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway. Noise contours were developed for the following traffic scenarios:

- Existing Conditions Without / With Project: This scenario refers to the existing present-day noise conditions without and with the proposed Project.
- Opening Year 2022 Without / With Buildout of the Project: This scenario refers to Year 2022 noise conditions without and with Buildout of the proposed Project. This scenario includes all cumulative projects identified in the Traffic Analysis.

- Horizon Year 2040 Without / With Project: This scenario refers to the background noise conditions at future Year 2040 without and with the proposed Project. This scenario corresponds to 2040 conditions, and includes all cumulative projects identified in the Traffic Analysis. (Urban Crossroads, p. 35)

Noise contours were used to assess the Project's incremental traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area. (Urban Crossroads, p. 35)

Existing Condition Project Traffic Noise Level Increases

Per the Project's noise study, the Existing with Project conditions noise levels will range from 67.9 to 71.9 dBA CNEL. As shown on Table. 5.9-7 below, the Project will generate a noise level increase of up to 0.4 dBA CNEL on the study area roadway segments. Based on the significance criteria shown in Table 5.9-6, the Project-related noise level increases are considered less than significant under Existing with Project conditions at the land uses adjacent to roadways conveying Project traffic. (Urban Crossroads, p. 36)

Opening Year 2022 Project Traffic Noise Level Increases

Per the Project's Noise Study, the Opening Year 2022 with Project conditions noise levels will range from 69.5 to 72.4 dBA CNEL. As shown on Table 5.9-8 below, the Project will generate a noise level increase of up to 0.3 dBA CNEL on the study roadway segments. Based on the significance criteria shown in Table 5.9-6, the Project-related noise level increases are considered less than significant under Opening Year 2022 with Project conditions at the land uses adjacent to roadways conveying Project traffic. (Urban Crossroads, p. 37)

Horizon Year 2040 Project Traffic Noise Level Increases

Per the Project's Noise Study, the Horizon Year 2040 with Project conditions will range from 69.8 to 74.4 dBA CNEL. As shown on Table 5.9-9 below, the Project will generate a noise level increase of up to 0.2 dBA CNEL on the study area roadway segments. Based on the significance criteria shown in Table 5.9-6, the Project-related noise level increases are considered less than significant under Horizon Year 2040 with Project conditions at the land uses adjacent to roadways conveying Project traffic. (Urban Crossroads, p. 38)

Table. 5.9-7 – Existing Condition Off-Site Project-Related Traffic Noise Impacts

ID	Road	Segment	Adjacent Land Use[17]	CNEL at Adjacent Land Use (dBA)[18]			Incremental Noise Level Increase Threshold	
				No Project	With Project	Project Addition	Limit	Exceeded?
1	Sycamore Canyon Blvd.	n/o Central Ave.	Commercial	67.5	67.9	0.4	1	No
2	Sycamore Canyon Blvd.	s/o Central Ave.	Conservation	71.9	71.9	0.0	1	No
3	Watkins Dr.	n/o SR-60 WB On-Ramp	Hillside Residential	71.0	71.0	0.0	1	No
4	Watkins Dr.	s/o SR-60 WB On-Ramp	Hillside Residential	69.1	69.2	0.1	1	No
5	Central Ave.	w/o Sycamore Canyon Blvd.	Conservation	71.7	71.7	0.0	1	No
6	Central Ave.	e/o Sycamore Canyon Blvd.	Conservation	71.7	71.8	0.1	1	No

[17] Sources: Google Earth aerial imagery and the City of Riverside General Plan Land Use/Urban Design Element, Figure LU-10 and County of Riverside Highgrove Area Plan Land Use Plan, Figure 3.
[18] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the recent adjacent land use.

Table 5.9-8 – Opening Year 2022 Off-Site Project-Related Traffic Noise Impacts

ID	Road	Segment	Adjacent Land Use[19]	CNEL at Adjacent Land Use (dBA)[20]			Incremental Noise Level Increase Threshold	
				No Project	With Project	Project Addition	Limit	Exceeded?
1	Sycamore Canyon Blvd.	n/o Central Ave.	Commercial	69.2	69.5	0.3	1	No
2	Sycamore Canyon Blvd.	s/o Central Ave.	Conservation	72.2	72.2	0.0	1	No
3	Watkins Dr.	n/o SR-60 WB On-Ramp	Hillside Residential	71.3	71.3	0.0	1	No
4	Watkins Dr.	s/o SR-60 WB On-Ramp	Hillside Residential	69.5	69.5	0.0	1	No
5	Central Ave.	w/o Sycamore Canyon Blvd.	Conservation	72.1	72.1	0.0	1	No
6	Central Ave.	e/o Sycamore Canyon Blvd.	Conservation	72.3	72.4	0.1	1	No

[19] Sources: Google Earth aerial imagery and the City of Riverside General Plan Land Use/Urban Design Element, Figure LU-10 and County of Riverside Highgrove Area Plan Land Use Plan, Figure 3.
[20] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the recent adjacent land use.

Table 5.9-9 – Horizon Year 2040 Off-Site Project-Related Traffic Noise Impacts

ID	Road	Segment	Adjacent Land Use[21]	CNEL at Adjacent Land Use (dBA)[22]			Incremental Noise Level Increase Threshold	
				No Project	With Project	Project Addition	Limit	Exceeded?
1	Sycamore Canyon Blvd.	n/o Central Ave.	Commercial	69.5	69.8	0.2	1.0	No
2	Sycamore Canyon Blvd.	s/o Central Ave.	Conservation	72.6	72.6	0.0	1.0	No
3	Watkins Dr.	n/o SR-60 WB On-Ramp	Hillside Residential	71.7	71.7	0.0	1.0	No
4	Watkins Dr.	s/o SR-60 WB On-Ramp	Hillside Residential	69.9	69.9	0.0	1.0	No
5	Central Ave.	w/o Sycamore Canyon Blvd.	Conservation	74.2	74.2	0.0	1.0	No
6	Central Ave.	e/o Sycamore Canyon Blvd.	Conservation	74.3	74.4	0.1	1.0	No

[21] Sources: Google Earth aerial imagery and the City of Riverside General Plan Land Use/Urban Design Element, Figure LU-10 and County of Riverside Highgrove Area Plan Land Use Plan, Figure 3.
[22] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the recent adjacent land use.

Operational Noise

Operational Noise Sources

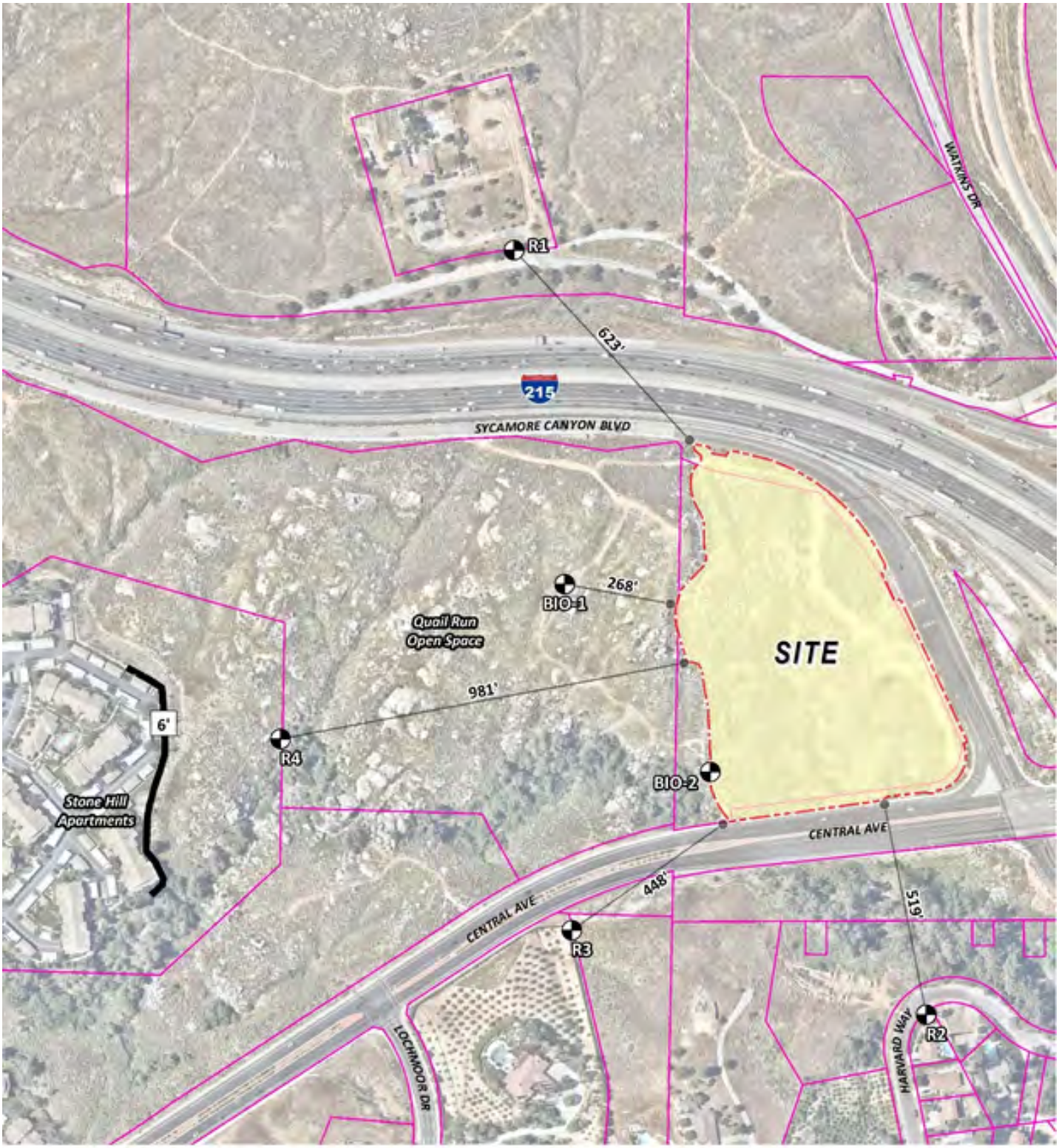
The proposed residential development is considered a noise-sensitive receiving land use and is not expected to include any specific type of operational noise levels beyond those typically associated with residential land use in the Project study area. This section analyzes the potential operational noise impacts at the nearby receiver locations. Figure 5.9-4 shows the sensitive receiver locations and Figure 5.9-5 identifies the on-site operational noise sources and their locations. The on-site Project-related noise sources include: rooftop air conditioning units, trash enclosure activity, dog park activity, pool/spa activity, and parking lot vehicle movements, which were evaluated against standards established in the City Municipal code, Title 7 Noise Control. (Urban Crossroads, p. 58)

To estimate the Project operational noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels that would be expected from the proposed Project. Table 5.9-10 shows the reference noise level measurements 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 all noise sources operating continuously. These sources of noise activity will likely vary throughout the day. (Urban Crossroads, p. 58)

Table 5.9-10 – Reference Noise Level Measurements

Noise Source[23]	Noise Source Height (Feet)	Min./Hour[24]		Reference Noise Level at 50 Feet (dBA L_{eq})	Sound Power Level (PWL)[25]
		Daytime	Nighttime		
Rooftop Air Conditioning Units	4’	60’	60’	43.3	75.0
Trash Enclosure Activity	5’	10’	10’	57.3	89.0
Dog Park Activity	4’	60’	60’	42.8	79.1
Pool/Spa Activity	4’	60’	60’	54.7	94.6
Parking Lot Vehicle Movements	5’	60’	60’	40.8	88.6

[23] As measured by Urban Crossroads, Inc.
[24] Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site. “Daytime” = 7:00 a.m. to 10:00 p.m.; “Nighttime” = 10:00 p.m. to 7:00 a.m.
[25] Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calculated using the CadnaA noise model at the reference distance to the noise source. Numbers may vary due to size differences between point and area noise sources.



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Sensitive Receptor Locations

Figure 5.9-4



LEGEND:

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- Limits of Construction
- Parcel Boundaries
- Elevation Contours
- Pool Activity
- Dog Park Activity
- Parking Lot Vehicle Movements
- Roof-Top Air Conditioning Unit
- Trash Enclosure Activity

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RVA

URBAN CROSSROADS

Operational Noise Source and Receiver Locations

Figure 5.9-5

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level thresholds based on the City exterior noise level standards at nearby noise-sensitive receiver locations. Table 5.9-11 shows the operational noise levels associated with the Project will satisfy the City 55 dBA L_{eq} daytime and 45 dBA L_{eq} nighttime exterior noise level standards at all nearby noise sensitive residential receiver locations. Therefore, the operational noise impacts are considered less than significant at the nearby noise-sensitive residential receiver locations. (Urban Crossroads, pp. 62-63)

Table 5.9-11 – Operational Noise Level Compliance

Receiver Location[26]	Measurement Location	Project Noise Levels (dBA L_{eq})[27]	Noise Level Standards (dBA L_{eq})[28]		Noise Level Standards Exceeded?[29]	
			Daytime	Nighttime	Daytime	Nighttime
R1	L1	26.0	55.5	45.0	No	No
R2	L2	34.5	55.0	45.0	No	No
R3	L6	36.0	55.0	45.0	No	No
R4	L5	25.2	55.0	45.0	No	No
BIO-1	L8	40.4	--[30]	--[30]	--[30]	--[30]
BIO-2	L7	41.7	--[30]	--[30]	--[30]	--[30]

[26] See Figure 5.9-4 for the receiver locations
[27] Proposed Project operational noise levels as shown on Table 10-2 of the Project's Noise Study
[28] City of Riverside Municipal Code, Title 7 Noise Control, Section 7.25.010 (A)
[29] "Do the estimated Project operational noise source activities exceed the noise level standards?"
[30] Receiver location and Project operational noise levels provided for informational purposes. Potential impacts analyzed in the Biology Report for the Project.
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Operational Noise Level Increases

To describe the Project operational noise level increases, the Project operational noise levels are combined with the existing ambient noise levels measurements for the nearby receiver locations potentially impacted by Project operational noise sources. The difference between the combined Project and ambient noise levels describe the Project noise level increases to the existing ambient noise environment. As indicated on Tables 5.9-12 and 5.9-13, the Project will generate a daytime operational noise level increases ranging from 0.0 to 0.1 dBA L_{eq} at the nearby receiver locations. Project-related operational noise level increases will satisfy the operational noise level increase significance criteria presented on Table 5.9-6. Therefore, the incremental Project operational noise level increase is considered less than significant at all receiver locations. (Urban Crossroads, p. 63)

Table 5.9-12– Daytime Project Operational Noise Level Increases

Receiver Location[31]	Total Project Operational Noise Level	Measurement Location[32]	Reference Ambient Noise Levels[33]	Combined Project and Ambient[34]	Project Increase[35]	Noise Sensitive Land Use?	Increase Criteria[36]	Increase Criteria Exceeded?
R1	26.0	L1	62.8	62.8	0.0	Yes	2	No
R2	34.5	L2	50.1	5.02	0.1	Yes	5	No
R3	36.0	L6	70.8	70.8	0.0	Yes	1	No
R4	25.2	L5	47.3	47.3	0.0	Yes	5	No

[31] See Figure 5.9-4 for the sensitive receiver locations.
[32] Noise Level measurement locations as shown on Figure 5.9-3.
[33] Observed daytime ambient noise levels as shown on Table 5.9-2.
[34] Represents the combined ambient conditions plus the Project activities.
[35] The noise level increase expected with the addition of the proposed Project activities.
[36] Significance increase criteria as shown on Table 5.9-6.

Table 5.9-13 – Nighttime Project Operational Noise Level Increases

Receiver Location[37]	Total Project Operational Noise Level	Measurement Location[38]	Reference Ambient Noise Levels[39]	Combined Project and Ambient[40]	Project Increase[41]	Noise Sensitive Land Use?	Increase Criteria[42]	Increase Criteria Exceeded?
R1	26.0	L1	64.8	64.8	0.0	Yes	2	No
R2	34.5	L2	50.1	50.2	0.1	Yes	5	No
R3	36.0	L6	63.7	63.7	0.0	Yes	2	No
R4	25.2	L5	49.9	49.9	0.0	Yes	5	No

[37] See Figure 5.9-**4** for the sensitive receiver locations.
[38] Noise Level measurement locations as shown on Figure 5.9-3.
[39] Observed daytime ambient noise levels as shown on Table 5.9-2.
[40] Represents the combined ambient conditions plus the Project activities.
[41] The noise level increase expected with the addition of the proposed Project activities.
[42] Significance increase criteria as shown on Table 5.9-6.

Construction Noise Levels

According the City of Riverside Municipal Code Section 7.35.020 (G), Project construction noise levels are considered exempt from municipal regulation if noise levels activity associated with construction, repair, remodeling, or grading of any real property; provided a permit has been obtained from the City as required; do not take place between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, between the hours of 5:00 p.m. and 8:00 a.m. on Saturdays, or at any time on Sunday or a Federal holiday.

In addition, neither the City of Riverside General Plan or Municipal Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers for CEQA analysis purposes. Therefore, a numerical construction threshold based on Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* is used for analysis of daytime construction impacts. The FTA considers a daytime exterior construction noise level of 80 dBA L_{eq} as a reasonable threshold for noise sensitive residential land use.

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators operating simultaneously that when combined, can reach high levels. The number and mix of construction equipment are expected to occur in the following stages:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

Noise levels generated by heavy construction equipment can range from approximately 68 dBA to more than 80 dBA when measured at 50 feet. However, these noise levels diminish with distance from the construction site at a rate of 6 dBA per doubling of distance. For example, a noise level of 80 dBA measured at 50 feet from the noise source to the receiver would be reduced to 74 dBA at 100 feet from the source to the receiver and would be further reduced to 68 dBA at 200 feet from the source to the receiver. (Urban Crossroads, p. 66) Table 5.9-14 provides a summary of typical construction reference noise levels at a uniform reference distance of 50 feet. (Urban Crossroads, p. 68) Figure 5.9-6 shows the limits of construction which is the construction noise source location, and its relation to the nearest sensitive receiver locations.

Table 5.9-14 – Typical Construction Reference Noise Levels

Construction Stage	Reference Construction Activity	Reference Noise Level at 50 Feet (dBA L_{eq})	Highest Reference Noise Level (dBA L_{eq})
Site Preparation	Scraper, Water Truck, and Dozer Activity	75.3	75.3
	Backhoe	64.2	
	Water Truck Pass-By and Backup Alarm	71.9	
Grading	Rough Grading Activities	73.5	73.5
	Water Truck Pass-By and Backup Alarm	71.9	
	Construction Vehicle Maintenance Activities	67.5	
Building Construction	Foundation Trenching	68.2	71.6
	Framing	62.3	
	Concrete Mixer Backup Alarms and Air Brakes	71.6	
Paving	Concrete Mixer Truck Movements	71.2	71.2
	Concrete Paver Activities	65.6	
	Concrete Mixer Pour and Paving Activities	65.9	
Architectural Coating	Air Compressors	65.2	65.2
	Generator	64.9	
	Crane	62.3	

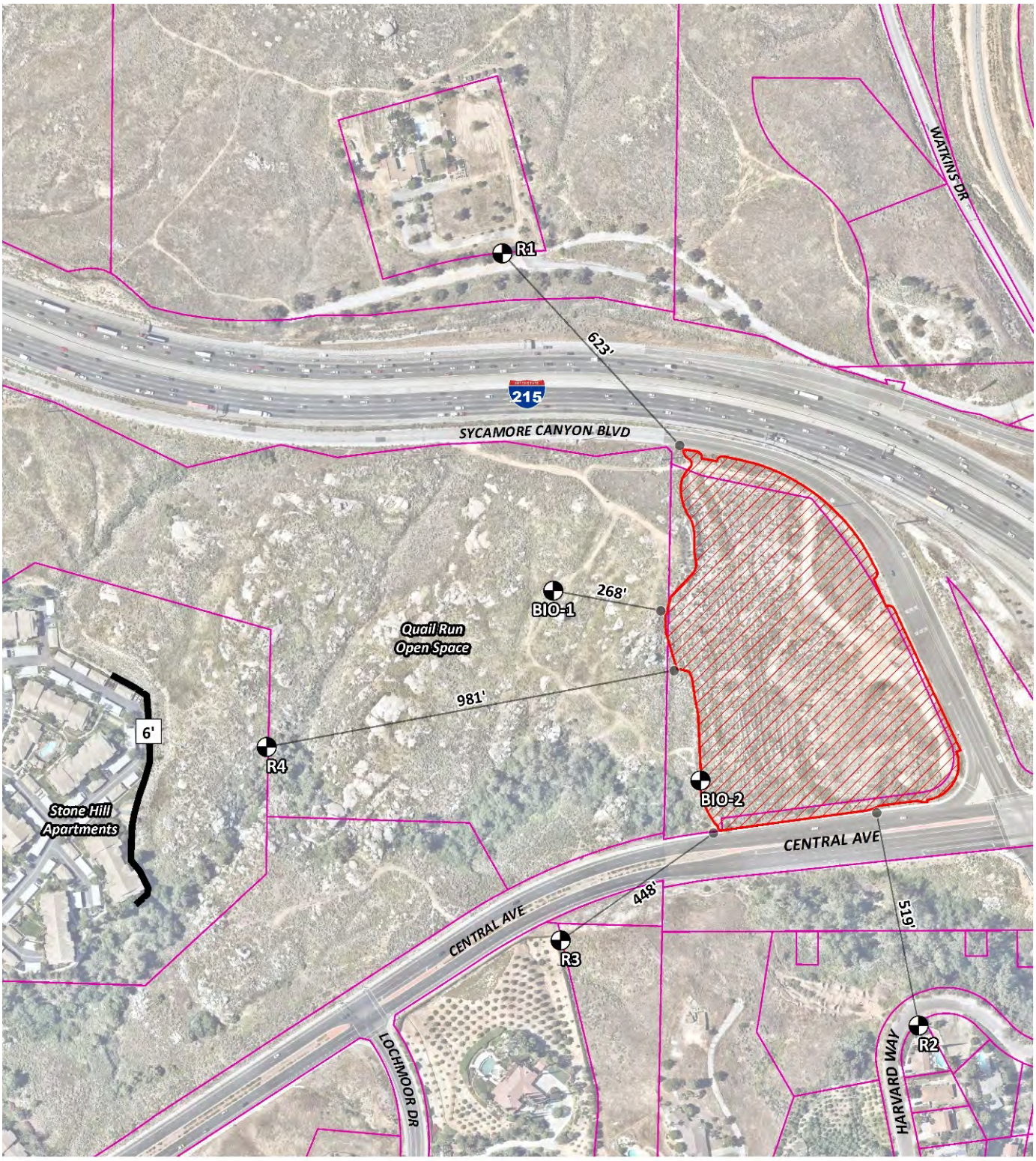
Source: Reference construction noise level measurements taken by Urban Crossroads, Inc.

To evaluate whether the Project will generate potentially significant short-term noise levels at the nearest receiver locations, the FTA construction-related daytime noise level threshold of 80 dBA L_{eq} is used as a reasonable threshold to assess the daytime construction noise level impacts. The construction noise analysis shows that the nearest noise sensitive residential receiver locations will satisfy the reasonable daytime 80 dBA L_{eq} significance threshold during Project construction activities, as shown on Table 5.9-15. (Urban Crossroads, p. 69) Therefore, potential impacts due to the Project's typical construction noise is considered less than significant at all the noise sensitive residential receiver locations. Potential construction noise level impacts associated with sensitive biological receiver locations (BIO-1 and BIO-2) are analyzed Section 5.3 Biological Resources and in the *Sycamore Canyon Boulevard and Central Avenue Project Habitat Assessment and Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis* (Appendix C) for the Project.

Table 5.9-15 – Typical Construction Noise Level Compliance

Receiver Location[43]	Construction Noise Levels (dBA L_{eq})		
	Highest Construction Noise Levels[44]	Threshold[45]	Threshold Exceeded?[46]
R1	54.4	80	No
R2	65.7	80	No
R3	59.2	80	No
R4	47.7	80	No
BIO-1	63.4	-[47]	-[47]
BIO-2	77.9	-[47]	-[47]

[43] Noise receiver locations are shown on Figure 5.9-4 and 5.9-6.
[44] Highest construction noise level calculations based on distance from the construction noise activity to nearby receiver locations.
[45] FTA, Transit Noise and Vibration Impact Assessment Manual.
[46] "Do the estimated Project construction noise levels exceed the construction noise level threshold?"
[47] Receiver location and Project construction noise levels provided for informational purposes. Potential impacts analyzed in the Habitat Assessment and MSHCP Consistency Analysis Report for the Project.



LEGEND:

- Limits of Construction
- Parcel Boundaries
- 6' Existing Barrier Height (in feet)
- Existing Barrier
- Receiver Locations
- Distance from receiver to limits of construction (in feet)

N

CRESTVIEW APARTMENTS

RVA URBAN CROSSROADS

Typical Construction Noise

Source Locations

Figure 5.9-6

Blasting Impacts

Airblast Noise Levels

The blasting contractor is required to obtain blasting permit(s) from the State, and to notify Riverside County Sheriff's Department within 24 hours of planned blasting events. The Project blasting-related vibration and airblast levels are based on the 133 dB criteria for airblasts identified by the ISEE and U.S. Bureau of Mines. The blasting impacts described below represent the worst-case (closest) blast locations describing the potential impacts when measured from the edge of the nearest blast area to the nearest receiver location. When measured at greater distances, the blasts will result in lower airblast noise and vibration levels. (Urban Crossroads, p. 71)

The Project's Noise Study describes partially confined airblast levels since they are calculated using the *Blasters' Handbook* equation for general construction blasting activities. Table 5.9-16 shows that the calculated airblast levels from the worst-case (closest) Project blasting activities are expected to range from 106 to 116 dB. The Project airblast levels are shown to satisfy the 133 dB airblast threshold at the nearest noise sensitive residential receiver locations. Therefore, the Project-related airblast noise level impacts are considered less than significant during typical construction activities at the Project site. (Urban Crossroads, p. 71)

Table 5.9-16 – Project Blasting and Compliance Summary

Receiver Location[48]	Distance to Construction Activity (Feet)	Blasting Levels[49]		Threshold[50]		Threshold Exceeded?[51]	
		Airblast (dB)	Vibration (PPV)	Airblast (dB)	Vibration (PPV)	Airblast (dB)	Vibration (PPV)
R1	623	114	0.07	133	0.5	No	No
R2	519	115	0.10	133	0.5	No	No
R3	448	117	0.12	133	0.5	No	No
R4	980	109	0.03	133	0.5	No	No

[48] Sensitive noise receiver locations are shown on Figure **5.9-4**.
[49] Based on input data provided by California Drilling & Blasting.
[50] Sources: Vibration threshold obtained from the Caltrans Transportation and Construction Vibration Manual, April 2020, Table 19. Airblast threshold is based on ISEE's *Blaster's Handbook*, Table 26.17 Typical Air Overpressure Damage Criteria, and U.S. Bureau of Mines standards.
[51] "Do the blast-related airblast and vibration levels exceed the thresholds?"

Conclusion

As discussed in the analysis above, Project traffic, operational, construction, and blasting-related noise levels will not result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of applicable FTA standards or exceed any of the applicable noise thresholds at the nearest sensitive residential receivers.

However, as outlined in Section 5.3 Biological Resources, mitigation measures (**MM BIO-4, MM BIO-5** and **MM BIO-6**) are required to ensure construction noise and vibration impacts on sensitive biological receivers (which are located closer to the limits of construction than the nearby sensitive residential receivers), are reduced to less than significant levels. Therefore, impacts would be **less than significant with mitigation**.

Threshold B: *Would the Project result in the generation of excessive groundborne vibration or groundborne noise levels?*

Construction Vibration

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. Ground vibration levels associated with various types of construction equipment are summarized on Table 5.9-17. The vibration source levels describe a variety of equipment including several methods of pile driving. This includes impact pile driving and non-impact alternatives. Since the actual equipment used to support the Project construction may include deep dynamic compaction or rapid impact compaction, the Project's Noise Study conservatively relies on the highest worst-case impact pile driving reference vibration source levels to describe the Project vibration levels. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential Project construction vibration levels using the following vibration assessment methods defined by the FTA. To describe the human response (annoyance) associated with vibration impacts the FTA provides the following equation: $L_{VdB}(D) = L_{VdB}(25\text{ ft}) - 30\log(D/25)$. (Urban Crossroads, p. 70)

Table 5.9-17 – Vibration Source Levels for Construction Equipment

Equipment	Vibration Decibels (VdB) at 25 Feet
Small Bulldozer	58
Jackhammer	79
Loaded Trucks	86
Large Bulldozer	87
Pile Driver (Impact)	104
Pile Driver (Sonic)	93
Caison Drill	87
Source: FTA, Transit Noise and Vibration Impact Assessment Manual	

Additionally, Table 5.9-18 presents the potential construction equipment vibration levels. However, it is expected that the Project will rely on methods with substantially lower vibration impacts. Construction vibration levels are expected to range from 56.2 to 66.4 VdB at the nearby residential receiver locations. Using the construction vibration assessment methods provided by the FTA, Project construction vibration levels would not exceed the FTA 80 VdB threshold at all sensitive residential receiver locations, and therefore, is considered a less than significant impact. Further, vibration levels at the site of the closest sensitive receiver are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating at the Project site perimeter.

Table 5.9-18 – Typical Construction Equipment Vibration Levels

Receiver Location[52]	Distance to Construction Activity (Feet)	Receiver Vibration Levels (VdB)[53]								Threshold VdB[54]	Threshold Exceeded?[55]
		Small Bulldozer	Jack-hammer	Loaded Trucks	Large Bulldozer	Pile Driver (Impact)	Pile Driver (Sonic)	Caison Drill	Highest Vibration Levels		
R1	623	16.1	37.1	44.1	45.1	62.1	51.1	45.1	62.1	80	No
R2	519	18.5	39.5	46.5	47.5	64.5	53.5	47.5	64.5	80	No
R3	448	20.	41.4	48.4	49.4	66.4	55.4	49.4	66.4	80	No
R4	981	10.2	31.2	38.2	39.2	56.2	45.2	39.2	56.2	80	No

[52] Sensitive noise receiver locations are shown on Figure 5.9-4.
[53] Based on the Vibration Source Levels of Construction Equipment included on Table 5.9-17.
[54] FTA Transit Noise and Vibration Impact Assessment maximum acceptable vibration criteria as shown on Table 5.9-6.
[55] "Does the vibration level exceed the maximum acceptable vibration threshold?"

Blasting Vibration

Table 5.9-16 shows the calculated vibration levels for the worst-case (closest) blast locations near the adjacent residential homes north and west of the Project site. The vibration levels of Project blasts are expected to range from 0.02 to 0.10 in/sec PPV based on the distances to nearby residential noise sensitive receiver locations. Table 5.9-16 shows that the Project blasting vibration levels will remain below the maximum acceptable transient peak-particle-velocity (PPV) vibration threshold 0.5 PPV (in/sec) all the nearby noise sensitive residential receiver locations, and therefore, represent a less than significant impact. (Urban Crossroads, p. 73)

However, as outlined in Section 5.3 Biological Resources, mitigation measures (MM BIO-4, MM BIO-5 and MM BIO-6) are required to ensure construction noise and vibration impacts on sensitive biological receivers (which are located closer to the limits of construction than the nearby sensitive residential receivers), are reduced to less than significant levels.

Conclusion

As shown on Tables 5.9-16 and 5.9-18, neither Project construction vibration nor blasting vibration levels exceed maximum vibration level thresholds and would not result in the generation of excessive groundborne vibration or groundborne noise levels at the nearest sensitive residential receivers. Therefore, impacts would be **less than significant**.

5.9.6 Proposed Mitigation Measures

The Project would not exceed any of the noise thresholds of significance at the nearest sensitive residential receivers. However, as outlined in Section 5.3 Biological Resources, mitigation measures (**MM BIO-4, MM BIO-5,** and **MM BIO-6**) are required to ensure construction noise and vibration impacts on sensitive biological receivers (which are located closer to the limits of construction than the nearby sensitive residential receivers), are reduced to less than significant levels.

MM BIO-4: To minimize indirect impacts to species protected under Section 6.1.2 of the MSHCP, that have the potential to be present within the riparian habitat on the southwest corner of the project site, from noise generated by project construction equipment, the following measures shall be implemented prior to issuance of grading permit:

- Install a 12-foot high temporary noise barrier at the perimeter of the limits of disturbance between the construction activities and the adjacent riparian habitat on the southwest corner of the project site. The barrier shall be continuous without openings, holes or cracks, and shall reach the ground. The barrier may be constructed with 1-inch plywood and provide a reduction of at least 13 dB(A) to ensure noise levels do not exceed 65 dB(A) at the on-site conservation area. Other materials providing the same reduction shall also be permitted.

MM BIO-5: To minimize indirect impacts to species protected under Section 6.1.2 of the MSHCP, that have the potential to be present within the riparian habitat on the southwest corner of the project site, from noise generated by project construction equipment, the following measures shall be implemented during construction:

- Heavy grade rubber mats/pads will be used within the bed of the trucks. These mats will help attenuate initial impact noise generated when an excavator drops rock and debris into the bed of the truck. These mats must be maintained and/or replaced as necessary.

- During all project site excavation and grading on-site, construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturer standards.

- The contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

- Equipment shall be shut off and not left to idle when not in use.

- The contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise/vibration sources and sensitive receptors nearest the project site during all project construction.

- The project proponent shall mandate that the construction contractor prohibit the use of music or sound amplification on the project site during construction.

- The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment (7:00 am to 7:00 pm on weekdays, and 8:00 am to 5:00 pm on Saturdays).

- Limit the use of heavy equipment or vibratory rollers and soil compressors along the project boundaries to the greatest extent possible. It is acknowledged that some soil compression may be necessary along the project boundaries.

- Any jackhammers, pneumatic equipment and all other portable stationary noise sources shall be shielded and noise shall be directed away from sensitive receptors.

MM BIO-6: Project Construction Vibration – If pile driving and rock blasting activities are needed, in order to minimize indirect impacts to species protected under Section 6.1.2 of the MSHCP from construction vibration generated by these activities, the following measures shall be implemented:

- All pile driving and rock blasting activities shall be conducted outside of the avian nesting season (generally February 1 to August 31).

- Out of abundance of caution, a pre-construction nesting bird clearance survey shall be conducted prior to pile driving and rock blasting activities to ensure avian species are not actively nesting, within the sensitive riparian habitat on the southwest corner of the project site, or within 500 feet of the limits of disturbance.

5.9.7 Cumulative Environmental Effects

Cumulative development in the City and the surrounding area would modify existing land use patterns through the development of vacant lots or through redevelopment. The planned and pending projects in the area of the Project, listed in Table 4-1: Summary of Cumulative

Development Projects include about 22 projects consisting of residential, retail, warehouse, office, institutional, hotel, gas station, fast food, church, health/fitness club, and carwash. In the immediate vicinity of the Project a recently approved drive thru restaurant and convenient store/ gas station located east across Sycamore Canyon Boulevard.

Each of the proposed developments would generate temporary noise during construction. Construction activities at the related projects and developments in the area would generate similar noise levels as the Project. It would be speculative to determine noise levels from construction from nearby projects because construction schedules are not known for all projects. However, construction noise and vibration are localized and rapidly attenuate. Therefore, the Project would not contribute considerably to temporary cumulative construction noise and vibration impacts.

Because noise dissipates as it travels away from its sources, noise impacts associated with on-site activities and other stationary sources would be limited to the Project site and vicinity. Therefore, on-site operation activities at the Project site, in combination with other planned and pending development, would not contribute considerable to long-term, cumulative noise or vibration impacts.

As discussed, the Project does not exceed any of the applicable noise significance criteria or significance thresholds; therefore, cumulative impacts would be **less than significant**.

5.9.8 References

The following references were used in the preparation of this section of the DEIR:

MSHCP	Western Riverside County Regional Conservation Authority. “Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP).” (https://www.wrc-rca.org/document-library/).
Urban Crossroads	Urban Crossroads, Inc. *Crestview Apartments Noise Impact Analysis*. November 2020.
RMC, Title 7	City of Riverside, Code of Ordinances, Title 7 Noise Control https://library.municode.com/ca/riverside/codes/code_of_ordinances?nodeId=PTIICOOR_TIT7NOCO accessed August 2020)

5.10 Transportation

This section analyzes potential impacts related to the local transportation and circulation system and vehicle miles traveled. Based upon the analysis in the IS/NOP prepared for this Project (Appendix A), some thresholds related to Transportation Resources were found to have potentially significant impacts and will be analyzed below. The following discussion is based on the Focused Traffic Analysis (TA) and Vehicle Miles Travelled (VMT) Assessment prepared by Urban Crossroads (August and September 2020, respectively, and contained in Appendix I). Additionally, the discussion and analysis contained herein is informed by comments received during the NOP of this EIR.

5.10.1 Setting

Existing Circulation Network

The TA was prepared in accordance with the City of Riverside Public Works Department Traffic Impact Analysis Preparation Guide (January 2016) and the California Department of Transportation (Caltrans) Guide for the Preparation of Traffic Impact Studies (December 2002) and consultation with City staff during the traffic study scoping process. As outlined in the approved Traffic Study scoping agreement, the Study Area includes a total of six (6) existing and future intersections as shown on Figure 5.10-1. This figure illustrates the Study Area intersections located near the Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

The Study Area intersections include:

- Driveway 1 & Sycamore Canyon Boulevard (future intersection)
- Driveway 2 & Sycamore Canyon Boulevard (future intersection)
- Sycamore Canyon Boulevard & Central Avenue
- Central Avenue & SR-60/I-215 Eastbound Ramps
- Central Avenue & SR-60/I-215 Westbound Off-Ramp
- Watkins Drive/Central Avenue & SR-60/I-215 Westbound On-Ramp

City of Riverside General Plan Circulation Element

The roadway classifications and planned (ultimate) roadway cross-sections of the major roadways within the study area, as identified on the GP 2025 Circulation Element, are described below. Figure 5.10-2 shows the GP 2025 Circulation Element and Figure 5.10-3 illustrates the GP 2025 roadway cross-sections.

Arterial Streets

110-foot Arterials include two (2) lanes of travel in each direction and a curbed and/or landscaped median with 80-feet of pavement from curb-to-curb. The Study Area roadways that are classified as having a 110-foot right-of-way measurement (or 80-foot curb-to-curb measurements) are as follows:

- Central Avenue, west of Sycamore Canyon Boulevard

88-foot Arterials include two (2) lanes of travel in each direction and a curbed and/or landscaped median with 40-feet of pavement from curb-to-curb. The Study Area roadways that are classified as having an 88-foot right-of-way measurement (or 40-foot curb-to-curb measurements) are as follows:

- Central Avenue, east of Sycamore Canyon Boulevard
- Sycamore Canyon Boulevard, south of Central Avenue
- Watkins Drive

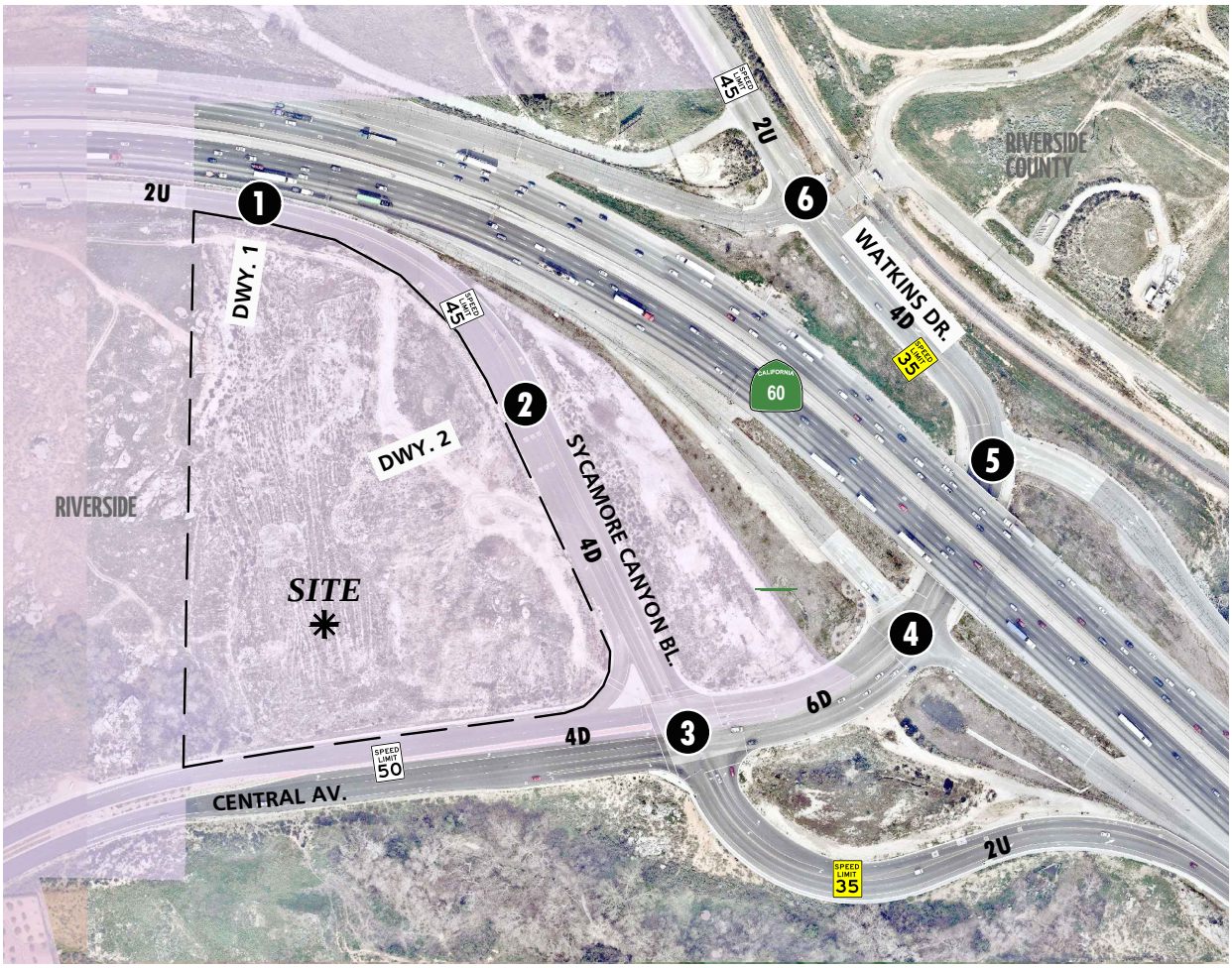
Collector Streets

66-foot Collectors include two (2) lanes of travel in each direction and a curbed and/or landscaped median with 36-feet of pavement from curb-to-curb. The Study Area roadways that are classified as having a 66-foot right-of-way measurement (or 36-foot curb-to-curb measurements) are as follows:

- Sycamore Canyon Boulevard, north of Central Avenue

County of Riverside

The roadway classifications within the County of Riverside as identified on the County of Riverside General Plan Circulation Element are shown on Figure 5.10-4. Portions of the study area extend east of the Project site outside of City limits and into unincorporated County of Riverside.



1 Dwy. 1 & Sycamore Canyon Bl. Future Intersection	2 Sycamore Canyon Bl. & Dwy. 2 Future Intersection	3 Sycamore Canyon Bl. & Central Av.
4 Central Av. & SR-60 EB Ramps	5 Central Av./ Watkins Dr. & SR-60 WB Off-Ramp	6 Watkins Dr. & SR-60 WB On-Ramp

N

LEGEND:

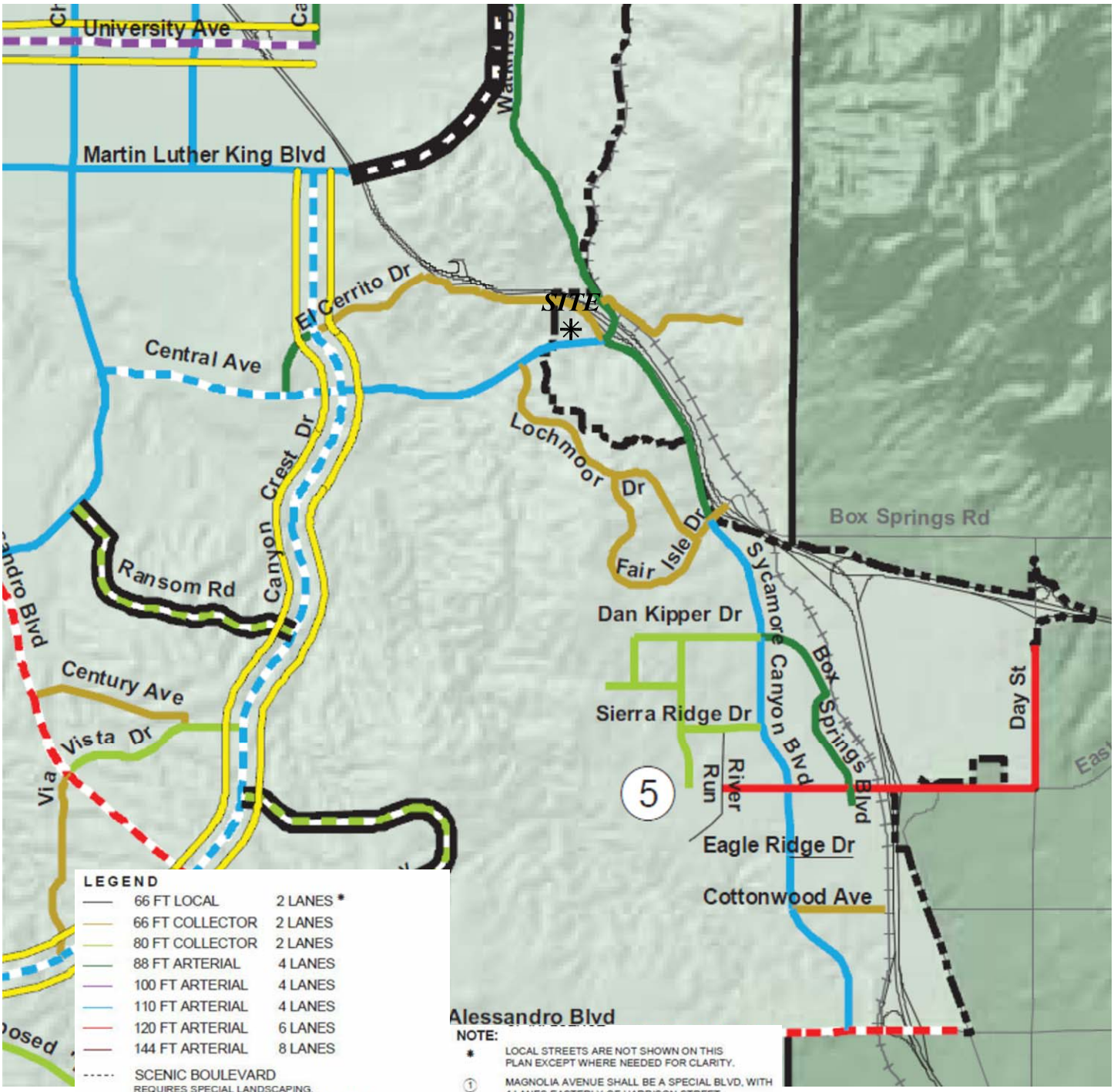
- = TRAFFIC SIGNAL
- 4 = NUMBER OF LANES
- D = DIVIDED
- U = UNDIVIDED
- = CHANNELIZED YIELD
- SPEED LIMIT 25 = SPEED LIMIT (MPH)
- SPEED LIMIT 35 = ADVISORY SPEED LIMIT (MPH)

CRESTVIEW APARTMENTS

RVA URBAN CROSSROADS

Study Area Intersections

Figure 5.10-1



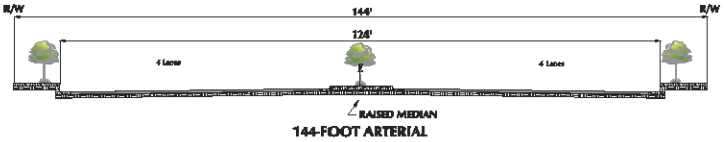
CRESTVIEW APARTMENTS

RVA URBAN CROSSROADS

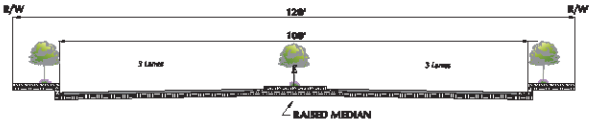
City of Riverside General Plan

Circulation Element

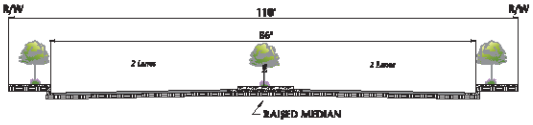
Figure 5.10-2



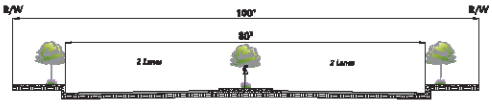
144-FOOT ARTERIAL



120-FOOT ARTERIAL



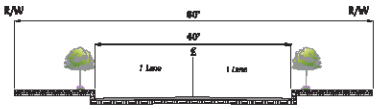
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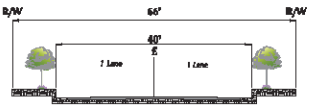
100-FOOT ARTERIAL



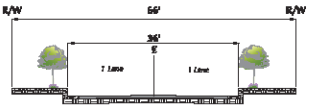
88-FOOT ARTERIAL



80-FOOT COLLECTOR



66-FOOT COLLECTOR



LOCAL STREET

SOURCE: CITY OF RIVERSIDE, 2004

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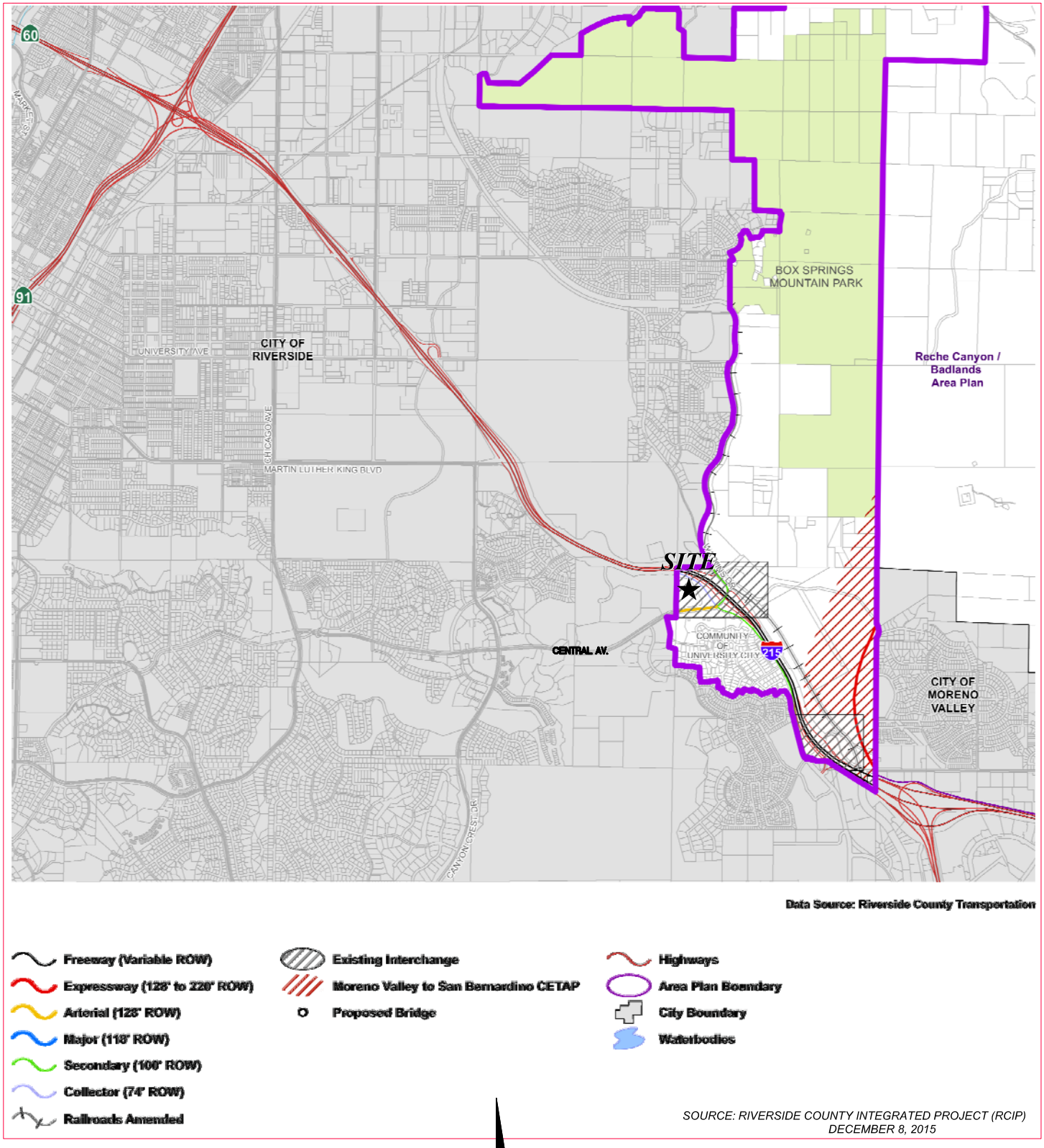
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CRESTVIEW APARTMENTS

City of Riverside General Plan

Roadway Cross-Sections

Figure 5.10-3



CRESTVIEW APARTMENTS

RVA URBAN CROSSROADS

County of Riverside General Plan

Circulation Element

Figure 5.10-4

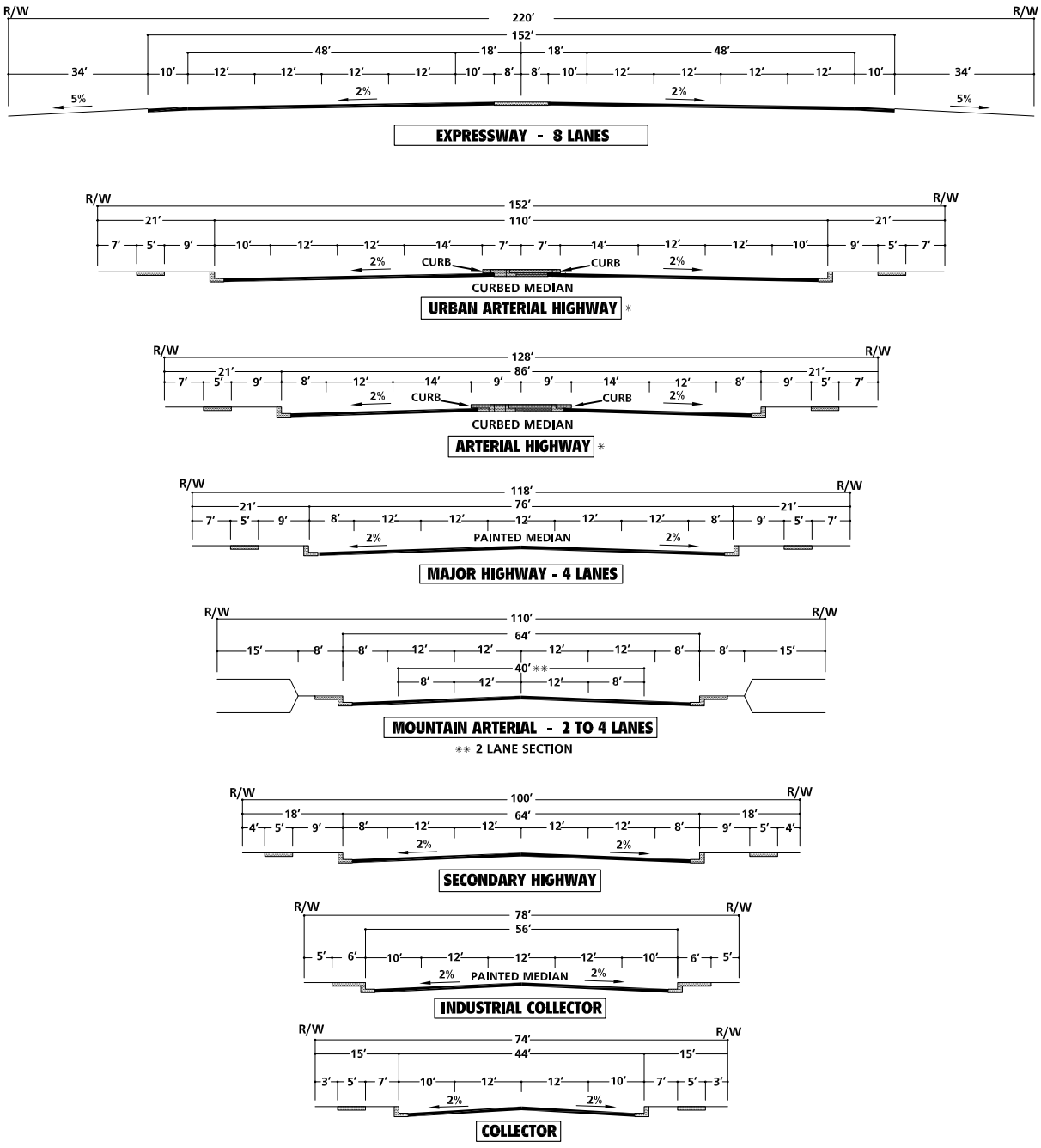
Bicycle and Pedestrian Facilities

Figure 5.10-6 illustrates the existing and future planned bicycle facilities within the City, which includes Class 2 bike lanes along Sycamore Canyon Boulevard and Central Avenue/Watkins Drive in the vicinity of the Project site. A Primary City Trail follows along Sycamore Canyon Boulevard in the vicinity of the Project site as well. Figure 5.10-7 illustrates the County of Riverside trails and bikeway systems. Field observations conducted in June 2019 indicate nominal pedestrian and bicycle activity within the Study Area.

Transit Service

As shown on Figure 5.10-8, the Study Area is currently served by the Riverside Transit Authority (RTA), a public transit agency serving the Riverside County region. RTA has several existing bus routes serving the City within the Study Area. RTA Routes 16 and 208/210 have routes along Central Avenue, Sycamore Canyon Boulevard, and the SR-60/I-215 within the Study Area. RTA Route 16 could potentially serve the Project in the future.

Transit service is reviewed and updated by RTA periodically to address ridership, budget and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate.



* *IMPROVEMENTS MAY BE RECONFIGURED TO ACCOMMODATE EXCLUSIVE TRANSIT LANES OR ALTERNATIVE LANE ARRANGEMENTS ADDITIONAL RIGHT OF WAY MAY BE REQUIRED AT INTERSECTIONS TO ACCOMMODATE ULTIMATE IMPROVEMENTS FOR STATE HIGHWAYS SHALL CONFORM TO CALTRANS DESIGN STANDARDS.*

NOT TO SCALE

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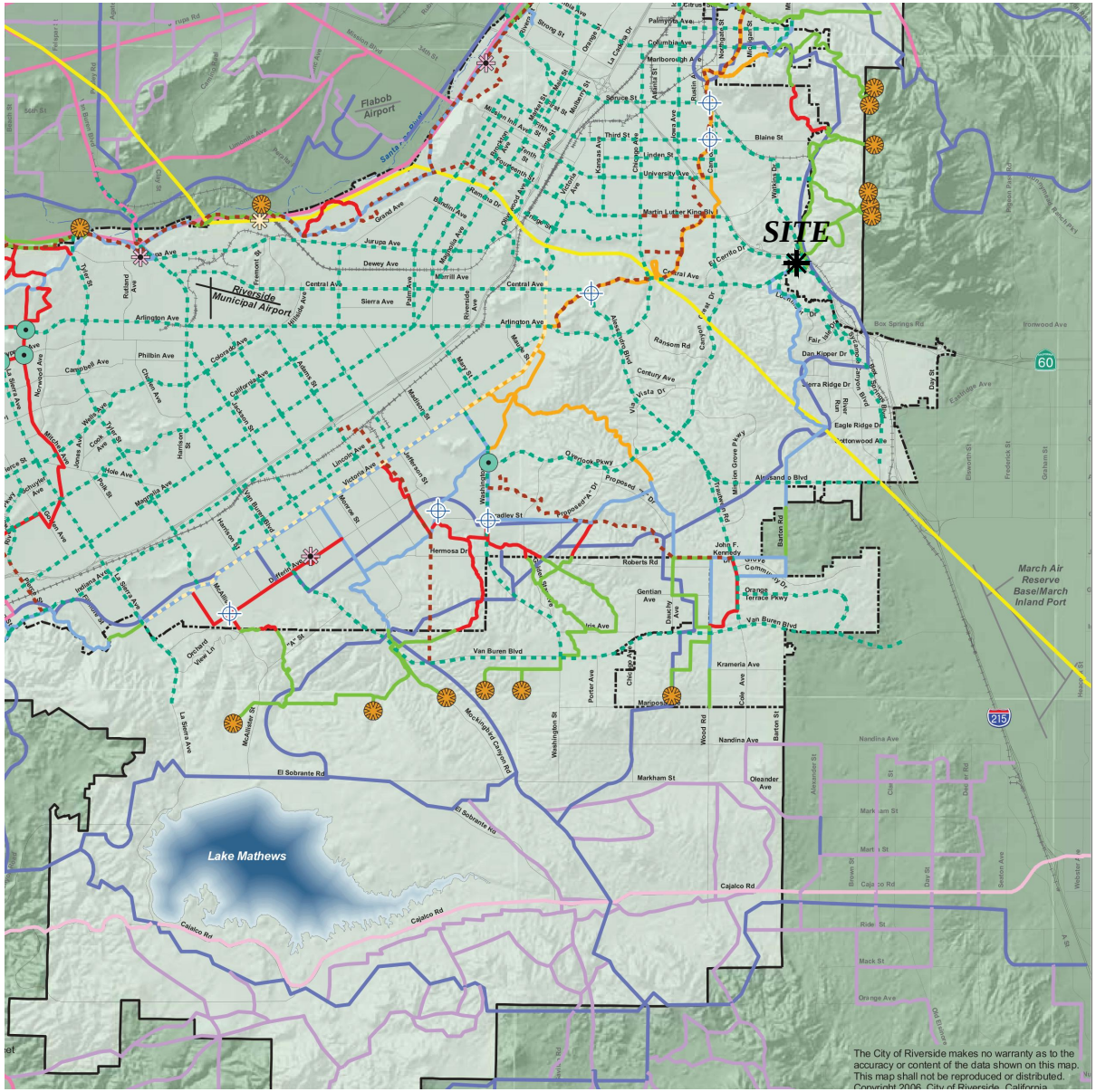
SOURCE: COUNTY OF RIVERSIDE

CRESTVIEW APARTMENTS

County of Riverside General Plan

Roadway Cross-Sections

Figure 5.10-5



LEGEND

CITY TRAIL POINTS

- STAGING AREAS EXISTING FACILITIES
- STAGING AREAS PROPOSED FACILITIES
- CONNECTION TO COUNTY DESIGNATED TRAILS
- TRAIL CROSSING PROPOSED STOP SIGN
- TRAIL CROSSING PROPOSED TRAFFIC SIGNAL

CITY TRAILS

- PRIMARY - EQUESTRIAN, BIKE & PEDESTRIAN TRAIL
- SECONDARY - EQUESTRIAN, BIKE & PEDESTRIAN TRAIL
- SECONDARY - NO EQUESTRIAN
- IN ADJACENT JURISDICTION

CITY BIKEWAYS

- CLASS 1
- CLASS 1&2
- CLASS 2

RIVERSIDE COUNTY TRAILS

- CLASS 1 BIKE PATH
- CLASS 1 BIKE PATH/REGIONAL TRAIL
- COMMUNITY TRAIL
- REGIONAL TRAIL
- HISTORIC TRAIL

- RIVERSIDE CITY BOUNDARY
- RIVERSIDE PROPOSED SPHERE OF INFLUENCE

SOURCE: CITY OF RIVERSIDE AND RIVERSIDE COUNTY GIS DATA

County Disclaimer: The County of Riverside assumes no warranty or legal responsibility for the information contained on this map. Data and information represented on this map is subject to change and may not be complete or appropriate for all purposes. County GIS and other sources should be queried for the most current information. Do not copy or resell this map. Horizontal accuracy: Parcel data is of mapping grade (quality) only and does not represent trustworthy locations or legal boundaries. User assumes all risk of use of this product. Copyright © 2006 county of Riverside, TLMA-GIS.

NOTE: Currently the City and County trails are not completely coordinated. The County Trails Plan is a conceptual plan at this time and many of the City's trails have not yet been built. An implementation tool of this General Plan is to work with the County to coordinate the RCIP and the City's General Plan (Tool #10).

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CRESTVIEW APARTMENTS

RVA

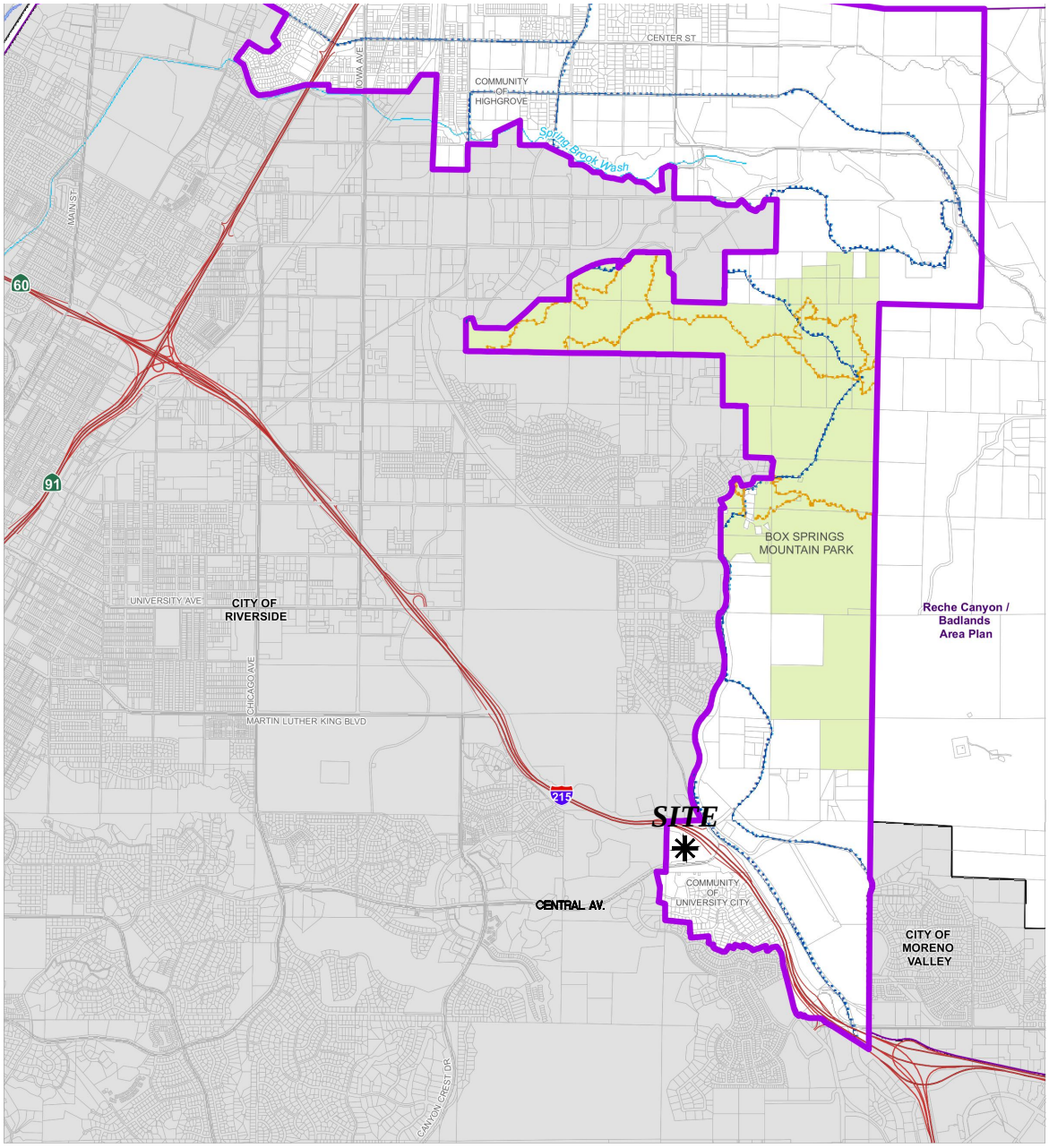
URBAN CROSSROADS

N

City of Riverside Master Plan

Trails and Bikeways

Figure 5.10-6



Data Source: Riverside County Parks

Regional Trail: Urban/Suburban
Regional Trail: Open Space
Highways
Area Plan Boundary
City Boundary
Waterbodies

N

Note: Trails shown in non-county jurisdictions for informational/coordination purposes only.

Data Source: Primarily Riverside County Regional Park and Open Space District, with assistance from Riverside County TLMA/Transportation and Planning Departments, Riverside County Economic Development Agency, and other local, state, and federal recreational services agencies.

Note: Trails and bikeway maps are a graphic representation identifying the general location and classification of existing and proposed trails and bikeways in the unincorporated area of the County. All questions regarding precise alignment or improvement standards should be referred to the Riverside County Regional Park and Open Space District.

Note: Except for major regional facilities, trails and bikeways systems located within cities are generally not shown. Where trails and bikeways exist or are planned in the unincorporated area in such a manner that there are opportunities for connections with existing or planned trails and bikeways within adjacent cities, an arrow symbol is used to show the approximate location of the intended connection opportunity. The reader should contact the appropriate city for all information about that city's existing or planned trails and bikeways systems.

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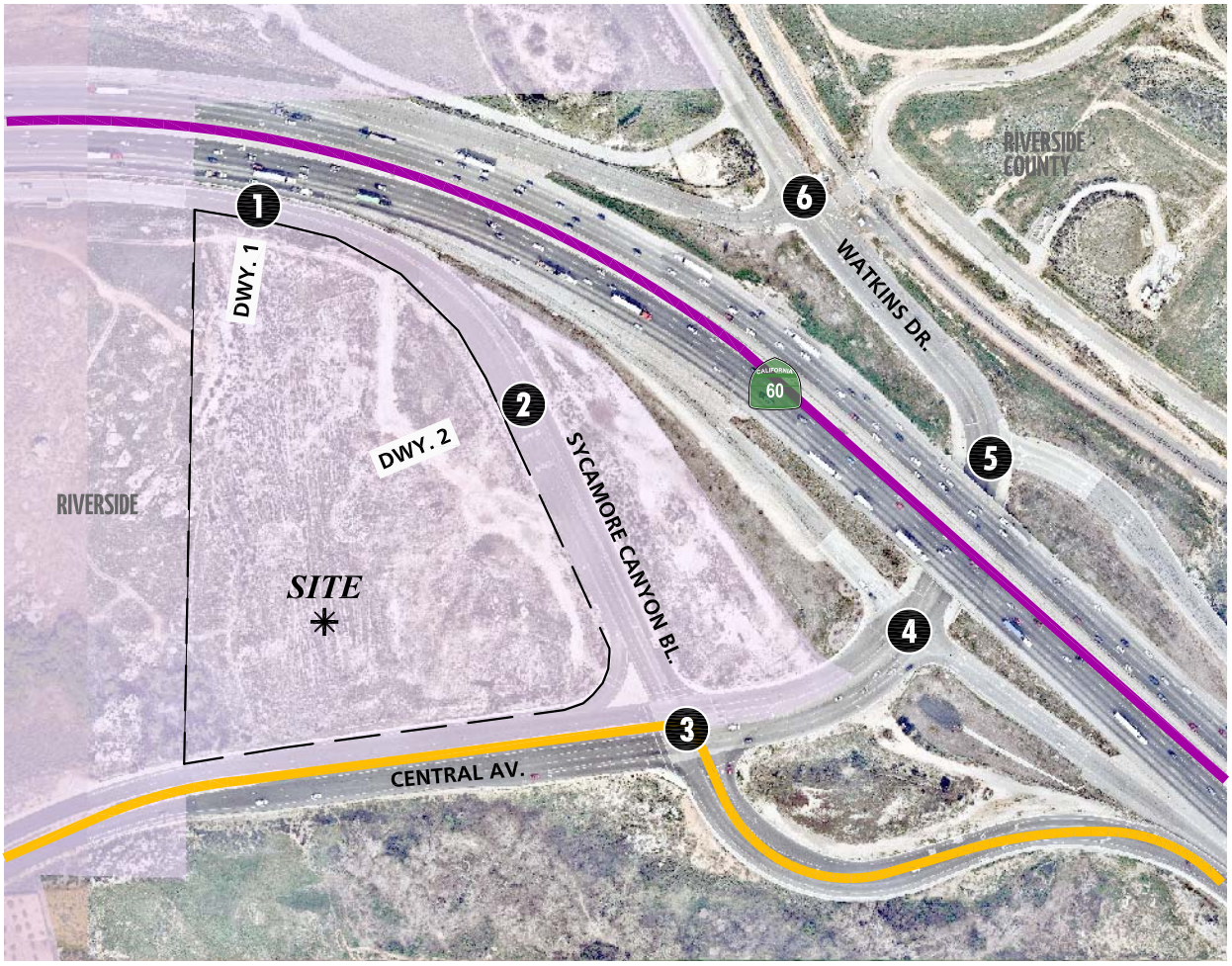
CRESTVIEW APARTMENTS

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URBAN CROSSROADS

County of Riverside Trails and Bikeway System

Figure 5.10-7



LEGEND:

- RTA ROUTE 16
- RTA ROUTE 208/210

N

CRESTVIEW APARTMENTS

Existing Transit Routes

Figure 5.10-8

Level of Service

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.

Existing Traffic Counts

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in May 2019, when local schools were in session. The following peak hours were selected for analysis:

- Weekday AM Peak Hour (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM Peak Hour (peak hour between 4:00 PM and 6:00 PM)

The weekday AM and weekday PM peak hour count data is representative of typical weekday peak hour traffic conditions in the study area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity or detour routes and near-by schools were in session and operating on normal schedules. The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1 of the TA. These raw turning volumes have been flow conserved between intersections with limited access, no access and where there are currently no uses generating traffic (e.g., between ramp-to- arterial intersections, etc.).

The traffic counts collected in May 2019 for the California Department of Transportation (Caltrans) ramp-to-arterial facilities include the following vehicle classifications: Passenger Cars, 2-Axle Trucks, 3-Axle Trucks, and 4+ Axle Trucks. To represent the impact large trucks, buses and recreational vehicles have on traffic flow at Caltrans intersections; truck traffic has been accounted for in the analysis as a percentage of total traffic at the Caltrans ramp-to-arterial intersections.

Existing weekday Average Daily Traffic (ADT) volumes on arterial highways throughout the study area are shown on Figure 5.10-9. Where actual 24-hour tube count data was not available, Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

Weekday PM Peak Hour (Approach Volume + Exit Volume) x 11.54 = Leg Volume

A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 8.66 percent. As such, the above equation utilizing a factor of 11.54 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 8.66 percent (i.e., 1/0.0866 = 11.54) and was assumed to sufficiently estimate ADT volumes for planning-level

analyses. Existing weekday AM and weekday PM peak hour intersection volumes are also shown on Figure 5.10-9.



1 Dwy. 1 & Sycamore Canyon Bl.	2 Sycamore Canyon Bl. & Dwy. 2	3 Sycamore Canyon Bl. & Central Av.	4 Central Av. & SR-60 EB Ramps	5 Central Av./ Watkins Dr. & SR-60 WB Off-Ramp	6 Watkins Dr. & SR-60 WB On-Ramp
Future Intersection	Future Intersection	6(7) 38(280) 37(75) / 29(47) 253(346) 44(231) / 13(12) 619(643) 76(459) / 253(266) 373(167) 880(282)	274(572) 174(670) / 92(9) 3(3) 52(52) / 1332(415) 204(585)	331(972) / 394(331) 117(270) / 1424(422)	85(11) 331(972) / 766(219) 1052(534)

LEGEND:

10.0 = ACTUAL (COUNT-BASED) VEHICLES PER DAY (1000'S)
10.0 = ESTIMATED VEHICLES PER DAY (1000'S)
10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES

N

CRESTVIEW APARTMENTS

RVA URBAN CROSSROADS

Existing Traffic Volumes

Figure 5.10-9

Intersection Operations Analysis

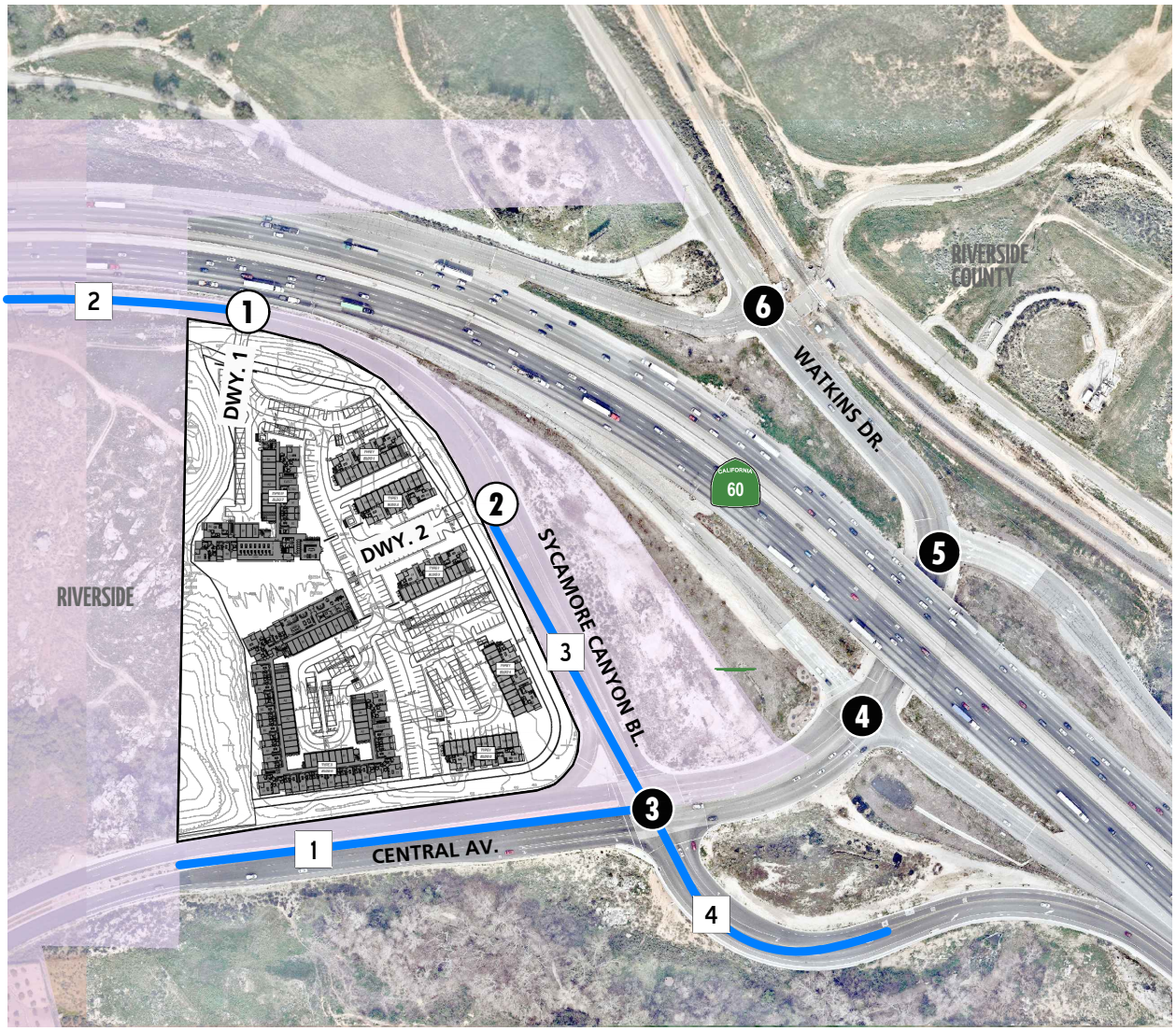
The following 6 study area intersections listed in Table 5.10-1 and shown on Figure 5.10-10 were selected for the TA (Appendix I) based consultation with the City staff. The "50 peak hour trip" criterion utilized by the City is consistent with the methodology used by the County of Riverside, and generally represents a minimum number of trips at which a typical intersection would have the potential to be substantively affect by a given development proposal. Although each intersection may have unique operating characteristics, this traffic engineering rule of thumb is a widely utilized tool for estimating a potential area of effect (i.e., study area). Other analysis intersections located in adjacent cities were not selected for evaluation as the Project is anticipated to contribute less than 50 peak hour trips.

Table 5.10-1 also shows that all 6 study area intersections are not part of a Congestion Management Program (CMP). The intent of a CMP is to more directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related deficiencies, and improve air quality. Counties within California have developed CMPs with varying methods and strategies to meet the intent of the CMP legislation. The County of Riverside CMP became effective with the passage of Proposition 111 in 1990 and updated most recently in 2011. The Riverside County Transportation Commission (RCTC) adopted the 2011 CMP for the County of Riverside in December 2011. As mentioned, there are no CMP facilities within the study area.

Table 5.10-1 – Intersection Analysis Locations

ID	Intersection Location	Jurisdiction	CMP?
1	Driveway 1 & Sycamore Canyon Boulevard – Future Intersection	City of Riverside	No
2	Sycamore Canyon Boulevard & Driveway 2 – Future Intersection	City of Riverside	No
3	Sycamore Canyon Boulevard & Central Avenue	City of Riverside, County of Riverside	No
4	Central Avenue & SR-60 Eastbound Ramps	County of Riverside, Caltrans	No
5	Central Avenue & SR-60 Westbound Off-Ramp	County of Riverside, Caltrans	No
6	Watkins Drive / Central Avenue & SR-60 Westbound On-Ramp	County of Riverside, Caltrans	No

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in the TA. The intersection operations analysis results are summarized in Table 5.10-2 which indicates that all of the existing study area intersections are currently operating at an acceptable LOS during the peak hours. Consistent with Table 5.10-2, a summary of the peak hour intersection LOS for Existing conditions are shown on Figure 5.10-11.



LEGEND:

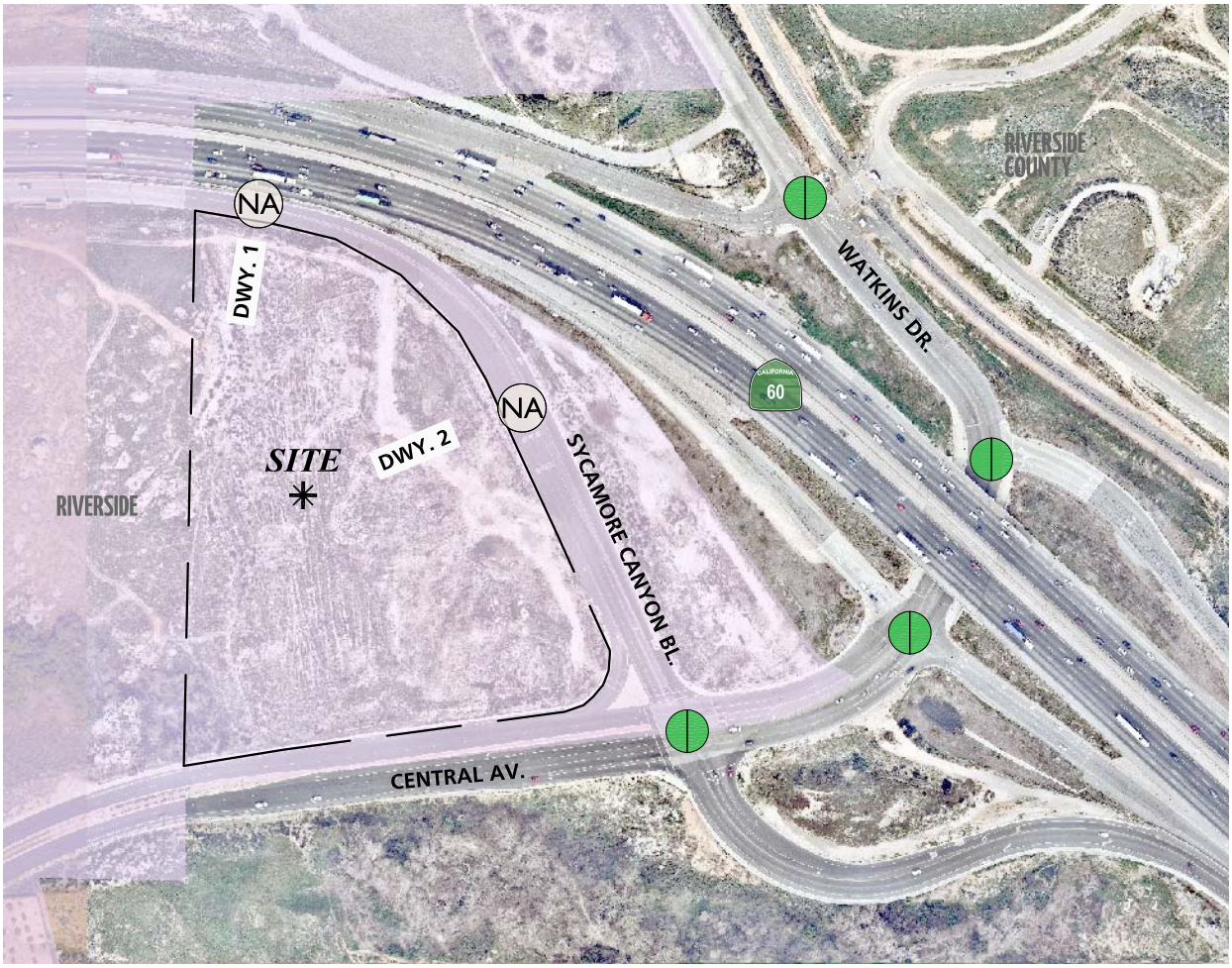
- 0 = EXISTING INTERSECTION ANALYSIS LOCATION
- (0) = FUTURE INTERSECTION ANALYSIS LOCATION
- 00 = ROADWAY SEGMENT ANALYSIS LOCATION

N

CRESTVIEW APARTMENTS

Intersection and Segment Analysis Locations

Figure 5.10-10



LEGEND:

- AM PEAK HOUR
- PM PEAK HOUR
- LOS A-D
- LOS E
- LOS F
- NA - NOT AN ANALYSIS LOCATION FOR THIS SCENARIO

N

CRESTVIEW APARTMENTS

RVA URBAN CROSSROADS

Existing Summary of LOS

Figure 5.10-11

Table 5.10-2 – Intersection Analysis for Existing Conditions

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (secs.)		LOS		Acceptable LOS[4]
			Northbound			Southbound			Eastbound			Westbound							
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM	
1	Driveway 1 & Sycamore Canyon Bl.	-	Intersection Does Not Exist												-	-	-	-	D
2	Sycamore Canyon Bl. & Driveway 2	-	Intersection Does Not Exist												-	-	-	-	D
3	Sycamore Canyon Bl. & Central Av.	TS	1	1	1	1	2	1	1	3	1	2	2	0	40.5	39.5	D	D	D
4	Central Av. & SR-60 EB Ramps	TS	0	2	1	2	2	0	1	1	1	0	0	0	14.2	15.4	B	B	D
5	Watkins Dr./Central Av. & SR-60 WB Off-Ramp	TS	0	2	0	0	2	0	0	0	0	2	0	1	21.4	12.2	C	B	D
6	Watkins Dr. & SR-60 WB On-Ramp	CSS	1	2	0	0	1	0	0	0	0	0	0	0	18.8	14.2	C	B	D

[1]When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.; L = Left; T = Through; R = Right
[2]Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.
[3]CSS = Cross-street Stop; TS = Traffic Signal
[4]Minimum acceptable LOS for each applicable jurisdiction.

Traffic Signal Warrants Analysis

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. All study area intersections except Intersection 6 are currently signalized and operating as an acceptable LOS with current traffic controls. As such, no traffic signal warrant analysis has been conducted for Existing traffic conditions.

Roadway Segment Analysis

The roadway segment capacities utilized for the purposes of this analysis are approximate figures only; and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet traffic demand. Table 5.10-3 provides a summary of the existing conditions roadway segment capacity analysis based on the applicable roadway segment capacities. As shown in Table 5.10-3, the following study area roadway segment is currently operating at an unacceptable LOS based on the applicable planning level daily roadway capacities:

- Sycamore Canyon Boulevard, South of Central Avenue (#4) – LOS E

Table 5.10-3 – Roadway Segment Analysis for Existing Conditions

#	Roadway	Segment Limits	Roadway Section	LOS Capacity[1]	Existing	V/C[2]	LOS	Acceptable LOS
1	Central Av.	West of Sycamore Canyon Bl.	4D	33,000	18,531	0.56	A	D
2	Sycamore Canyon Bl.	West of Driveway 1	2U	18,000	6,687	0.37	A	D
3	Sycamore Canyon Bl.	North of Central Av.	4D	22,000	6,687	0.30	A	D
4	Sycamore Canyon Bl.	South of Central Av.	4D	22,000	**21,474**	**0.98**	**E**	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).
[1]These maximum roadway capacities have been extracted from the following source: City of Riverside Traffic Impact Analysis Preparation Guide (Exhibit D) for each applicable roadway type. These roadway capacities are "rule of thumb" estimates for planning purposes. The LOS "E" service volumes are estimated maximum daily capacity for respective classifications. Capacity is affected by such factors as intersections (spacing, configuration and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic) and pedestrian and bicycle traffic.
[2]V/C = Volume-to-capacity

Freeway Off-Ramp Queuing Analysis

A queuing analysis was performed for the off-ramps at the SR-60 at Central Avenue interchange to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially "spill back" onto the SR-60/I-215 mainline. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. There are no movements that are currently experiencing queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows.

VMT Assessment

Changes to CEQA Guidelines were adopted in December 2018, which require all lead agencies to adopt VMT as a replacement for automobile delay-based LOS as the new measure for identifying transportation impacts for land use Projects. This statewide mandate took effect July 1, 2020. To aid in this transition, the Governor's Office of Planning and Research (OPR) released a Technical Advisory on Evaluating Transportation Impacts in CEQA (December of 2018) (Technical Advisory). Based on OPR's Technical Advisory, the Western Riverside Council of Governments (WRCOG) prepared a WRCOG Senate Bill (SB) 743 Implementation Pathway Document Package (March 2019) to assist its member agencies with implementation tools necessary to adopt analysis methodology, impact thresholds and mitigation approaches for VMT. To add to the previous work effort, WRCOG in February 2020 released its Recommended Traffic Impact Analysis Guidelines for VMT and LOS Assessment (WRCOG Guidelines), which provides each of its member agencies with specific procedures for complying with the new CEQA requirements for VMT analysis.

The City recently adopted updated Traffic Impact Analysis Guidelines for VMT and LOS Assessment (City Guidelines). The City Guidelines include VMT thresholds that were recently reviewed and adopted by City Council on June 16, 2020. Based on the adopted VMT thresholds, a significant impact would occur if the following condition is met:

- For new residential Projects, utilizing a threshold consistent with 15 percent below the City's current baseline VMT Per Capita.

5.10.2 Related Regulations

This section includes a discussion of the applicable State, regional, and local laws, ordinances, regulations, and standards governing transportation and traffic, which must be adhered to before and during project implementation.

5.10.2.1 State Regulations

State Senate Bill 743

SB 743 was signed into law by Governor Brown in 2013 and tasked the State Office of Planning and Research (OPR) with establishing new criteria for determining the significance of transportation impacts under the California Environmental Quality Act (CEQA). SB 743 requires the new criteria to "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." It also states that alternative measures of transportation impacts may include "vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated."

On September 27, 2013, California Governor Jerry Brown signed SB 743 into law and started a process that changes transportation impact analysis as part of CEQA compliance. SB 743 requires the Governor's OPR to identify new metrics for identifying and mitigation transportation impacts within CEQA. In January 2018, OPR transmitted its proposed CEQA Guidelines implementing SB 743 to the California Natural Resources Agency for adoption. On December 28, 2018 the updated guidelines were made effective. As of July 1, 2020 the CEQA Guidelines promulgated under SB 743 changed the way that public agencies evaluate the transportation impacts of Projects under CEQA, recognizing that roadway congestion, while an inconvenience to drivers, is not itself an environmental impact (Public Resource Code, § 21099, subd. (b)(2)). In addition to new exemptions for projects consistent with specific plans, the updated CEQA Guidelines proposed by the Office of Planning and Research replace congestion-based metrics, such as auto delay and LOS, with Vehicle Miles Traveled as the basis for determining significant impacts, unless the Guidelines provide specific exceptions.

5.10.2.2 Regional Regulations

Regional Transportation Plan/Sustainable Communities Strategy

The Southern California Association of Governments (SCAG) is an association of local governments and agencies that serves as a Metropolitan Planning Organization (MPO), a Regional Transportation Planning Agency (RTPA) and a Council of Governments (COG). The SCAG region encompasses six (6) counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) and 191 cities. SCAG is responsible for developing long-range regional transportation plans, including the regional Sustainable Communities Strategy (SCS) and associated growth forecasts, regional transportation improvement programs, and regional housing needs allocations (SCAG 2018).

SCAG's Connect SoCal – The 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) is a long-range visioning plan that balances future mobility and

housing needs with economic, environmental and public health goals. Connect SoCal embodies a collective vision for the region's future and is developed with input from local governments, county transportation commissions (CTCs), tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura (SCAG 2020).

Riverside County Integrated Project

In 2003, Riverside County completed a comprehensive planning program called the Riverside County Integrated Project (RCIP). The Riverside County Board of Supervisors initiated the RCIP to deal with environmental issues as part of regional land use and infrastructure planning. The RCIP comprises the Community Environmental Transportation Corridor Acceptability Process (described below), the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP; see Section 5.3 *Biological Resources*), and the Riverside County General Plan Update. Riverside County's Strategic Vision, which is included in its General Plan, incorporates a set of 15 consensus planning principles intended to guide the work of the RCIP.

Community Environmental Transportation Corridor Acceptability Process

The Community Environmental Transportation Corridor Acceptability Process is a coordinated regional transportation planning effort included in the RCIP. It identified potential transportation corridors in western Riverside County that would benefit commuters and serve the County's growing economy.

Riverside County Congestion Management Program

The Riverside County CMP was established in 1990 to directly link land use, transportation, and air quality planning and to prompt reasonable growth management programs that would more effectively utilize new and existing transportation funds, alleviate traffic congestion and related impacts, and improve air quality. The CMP includes growth management programs to utilize transportation funds in order to alleviate traffic congestion and improve air quality. The RCTC adopted the current version of the Riverside County CMP in December 2011.

Western Riverside County Transportation Uniform Mitigation Fee

In 2002, the cities of Riverside, Corona, and Moreno Valley, and Riverside County, agreed to participate in the Western Riverside County Transportation Uniform Mitigation Fee (TUMF) Program. TUMF is a multi-jurisdictional impact fee program that funds transportation improvements associated with new growth. All new development in each of the participating jurisdictions is subject to TUMF, based on the proposed intensity and type of development. The City of Riverside also has a Development Impact Fee (DIF) program that funds a variety of public transportation facilities, namely, traffic and railroad signals and transportation for dwelling and mobile homes.

5.10.2.3 Local Regulations

City of Riverside General Plan 2025

The GP 2025 contains goals and policies for transportation within the Circulation and Community Mobility Element. The GP 2025 includes numerous goals and policies related to transportation and circulation. The following goals and policies apply to the Project:

Objective CCM-2: Build and maintain a transportation system that combines a mix of transportation modes and transportation system management techniques, and that is designed to meet the needs of Riverside's residents and businesses, while minimizing the transportation system's impacts on air quality, the environment and adjacent development.

> **Policy CCM-2.3:** Maintain LOS D or better on Arterial Streets wherever possible. At key locations, such as City Arterials used by regional freeway bypass traffic and at heavily traveled freeway interchanges, allow LOS E at peak hours as the acceptable standard on a case-by-case basis.
>
> **Policy CCM-2.4:** Minimize the occurrence of streets operating at LOS F by building out the planned street network and by integrating land use and transportation in accordance with the General Plan principles.
>
> **Policy CCM-2.7:** Limit driveway and local street access on Arterial Streets to maintain a desired quality of traffic flow. Wherever possible, consolidate driveways and implement access controls during redevelopment of adjacent parcels.
>
> **Policy CCM-2.8:** Design street improvements considering the effect of aesthetic character and livability of residential neighborhoods, along with traffic engineering criteria.
>
> **Policy CCM-2.9:** Design all street improvement projects in a comprehensive fashion to include consideration of street trees, pedestrian walkways, bicycle lanes, equestrian pathways, signing, lighting, noise and air quality wherever any of these factors are applicable.

Objective CCM-6: Cooperate in the implementation of regional and inter-jurisdictional transportation plans and improvements to the regional transportation system.

> **Policy CCM-6.1:** Encourage the reduction of vehicle miles, reduce the total number of daily peak hour vehicular trips, increase the vehicle occupancy rate and provide better utilization of the circulation system through the development and implementation of transportation demand management (TDM) programs contained in the SCAQMD and County of Riverside TDM Guidelines.

Objective CCM-8: Protect neighborhoods and reduce the risk posed to young children and other residents by vehicular traffic on local roadways.

> **Policy CCM-8.3:** Apply creative traffic management approaches to address congestion in areas with unique problems, particularly on roadways and intersections in the vicinity of schools in the morning and afternoon peak hours and near churches, parks and community centers.

Objective CCM-10: Provide an extensive and regionally linked public bicycle, pedestrian and equestrian trails system.

Policy CCM-10.2: Incorporate bicycle and pedestrian trails and bicycle racks in future development projects.

Policy CCM-10.3: Provide properly designed pedestrian facilities for the disabled and senior population to ensure their safety and enhanced mobility as users of streets, roads and highways emphasizing "complete streets" principles.

Policy CCM-10.6: Encourage pedestrian travel through the creation of sidewalks and street crossings.

Objective CCM-12: Facilitate goods movement as a means of economic expansion, while protecting residents and visitors from the negative effects typically associated with truck operations and rail service.

Policy-12.2: Ensure that new development projects provide adequate truck loading and unloading facilities.

Objective CCM-13: Ensure that adequate on- and off-street parking is provided throughout Riverside.

Policy CCM-13.1: Ensure that new development provides adequate parking.

Policy CCM-13.2: Accommodate joint use of parking facilities as part of an area plan or site plan, based on the peak parking demands of permitted uses in the planning area.

City of Riverside Bicycle Master Plan

The City's Bicycle Master Plan provides a blueprint for bicycle transportation and recreation in the city of Riverside. A Bicycle Master Plan Update, adopted May 22, 2007, enhanced and expanded the existing bikeway network, connect gaps, address constrained areas and improve intersections, provide for greater local and regional connectivity, and encourage more residents to bicycle. In March 2012, the Riverside Bicycle Master Plan Update Addendum was published, and provided an updated inventory of all bicycle infrastructure and non-infrastructure improvements implemented over the past five (5) years, presents current and future bicycle and walking impact analysis, and contains an updated list of recommended bicycle improvements.

5.10.3 Project Design Considerations

The Project has been designed to facilitate traffic in an efficient manner using the existing roadway network. The majority of passenger cars are expected to use Sycamore Canyon Boulevard to Central Avenue which will provide on-/offramp access to SR-60/I-215 for regional access. Vehicular access to the Project will be provided via Driveway 1 and Driveway 2 on Sycamore Canyon Boulevard. The Project is proposed to have access on Sycamore Canyon Boulevard via the following driveways:

- Driveway 1 & Sycamore Canyon Boulevard – Egress access only

- Sycamore Canyon Boulevard & Driveway 2 – Full access driveway (proposed to align, with an offset of 28-feet, with the future driveway for the Sycamore Canyon Commercial use)

Roadway improvements necessary to provide site access and on-site circulation will be constructed in conjunction with site development. These improvements will be in place prior to occupancy.

Sycamore Canyon Boulevard is a north-south oriented roadway located along the Project's eastern boundary. According to the City's GP 2025 Circulation Element, Sycamore Canyon Boulevard is built to its ultimate half-section width as a collector (66-foot right-of-way). The Project will construct sidewalk improvements and modifications to the existing curb and gutter to accommodate the Project driveways in compliance with applicable GP 2025 standards.

Central Avenue is an east-west oriented roadway located along the Project's southern boundary. The Project will construct Central Avenue from the Project's western boundary to Sycamore Canyon Boulevard at its ultimate half-section width as an arterial (110-foot ultimate right-of-way) in compliance with the GP 2025 Circulation Element.

Consistent with the GP 2025 Circulation Element, there are Class II bike lanes proposed along Central Avenue and Sycamore Canyon Boulevard along the Project's frontage. The Project will install a pedestrian gate at the southeast corner of the Project site, in order to provide access to the opposing development.

Driveway 1 will have egress only access. The Project will install appropriate signage and construct the curbs in order to restrict the driveway to exit-only access. Driveway 2 will have ingress and egress access with appropriate signage. On-site traffic signing and striping will be implemented in conjunction with detailed construction plans for the Project site. No driveways will be located on Central Avenue.

At unsignalized intersections, corner sight distance must provide a substantially clear line of sight between the driver of the vehicle waiting on the minor road (driveway) and the driver of an approaching vehicle. For the purposes of this analysis, a 7 ½ second criterion has been applied to the outside travel lanes in either direction to provide the most conservative sight distance. The 7 ½ second criterion allows waiting vehicles to either cross all lanes of through traffic by turning left or cross the near lanes by turning right without requiring through traffic to radically alter their speed. Vertical sight distance has been evaluated utilizing a 3.5-foot eye height and a 4.25-foot object height.

Adequate visibility for vehicular and pedestrian traffic can be provided at each Project driveway by limiting sight obstructions within the limited use area. Any landscaping/hardscape within the limited use area will not exceed 30-inches (2.5-feet) in height. The limited use area will be kept clear of any landscaping or any other obstructions that may impede the visibility of the driver, including on-street parking. Minimum vertical and horizontal sight distances for the Project driveways will be followed per the TA (Appendix I).

5.10.4 Thresholds of Significance

The City of Riverside has not established local CEQA significance thresholds as described in Section 15064.7 of the State CEQA Guidelines. The City generally utilizes the CEQA significance thresholds in Appendix G ("Environmental Checklist") of the State CEQA Guidelines. The Environmental Checklist prepared by the City for the Project (see Appendix A of this document) indicates that impacts related to the Crestview Apartments Project may be considered potentially significant if the proposed Project would:

- (Threshold A) conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities;
- (Threshold B) conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).

5.10.5 Environmental Impacts

Threshold A: *Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?*

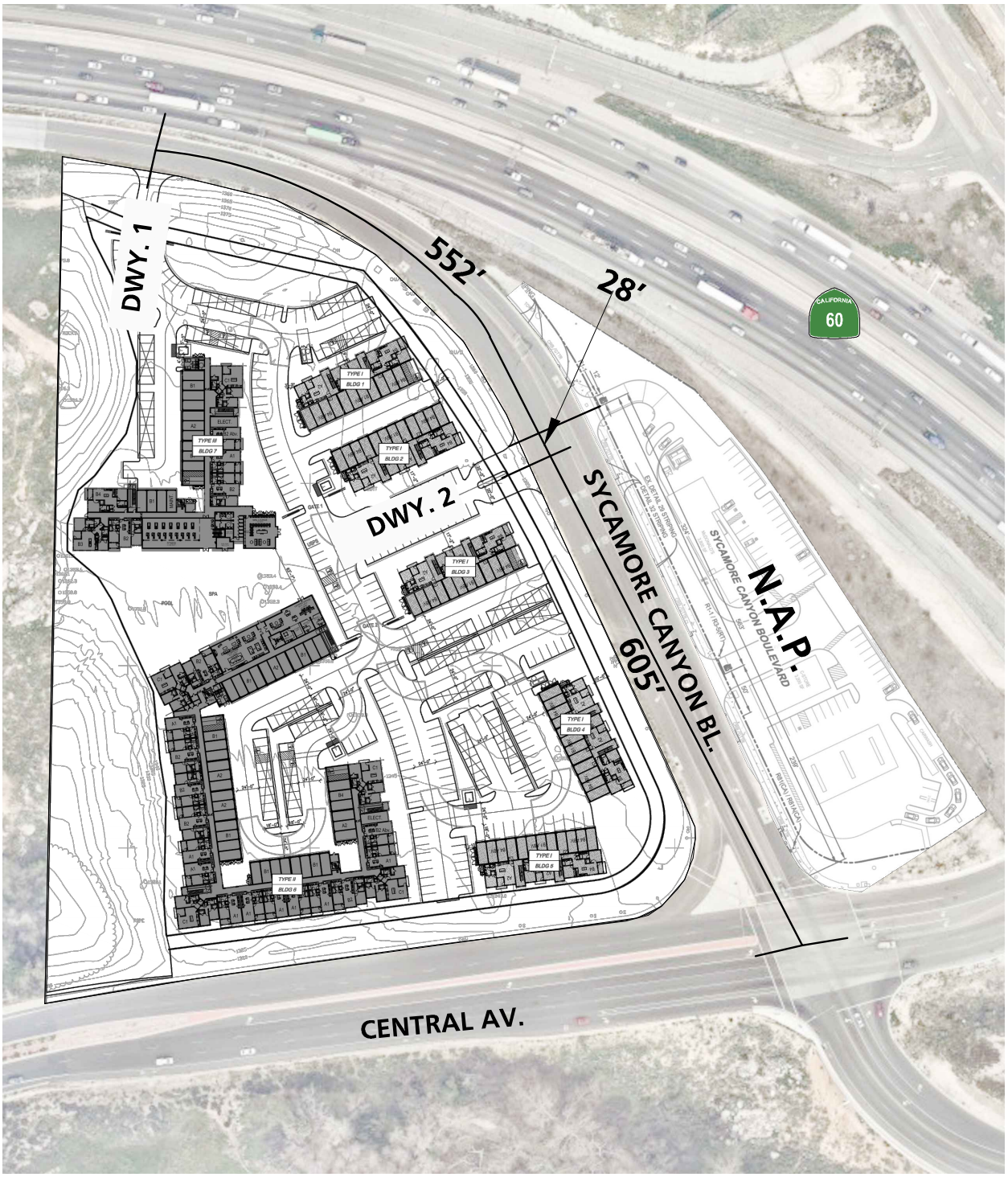
General Plan Circulation Element

Figure 5.10-12 illustrates the preliminary Project site plan. As indicated on Figure 5.10-12, the total development is proposed to consist of up to 237 3-4-story multifamily residential dwelling units. For the purposes of the TA, the following land uses were assumed:

- Buildings 1-5 (3 Floors, 75 Units): Multifamily Housing (Low Rise)
- Buildings 6-7 (4 Floors, 162 Units): Multifamily Housing (Mid-Rise)

Vehicular access to the Project will be provided via Driveway 1 and Driveway 2 on Sycamore Canyon Boulevard. Driveway 2 is proposed to align, with an offset of 28-feet, with a driveway for the future Sycamore Canyon Commercial project on the east side of Sycamore Canyon Boulevard. Regional access to the site is provided via the SR-60/I-215 at Central Avenue.

While the Traffic Analysis examined Level of Service (LOS) within the project vicinity, a deficiency in Level of Service is no longer considered as a significant transportation related impact pursuant to updated CEQA guidelines. Instead, the assessment of LOS is intended to identify key access, circulation and operational issues within the project area, and to confirm consistency with the City's General Plan. Consistency with General Plan policies are addressed in Section 5.8 Land Use.



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Preliminary Site Plan

Figure 5.10-12

Project Trip Generation

Trips generated by the Project's proposed land uses have been estimated based on trip generation rates collected by the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition, 2017. The Project is estimated to generate a total of 1,432 trip-ends per day on a typical weekday with approximately 93 AM peak hour trips and 114 PM peak hour trips.

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

Trip generation rates used to estimate the proposed Project traffic are shown in Table 5.10-4. A summary of the Project's trip generation is also shown in Table 5.10-4. The trip generation rates used for this analysis are based upon information collected by the ITE as provided in their Trip Generation Manual (10th Edition, 2017). For purposes of this analysis, the following ITE land use (LU) codes and vehicle mixes have been utilized:

- ITE land use code 220 (Multifamily Housing (Low Rise)
- ITE land use code 221 (Multifamily Housing (Mid-Rise)

As shown in Table 5.10-4, the Project is anticipated to generate a total of 1,432 trip-ends per day with 93 AM peak hour trips and 114 PM peak hour trips.

Table 5.10-4 – Project Trip Generation Rates and Trip Generation Summary

Land Use	Units[2]	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Trip Generation Rates[1]									
Multifamily Housing (Low Rise)	DU	220	0.11	0.35	0.46	0.35	0.21	0.56	7.32
Multifamily Housing (Mid-Rise)	DU	221	0.09	0.27	0.36	0.27	0.17	0.44	5.44
Land Use	**Units[2]**	**Quantity**	**AM Peak Hour**			**PM Peak Hour**			**Daily**
			In	**Out**	**Total**	**In**	**Out**	**Total**	
Trip Generation Summary									
Crestview Apartments									
Buildings 1-5 (3 Floors)	DU	75	8	27	35	26	16	42	550
Buildings 6-7 (4 Floors)	DU	162	15	43	58	43	28	71	882
TOTAL	DU	237	23	70	93	70	44	114	1,432

[1]Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Tenth Edition (2017).
[2]DU = Dwelling Units

Existing Plus Project Conditions

The existing plus Project (E+P) analysis determines circulation system deficiencies that would occur on the existing roadway system with the addition of the Project traffic. The E+P analysis is intended to identify the project-specific traffic deficiencies associated solely with the development of the proposed Project based on a comparison of the E+P traffic conditions to existing conditions. To determine whether the addition of Project traffic, as defined through the comparison of existing

traffic conditions to E+P traffic conditions, at a study intersection would result in a direct project-specific traffic deficiency, the following will be utilized:

- When the pre-Project condition is at or better than LOS D (i.e., acceptable LOS), and project generated traffic, as measured by 50 or more peak hour trips, causes deterioration below LOS D (i.e., unacceptable LOS) or increases to the peak hour delay, a deficiency is deemed to occur.

As mentioned above, the "50 peak hour trip" criterion utilized by the City is consistent with the methodology used by the County of Riverside, and generally represents a minimum number of trips at which a typical intersection would have the potential to be substantively affect by a given development proposal. The Project is anticipated to contribute less than 50 peak hour trips to the intersections of Driveway 1 at Sycamore Canyon Boulevard, Central Avenue at SR-60/I-215 Westbound Off-Ramp, and Watkins Drive/Central Avenue at SR-60/I-215 Westbound On-Ramp. However, these intersections were evaluated at the request of City staff during the scoping process.

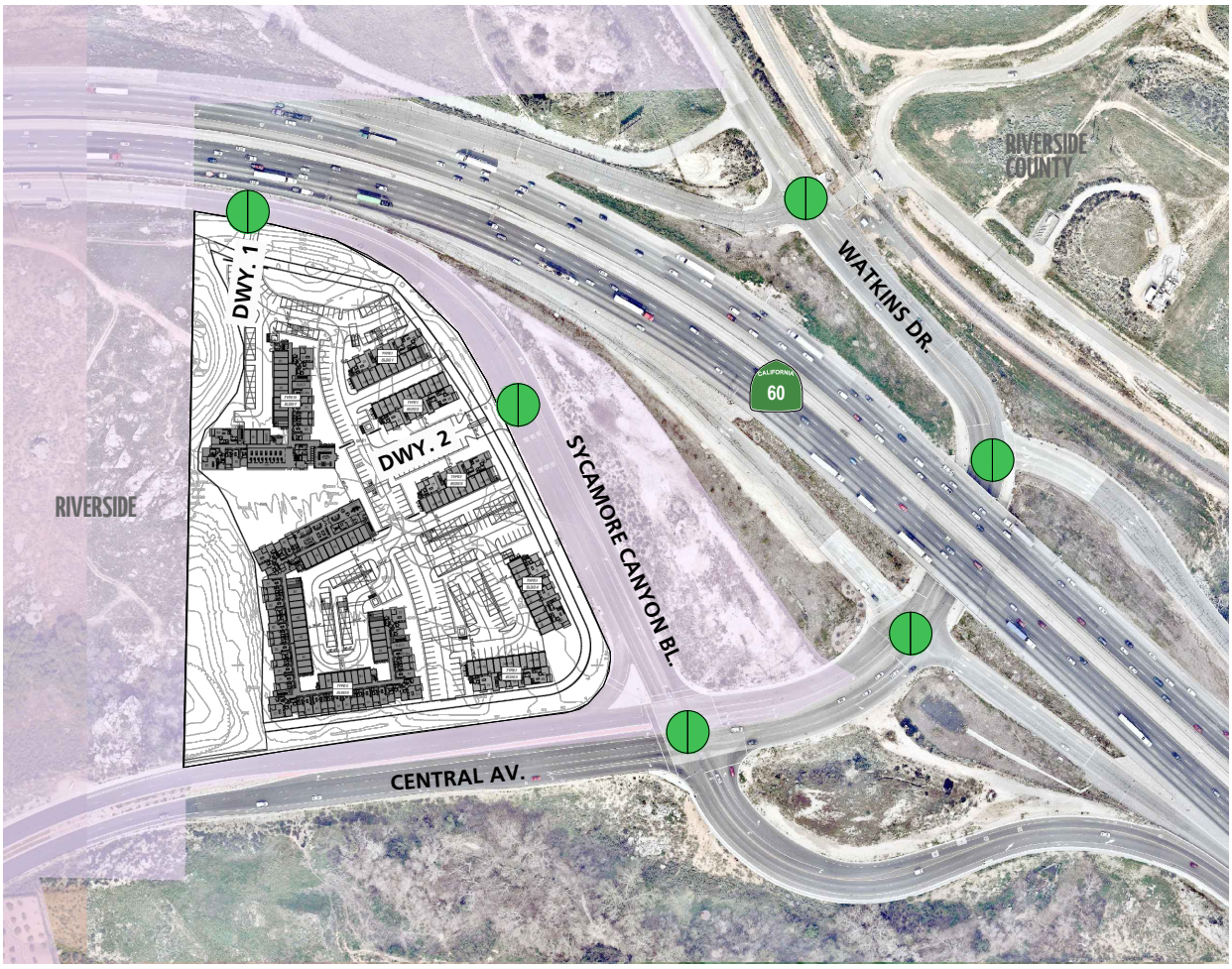
Intersection Operations Analysis

The intersection analysis results are summarized in Table 5.10-5, which indicates that the study area intersections are anticipated to operate at acceptable LOS, consistent with Existing traffic conditions. A summary of the peak hour intersection LOS for E+P conditions are shown on Figure 5.10-13.

Table 5.10-5 – Intersection Analysis for E+P Conditions

#	Intersection	Traffic Control[3]	Existing (2019)				E + P				Change in Delay		Project-Specific Traffic Deficiency?[3]
			Delay [2] (secs.)		Level of Service		Delay [2] (secs.)		Level of Service				
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
1	Driveway 1 & Sycamore Canyon Bl.	CSS	Future Intersection				9.4	10.9	A	B	-	-	No
2	Sycamore Canyon Bl. & Driveway 2	CSS	Future Intersection				8.8	9.7	A	A	-	-	No
3	Sycamore Canyon Bl. & Central Av.	TS	40.5	39.5	D	D	45.3	40.0	D	D	4.8	0.5	No
4	Central Av. & SR-60 EB Ramps	TS	14.2	15.4	B	B	14.2	16.0	B	B	0.0	0.6	No
5	Watkins Dr./Central Av. & SR-60 WB Off-Ramp	TS	21.4	12.2	C	B	21.5	12.4	C	B	0.1	0.2	No
6	Watkins Dr. & SR-60 WB On-Ramp	CSS	18.8	14.2	C	B	19.8	14.6	C	B	1.0	0.4	No

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).
[1]Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.
[2]CSS = Cross-street Stop; TS = Traffic Signal; CSS = Improvement
[3]Project-specific traffic deficiency occurs when the addition of project-related trips causes either peak hour LOS to degrade from acceptable LOS (LOS A through LOS D) to unacceptable levels (LOS E or LOS F) or the peak hour delay is increased by the following values:
LOS A/B = 10 seconds or more; LOS C = 8 seconds or more; LOS D = 5 seconds or more; LOS E = 2 seconds or more; LOS F = 1 second or more



LEGEND:

- = AM PEAK HOUR
- = PM PEAK HOUR
- = LOS A-D
- = LOS E
- = LOS F

N

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E+P Summary of LOS

Figure 5.10-13

As shown in Table 5.10-5 above, the study area intersections are anticipated to operate at an acceptable LOS during the peak hours under E+P traffic conditions. As such, no improvements related to intersection traffic impacts are recommended.

Roadway Segment Analysis

The roadway segment capacities utilized for the purposes of this analysis are approximate figures only and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet traffic demand. Table 5.10-6 provides a summary of the E+P conditions roadway segment capacity analysis based on the applicable roadway segment capacity. As shown in Table 5.10-6, all the study area roadway segments are anticipated to continue to operate at an acceptable LOS under E+P conditions with the addition of Project traffic, with the exception of Sycamore Canyon Boulevard south of Central Avenue. As shown in Table 5.10-3 above, this deficiency is consistent with the existing traffic conditions.

Table 5.10-6 – Roadway Segment Analysis for E+P Conditions

#	Roadway	Segment Limits	Roadway Section	LOS Capacity[1]	Existing (2019)	V/C[2]	LOS[3]	E+P	V/C[2]	LOS[3]	Acceptable LOS
1	Central Av.	West of Sycamore Canyon Bl.	4D	33,000	18,531	0.56	A	18,670	0.57	A	D
2	Sycamore Canyon Bl.	West of Driveway 1	2U	18,000	6,687	0.37	A	7,337	0.41	A	D
3	Sycamore Canyon Bl.	North of Central Av.	4D	22,000	6,687	0.30	A	7,346	0.33	A	D
4	Sycamore Canyon Bl.	South of Central Av.	4D	22,000	**21,474**	**0.98**	**E**	**21,578**	**0.98**	**E**	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1]These maximum roadway capacities have been extracted from the following source: City of Riverside Traffic Impact Analysis Preparation Guide (Exhibit D) for each applicable roadway type. These roadway capacities are "rule of thumb" estimates for planning purposes. The LOS "E" service volumes are estimated maximum daily capacity for respective classifications. Capacity is affected by such factors as intersections (spacing, configuration and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic) and pedestrian and bicycle traffic.

[2]v/c = Volume-to-capacity

[3]LOS = Level of Service

Recommended Improvements to Address Off-Ramp Queues

A queuing analysis was performed for the off-ramps at the SR-60/I-215 at Central Avenue to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially “spill back” onto the SR-60/I-215 mainline. Queuing analysis findings are presented in Table 5.10-7 for E+P traffic conditions. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown in Table 5.10-7, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for E+P traffic conditions.

Table 5.10-7 – Peak Hour Off-Ramp Queuing Analysis for E+P Conditions

Intersection	Movement	Stacking (Feet)	Existing				E+P			
			95th Percentile Stacking Distance Required (Feet)		Acceptable? [1]		95th Percentile Stacking Distance Required (Feet)		Acceptable? [1]	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
Central Av. & SR-60 EB Off-Ramp	EBL	400	71	14	Yes	Yes	71	14	Yes	Yes
	EBT/R	1,055	21	21	Yes	Yes	22	23	Yes	Yes
	EBR	115	0	0	Yes	Yes	0	0	Yes	Yes
Central Av./Watkins Dr. & SR-60 WB Off-Ramp	WBL	1,230	34	69	Yes	Yes	35	72	Yes	Yes
	WBR	300	290 [2]	68	Yes	Yes	291 [2]	74	Yes	Yes

[1]Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.
[2]95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Recommended Improvements to Address Deficiencies on Roadway Segments

The peak hour intersection operations analysis for the study area intersections on either end of the deficient roadway segment indicates acceptable peak hour operations during the peak hours; see Table 5.10-5. As such, no roadway segment widening has been recommended.

Recommended Improvements to Address Off-Ramp Queues

As shown previously in Table 5.10-7, there are no anticipated peak hour queuing issues at the SR-60/I-215 and Central Avenue interchange for E+P traffic conditions. As such, no improvements have been recommended.

Opening Year Cumulative Traffic Conditions

Opening Year Cumulative without Project Traffic Conditions

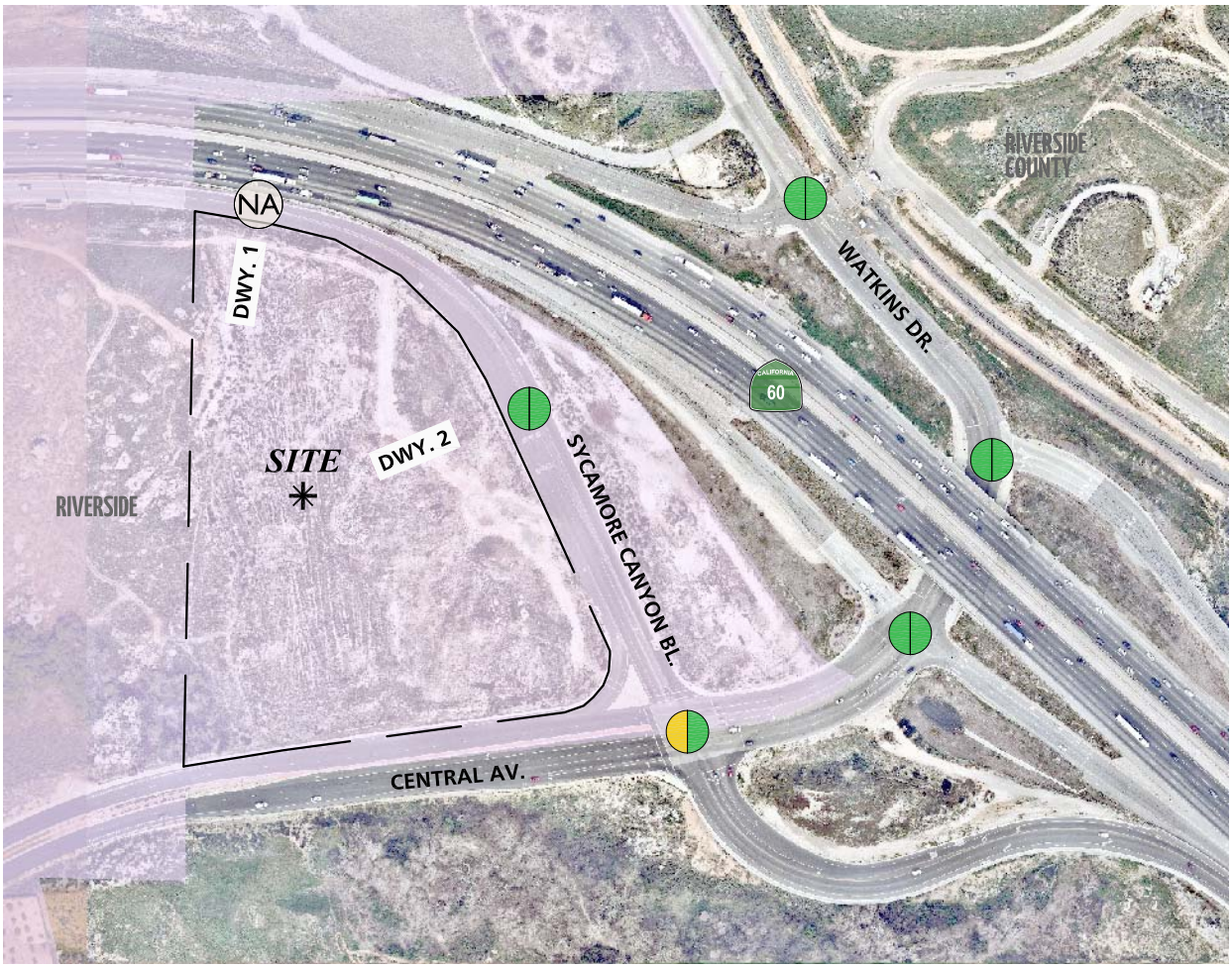
LOS calculations were conducted for the study intersections to evaluate their operations under 'Opening Year Cumulative (2022) without Project' conditions with roadway and intersection geometrics. As shown in Table 5.10-8, the study area intersections are anticipated to operate at acceptable levels of service, with the exception of the following location:

- Sycamore Canyon Boulevard & Central Avenue (#3) – LOS E AM peak hour only

A summary of the peak hour intersection LOS for Opening Year Cumulative (2022) without Project conditions are shown on Figure 5.10-14.

Opening Year Cumulative with Project Traffic Conditions

As shown in Table 5.10-8 and illustrated on Figure 5.10-15, there are no additional study area intersections anticipated to experience unacceptable LOS (LOS E or worse) with the addition of Project traffic during the peak hours in addition to those previously identified under Opening Year Cumulative (2022) without Project conditions.



LEGEND:

- AM PEAK HOUR
- PM PEAK HOUR
- LOS A-D
- LOS E
- LOS F
- NA - NOT AN ANALYSIS LOCATION FOR THIS SCENARIO

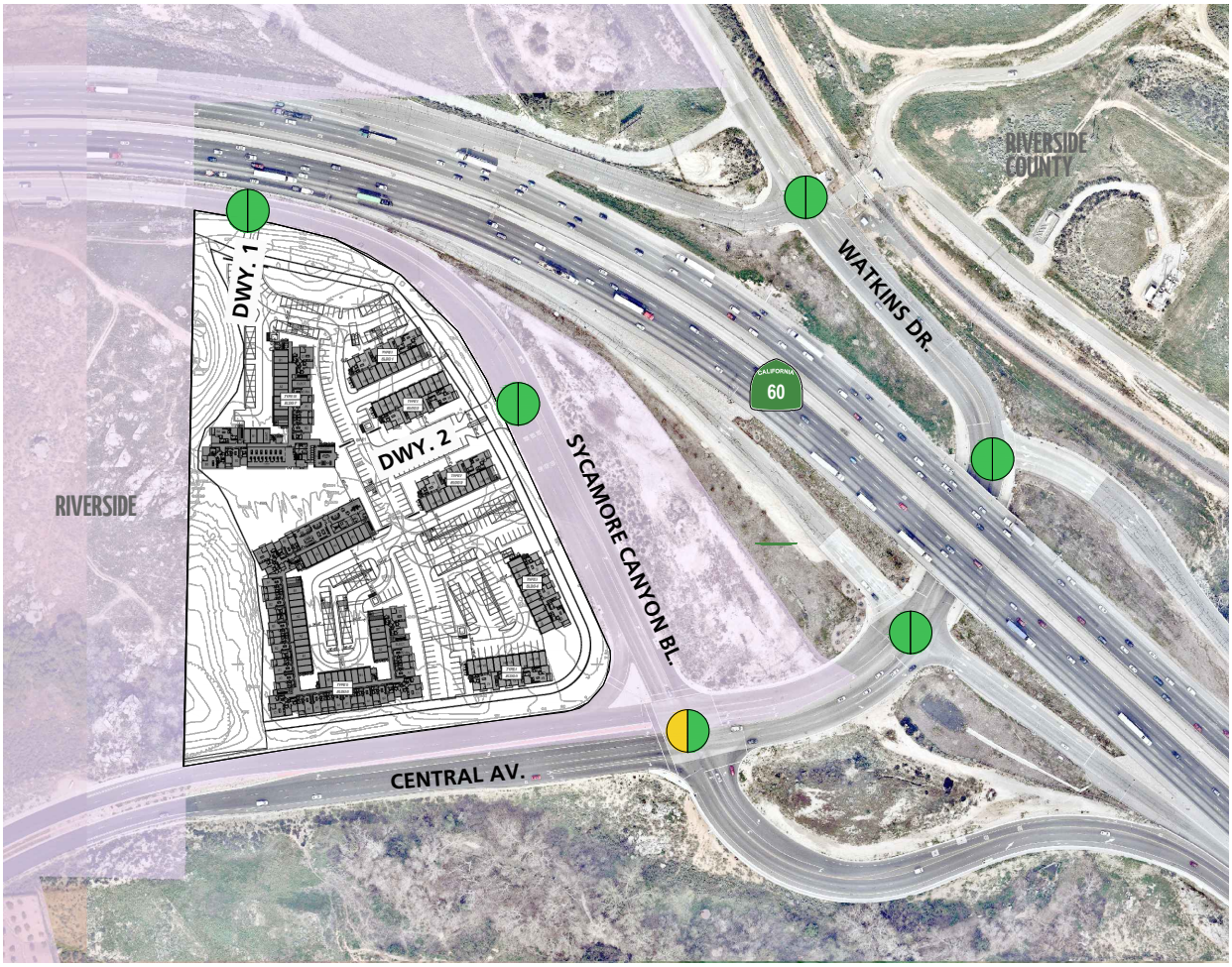
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Opening Year Cumulative (2022)

Without Project Summary of LOS

Figure 5.10-14



LEGEND:

- = AM PEAK HOUR
- = PM PEAK HOUR
- = LOS A-D
- = LOS E
- = LOS F

N

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Opening Year Cumulative (2022)

With Project Summary of LOS

Figure 5.10-15

Table 5.10-8 – Intersection Analysis for Opening Year Cumulative Conditions

#	Intersection	Traffic Control[3]	2022 Without Project				2022 With Project				Change in Delay		Project-Specific Traffic Deficiency?[3]
			Delay [2] (secs.)		Level of Service		Delay [2] (secs.)		Level of Service				
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
1	Driveway 1 & Sycamore Canyon Bl.	CSS	Future Intersection				9.7	11.4	A	B	-	-	No
2	Sycamore Canyon Bl. & Driveway 2	CSS	16.4	14.6	C	B	20.3	20.2	C	C	-	-	No
3	Sycamore Canyon Bl. & Central Av.	TS	**57.4**	46.7	**E**	D	**70.1**	49.4	**E**	D	12.7	2.7	Yes
4	Central Av. & SR-60 EB Ramps	TS	14.7	18.6	B	B	14.7	20.1	B	C	0.0	1.5	No
5	Watkins Dr./Central Av. & SR-60 WB Off-Ramp	TS	22.8	13.0	C	B	23.3	13.1	C	B	0.5	0.1	No
6	Watkins Dr. & SR-60 WB On-Ramp	CSS	26.9	16.6	D	C	29.2	17.2	D	C	2.3	0.6	No

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).
[1]Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.
[2]CSS = Cross-street Stop; TS = Traffic Signal; CSS = Improvement
[3]Project-specific traffic deficiency occurs when the addition of project-related trips causes either peak hour LOS to degrade from acceptable LOS (LOS A through LOS D) to unacceptable levels (LOS E or LOS F) or the peak hour delay is increased by the following values: LOS A/B = 10 seconds or more LOS C = 8 seconds or more LOS D = 5 seconds or more LOS E = 2 seconds or more LOS F = 1 second or more

Roadway Segment Analysis

The roadway segment capacities utilized for the purposes of this analysis are approximate figures only and are used at the GP 2025 level to assist in determining the roadway functional classification (number of through lanes) needed to meet traffic demand. Table 5.10-9 provides a summary of the Opening Year Cumulative conditions without and with the Project for roadway segment capacity analysis based on the applicable roadway segment capacity. As shown in Table 5.10-9, the following study area roadway segment is anticipated to operate at an unacceptable LOS under Opening Year Cumulative without Project traffic conditions:

- Sycamore Canyon Boulevard, South of Central Avenue (#4) – LOS F

There are no additional roadway segments anticipated to operate at an unacceptable LOS with the addition of Project traffic.

Table 5.10-9 – Roadway Segment Analysis for Opening Year Cumulative Conditions

#	Roadway	Segment Limits	Roadway Section	LOS Capacity[1]	2022 Without Project	V/C[2]	LOS	2022 With Project	V/C[2]	LOS	Acceptable LOS
1	Central Av.	West of Sycamore Canyon Bl.	4D	33,000	20,477	0.62	B	20,616	0.62	B	D
2	Sycamore Canyon Bl.	West of Driveway 1	2U	18,000	13,818	0.77	C	14,468	0.80	D	D
3	Sycamore Canyon Bl.	North of Central Av.	4D	22,000	9,694	0.44	A	10,353	0.47	A	D
4	Sycamore Canyon Bl.	South of Central Av.	4D	22,000	**23,112**	**1.05**	**F**	**23,216**	**1.06**	**F**	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).
[1]These maximum roadway capacities have been extracted from the following source: City of Riverside Traffic Impact Analysis Preparation Guide (Exhibit D)
for each applicable roadway type. These roadway capacities are "rule of thumb" estimates for planning purposes. The LOS "E" service volumes are estimated maximum daily capacity for respective classifications. Capacity is affected by such factors as intersections (spacing, configuration and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic) and pedestrian and bicycle traffic.
[2]v/c = Volume-to-capacity

Traffic Signal Warrants Analysis

The intersection of Sycamore Canyon Boulevard and Driveway 2 is anticipated to meet a planning level traffic signal warrant for Opening Year Cumulative without Project traffic conditions. There are no additional study area intersections that are anticipated to meet traffic signal warrants (either planning level or peak hour volume-based) for Opening Year Cumulative with Project traffic conditions.

Off-Ramp Queuing Analysis

A queuing analysis was performed for the off-ramps at the SR-60/I-215 at Central Avenue to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially “spill back” onto the SR-60/I-215 mainline. Queuing analysis findings are presented in Table 5.10-10 for Opening Year Cumulative traffic conditions. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown in Table 5.10-10, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for Opening Year Cumulative traffic conditions.

Table 5.10-10 – Peak Hour Off-Ramp Queueing Analysis for Opening Year Cumulative Conditions

Intersection	Movement	Stacking (Feet)	2022 Without Project				2022 With Project			
			95th Percentile Stacking Distance Required (Feet)		Acceptable? [1]		95th Percentile Stacking Distance Required (Feet)		Acceptable? [1]	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
Central Av. & SR-60 EB Off-Ramp	EBL	400	75	15	Yes	Yes	75	15	Yes	Yes
	EBT/R	1,055	26	26	Yes	Yes	27	28	Yes	Yes
	EBR	115	0	0	Yes	Yes	0	0	Yes	Yes
Central Av./Watkins Dr. & SR-60 WB Off-Ramp	WBL	1,230	42	79	Yes	Yes	43	83	Yes	Yes
	WBR	300	319 [2]	104	Yes[3]	Yes	320 [2]	109	Yes[3]	Yes

[1]Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.
[2]95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.
[3]The 95th percentile queues indicates potential queuing for the movements and peak hours identified above. However, while the potential queues would exceed the turn pocket lengths and could spillback into the adjacent through lanes, none are anticipated to result in spillback onto the SR-60 Freeway mainline since the adjacent through lanes all have sufficient capacity.

Deficiencies at Intersections

Based on the City's deficiency criteria, the following intersection was found to be deficient:

- Sycamore Canyon Boulevard & Central Avenue (#3) – The addition of Project traffic increases the pre-project delay by more than 2.0 seconds during the AM peak hour resulting in a cumulative deficiency.

Intersection improvements (mitigation measure **MM LAND USE-1**) are required to alleviate this Project-related deficiency at the intersection of Sycamore Canyon Boulevard & Central Avenue (#3) in order to achieve consistency with GP 2025 goals and policies for transportation within the Circulation and Community Mobility Element. As auto delay, on its own, is no longer an environmental impact pursuant to updated CEQA guidelines, the project will have **no impacts** to transportation, as a result of LOS deficiency.

Deficiencies on Roadway Segments

The peak hour intersection operations analysis for the study area intersections on either end of the deficient roadway segment indicates acceptable peak hour operations with the recommended intersection improvements. As such, no roadway segment widening is required for consistency with GP 2025 Circulation and Community Mobility Element goals and policies.

Off-Ramp Queues

There are no anticipated peak hour queuing issues at the SR-60/I-215 and Central Avenue interchange for Opening Year Cumulative (2022) traffic conditions. As such, no improvements are required.

Bicycle Master Plan

Central Avenue, along the Project's frontage, has an existing Class II Bike Lane, which is identified in the City of Riverside Bicycle Master Plan, as an existing bicycle facility (Figure 3-3: City of Riverside Existing Bikeways). Sycamore Canyon Boulevard, along the Project's frontage, does not have an existing bike lane. The City of Riverside Bicycle Master Plan (Table 6-2: Recommended Class II Bike Lanes) identifies Sycamore Canyon Boulevard, from El Cerrito Drive to Lochmoor Drive (which includes the Project's frontage) for Class II Bike Lane improvements.

The Project will construct its ultimate half-section of Central Avenue including curb and gutter and sidewalk improvements. The project area is currently served by Riverside Transit Agency (RTA), a public transit agency serving various jurisdictions within Riverside County. RTA Route 16 currently provides service along Central Avenue. Transit service is reviewed and updated by RTA periodically to address ridership, budget and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate. As part of the Project design, a bus turnout with an ADA compliant connected sidewalk along Central Avenue, will be constructed, as requested by RTA. Providing a bus stop within walking distance (less than 0.25 mile) of the Project site would help encourage public transit use. The Project will also construct its curb and gutter and sidewalk improvements along Sycamore Canyon Boulevard. The Project does not include street improvements along Sycamore Canyon Boulevard that would prohibit Class II Bike Lane improvements. The Project will install a pedestrian gate in the southeast area of the Project site. The pedestrian gate will provide access to the sidewalk along Sycamore Canyon Boulevard and the proposed future commercial development, across Sycamore Canyon Boulevard (gas station with convenient store and fast-food restaurant with drive thru) and adjoining streets, bike lanes, and sidewalks. Therefore, the Project will not conflict with the Bicycle Master Plan or a program, plan, or policy addressing bicycle and pedestrian facilities.

The Project will not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities; potential impacts are **less than significant** and no mitigation is required.

Threshold B: *Would the Project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?*

The City Guidelines provide details on appropriate "screening thresholds" that can be used to identify when a proposed land use Project is anticipated to result in a less-than-significant impact without conducting a more detailed VMT analysis. Screening thresholds are broken into three (3) types:

- Project Type Screening
- Map Based Screening based on Low VMT Area
- Transit Priority Area (TPA) Screening

A land use Project need only to meet one (1) of the above screening thresholds to result in a less than significant impact.

For the purposes of this analysis, the initial VMT screening process has been conducted with using the WRCOG VMT Screening Tool (Screening Tool), which uses screening criteria consistent with the screening thresholds recommended in the Technical Advisory and City Guidelines.

Project Type Screening

The City Guidelines identifies Projects that are consistent with the current Sustainable Communities Strategy (SCS) or general plan, and that generate fewer than 110 daily vehicle trips be presumed to have a less than significant impact on VMT. The Project is forecast to generate more than 110 daily vehicle trips; therefore, the Project would not be eligible to screen out based on Project type screening. The Project Type screening threshold is not met.

Low VMT Area Screening

The Technical Advisory also states that, "residential and office Projects that locate in areas with low VMT and that incorporate similar features (density, mix of uses, and transit accessibility) will tend to exhibit similarly low VMT." The Screening Tool uses the sub-regional Riverside County Transportation Analysis Model (RIVTAM) to measure VMT performance within individual traffic analysis zones (TAZ's) within the WRCOG region. The Project's physical location based on the parcel number was selected within the Screening Tool to determine the relevant TAZ's VMT as compared to the jurisdictional average. The Project boundary is located in TAZ 3,581 and would not appear to be within a low VMT generating TAZ based on Residential Home-Based VMT. The Low VMT Area screening threshold is not met.

TPA Screening

Consistent with guidance identified in the Technical Advisory, projects located within a TPA (i.e., within 0.5 mile of an existing "major transit stop" or an existing stop along a "high-quality transit corridor") may be presumed to have a less than significant impact absent substantial evidence to the contrary.

However, the presumption may not be appropriate if a project:

- Has a Floor Area Ratio (FAR) of less than 0.75;
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

Based on the Screening Tool results, the Project site is not located within 0.5 mile of an existing major transit stop, or along a high-quality transit corridor. The TPA screening is not met.

Project VMT

Since none of the Project level screening criteria were met, a Project level VMT analysis was prepared. The RIVTAM is a useful tool to estimate VMT as it considers interaction between different land uses based on socio-economic data (SED) such as population, households and employment. The City Guidelines identifies RIVTAM as the appropriate tool for conducting VMT analysis for land use projects in Riverside County.

The Project's VMT was calculated using the most current version of RIVTAM. Adjustments in SED (i.e., population) have been made to the appropriate TAZ within the RIVTAM model to reflect the Project's proposed land use (i.e., residential use). Table 5.10-11 summarizes the population factors for the Project.

Table 5.10-11 – Population Density Factors

	Project
Dwelling Units	237
Population Factor	3.18 persons/1 household
Population	754

Adjustments to SED to represent the Project were made for a separate TAZ in both the base year model and cumulative year model. A separate TAZ was utilized to isolate Project-generated VMT. Project-generated Home-Based (HB) VMT was then calculated for both the base year (2012) model and cumulative year (2040) model and linear interpolation was used to determine the Project's baseline HB VMT. Project HB VMT is then normalized by dividing the population value. As shown in Table 5.10-12, the Project baseline (2019) HB VMT per capita is 9.59 and the Project cumulative (2040) HB VMT per capita is 7.66.

Table 5.10-12 – Project HB VMT Per Capita

	Baseline 2019	Cumulative 2040
Population	754	754
HB VMT	7,234	5,777
HB VMT/Capita	9.59	7.66

Project Level VMT Assessment

WRCOG provides VMT calculations for base model year (2012) and cumulative model year (2040) for each of its member agencies. The VMT Assessment for the Project (Appendix I) has obtained this data from WRCOG and has used linear interpolation to calculate the City's HB VMT per capita for baseline (2019) conditions, which is 10.61. The City's HB VMT per capita for cumulative year (2040) is 10.11.

Table 5.10-13 below illustrates the comparison between the Project generated HB VMT per capita to the City's baseline and cumulative HB VMT per capita. The Project's baseline HB VMT per capita is 9.61 percent below the City's current baseline HB VMT per capita while the Project's

cumulative HB VMT per capita is 24.23 percent below the City's current baseline HB VMT per capita.

Table 5.10-13 – HB VMT Per Capita Comparison

	Baseline HB/ VMT Capita	Cumulative HB/ VMT Capita
City of Riverside	10.61	10.11
Project	9.59	7.66
Difference	-1.02	-2.45
Percent Change	-9.61%	-24.23%
Potentially Significant	Yes	No

Project's Effect On VMT

Consistent with City Guidelines, projects that are found to have a potential impact using efficiency-based metrics (such as VMT per capita) should also provide an additional assessment to evaluate a project's effect on VMT. This analysis is performed using the boundary method, which includes all vehicle trips with one or both trip-ends within a specific geographic area of interest (i.e., the City of Riverside). Once the areawide VMT value is calculated, it is then normalized by dividing by that City's service population (i.e., population and employment). As shown on Table 5.10-14, the Project is anticipated to result in a baseline (2019) net decrease of 0.01 VMT/SP and a cumulative (2040) net decrease of 0.03 VMT/SP within the City, which would indicate that the Project would increase the efficiency of travel in the City.

Table 5.10-14 – Cumulative City of Riverside VMT per Service Population

	2019 Without Project	2019 With Project	2040 Without Project	2040 With Project
Population	321,235	321,989	367,784	368,538
Employment	146,813	146,913	228,619	228,619
VMT	6,478,628	6,482,369	8,723,440	9,719,316
VMT/SP	13.84	13.83	14.63	14.60
Change in VMT	-0.01		-0.03	
Potentially Significant?	No		No	

In summary, the Project's baseline HB VMT per capita exceeds the City threshold of 15 percent below the current baseline City HB VMT per capita, while the Project's cumulative HB VMT per capita does not exceed the City's threshold. Furthermore, the Project's effect on VMT was calculated and found to also not exceed the City's threshold of no net increase in VMT for either baseline or cumulative traffic conditions. Therefore, the Project would exceed the City's threshold for baseline City HB VMT per capita and would be considered **significant without mitigation**.

Transportation demand management (TDM) strategies have been evaluated for the purpose of reducing VMT impacts (baseline HB VMT per capita) determined to be potentially significant.

The following TDM strategies were identified to reduce project generated VMT:

Provide Pedestrian Network Improvements. Providing on-site pedestrian access network to link areas of the Project site to the off-site pedestrian network encourages people to walk instead of drive. This mode shift results in people driving less for short/nearby trips (typically less than ¼ mile and no greater than ½ mile) and thus a reduction in VMT. The Project would provide for on-site pedestrian connections linking the site to existing pedestrian network along Central Avenue that would provide pedestrian connectivity to existing and planned commercial and residential uses in the area. In a suburban center context, a maximum 2.0% reduction in Project VMT may be achieved. This TDM strategy is included as **MM TRANS-1** in Section 5.10.6 below.

Provide Traffic Calming Measure. Providing traffic calming measures encourages people to walk or bike instead of using a passenger car. This mode shift would result in a decrease in VMT. Traffic calming features may include: marked crosswalks, count-down signal timers, curb extensions, speed tables, raised crosswalks, raised intersections, median islands, tight corner radii, roundabouts or mini-circles, on-street parking, planter strips with street trees, chicanes/chokers, and others. The Central Avenue corridor provides for sidewalk and bike land enhancements. There is limited opportunity for the Project to implement meaningful enhanced traffic calming measures in the area. A high visibility crosswalk feature with an accessible pedestrian signal is a potential pedestrian enhancement along Central Avenue identified by City staff. This measure on its own would provide a nominal 0.25% reduction in VMT. This TDM strategy is included as **MM TRANS-2** in Section 5.10.6 below.

Increase Transit Service Frequency and Speed. This measure serves to reduce transit-passenger travel time through more reduced headways and increased speed and reliability. This makes transit service more attractive and may result in a mode shift from auto to transit which reduces VMT. The project area is currently served by RTA. RTA Route 16 currently provides service along Central Avenue. Transit service is reviewed and updated by RTA periodically to address ridership, budget and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate. An ADA compliant bus turnout along the Project's frontage was requested by RTA. Providing a bus stop in walking distance (less than ¼ mile) of the Project site would help encourage transit use and reduce VMT. The potential reduction in VMT related to providing enhanced service near the Project site is estimated to be at the low end of the estimated range between 0.1% and 10.5%. Given the suburban center context of the area it is conservatively estimated that a maximum of a 4.0% reduction in Project may be achieved with this measure. This TDM strategy is included as **MM TRANS-3** in Section 5.10.6 below.

With implementation of the limited feasible TDM measures above, a potential reduction in Project VMT of 6.25% would achieve the City's target threshold of 15% below current baseline HB VMT per capita that would result in a less than significant VMT impact based on the City's impact thresholds as described in the City Guidelines.

Section 5.10.6 below details the necessary TDM strategies, identified as **mitigation measures MM TRANS-1 through MM TRANS-3** that are required for the Project, to reduce impacts related to VMT to **less than significant levels**.

5.10.6 Proposed Mitigation Measures

The mitigation measures below include the TDM strategies, **MM TRANS-1** through **MM TRANS-3**, required to reduce VMT impacts (baseline HB VMT per capita) to less than significant levels.

MM TRANS-1: In order to reduce VMT, prior to issuance of occupancy permit the Project shall provide for on-site pedestrian sidewalk connections linking the site to existing pedestrian sidewalk network along Central Avenue that would provide pedestrian connectivity to existing and planned commercial and residential uses in the area.

MM TRANS-2: In order to reduce VMT, prior to issuance of occupancy permit a high visibility crosswalk feature with an accessible pedestrian signal shall be provided along Central Avenue.

MM TRANS-3: In order to reduce VMT, prior to issuance of occupancy permit an ADA compliant bus turnout shall be provided along the Project site's frontage on Central Avenue.

5.10.7 Cumulative Environmental Effects

The Project will contribute to the following intersection that is anticipated to operate at a deficient LOS during peak hours for Opening Year Cumulative (2022) without the Project:

- Sycamore Canyon Boulevard & Central Avenue (#3) – LOS E AM peak hour only

With implementation of mitigation measure **MM LAND USE-1**, the intersection would not be deficient. The effectiveness of the proposed recommended intersection improvements from **MM LAND USE-1** to meet LOS standards is presented in Table 5.10-15 below for Opening Year Cumulative (2022) traffic conditions.

Table 5.10-15 – Intersection Analysis for Opening Year Cumulative Conditions with Improvements

Intersection #3: Sycamore Canyon Bl. & Central Av.	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
		Northbound			Southbound			Eastbound			Westbound						
		L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
2022 Without Project Conditions	TS	1	1	1	1	2	1	1	3	1	2	2	0	**57.4**	46.7	**E**	D
2022 With Project Conditions	TS	1	1	1	1	2	1	1	3	1	2	2	0	**70.1**	49.4	**E**	D
With Improvements	TS	1	1	1>	1	2	1	1	3	1	2	2	0	54.7	29.6	D	C

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1]When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; 1 = Improvement

[2]Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal o all-way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movement sharing a single lane) are shown.

[3]TS = Traffic Signal

With the implementation of the intersection recommendations in **MM LAND USE-1**, there are no Project-related deficiencies anticipated to the study area intersections. As a deficiency in Level of Service is no longer considered as a significant transportation related impact pursuant to updated CEQA guidelines. Instead, the assessment of LOS is intended to identify key access, circulation and operational issues within the project area, and to confirm consistency with the City's General Plan. Consistency with General Plan policies are addressed in Section 5.8 Land Use. As auto delay, on its own, is no longer an environmental pursuant to updated CEQA guidelines, the project will have **no impacts** to transportation, as a result of LOS deficiency.

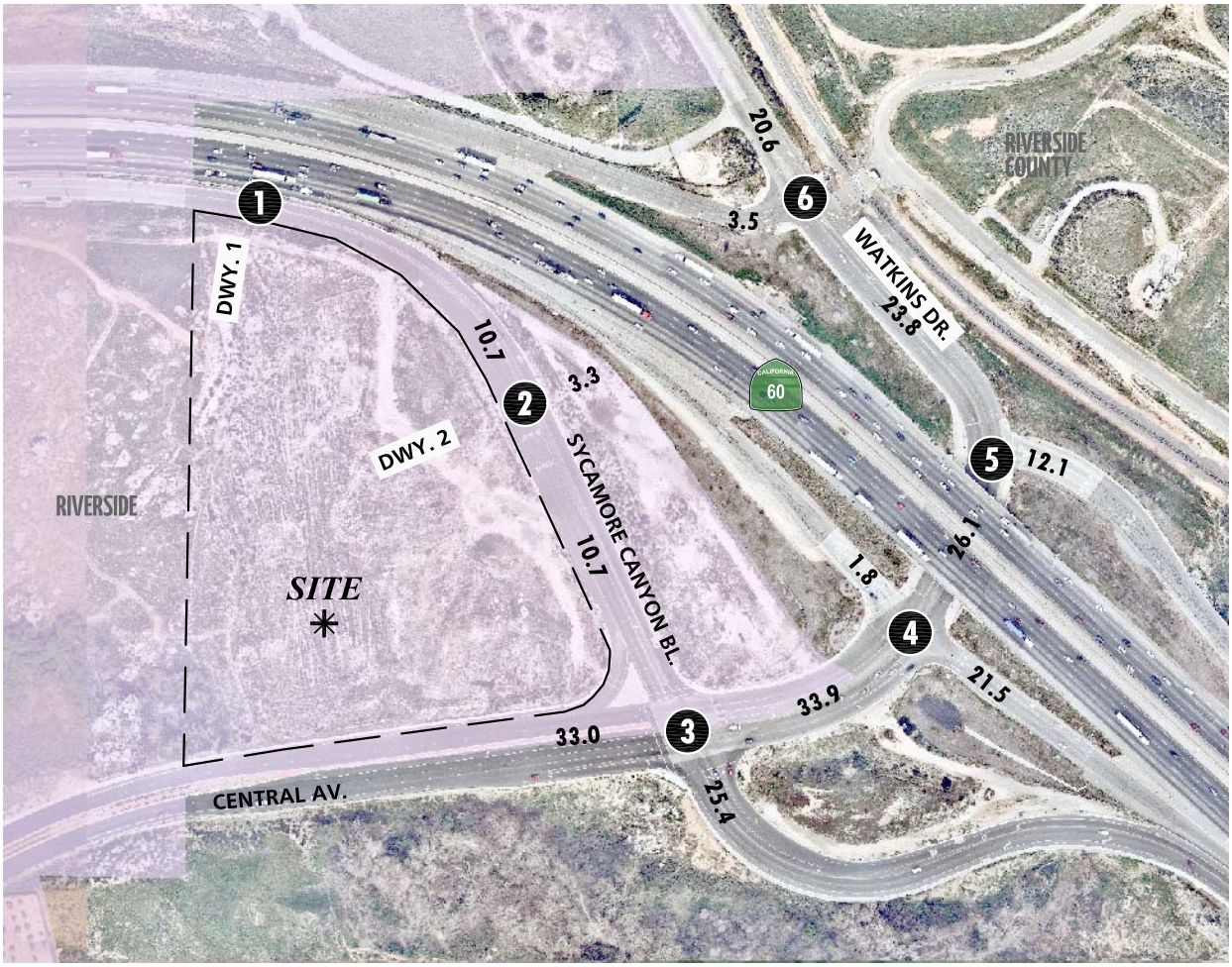
The TA evaluated a Horizon Year (2040) conditions, which represents the cumulative traffic conditions for this EIR. This section discusses the methods used to develop Horizon Year (2040) without and with Project traffic forecasts, and the resulting intersection operations, roadway segment operations, and traffic signal warrant analyses.

Horizon Year Without Project Traffic Conditions

This scenario includes the refined post-processed volumes obtained from the RIVTAM traffic model. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Horizon Year (2040) without Project traffic conditions are shown on Figure 5.10-16.

Horizon Year With Project Traffic Conditions

Project traffic has been added to the Horizon Year (2040) without Project traffic forecasts for Horizon Year (2040) with Project traffic conditions. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Horizon Year (2040) with Project traffic conditions are shown on Figure 5.10-17.



1 Dwy. 1 & Sycamore Canyon Bl.	2 Sycamore Canyon Bl. & Dwy. 2	3 Sycamore Canyon Bl. & Central Av.	4 Central Av. & SR-60 EB Ramps	5 Central Av./ Watkins Dr. & SR-60 WB Off-Ramp	6 Watkins Dr. & SR-60 WB On-Ramp
Future Intersection	69(407) 37(36) ↓ → 18(17) 142(134) ←	43(43) 59(341) 109(156) ↓ → 103(123) 325(558) 51(274) ←	370(864) 199(851) ↓	402(1370) ↓ → 429(374) 167(345) ←	99(15) 402(1370) ↓
	536(312) 74(72) ↑ ↱	54(51) ↱ 1138(781) → 200(645) ↓ 323(412) 453(209) 1027(343) ↑ ↱	107(19) ↱ 5(3) → 110(90) ↓ 1795(570) 479(710) ↑ ↱	1903(589) ↑	924(283) 1408(680) ↑ ↱

LEGEND:

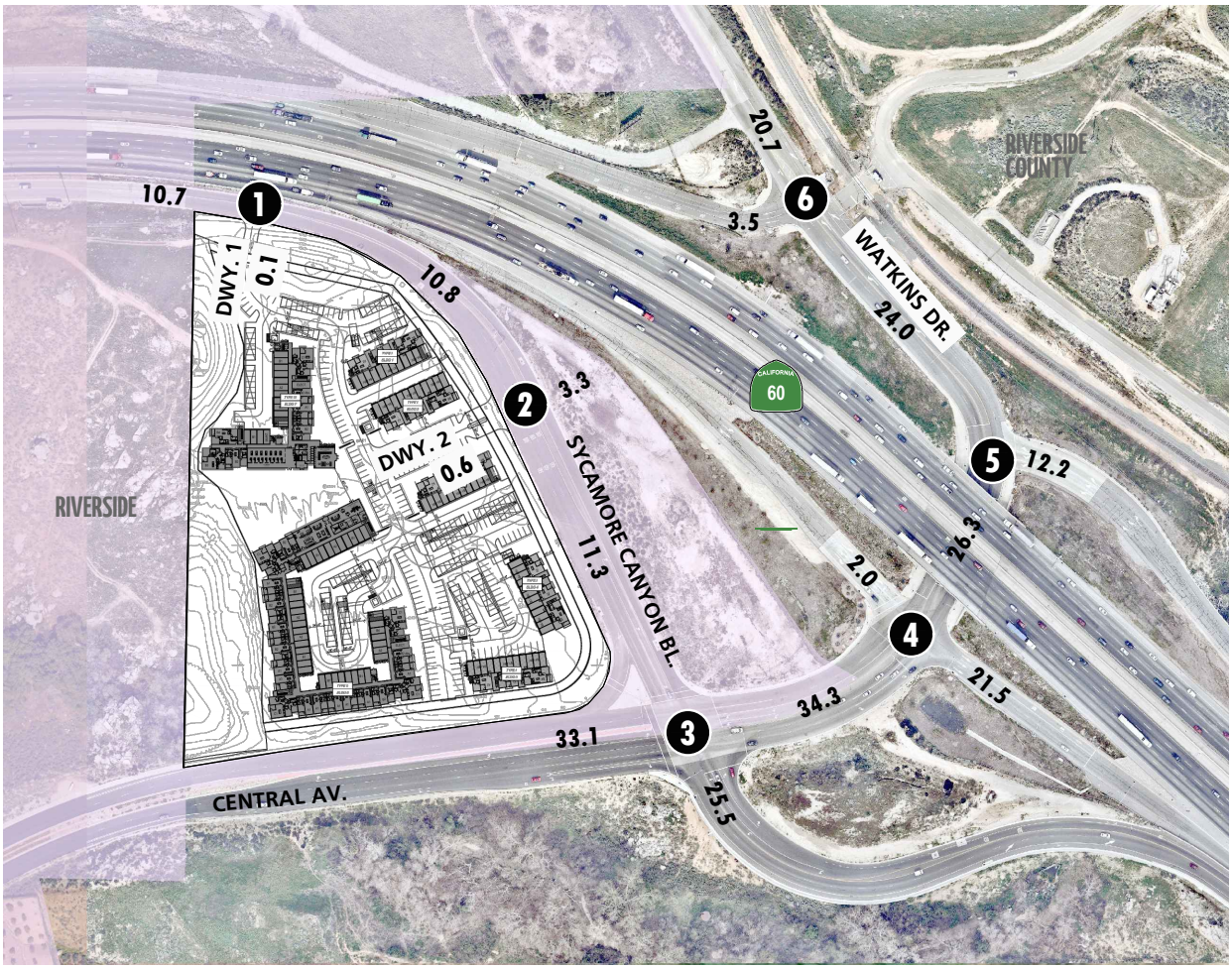
10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES
10.0 = VEHICLES PER DAY (1000'S)

N

CRESTVIEW APARTMENTS

Horizon Year (2040) Without Project Traffic Volumes

Figure 5.10-16



1 Dwy. 1 & Sycamore Canyon Bl.	2 Sycamore Canyon Bl. & Dwy. 2	3 Sycamore Canyon Bl. & Central Av.	4 Central Av. & SR-60 EB Ramps	5 Central Av./ Watkins Dr. & SR-60 WB Off-Ramp	6 Watkins Dr. & SR-60 WB On-Ramp
←554(329)	1(3) 79(413) 37(36) → ←18(17) 0(0) ←142(134)	57(52) 69(347) 150(182) → ←116(164) ←325(558) ←51(274)	378(888) 199(851) →	←404(1377) →429(374) ←173(362)	99(15) ←404(1377)
107(446)→ 3(2) 10(6)←	0(0)→ 0(0)→ 54(34)→ 21(65) 536(312) 74(72)←	58(65)→ 1138(781)→ 200(645)→ 323(412) 456(219) 1027(343)←	107(19)→ 5(3)→ 116(107)→ 1819(585) 496(721)←	1927(604)←	941(294) 1415(684)←

LEGEND:

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES
10.0 = VEHICLES PER DAY (1000'S)

N

CRESTVIEW APARTMENTS

Horizon Year (2040) With Project Traffic Volumes

Figure 5.10-17

Roadway Improvements

The lane configurations and traffic controls assumed to be in place for Horizon Year (2040) conditions are consistent with those shown previously on Figure 5.10-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Horizon Year (2040) conditions only (e.g., intersection and roadway improvements along the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for Horizon Year (2040) conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages and driveways, such as the eastern extension of Driveway 2).

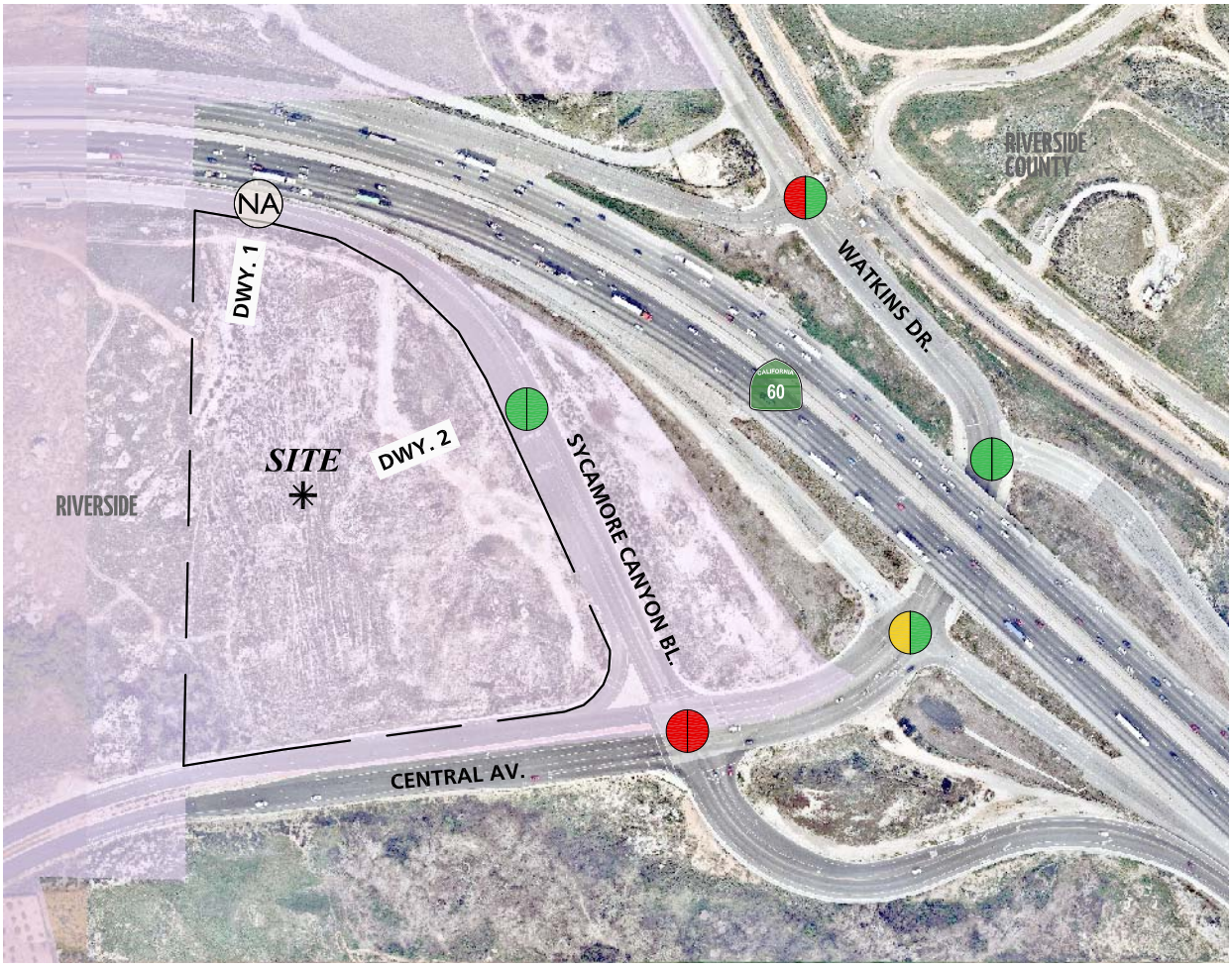
Intersection Operations Analysis

Horizon Year Without Project Traffic Conditions

LOS calculations were conducted for the study intersections to evaluate their operations under Horizon Year (2040) without Project conditions with roadway and intersection geometrics consistent with Figure 5.10-1. As shown in Table 5.10-15, the study area intersections are anticipated to operate at acceptable levels of service, with the exception of the following locations:

- Sycamore Canyon Boulevard & Central Avenue (#3) – LOS F AM and PM peak hours
- Central Avenue & SR-60 Eastbound Ramps (#4) – LOS E AM peak hour only
- Watkins Drive & SR-60 Westbound On-Ramp (#6) – LOS F AM peak hour only

A summary of the peak hour intersection LOS for Horizon Year (2040) Without Project conditions are shown on Figure 5.10-18.



LEGEND:

- = AM PEAK HOUR
- = PM PEAK HOUR
- = LOS A-D
- = LOS E
- = LOS F
- NA = NOT AN ANALYSIS LOCATION FOR THIS SCENARIO

N

CRESTVIEW APARTMENTS

Horizon Year (2040) Without

Project Summary of LOS

Figure 5.10-18

Table 5.10-16 – Intersection Analysis for Horizon Year (2040) Conditions

#	Intersection	Traffic Control[2]	2040 Without Project				2040 With Project				Change in Delay		Project-Specific Traffic Deficiency?[3]
			Delay[1] (secs.)		Level of Service		Delay[1] (secs.)		Level of Service				
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
1	Driveway 1 & Sycamore Canyon Bl.	CSS	Future Intersection				9.8	11.7	A	B	-	-	No
2	Sycamore Canyon Bl. & Driveway 2	CSS	18.1	15.5	C	C	23.1	22.2	C	C	-	-	No
3	Sycamore Canyon Bl. & Central Av.	TS	**111.8**	**118.4**	**F**	**F**	**122.2**	**123.2**	**F**	**F**	10.4	4.8	Yes
4	Central Av. & SR-60 EB Ramps	TS	**58.3**	31.9	**E**	C	**58.3**	35.1	**E**	D	0.0	3.2	No
5	Watkins Dr./Central Av. & SR-60 WB Off-Ramp	TS	36.5	14.4	D	B	40.5	14.5	D	B	4.0	0.1	No
6	Watkins Dr. & SR-60 WB On-Ramp	CSS	**53.1**	33.3	**F**	D	**58.9**	**36.4**	**F**	**E**	5.8	3.1	Yes

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).
[1]Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.
[2]CSS = Cross-street Stop; TS = Traffic Signal; CSS = Improvement
[3]Project-specific traffic deficiency occurs when the addition of project-related trips causes either peak hour LOS to degrade from acceptable LOS (LOS A through LOS D) to unacceptable levels (LOS E or LOS F) or the peak hour delay is increased by the following values: LOS A/B = 10 seconds or more LOS C = 8 seconds or more LOS D = 5 seconds or more LOS E = 2 seconds or more LOS F = 1 second or more

Horizon Year With Project Traffic Conditions

As shown in Table 5.10-16 and illustrated on Figure 5.10-19, there are no additional study area intersections anticipated to experience unacceptable LOS (LOS E or worse) with the addition of Project traffic during one or more peak hours in addition to those previously identified under Horizon Year (2040) without Project conditions.

Roadway Segment Analysis

The roadway segment capacities utilized for the purposes of this analysis are approximate figures only and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet traffic demand. Table 5.10-17 provides a summary of the Horizon Year (2040) conditions roadway segment capacity analysis based on the applicable roadway segment capacity. As shown in Table 5.10-17, all the study area roadway segments are anticipated to operate at an acceptable LOS under Horizon Year (2040) without Project conditions, with the exception of the following roadway segments:

- Central Avenue, West of Sycamore Canyon Boulevard (#1) – LOS E
- Sycamore Canyon Boulevard, South of Central Avenue (#4) – LOS F

There are no additional roadway segments anticipated to operate at an unacceptable LOS with the addition of Project traffic.

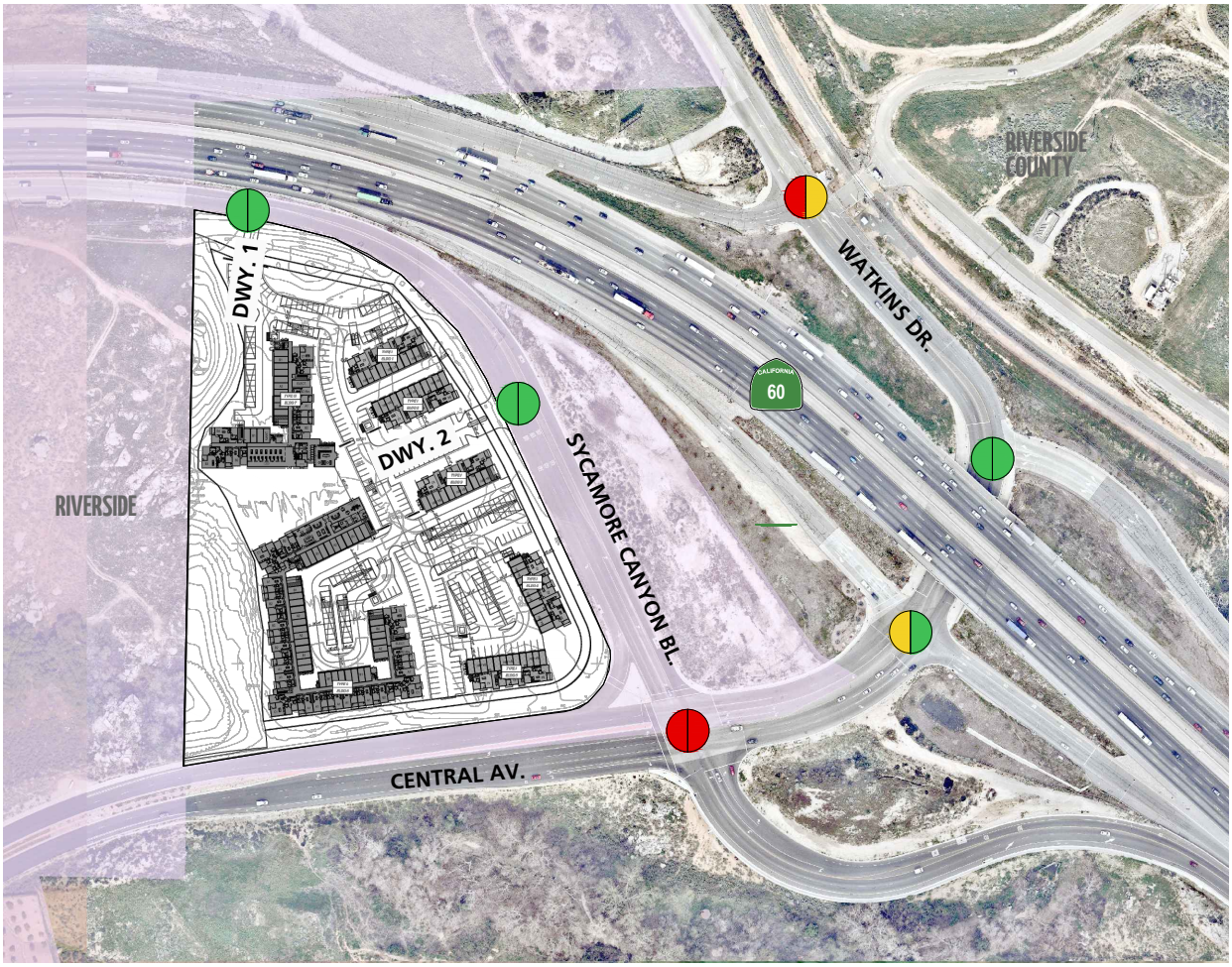
Table 5.10-17 – Roadway Segment Analysis for Horizon Year (2040) Conditions

#	Roadway	Segment Limits	Roadway Section	LOS Capacity[1]	2040 Without Project	V/C[2]	LOS[3]	2040 With Project	V/C[2]	LOS[3]	Acceptable LOS
1	Central Av.	West of Sycamore Canyon Bl.	4D	33,000	**32,974**	**1.00**	**E**	**33,113**	**1.00**	**F**	D
2	Sycamore Canyon Bl.	West of Driveway 1	2U	18,000	10,664	0.59	A	11,314	0.63	B	D
3	Sycamore Canyon Bl.	North of Central Av.	4D	22,000	10,664	0.48	A	11,323	0.51	A	D
4	Sycamore Canyon Bl.	South of Central Av.	4D	22,000	**25,424**	**1.16**	**F**	**25,528**	**1.16**	**F**	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).
[1]These maximum roadway capacities have been extracted from the following source: City of Riverside Traffic Impact Analysis Preparation Guide (Exhibit D) for each applicable roadway type. These roadway capacities are "rule of thumb" estimates for planning purposes. The LOS "E" service volumes are estimated maximum daily capacity for respective classifications. Capacity is affected by such factors as intersections (spacing, configuration and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic) and pedestrian and bicycle traffic.
[2]v/c = Volume-to-capacity
[3]LOS = Level of Service

Traffic Signal Warrant Analysis

There are no unsignalized intersections for Horizon Year (2040) without Project traffic conditions, as such, no traffic signal warrant analysis has been conducted. There are no additional study area intersections that are anticipated to meet either peak hour volume-based or planning level traffic signal warrants for Horizon Year (2040) with Project traffic conditions, in addition to the location previously warranted under Opening Year Cumulative (2022) traffic conditions.



LEGEND:

- = AM PEAK HOUR
- = PM PEAK HOUR
- = LOS A-D
- = LOS E
- = LOS F

N

CRESTVIEW APARTMENTS

Horizon Year (2040) With

Project Summary of LOS

Figure 5.10-19

Off-Ramp Queuing Analysis

A queuing analysis was performed for the off-ramps at the SR-60 at Central Avenue to assess vehicle queues for the off-ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially "spill back" onto the SR-60/I-215 mainline. Queuing analysis findings are presented in Table 5.10-18 for Horizon Year (2040) traffic conditions. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown in Table 5.10-18, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for Horizon Year (2040) traffic conditions.

Table 5.10-18 – Peak Hour Off-Ramp Queuing Analysis for Horizon Year (2040) Conditions

Intersection	Movement	Stacking (Feet)	2040 Without Project				2040 With Project			
			95th Percentile Stacking Distance Required (Feet)		Acceptable?[1]		95th Percentile Stacking Distance Required (Feet)		Acceptable?[1]	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
Central Av. & SR-60 EB Off-Ramp	EBL	400	80	22	Yes	Yes	80	22	Yes	Yes
	EBT/R	1,055	30	27	Yes	Yes	31	29	Yes	Yes
	EBR	115	3	0	Yes	Yes	6	2	Yes	Yes
Central Av./Watkins Dr. & SR-60 WB Off-Ramp	WBL	1,230	45	87	Yes	Yes	46	90	Yes	Yes
	WBR	300	334[2]	154	Yes[3]	Yes	334[2]	158	Yes[3]	Yes

[1]Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.
[2]95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.
[3]The 95th percentile queues indicates potential queuing for the movements and peak hours identified above. However, while the potential queues would exceed the turn pocket lengths and could spillback into the adjacent through lanes, none are anticipated to result in spillback onto the SR-60 mainline since the adjacent through lanes all have sufficient capacity.

Based on the City's deficiency criteria, the following intersections were found to be deficient in the cumulative traffic scenario:

- Sycamore Canyon Boulevard & Central Avenue (#3) – The addition of Project traffic increases the pre-project delay by more than 1.0 second during the AM and PM peak hours resulting in a cumulative traffic deficiency.
- Central Avenue & SR-60/I-215 Eastbound Ramps (#4) – The addition of Project traffic is anticipated to increase the pre-project delay by less than 2.0 seconds during the deficient peak hour. As such, the deficiency is not considered to be a Project-specific traffic deficiency.
- Watkins Drive & SR-60/I-215 Westbound On-Ramp (#6) – The addition of Project traffic increases the pre-project delay by more than 1.0 second during the AM peak hour and causes a deficiency in the PM peak hour, resulting in a cumulative traffic deficiency.

The effectiveness of the proposed recommended intersection improvements are presented in Table 5.10-19 for Horizon Year (2040) with Project traffic conditions. The Sycamore Canyon Boulevard and Central Avenue intersection traffic signal shall be modified to add a 2nd NB right turn lane and to implement overlap phasing on the eastbound (EB) right turn lane. As a condition of approval, the Project shall contribute its fair share of 8.6 percent of the cost. The Watkins Drive & SR-60/I-215 Westbound (WB) on-ramp shall be improved with installation of a traffic signal, addition of a 2nd NB left turn lane, and addition of a 2nd Southbound (SB) through lane. As a condition of approval, the Project shall contribute its fair share of 4.2 percent of the cost. With the implementation of the intersection recommendations shown in Table 5.10-19, there are no project-related deficiencies anticipated to the study area intersections.

Table 5.10-19 – Intersection Analysis for Horizon Year (2040) Conditions With Improvements

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
3	Sycamore Canyon Bl. & Central Av.																	
	2040 Without Project Conditions	TS	1	1	1	1	2	1	1	3	1	2	2	0	**111.8**	**118.4**	**F**	**F**
	2040 With Project Conditions	TS	1	1	1	1	2	1	1	3	1	2	2	0	**122.2**	**123.2**	**F**	**F**
	With Improvements	TS	1	1	2>	1	2	1	1	3	1>	2	2	0	40.4	33.7	D	C
6	Watkins Dr. & SR-60 WB On-Ramp																	
	2040 Without Project Conditions	CSS	1	2	0	0	1	0	0	0	0	0	0	0	**53.1**	33.3	**F**	D
	2040 With Project Conditions	CSS	1	2	0	0	1	0	0	0	0	0	0	0	**58.9**	**36.4**	**F**	**E**
	With Improvements	TS	2	2	0	0	2	0	0	0	0	0	0	0	7.3	8.5	A	A

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).
[1]When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes; L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; d = Defacto Right Turn Lane; 1 = Improvement
[2]Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movement sharing a single lane) are shown.
[3]CSS = Cross-street Stop; TS = Traffic Signal; TS = Improvement
[4]Recommended improvement consists of modifying the cycle length from 60-seconds to 90-seconds during both peak hours. No physical improvements recommended.

It should be noted, although not included for analysis in the TA, pursuant to comments received by the City, Gernert Road (located north of the intersection of Watkins Drive and SR-60/I-215 Westbound on-ramp) should be restricted to right-in/right-out access only with the implementation of the intersection improvements shown in Table 5.10-19.

There are no Project-related deficiencies anticipated to the study area intersections in the cumulative traffic condition.

5.10.8 References

The following references were used in the preparation of this section of the EIR:

Bicycle Master Plan	City of Riverside Bicycle Master Plan Update: Addendum. March 2012. https://www.riversideca.gov/traffic/pdf/Plan-Update.pdf
GP 2025	City of Riverside General Plan – Circulation and Community Mobility Element
GP 2025 PEIR	City of Riverside General Plan 2025 PEIR – Volume 2: 5.15 Transportation Traffic
TA	Crestview Apartments Focused Traffic Analysis, Urban Crossroads, August 27, 2020 (Appendix I)
VMT	Crestview Apartments Vernicle Miles Travelled (VMT) Analysis, Urban Crossroads, September 16, 2020 (Appendix I)
SCAG 2020	Southern California Association of Governments. Connect SoCal – the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy. https://www.connectsocal.org/Pages/What-Is-Connect-SoCal.aspx

5.11 Tribal Cultural Resources

This section analyzes the effects of the Project on tribal cultural resources. The following discussion and analysis includes findings about tribal cultural resources from the Initial Study, included in its entirety as Appendix A. This analysis is based on the City's consultation with tribes pursuant to Senate Bill 18 (SB 18) and Assembly Bill 2 (AB 52), the *Cultural Resources Assessment* prepared by BCR Consulting, LLC. (Appendix D), and comments received during the Notice of Preparation (NOP) public review period (Appendix A).

5.11.1 Setting

Existing Tribal Resource Setting

The Project site is situated in an area near boundaries of several Native American groups identified by anthropologists in the early 20th century. These include historically-identified territories occupied by the Cahuilla, Luiseño, Serrano, and Gabrielino. Section 5.4 Cultural Resources and the *Cultural Resources Assessment* (Appendix D) provide an ethnographic overview of the four Native American groups.

Review of previously recorded resources and results of a pedestrian field survey by an archaeologist did not reveal findings of significant tribal cultural resources present on the Project site. Though there are no known tribal cultural resources present on the Project site, the Project requires discretionary review by the City of Riverside and includes a request for a General Plan land use designation amendment. A General Plan land use designation amendment requires SB 18 consultation. As part of CEQA compliance, the Project requires AB 52 consultation. Therefore, notification of Native American tribes in the vicinity of the Project site was required for this Project under both SB 18 and AB 52.

According to the Native American Heritage Commission (NAHC) the Project site has been identified within the ancestral territory of 19 Native American tribes, including:

- Agua Caliente Band of Cahuilla Indians
- Augustine Band of Cahuilla Mission Indians
- Cabazon Band of Mission Indians
- Cahuilla Band of Indians
- Gabrieleño Band of Mission Indians – Kizh Nation
- Gabrieleño / Tongva San Gabriel Band of Mission Indians
- Gabrieleno/Tongva Nation
- Gabrieleno Tongva Indians of California Tribal Council
- Gabrielino-Tongva Tribe
- Los Coyotes Band of Cahuilla and Cupeno Indians

- Morongo Band of Mission Indians
- Pechanga Band of Luiseño Indians
- Ramona Band of Cahuilla
- San Fernando Band of Mission Indians
- San Manuel Band of Mission Indians
- Santa Rosa Band of Mission Indians
- Serrano Nation of Mission Indians
- Soboba Band of Luiseño Indians
- Torres-Martinez Desert Cahuilla Indians

5.11.2 Regulatory Setting

5.11.2.1 Regulations

Native American Involvement

Several Federal and State laws address Native American involvement in the development review process. The most notable of these are the Federal Native American Graves Protection and Repatriation Act (1990) and the California Native American Graves Protection and Repatriation Act (2001). These acts ensure that Native American human remains and cultural items be treated with respect and dignity.

5.11.2.2 State Regulations

Senate Bill 18

Enacted on March 1, 2005, Senate Bill (SB) 18 (California Government Code Sections 65352.3 and 65352.4) requires cities and counties to notify and consult with California Native American tribal groups and individuals regarding proposed local land use planning decisions for the purpose of protecting traditional tribal cultural places (sacred sites), prior to adopting or amending a General Plan or designating land as open space. Tribal groups or individuals have 90 days to request consultation following the initial contact.

Senate Bill 18 Consultation Process

Pursuant to SB 18 consultation, the City sent letters to the nineteen (19) tribes identified by the NAHC whose ancestral territory includes the area of project site. Only the Soboba Band of Mission Indians requested government-to-government consultation under SB 18. See Table 5.11-1 – SB 18 Response Log, below.

Table 5.11-1 – SB 18 Response Log

Native American Tribe (Individual Responding)	Comment
Soboba Band of Mission Indians	• In a letter dated April 8, 2020, the Tribe indicated its office would like to initiate government-to-government consultation. • The City consulted with the Tribe on April 20, 2020 • The Tribe requested a Tribal Cultural Landscape study (TCL) be completed for the Project. However, the City determined that it would not require a TCL study because of the currently disturbed nature of the site, the history of disturbances to the site from prior construction activities and grading, and the lack of tribal cultural resources on site. • Consultation with the Tribe concluded July 30, 2020.

Assembly Bill 52

California Assembly Bill (AB) 52 of 2014, effective July 1, 2015, expanded the California Environmental Quality Act (CEQA) by defining a new resource category: "tribal cultural resources." AB 52 establishes that "a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (Public Resource Code [PRC] Section 21084.2). It further states the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3). PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and that are either:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

In recognition of California Native American tribal sovereignty and the unique relationship of California local governments and public agencies with California Native American tribal governments, and to respect the interests and roles of project proponents, it is the intent AB 52 to:

1. Recognize that California Native American prehistoric, historic, archaeological, cultural, and sacred places are essential elements in tribal cultural traditions, heritages, and identities.

2. Establish a new category of resources in CEQA called “tribal cultural resources” that considers the tribal cultural values in addition to the scientific and archaeological values when determining impacts and mitigation.
3. Establish examples of mitigation measures for tribal cultural resources that uphold the existing mitigation preference for historical and archaeological resources of preservation in place, if feasible.
4. Recognize that California Native American tribes may have expertise with regard to their tribal history and practices, which concern the tribal cultural resources with which they are traditionally and culturally affiliated. Because CEQA calls for a sufficient degree of analysis, tribal knowledge about the land and tribal cultural resources at issue should be included in environmental assessments for projects that may have a significant impact on those resources.
5. In recognition of their governmental status, establish a meaningful consultation process between California Native American tribal governments and lead agencies, respecting the interests and roles of all California Native American tribes and project proponents, and the level of required confidentiality concerning tribal cultural resources, at the earliest possible point in CEQA environmental review process, so that tribal cultural resources can be identified, and culturally appropriate mitigation and mitigation monitoring programs can be considered by the decision making body of the lead agency.
6. Recognize the unique history of California Native American tribes and uphold existing rights of all California Native American tribes to participate in, and contribute their knowledge to, the environmental review process pursuant to CEQA.
7. Ensure that local and tribal governments, public agencies, and project proponents have information available, early in CEQA environmental review process, for purposes of identifying and addressing potential adverse impacts to tribal cultural resources and to reduce the potential for delay and conflicts in the environmental review process.
8. Enable California Native American tribes to manage and accept conveyances of, and act as caretakers of, tribal cultural resources.
9. Establish that a substantial adverse change to a tribal cultural resource has a significant effect on the environment.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. AB 52 requires lead agencies to “begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.”

Pursuant to AB 52, the City sent letters to the nine (9) tribes who identified their affiliation with the area requesting for information on the Project site and government-to-government consultation. Five of the Tribes requested actual government-to-government consultation under AB 52. See Table 5.11-2 – AB 52 Response Log, below.

Table 5.11-2 – AB 52 Response Log

Native American Tribe (Individual Responding)	Comment
Agua Caliente Band of Cahuilla Indians	• In a letter dated February 24, 2020, the Tribe indicated its office would like to initiate government-to-government consultation. • The City consulted with the Tribe on March 17, 2020 and on April 20, 2020 • Consultation with the Tribe concluded June 9, 2020.
Cahuilla Band of Indians	• The Tribe did not respond
Gabrieleno Band of Mission Indians	• The Tribe did not respond
Morongo Band of Mission Indians	• In a letter dated January 30, 2020, the Tribe indicated its office would like to initiate government-to-government consultation, but then declined. • Consultation with the Tribe concluded January 30, 2020.
Pechanga	• In a letter dated February 14, 2020, the Tribe indicated its office would like to initiate government-to-government consultation. • The City consulted with the Tribe on April 7, 2020 • Consultation with the Tribe concluded August 18, 2020.
Rincon Band of Luiseño Indians	• In a letter dated January 30, 2020, the Tribe indicated its office would like to initiate government-to-government consultation. • The City consulted with the Tribe on February 13, 2020 • Consultation with the Tribe concluded June 20, 2020.
San Gabriel Band of Mission Indians	• The Tribe did not respond
San Manuel Band of Mission Indians	• The Tribe declined the opportunity to consult via letter dated January 30, 2020
Soboba Band of Mission Indians	• In a letter dated April 8, 2020, the Tribe indicated its office would like to initiate government-to-government consultation. • The City declined consultation request, as it was received approximately 43 days after the 30-day consultation timeframe.

5.11.2.3 Regional Regulations

There are no regional regulations that relate to tribal cultural resources and this Project.

5.11.2.4 Local Regulations

City of Riverside General Plan 2025

The Historic Preservation Element of the General Plan 2025 contains policies related to the historic and prehistoric cultural resources in the City of Riverside (City). In addition to the objectives and policies relevant to cultural resources provided in Table 5.4-A in Section 5.4, Cultural Resources, the following policy of the Historic Preservation Element would also apply to the Project:

Objective HP-4: To fully integrate the consideration of cultural resources as a major aspect of the City's planning, permitting, and development activities.

Policy HP-4.3: The City shall work with the appropriate tribe to identify and address, in a culturally appropriate manner, cultural resources and tribal sacred sites through the development review process.

5.11.3 Project Design Considerations

The Project does not include specific design considerations related to reducing potential impacts to tribal cultural resources as no existing resources have been identified within the Project site (described in further detail below). Nonetheless, appropriate mitigation measures as agreed upon between the City and consulting tribes have been recommended and will be implemented as part of the Project to ensure any potential impacts to previously unidentified tribal cultural resources would be minimized and/or avoided.

5.11.4 Methodology

Potential impacts on tribal cultural resources are analyzed based on the potential for a project to impact any tribal cultural resources during construction or operation. The significance of a tribal cultural resource and subsequent significance of any impact is determined by, among other things, consideration of whether or not that resource has heritage value to California Native Americans. Further, this impact analysis is also based on the City's consultations with the interested tribes.

In January 2020, the City of Riverside sent out AB 52 consultation notices to tribes. The following tribes requested to consult with the City pursuant to AB 52:

- Agua Caliente Band of Cahuilla Indians
- Morongo Band of Mission Indians
- Pechanga Band of Luiseño Indians
- Rincon Band of Luiseño Indians

In January 2020, the City of Riverside sent out SB 18 consultation notices to tribes. The following tribes requested to consult with the City pursuant to SB 18:

- Soboba Band of Mission Indians

Soboba Band of Mission Indians requested a Tribal Cultural Landscape study (TCL) be completed for the Project. However, the City determined that it would not require a TCL study because of the currently disturbed nature of the site, the history of disturbances to the site from prior construction activities and grading, and the lack of tribal cultural resources on site. As outlined in the Cultural Resources Assessment, sources show that the property was crossed by unimproved roads from prior to 1901 until at least 1962. Aerial photo research and other sources show that approximately 80 percent of the Project site has been subject to severe disturbances associated with mechanical excavation in 1995, which completely altered the natural setting of the eastern half of the Project site, and during construction on Sycamore Canyon Boulevard between 2002 and 2005. BCR personnel conducted an archaeological field survey of the Project site on

December 20, 2019. The survey was conducted by walking parallel transects spaced approximately 15 meters apart across 100 percent of the Project site. Soil exposures were carefully inspected for evidence of cultural resources. Boulders were also carefully inspected for evidence of prehistoric cultural utility, including indications of milling, rock art, or shelter. During the field survey, BCR archaeologists did not identify any cultural resources within the Project site boundaries. Refer to Section 5.4 Cultural Resources for more information related to cultural resources and the *Cultural Resources Assessment* prepared by BCR Consulting, LLC.

The discussion of tribal cultural resources is based on consultations with interested Native American tribal leaders and lead by the City.

Pursuant to AB 52, consultation with the Agua Caliente Band of Cahuilla Indians ended on June 9, 2020. Consultation with the Morongo Band of Mission Indians ended on January 30, 2020. Consultation with the Pechanga Band of Luiseño Indians ended on August 18, 2020. Consultation with the Rincon Band of Luiseño Indians ended on July 20, 2020.

Each of the tribes agreed with the City's proposed mitigation measures described below in Section 5.11.7 as **MM CUL-1** through **MM CUL-4**. These mitigation measures are the City's standard mitigation measures, which were previously developed between the City and 9 consulting tribes pursuant to AB 52.

5.11.5 Thresholds of Significance

The City of Riverside has not established local CEQA significance thresholds as described in Section 15064.7 of the State CEQA Guidelines. The City generally utilizes the CEQA significance thresholds in Appendix G ("Environmental Checklist") of the State CEQA Guidelines. The Environmental Checklist prepared by the City for the Project (Appendix A) indicates that impacts related to the Crestview Apartments Project may be considered potentially significant if the proposed Project:

- (Threshold A) would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is:
  - listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
  - a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

5.11.6 Environmental Impacts

Threshold A: *Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is*

- *listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?*
- *a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, would the lead agency consider the significance of the resource to a California Native American tribe?*

No known significant tribal cultural resources are located on the Project site based on the findings of the Project-specific Cultural Resources Assessment (Appendix D) and on consultation with the Native American tribes who requested consultation. An archaeological field survey of the Project site was conducted on December 20, 2019. The survey was conducted by walking parallel transects spaced approximately 15 meters apart across 100 percent of the Project site. Soil exposures were carefully inspected for evidence of cultural resources. Boulders were also carefully inspected for evidence of prehistoric cultural utility, including indications of milling, rock art, or shelter. During the field survey, BCR archaeologists did not identify any cultural resources within the Project site boundaries. Two cultural resources have been previously recorded within the site's boundary but were destroyed in 1995 by construction excavation of a project. Careful inspection of the areas that formerly contained the resources failed to yield any remaining evidence of either resource. This entire eastern portion of the Project site has been subject to grading activities that have completely altered the native landscape and have destroyed the resources. However, grading and ground-disturbing activities during Project construction could impact currently unknown subsurface resources of tribal or Native American importance.

The City and the consulting tribes agreed that, in the event of the inadvertent discovery of previously unknown cultural resources of tribal or Native American importance during construction activities, appropriate mitigation measures would be implemented and followed. All consulting tribes accepted the City's standard mitigation measures (**MM CUL-1** through **MM CUL-4**), to ensure that potential impacts in the event of an inadvertent discovery of resources remain at less than a significant level. Therefore, potential Project impacts to tribal cultural resources would be **less than significant with mitigation measures MM CUL-1 through MM CUL-4**.

5.11.7 Proposed Mitigation Measures

MM CUL-1: Prior to grading permit issuance, if there are any changes to the Project site design and/or proposed grades, the Applicant and the City shall contact consulting tribes to provide an electronic copy of the revised plans for review. Additional consultation shall occur between the City and consulting tribes to discuss any proposed changes and review any new impacts and/or potential avoidance/preservation of the cultural resources on the Project site. The City and the

developer/applicant shall make all attempts to avoid and/or preserve in place as many cultural and paleontological resources as possible that are located on the project site if the site design and/or proposed grades should be revised. In the event of inadvertent discoveries of archaeological resources, work shall temporarily halt until agreements are executed with the consulting tribe, to provide tribal monitoring for ground disturbing activities.

MM CUL-2: Archaeological and Paleontological Monitoring: At least 30 days prior to application for a grading permit and before any grading, excavation and/or ground disturbing activities take place, the developer/applicant shall retain a Secretary of Interior Standards qualified archaeological monitor to monitor all ground-disturbing activities in an effort to identify any unknown archaeological resources.

1. The project archaeologist, in consultation with consulting tribes, the developer, and the City, shall develop an Archaeological Monitoring Plan to address the details, timing, and responsibility of all archaeological and cultural activities that will occur on the project site. Details in the plan shall include:
    a. Project grading and development scheduling:
    b. The development of a rotating or simultaneous schedule in coordination with the developer/applicant and the project archaeologist for designated Native American Tribal Monitors from the consulting tribes during grading, excavation, and ground-disturbing activities on the site, including the scheduling, safety requirements, duties, scope of work, and Native American Tribal Monitors' authority to stop and redirect grading activities in coordination with all Project archaeologists;
    c. The protocols and stipulations that the Applicant, tribes, and Project archaeologist/paleontologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits, or nonrenewable paleontological resources that shall be subject to a cultural resources evaluation;
    d. Treatment and final disposition of any cultural and paleontological resources, sacred sites, and human remains if discovered on the project site; and
    e. The scheduling and timing of the Cultural Sensitivity Training noted in mitigation measure MM-CUL-4.

MM CUL-3: Treatment and Disposition of Cultural Resources: In the event that Native American cultural resources are inadvertently discovered during the course of grading for this Project, the following procedures will be carried out for treatment and disposition of the discoveries:

1. **Consulting Tribes Notified:** within 24 hours of discovery, the consulting tribe(s) shall be notified via email and phone. The developer shall provide the City evidence of notification to consulting tribes. Consulting tribe(s) will be allowed access to the discovery, in order to assist with the significance evaluation.

2. **Temporary Curation and Storage:** During the course of construction, all discovered resources shall be temporarily curated in a secure location on site or at the offices of the project archaeologist. The removal of any artifacts from the Project site will need to be thoroughly inventoried with tribal monitor oversight of the process; and
3. **Treatment and Final Disposition:** The landowner(s) shall relinquish ownership of all cultural resources, including sacred items, burial goods, and all archaeological artifacts and non-human remains as part of the required mitigation for impacts to cultural resources. The Applicant shall relinquish the artifacts through one or more of the following methods and provide the City of Riverside Community and Economic Development Department with evidence of same:
    a. Accommodate the process for on-site reburial of the discovered items with the consulting Native American tribes or bands. This shall include measures and provisions to protect the future reburial area from any future impacts. Reburial shall not occur until all cataloguing and basic recordation have been completed;
    b. A curation agreement with an appropriate qualified repository within Riverside County that meets federal standards per 36 CFR Part 79 and therefore will be professionally curated and made available to other archaeologists/researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility within Riverside County, to be accompanied by payment of the fees necessary for permanent curation;
    c. If more than one Native American tribe or band is involved with the project and cannot come to a consensus as to the disposition of cultural materials, they shall be curated at the Western Science Center or Museum of Riverside by default; and

    At the completion of grading, excavation, and ground-disturbing activities on the site, a Phase IV Monitoring Report shall be submitted to the City documenting monitoring activities conducted by the project archaeologist and Native Tribal Monitors within 60 days of completion of grading. This report shall document the impacts to the known resources on the property; describe how each mitigation measure was fulfilled; document the type of cultural resources recovered and the disposition of such resources; provide evidence of the required cultural sensitivity training for the construction staff held during the required pre-grade meeting; and, in a confidential appendix, include the daily/weekly monitoring notes from the archaeologist. All reports produced will be submitted to the City of Riverside, Eastern Information Center, and consulting tribes.

MM CUL-4: Cultural Sensitivity Training: The Secretary of Interior Standards County certified archaeologist and Native American monitors shall attend the pre-grading meeting with the developer/permit holder's contractors to provide Cultural Sensitivity Training for all construction personnel. This shall include the procedures to be followed during ground disturbance in sensitive areas and protocols that apply in the event that unanticipated resources are discovered. Only construction personnel who have received this training can conduct construction and disturbance

activities in sensitive areas. A sign-in sheet for attendees of this training shall be included in the Phase IV Monitoring Report.

Consistent with State Law the project will be required to comply with the following standard condition of approval:

Discovery of Human Remains: In the event that human remains (or remains that may be human) are discovered at the Project site during grading or earthmoving, the construction contractors, Project Archaeologist, and/or designated Native American Monitor shall immediately stop all activities within 100 feet of the find. The Project proponent shall then inform the Riverside County Coroner and the City of Riverside Community & Economic Development Department immediately, and the coroner shall be permitted to examine the remains as required by California Health and Safety Code Section 7050.5(b) unless more current State law requirements are in effect at the time of the discovery. Section 7050.5 requires that excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If human remains are determined as those of Native American origin, the Applicant shall comply with the state relating to the disposition of Native American burials that fall within the jurisdiction of the NAHC (PRC Section 5097). The coroner shall contact the NAHC to determine the most likely descendant(s). The MLD shall complete his or her inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site. The Disposition of the remains shall be overseen by the most likely descendant(s) to determine the most appropriate means of treating the human remains and any associated grave artifacts.

The specific locations of Native American burials and reburials will be proprietary and not disclosed to the general public. The County Coroner will notify the Native American Heritage Commission in accordance with California Public Resources Code 5097.98.

According to California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052) determined in consultation between the Project proponent and the MLD. In the event that the Project proponent and the MLD are in disagreement regarding the disposition of the remains, State law will apply, and the median and decision process will occur with the NAHC (see Public Resources Code Section 5097.98(e) and 5097.94(k)).

5.11.8 Cumulative Environmental Effects

No tribal cultural resources were identified within the Project site, however, mitigation measures **MM CUL-1** through **MM CUL-4** would be implemented to ensure that potential impacts are reduced to less than significant levels if unknown cultural resources of tribal or Native American importance are inadvertently discovered during construction activities. However, the Project, in conjunction with other development in the City and surrounding areas, would cumulatively increase the potential to encounter sensitive tribal cultural resources. However, potential impacts to tribal cultural resources are site-specific and would be reduced to a less-than-significant level due to implementation of mitigation measures that would protect tribal cultural resources. In the

event that tribal cultural resources are discovered, each individual project would be required to comply with the applicable regulatory requirements and the consultation requirements of AB 52, and SB 18 if applicable, to determine and mitigate any potential impacts to tribal cultural resources. Therefore, cumulative impacts to tribal cultural resources would be **less than significant with mitigation** and would not be cumulatively considerable.

5.11.9 References

The following references were used in the preparation of this section of the EIR:

BCR 2020	BCR Consulting LLC, *Cultural Resources Assessment, Crestview Apartments Project*, July 2020.
GP 2025 FPEIR	City of Riverside, *General Plan 2025 Program Environmental Impact Report* (SCH# 2004021108), certified November 2007. (Available at https://www.riversideca.gov/planning/gp2025program/.)

5.12 Utilities and Service Systems

This section analyzes the Project's potential impacts related to utilities and service systems. Based upon analysis in the IS/NOP prepared for this project (Appendix A), some thresholds related to Utilities and Services Systems were found to have potentially significant impacts and are analyzed below. The discussion and analysis contained herein is informed by comments received during the NOP public review period. Impacts related to stormwater and stormwater facilities are discussed in Section 7.0 Environmental Effects Found Not Significant.

5.12.1 Setting

Existing Setting

The following section discusses existing setting with respect to solid waste, dry utilities, wastewater services, stormwater, water supply, demand, and distribution in the City. A description follows of water supplies available to Riverside Public Utilities (RPU), including groundwater, imported water, and recycled water. Current and projected future water demand based on existing use, anticipated growth, and water conservation efforts, is detailed as well.

Solid Waste

One of the City's franchise haulers (Burrtec, Athens, or CR&R) will provide solid waste disposal services for the Project. All non-hazardous solid waste collected is taken to the Robert A. Nelson Transfer Station, which is owned by the County of Riverside and operated under a 20-year franchise by a private company. Waste is then transferred to the Badlands Landfill for disposal. However, local trash haulers may dispose of collected waste at other County landfills in the area, such as the Lamb Canyon Landfill and El Sobrante landfill. All Riverside County landfills are Class III disposal sites permitted to receive non-hazardous municipal solid waste. See Table 5.12-1, Existing Landfills for information about the above-listed sites. (GP, 5.16-15 – 5.16-16)

Public Resources Code Section 41780 requires every city and county in the State to divert from landfills at least 50 percent of the quantity of waste generated within their jurisdiction in 2000. The Legislature amended this status in 2000, requiring jurisdictions to sustain their waste diversion efforts into the future. In 2002, the City's waste diversion rate was 57 percent, in compliance with Section 41780. (GP, 5.16-15 – 5.16-16)

Table 5.12-1 – Existing Landfills

Landfill	Maximum Permitted Daily Load (tons/day)	Maximum Permitted Capacity (tons)	Current Remaining Capacity (tons)	Cease Operation Date
Badlands	4,800	34,400,000	15,748,799	1/1/2022
Lamb Canyon	5,000	38, 935,653	19,242,950	4/1/2029
El Sobrante	16,054	209,910,000	143,977,170	1/1/2051

Source: CalRecycle

Dry Utilities

Energy

The City is the primary distribution provider for electricity in the entire City. Riverside Public Utility (RPU) is a municipally owned electrical utility and as such maintains electrical facilities and infrastructure within the City. Southern California Edison (SCE) serves electrical customers outside of the City limits. As areas from the Sphere are annexed into the City, RPU will serve customers in those areas. This happens over time and this is why SCE is providing service to some areas within the City limits at this time. Electricity is provided to the Project by RPU. Per the Energy Analysis, RPU derives electricity from varied sources including natural gas, coal, nuclear, biomass, geothermal, solar, wind, and hydroelectric. Table 5.12-2 – RPU 2019 Power Content Mix, identifies RPU's specific proportional shares of electricity sources in 2019. As indicted in Table 5.12-2, the 2019 RPU Power Mix has renewable energy at 37.6% of the overall energy resources. Power content mixes are generally released in July each year.

Table 5.12-2 – RPU 2019 Power Content Mix

Energy Resources	2019 RPU Power Mix
Eligible Renewable	**37.6%**
Biomass & waste	0.1%
Geothermal	22.5%
Eligible Hydroelectric	0%
Solar	11.8%
Wind	3.2%
Coal	**29.2%**
Large Hydroelectric	**1.3%**
Natural Gas	**4.1%**
Nuclear	**4.9%**
Other	**0%**
Unspecified Sources of power*	22.9%
Total	**100%**

"Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources

Natural Gas

Natural gas is a "fossil fuel," indicating that is comes from the ground, similar to other hydrocarbons such as coals or oil. Per the Energy Analysis, the usage associated with natural gas was calculated using the California Emissions Estimator Model (CalEEMod). 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 (CPUC). (Urban Crossroads, p. 18)

The CPUC 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. (Urban Crossroads, p. 19)

Natural gas from out-of-state production basins is delivered into California via the interstate natural gas pipeline system. 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 Southern California Gas Company (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. RPU and SoCalGas own and operate several natural gas storage fields that are located in northern and southern California. (Urban Crossroads, p. 19)

Telecommunication

Telephone and cable utilities for the Project can be provided by existing providers such as Spectrum and AT&T.

Wastewater Services

Per the 2015 Urban Water Management Plan, the City's Public Works Department operates and maintains the Riverside Regional Water Quality Control Plant (RWQCP). The plant capacity has recently been expanded to 46 million gallons per day (mgd). The service area of the RWQCP extends beyond the RPU service area to include the areas served by Jurupa, Rubidoux, and Edgemont Community Services Districts. (UWMP, p. 7-7)

Tertiary-treated effluent from the RWQCP is discharged into the Santa Ana River (SAR). The RWQCP is required to discharge 15,250 acre-feet per year, adjusted for quality, to meet downstream obligations to Orange County Water District (OCWD) established in the Orange County Judgment. A separate requirement, to discharge a total of 25,000 AFY, is included in the RWQCP ORDER WR 2008 – 0024 Conditionally Approving Wastewater Change Petition WW-0045. RPU maintains a recycled water distribution system that provides recycled water for landscape irrigation and commercial purposes. (UWMP, p. 7-8)

Stormwater

The Riverside County Flood Control and Water Conservation District (RCFC&WCD) and the San Bernardino County Flood Control District (SBCFCD) own and operate the existing regional flood control systems in and around RPU's service area, and opportunities are available for RPU to capture and recharge additional stormwater. (UWMP, p. 7-7)

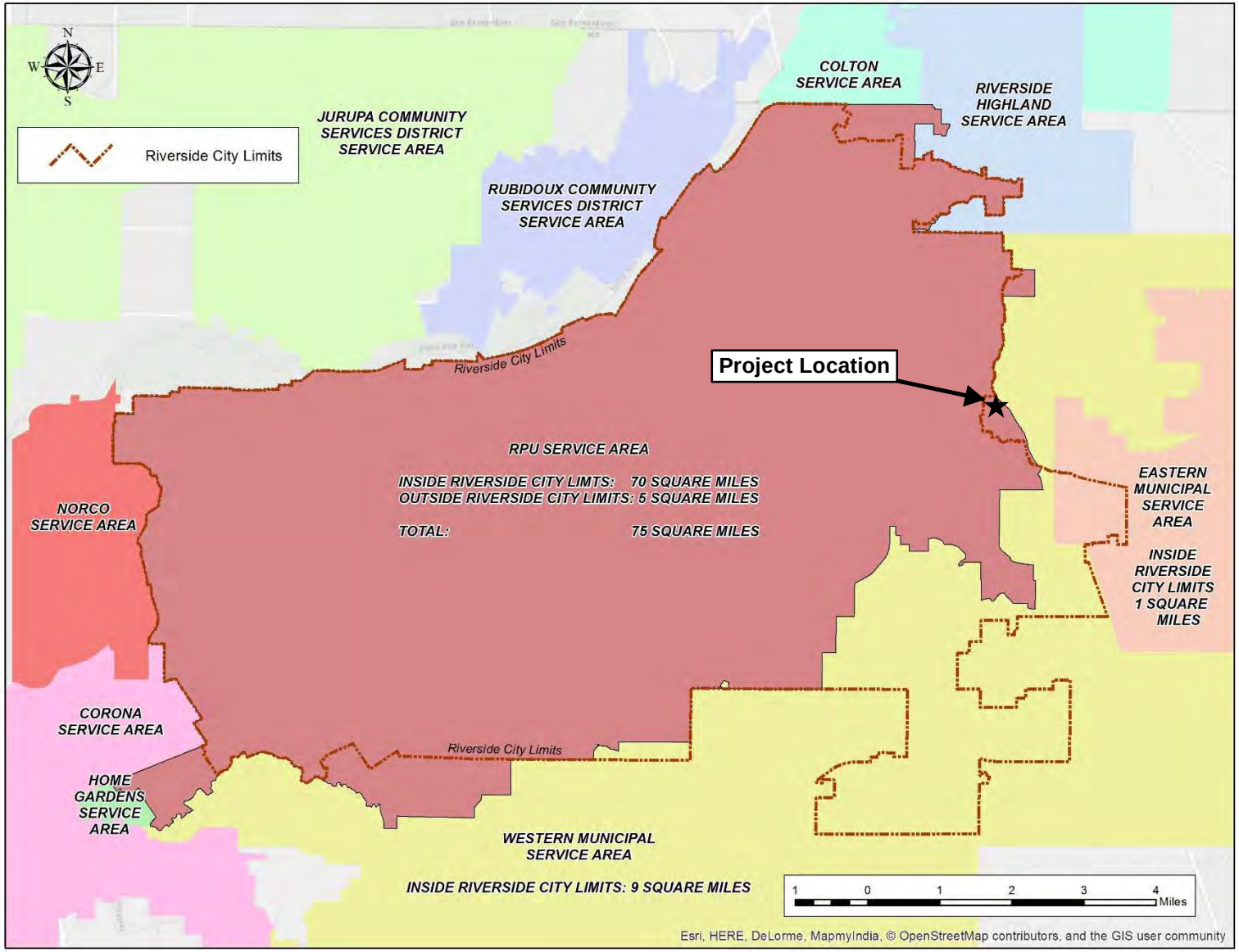
The 2015 Integrated Water Management Plan (IWMP) included an assessment of stormwater capture opportunities. The findings of this analysis translated in the definition of a number of potential water supply projects, which were further developed and described in the IWMP. RPU

is continuing to investigate and develop these potential projects. (UWMP, 7-7) As outlined in the Initial Study (Appendix A), Section 10 Hydrology and Water Quality, the drainage patterns on the site have been identified as southwesterly overland flow towards an existing drainage feature in the southwest corner of the site from where an existing 84-inch culvert that crosses under Central Avenue conveys waterflows to the site. The outlet or discharge point of the culvert to the Project site is clear and flowing freely. The drainage feature crosses the southwest corner of the site and continues off-site in a northwest direction. This drainage feature supports riparian vegetation. The drainage feature will not be impacted, but preserved in place, with implementation of the proposed Project. The proposed drainage patterns will preserve the existing site drainage discharge locations. There are no other storm drain improvements on the undeveloped vacant Project site.

Water Supply

RPU provides the majority of the City's water service, delivering to more than 64,000 service connections and over 300,000 people, mostly in the Riverside City limits (Western Municipal Water District [WMWD] and RPU 2017). WMWD and Eastern Municipal Water District serve all other portions of the City. Figure 5.12-1 shows RPU's service area. The City of Riverside's water comes predominantly from two sources: local groundwater from the Bunker Hill and Riverside groundwater basins and recycled water from the Riverside Regional Water Quality Control Plant. RPU can purchase imported water from WMWD via a connection at the Metropolitan Water District of Southern California's Henry J. Mills Water Treatment Plant, to meet peak demand as needed.

RPU has historically met nearly all of its demand from groundwater sources. RPU owns 201 wells across the Bunker Hill, Rialto-Colton, and Riverside basins, 50 of which extract potable water, 14 extract non-potable water, and the remainder are either inactive or provide monitoring. RPU has extraction rights from the adjudicated Bunker Hill, Rialto-Colton, and Riverside basins under the 1969 Western-San Bernardino Judgement (RPU 2016). Water available for purchase from WMWD is imported from the State Water Project (SWP); historically, such water has only been purchased to meet peak demand, as needed (RPU 2016). RPU has not purchased imported water from WMWD since 2009. RPU uses recycled water to meet some of its non-potable water needs, such as outdoor irrigation and commercial uses. Table 5.12-3 summarizes RPU's current and projected water resources.



2015 Urban Water Management Plan

CRESTVIEW APARTMENTS

Riverside Public Utilities Service Area

Figure 5.12-1

Table 5.12-3 – RPU Water Supplies – Current and Projected

Water Supplies (AFY)[1]	2015[2]	2020	2025	2030	2035	2040
Groundwater						
Bunker Hill Basin	53,793	55,263	55,263	55,263	55,263	55,263
Riverside North	6,357	10,902	10,902	10,902	10,902	10,902
Riverside South	13,571	16,880	16,880	16,880	16,880	16,880
Rialto-Colton	1,205	2,728	2,728	2,728	2,728	2,728
Future Groundwater Extraction/Conjunctive Use Projects[3]	0	3,000	8,000	10,800	10,800	10,800
Groundwater Total	**74,926**	**88,773**	**93,573**	**96,573**	**96,573**	**96,573**
Other Sources						
Recycled Water from Riverside RWQCP	200	6,430	6,430	6,430	6,430	6,430
Imported/Purchased Water from WMWD[4]	0	21,700	21,700	21,700	21,700	21,700
Other Sources Total	**200**	**28,130**	**28,130**	**28,130**	**28,130**	**28,130**
Supply Total	**75,126**	**116,903**	**121,903**	**124,703**	**124,703**	**124,703**

[1]AFY = acre feet per year
[2]Actual supplies in 2015
[3]Includes the Banking Bunker Hill Conjunctive Use; Seven Oaks Dam Conservation Phase II (Enhanced); Bunker Hill Active Recharge 2025; Riverside North Aquifer Storage and Recovery; Box Spring Local Stream Recharge and Direct Use; and Stormwater Recharge at Columbia, Marlborough, and Kansas Detention Basins projects. These projects are accounted for in RPU's most recent Integrated Water Management Plan. Projects have planned implementation years ranging from 2020 to 2030.
[4]Imported water from WMWD is shown as a supply available to RPU. RPU intends to use this supply only if needed.
Source: RPU 2016

Water Demand

The RPU 2015 Urban Water Management Plan (UWMP) details water demand from 2011 to 2015 by sector, including retail customers and wholesale potable and raw water deliveries to other water districts (RPU 2016). After peaking at 90,401 acre feet (AF) in 2012, water demand declined to 74,928 AF in 2015. While some of this demand reduction is attributed to ongoing, relatively permanent conservation efforts, RPU also attributes the reduction to temporary behavioral changes triggered by severe drought conditions. As a result, RPU estimates future demand by assuming a five (5) percent increase in per-capita consumption between 2015 and 2020 to account for the expected reversal of temporary behavioral water conservation changes among consumers.

The majority of RPU's supply comes from the adjudicated Bunker Hill, Riverside, and Rialto-Colton groundwater basins. The Western-San Bernardino Judgment adjudication limits production from these basins to ensure their long-term reliability. Local water suppliers identify potential future supply sources to augment water supplies and further insulate the region from hydrological uncertainty. Table 5.12-2 shows RPU's projected demands by sector, as stated in the 2015 UWMP.

Table 5.12-4 – RPU's Projected Demands for Potable and Raw Water

Level of Treatment when Delivered	Use Type	2015	2020	2025	2030	2035	2040
Potable	Single Family	26,897	29,931	31,064	32,241	33,462	34,730
Potable	Multi-Family	4,821	5,365	5,568	5,779	5,998	6,225
Potable	Commercial/Institutional	8,950	9,959	10,337	10,728	11,135	11,556
Potable	Industrial	8,847	9,845	10,218	10,605	11,006	11,423
Potable	Landscape	1,842	1,050	100	150	200	250
Potable	Agricultural Irrigation	1,534	1,707	1,772	1,839	1,908	1,981
Potable	Other	333	371	385	399	414	430
Potable	Deliveries to WMWD	1,442	4,300	4,300	4,300	4,300	4,300
Potable	Wholesale to HGCWD	180	0	0	0	0	0
Potable	UCR Demand related to UCR Expansion	0	3,300	3,300	3,300	3,300	3,300
Potable	California Baptist University additional demand	0	150	150	150	150	150
Potable	Gage Canal Company (Upper)	5,783	6,000	6,000	6,000	6,000	6,000
Potable	Potable Losses	6,302	5,278	5,375	5,559	5,750	5,948
Total Potable		**66,931**	**77,256**	**78,569**	**81,050**	**83,623**	**86,293**
Raw Water	Gage Canal Company (Lower)	6,139	7,000	7,000	7,000	7,000	7,000
Raw Water	Overlying Uses	901	1,200	1,200	1,200	1,200	1,200
Raw Water	WMWD	662	2,500	2,500	2,500	2,500	2,500
Raw Water	Irrigation Water Loss	295	835	835	835	835	835
Total Raw Water		**7,997**	**11,535**	**11,535**	**11,535**	**11,535**	**11,535**
Total Potable and Raw		**74,928**	**88,971**	**90,104**	**92,585**	**95,159**	**97,827**
Recycled	Landscape Irrigation	200	260	260	260	260	260
Recycled	Jackson Street Pipeline	0	3,370	3,370	3,370	3,370	3,370
Recycled	Arlington Avenue Pipeline	0	1,600	1,600	1,600	1,600	1,600
Recycled	Regional Concept Pipeline	0	1,200	1,200	1,200	1,200	1,200
Total Recycled Water		**200**	**6,430**	**6,430**	**6,430**	**6,430**	**6,430**
Total Demand		**75,128**	**95,221**	**96,534**	**99,015**	**101,589**	**104,257**

NOTES:
Units in acre feet per year (AFY)
Overlying uses include local demand for irrigation water met with production from RPU wells.
Source: RPU 2016

Dry Year Projections

RPU estimates future groundwater availability under single and multiple dry-year scenarios. Imported water availability was projected for single and multiple dry years based on scenarios identified for the SWP and associated percentages of water delivery amounts available to SWP water recipients.

Given the adjudication of the groundwater basins upon which it depends and the dependability of recycled water as a supply, RPU assumes 100 percent of its groundwater and recycled water supplies would remain available during both single and multiple dry year scenarios. Table 5.12-5 summarizes RPU's normal, single, and multiple dry year supply through 2040. Under all scenarios for all years, supply exceeds projected demand.

Table 5.12-5 – Water Supply in Single and Multiple Dry Years

Year-Type	2020	2025	2030	2035	2040
Normal Year	116,903	121,903	124,903	124,903	124,903
Single Dry Year	96,288	101,288	104,088	104,088	104,088
Multiple Dry Year 1st, 2nd, and 3rd Year Supply[1]	102,364	107,364	110,164	110,164	110,164

Units in acre feet per year (AFY)
[1]Expected supplies for a period of multiple dry years are slightly higher than a single dry year due to higher average availability of SWP water.
Source: RPU: 2016

5.12.2 Related Regulation

5.12.2.1 Federal Regulations

Clean Water Act

The Clean Water Act (CWA), enacted by Congress in 1972, requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and non-point source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). The California State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCB) administer NPDES permitting authority. The Project site is under the jurisdiction of the RWQCB Region 8 (Santa Ana Region).

Section 303(d) of the CWA (CWA, 33 USC 1250, et seq., at 1313(d)) requires states to identify "impaired" waterbodies as those which do not meet water quality standards. States are required to compile this information in a list and submit the list to the USEPA for review and approval. This list is known as the Section 303(d) list of impaired waters. As part of this listing process, states are required to prioritize waters and watersheds for future development of Total Maximum Daily Loads, or the maximum amount of a pollutant the waterbody can receive while still meeting water quality standards. The SWRCB and RWQCBs have ongoing efforts to monitor and assess water quality, to prepare the Section 303(d) list, and to develop Total Maximum Daily Load requirements.

5.12.2.2 State Regulations

Public Resource Code

The California Integrated Waste Management Act of 1989 requires that each county prepare a new Integrated Waste Management Plan. The Act further required each city to prepare a Source Reduction Plan and Recycling Element (SRRE) by July 1, 1991. Each source reduction element includes a plan for achieving a solid waste goal of 25% by January 1, 1995, and 50% by January 1, 2000. A number of changes to the municipal solid waste diversion requirements under the

Integrated Waste Management Act were adopted, including a revision to the statutory requirement for 50% diversion of solid waste. Under these provisions, local governments shall continue to diver 50% of all solid waste on and after January 1, 2000.

State Water Resources Control Board

The SWRCB regulates water quality in California for human uses and environmental protection. The SWRCB, along with nine RWQCBs, regulates wastewater, stormwater, and irrigation discharges, dredge and fill activities, and alteration of Federal water bodies under the CWA's 401 program. Additionally, the SWRCB implements the Federal NPDES program under the CWA, including issuance of the NPDES Construction General Permit for regulation of construction stormwater discharges.

Senate Bill X7-7

California adopted Senate Bill (SB) X7-7, or the Water Conservation Act of 2009, in November 2009. The legislation requires urban water retailers to set urban water use targets to achieve a 20 percent reduction in per capita urban water use by December 31, 2020. Additionally, the law requires agricultural water suppliers to prepare, adopt, and regularly update agricultural water management plans. Agricultural and urban water providers are ineligible for certain State grants and loans if they do not adhere to water conservation requirements outlined in the law.

Senate Bills 610 and 221

In 2001, California adopted SB 610 and SB 221, thereby amending the California Water Code. Under these new laws, certain types of development projects are now required to provide detailed water supply assessments (WSAs) to planning agencies. The primary purpose of a WSA is to determine if the identified water supply or water supplier will be able to meet projected demands for the project, in addition to existing and planned future uses, over a 20-year projection and with consideration to normal, dry, and multi-dry water years. Thresholds requiring the preparation of a WSA include residential developments of more than 500 dwelling units, shopping centers or business establishments employing more than 1,000 persons or having more than 500,000 square feet of floor space, commercial office buildings employing more than 1,000 persons or having more than 250,000 square feet of floor space, and projects that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project. As the Project consists of the development of 237 apartment units, the Project falls below the threshold of more than 500 dwelling units that would trigger the need for a project-specific WSA.

Senate Bill 1305

SB 1305, the Power Source Disclosure requires suppliers of electricity to disclose to consumers "accurate, reliable, and simple to understand information on the sources of energy that are being used…" (Public Utilities Code Section 398.1 (b)) The law requires that these suppliers tell consumers about what type of resources is used to generate the electricity being used.

Regional Water Management Planning Act

Adopted by the state legislature in 2002, the Regional Water Management Planning Act, or SB 1672, authorizes preparation of integrated regional water management plans. Such plans are developed by regional water management groups, defined as three or more local public agencies, at least two of which have statutory authority over water supply. Integrated regional water management plans address qualified programs and projects relating to water supply, water quality, flood protection, or other water-related topics undertaken by the participating public agencies. Qualified projects, as detailed in the legislation, include but are not limited to groundwater, urban, and agricultural water management planning efforts, levee or flood control infrastructure maintenance or construction, water recycling projects, and water conservation programs.

5.12.2.3 Regional Regulations

Riverside County Waste Resources Department Construction and Demolition Recycling

The Riverside County Waste Resource Department (RCWRD) requires that projects that have the potential to generate construction and demolition waste complete a Waste Recycling Plan (WRP) to identify the estimated quality and location of recycling of construction and demolition waste from the project. A waste recycling report is then required upon completion of the project that demonstrates that the project recycled a minimum of 50 percent of its construction and demolition waste per its WRP.

2015 Urban Water Management Plan for Riverside Public Utilities Water Division

The California Water Code requires any municipal water supplier serving over 3,000 connections or 3,000 acre feet per year (AFY) to prepare a UWMP. Water suppliers are required to update their UWMPs every five years. RPU is a consumer-owned water service provider serving both retail and wholesale customers. In 2015, RPU provided approximately 60,000 AFY to nearly 65,000 municipal connections (RPU 2016). RPU's service area includes 70 square miles in the City and five (5) square miles outside the city limits but within the City's sphere of influence. Riverside's most recent published update is the 2015 UWMP.

RPU's 2015 UWMP forecasts demand through 2040 and details normal, dry year, and multiple dry year supplies needed to meet demand. Additionally, the UWMP describes water supply reliability, conservation and demand management strategies, and RPU's current and anticipated water infrastructure projects.

Updated Integrated Regional Water Management Plan Report

WMWD published the Updated Integrated Regional Water Management Plan Report (IRWMP) in May 2008 and includes the City as a designated stakeholder. While the IRWMP focuses on long-range water planning needs in WMWD's service area, the document includes a regional-scale assessment of water planning efforts, infrastructure, and pending studies and projects. The IRWMP also discusses regional water management efforts in the context of other applicable water and environmental regional plans, such as the Santa Ana Watershed Project Authority's One Water-One Watershed Program and the MSHCP (WMWD 2008).

Water Recycling

The City of Riverside owns and operates the 30 million gallon per day (mgd) Riverside Water Quality Control Plant. The plant currently discharges tertiary-treated water effluent to the Santa Ana River. RPU is currently providing a small amount of recycled water for irrigation of a golf course and is planning to expand the use of recycled water for non-potable uses. The RPU is currently conducting a study to evaluate feasibility of expanding the use of recycled water. The recycled water will replace domestic water currently used for golf courses and parks, and therefore, will reduce the domestic water demand. RPU anticipates using approximately 2,000 acre-feet per year of recycled water by 2005, with preliminary project of 41,000 acre-feet per year in the future.

5.12.2.4 Local Regulations

Riverside General Plan 2025

The Riverside General Plan 2025 guides land use, development, and strategic planning decision-making in the City. The Public Facilities and Infrastructure Element and the Open Space and Conservation Element include objectives and policies intended to support well-designed and maintained infrastructure, and to provide adequate water supply and water quality to accommodate the needs of the community now and into the future (City of Riverside 2007). Objectives and policies applicable to water service and supply are presented below:

Public Facilities and Infrastructure Element

Objective PF-1: Provide superior water service to customers.

> **Policy PF-1.1:** Coordinate the demands of new development with the capacity of the water system.
>
> **Policy PF-1.2:** Support the efforts of the Riverside Public Utilities Department, Eastern Municipal Water District and Western Municipal Water District to work together for coordination of water services.
>
> **Policy PF-1.3:** Continue to require that new development fund fair-share costs associated with the provision of water service.
>
> **Policy PF-1.4:** Ensure the provision of water services consistent with the growth planned for the General Plan area, including the Sphere of Influence, working with other providers.
>
> **Policy PF-1.5:** Implement water conservation programs aimed at reducing demands from new and existing development.
>
> **Policy PF-1.7:** Protect local groundwater resources from localized and regional contamination sources such as septic tanks, underground storage tanks, industrial businesses and urban runoff.

Wastewater

Objective PF-3: Maintain sufficient levels of wastewater service throughout the community.

Policy-PF-3.1: Coordinate the demands of new development with the capacity of the wastewater system.

Policy PF-3.2: Continue to require that new development fund fair-share costs associated with the provision of wastewater service.

Policy PF-3.3: Pursue improvements and upgrades to the City's wastewater collection facilities consistent with current master plans and the City's Capital Improvement Program.

Policy PF-3.4: Continue to investigate and carry out cost-effective methods for reducing stormwater flows into the wastewater system and the Santa Ana River.

Objective PF-5: Minimize the volume of waste materials entering regional landfills.

Policy PF-5.4: Implement more severe fines for dumping bio-solids into the City's sewer and storm drain system.

Stormwater Control

Objective PF-4: Provide sufficient levels of storm drainage service to protect the community from flood hazards and minimize the discharge of materials into the storm drain system that are toxic or which would obstruct flows.

Policy PF-4.1: Continue to fund and undertake storm drain improvement projects as identified in the City of Riverside Capital Improvement Plan.

Policy PF-4.2: Continue to cooperate in regional programs to implement the National Pollutant Discharge Elimination System Program.

Policy PF-4.3: Continue to routinely monitor and evaluate the effectiveness of the storm drain system and make adjustments as needed.

Open Space and Conservation Element

Objective OS-10: Preserve the quantity and quality of all water resources throughout Riverside

Policy OS-10.1: Support the development and promotion of water conservation programs.

Policy OS-10.2: Coordinate plans, regulations and programs with those of other public and private entities which affect the consumption and quality of water resources within Riverside.

Policy OS-10.4: Develop a recommended native, low-water-use and drought-tolerant plant species list for use with open space and park development. Include this list in the landscape standards for private development.

Policy OS-10.5: Establish standards for the use of reclaimed water for landscaping.

Policy OS-10.9: Evaluate development projects for compliance with NPDES requirements and require new development to landscape a percentage of the site to filter pollutant loads in stormwater runoff and provide groundwater percolation zones.

Policy OS-10.11: Monitor the quality and quantity of groundwater and surface water resources and consider revisions to the General Plan's policies if monitoring identifies significant reductions in water quality.

City of Riverside Water Conservation Ordinance

Chapter 14.22, Water Conservation, of the Riverside Municipal Code (RMC) establishes procedures for implementing and enforcing water conservation measures. Section 14.22.010 establishes unreasonable water uses in the City, including, among others, application of potable water to outdoor landscapes in a manner that causes runoff to adjacent property, non-irrigated areas, or walkways; non-recirculating fountains or water features which use potable water; and application of potable water to outdoor landscaping within 48 hours of measurable rainfall.

The ordinance also establishes a four-stage Water Conservation Program, where stages increase with the severity of the water shortage. The four stages of the Water Conservation Program are as follows:

Stage One – Normal Water Supply. The City can meet all water demands, but baseline conservation measures, such as time restrictions on non-agricultural irrigation, still apply.

Stage Two – Minimum Water Shortage. There is a reasonable probability that the City will not be able to meet all of its water demands. Stage One restrictions apply, as well as other restrictions on irrigation and plumbing leaks. Customers will be asked to reduce monthly water consumption by up to 15 percent, and construction operations are not authorized to use water unnecessarily for any purpose, other than those required by regulatory agencies.

Stage Three – Moderate Water Shortage. All measures from preceding stages apply and more restrictive irrigation measures are implemented. Water customers will be asked to reduce monthly consumption by up to 20 percent.

Stage Four – Severe Water Shortage. The City's ability to meet water demand is seriously impaired. Stage Four includes the most restrictive irrigation measures, including a prohibition on outdoor lawn watering, as well as prohibitions on automobile washing, and pool filling.

Concurrently with a Stage Three or Stage Four declaration, the City Council may proclaim a Water Shortage Emergency. During such time, no new construction meters may be issued, no construction water may be used for earthwork including dust control, and no new building permits may be issued unless such projects meet certain water conservation requirements. RPU is operating currently under Stage One of the Water Conservation Program (RPU 2018).

Water Efficient Landscaping and Irrigation Ordinance

Chapter 19.570 of the RMC contains the City's Water Efficient Landscaping and Irrigation Ordinance, which is intended to promote quality landscaping as well as efficient use of water within the City. The ordinance requires preparation and implementation of a planting plan that

identifies the Maximum Applied Water Allowance and the Estimated Annual Water Use of the project's landscaping, as well as irrigation design and soil management plans.

Title 6 – Health and Sanitation of the Riverside Municipal Code

The City's Health and Sanitation Code (Municipal Code, Title 6, Section 6.04 et seq.) specifies the requirements for handling solid waste and recycling materials.

5.12.3 Project Design Considerations

The Project landscape design includes quality landscaping and efficient use of water in compliance with the City's Water Efficient Landscaping and Irrigation Ordinance (Chapter 19.570 of the RMC). The Project will adhere to 2019 CALGreen building code standards which include water conserving plumbing fixtures and fittings, outdoor potable water use in landscaped areas, management of construction waste, reuse or recycling of excavated soil and land clearing debris, and recycling by occupants (also refer to Section 5.7.3.3 for a summary of the 2019 CALGreen standards that are applicable to the Project).

5.12.4 Thresholds of Significance

The City of Riverside has not established local CEQA significance thresholds as described in Section 15064.7 of the State CEQA Guidelines. The City generally utilizes the CEQA significance thresholds in Appendix G ("Environmental Checklist") of the State CEQA Guidelines. The Environmental Checklist prepared by the City for the Project (see Appendix A of this document) indicates that impacts related to the Crestview Apartments Project may be considered potentially significant if the proposed project would:

- (Threshold A) require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;
- (Threshold B) not have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years;
- (Threshold C) 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;
- (Threshold D) generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals;

5.12.5 Environmental Impacts

Threshold A: *Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or*

telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Water

The Project will be required to construct an 8-inch water main extension in Central Avenue from Sycamore Canyon Boulevard across the Project frontage and a 12-inch water main extension in Sycamore Canyon Boulevard from Central across the project frontage, as determined by the City's Public Utilities – Water Division. These extensions will connect the Project to existing City water lines in City street rights-of-way and no additional improvements or relocations are needed to serve the Project.

Wastewater

A Sewer Capacity Evaluation (Carollo, 2020, Appendix J) was conducted to assess the impact the Project could have on the City's wastewater collection system. The Project will connect to an existing 21-inch diameter gravity sewer pipeline along Central Avenue, west of Sycamore Canyon Boulevard. Figure 5.12-2 shows the 21-inch sewer pipeline alignment and the Project's point of connection to the existing sewer system.

The Sewer Capacity Evaluation included an existing hydraulic evaluation to verify that the existing system improvements were appropriately sized to convey existing peak wet weather flows (PWWFs) in addition to Project flows and to identify new locations of sewers that cannot convey the increased flows. The evaluation showed that the City's existing collection system has sufficient capacity to convey proposed PWWFs downstream of the Project without exceeding the established flow depth criterion. Additionally, the hydraulic analysis showed that the City's *2020 Update of the Integrated Master Plan for the Wastewater Collection and Treatment Facilities'* (Master Plan Update's) proposed existing collection system projects are adequately sized to handle the change in the land use type at the proposed point of connection.

Further, the Sewer Capacity Evaluation's future capacity evaluation including the Project did not identify new system deficiencies not already identified in the Master Plan Update. The hydraulic analysis showed that the proposed Master Plan Update's proposed future projects are adequately sized for the change in land use type at the proposed point of connection.

The Project's Sewer Capacity Evaluation determined that the City's collection system has sufficient capacity to convey existing PWWFs downstream of the Project without exceeding the established flow depth criteria. Thus, the Project would not result in the relocation or construction of new or expanded wastewater facilities that would cause significant environmental effects.

Stormwater

As outlined in the Initial Study (Appendix A), Section 10 Hydrology and Water Quality, the drainage patterns on the site have been identified as southwesterly overland flow towards an existing drainage feature in the southwest corner of the site from where an existing 84-inch culvert that crosses under Central Avenue conveys waterflows to the site. The outlet or discharge point of the culvert to the project site is clear and flowing freely. The drainage feature crosses the southwest corner of the site and continues off-site in a northwest direction. This drainage feature

supports riparian vegetation. The drainage feature will not be impacted, but preserved in place, with implementation of the proposed Project. The proposed drainage patterns will preserve the existing site drainage discharge locations. There are no other storm drain improvements on the undeveloped vacant Project site.

Per the Initial Study, on-site storm water runoff and erosion would be minimized through site development, including buildings, parking and paved areas and storm drain infrastructure. Storm drain infrastructure planned for the site includes various size storm drains (8, 12, 18, and 24-inch), inlet catch basin, 24 x 24-inch drain box, underground detention system, 12-inch landscape catch basin with atrium grate, and 12-inch diameter angular rip rap at two storm drain outlets along the western development boundary. As outlined in the Preliminary Project Specific WQMP (page 24) the volume and time of concentration of storm water runoff for the post-development condition is not significantly different from the pre-development conditions for a 2-year return frequency storm (a difference of 5% or less is considered insignificant). As shown below in Table 5.12-6, the Project is below the 5% threshold and therefore construction of the Project will not affect stormwater flows.

Table 5.12-6—Hydrologic Conditions of Concern Summary

	2 year—24-hour storm		
	Pre-condition	**Post-condition**	**% Difference**
Time of Concentration[1] (min)	11.45	10.91	-5%
Volume (Cubic Feet)	41,269	39,445	-4%
[1] Time of concentration is defined as the time after the beginning of the rainfall when all portions of the drainage basin are contributing to flow at the outlet.			

Therefore, the project would not result in storm water runoff from the site that requires the construction of additional stormwater facilities downstream and off-site.

Dry Utilities

As discussed in Section 5.12.1 Setting, RPU will provide electricity to the proposed Project. Natural gas will be provided by SoCalGas, and telecommunications will be provided by a local provider such as Spectrum or AT&T. Per the Project's *Energy Analysis* (Appendix E), the Project would not result in a substantial increase in demand or transmission service that would result in the need for new or expanded sources of energy supply or new or expanding energy delivery systems or infrastructure as the Project would be served by the existing electric utility lines in the Project vicinity. Natural gas and telecommunication lines will have extensions from existing lines in Sycamore Canyon Boulevard and Central Avenue within the City's street Right-of-Way (ROW) into the development. Therefore, natural gas and telecommunications would not result in the need for new or expanded sources.

As there are existing dry and wet utility facilities in the adjacent roadways and only extensions into the Project site are required, the Project will not require or result in the relocation or construction of new or expanded facilities offsite, or relocation of facilities. Potential impacts would be **less than significant**.



CRESTVIEW APARTMENTS

RVA carollo

Sewer Infrastructure Vicinity Map

Figure 5.12-2

Threshold B: *Would the Project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*

As discussed in Section 5.12.2.2, under SB 610 and SB 221, certain types of development projects are required to provide detailed WSAs to planning agencies. The threshold requiring the preparation of a WSA for residential developments is over 500 dwelling units. The Project includes a total of 237 residential apartment units, which is below the threshold of more than 500 dwelling units; therefore, the Project does not trigger the need for the preparation of a project-specific WSA.

Construction Demand

Water would be required for temporary construction activities on the Project site, including dust suppression, grading and grubbing, compaction, construction equipment wheel washing, and concrete mixing and casting. Water consumption by construction workers and cleaning of portable toilets on the Project site may also account for a small portion of overall construction water demand.

Construction water demand would be temporary and, therefore, would not result in long-term strain on water supplies. As discussed in Section 5.12.2.3, Regional Regulations, the City's Water Conservation Ordinance allows the City Council to declare a Water Shortage Emergency, during which no construction water may be used for earthwork, including dust suppression and compaction activities. However, the City is currently in Stage 1 and not experiencing a water emergency. As previously discussed in threshold A, RPU would be the water provider for the Project. Per the 2015 UWMP, RPU's potable distribution system delivers water to Gage Canal Company (GCC), Home Garden County Water District (HGCWD), and Western Municipal Water District (WMWD). Non-potable water is distributed to GCC and WMWD. Table 5.12-3 and Table 5.12-4 show the projected water demands throughout 2040. RPU has also conducted dry year predictions as shown on Table 5.12.-5 to determine if water will be available during single and multiple dry years. RPU assumes 100 percent of its groundwater and recycled water supplies would remain available during these scenarios. Since the Project is under the 500 dwelling units threshold that would result in a WSA, the RPU's current water supply would be able to support the Project. Given the temporary and minimal nature of construction water demand in addition to the fact that the City would restrict water intensive construction activities through a Water Shortage Emergency declaration if it lacked adequate water supply, impacts related to construction water consumption would be **less than significant**.

Operational Demand – Indoor and Outdoor Use

The Project would introduce a new development consisting of multi-family residential uses. The Project would comply with all requirements of the California Green Building Code, as adopted by the City, pertaining to maximum flow rates for plumbing fixtures, such as toilets, showerheads, and faucets in the residential buildings.

Further, because the Project would involve more than 2,500 square feet of developer-installed landscape area, it would be subject to the requirements of the City's Water Efficient Landscaping

and Irrigation Ordinance, codified in Chapter 19.570 of RMC. Pursuant to the ordinance, the Project would prepare and submit for approval planting, irrigation design, and soil management plans and comply with landscape design and irrigation efficiency requirements. The City's Water Efficient Landscaping and Irrigation Ordinance was implemented to limit water supply due to increasing demands. Therefore, with the implementation of the planting, irrigation design, and soil management plans the Project would comply with the ordinance.

As discussed in Section 3, Project Description, Project construction is expected to begin in 2021 and take approximately 18 months to complete. The Project is anticipated to be fully built and open in 2023. Thus, the projected RPU water demand for 2025 is the closest year to the Project's completion for which water demand and supply estimates are provided in the UWMP. Per Table 5.12-3, RPU projects that groundwater supplies in 2025 would total 93,573 AFY, which is approximately 15,004 AFY more than the anticipated potable water demand for 2025 (see Table 5.12-4).

Moreover, as discussed in Section 5.12.1 for Dry Year Projections, given the adjudication of the groundwater basins upon which it depends and the dependability of recycled water as a supply, RPU assumes 100 percent of its groundwater and recycled water supplies would remain available during both single and multiple dry years. As described and exemplified in Table 5.12-5, under all scenarios for all years, water supply exceeds demand through 2040.

Therefore, as the Project's number of residential units falls below the threshold to prepare a WSA to determine if the identified water supply or water supplier will be able to meet projected demands for the Project; the Project would be subject to compliance with the City's Water Conservation Ordinance and the California Green Building Code; and based on the water supply and demand projections, projected water supplies would be sufficient to meet the projected water demand for the Project. Planned expansions in the City's recycled water distribution system and the availability of 21,700 AFY of imported water (see Table 5.12-1) will further increase RPU's projected water supplies and would thus reduce the Project's share of excess and dry year supplies in 2025 and subsequent years. Although the Project is changing land use, as outlined in the Initial Study (Appendix A), Section 14, Population and Housing, the Project would result in a very small incremental increase in population growth, approximately one percent, of what was anticipated under the typical growth scenario. Thus, the Project is within the City's anticipated 2025 growth projection. Implementation of the Project would not require new or expanded entitlements for water supplies; potential impacts would be **less than significant**.

Threshold C: *Would the Project 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?*

The City's Public Works Department provides sewer services to the Project site. The sewer system would collect, treat, and dispose of Project wastewater through the Riverside Regional Water Quality Control Plant (RRWQCP). In 2015, RRWQCP's plant capacity was expanded to 46 million gallons per day (mgd) (City of Riverside 2016). Per the UWMP, the RRWQCP served approximately 295,000 people, who generated approximately 18 mgd, indicating the RRWQCP

currently had excess capacity. As stated in the Initial Study (Appendix A), Section 14, Population and Housing, the estimated population growth from the Project would be 753 persons which would only occupy one percent of the 295,000 people serviced by RRWQCP which is only a fraction of the served area.

As discussed for Threshold A, a Sewer Capacity Evaluation (Carollo, 2020, Appendix J) was conducted to assess the impact the Project will have on the City's wastewater collection system. As described for Threshold A above, the Sewer Capacity Evaluation determined that the City's collection system has sufficient capacity to convey existing PWWFs downstream of the Project without exceeding the established flow depth criteria. As it has been determined that the City's existing collection system has sufficient capacity to convey proposed PWWFs downstream of the Project without exceeding the established flow depth criterion, the Project would result in a determination that the Project's wastewater treatment provider (the City) has adequate capacity to serve the Project's projected demand in addition to the City's existing commitments. Therefore, potential impacts would be **less than significant**.

Threshold D: *Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

The City of Riverside Public Works Department collects trash from 70 percent of the City's households and the remainder is collected by private contractors. One of the City's franchise haulers (Burrtec, Athens, or CR&R) provide solid waste disposal services for the Project.

The Project would generate both construction and operational solid waste, which would be disposed of at nearby landfills. Per the City of Riverside's General Plan, Public Facilities and Infrastructure Element, all solid waste collected is tipped at the Robert A. Nelson Transfer Station, which is owned by the County of Riverside. The waste is then transferred to either the Badlands Landfill in Moreno Valley, the El Sobrante Landfill located south of the City of Corona or the Lamb Canyon Landfill located between the City of Beaumont and the City of San Jacinto for disposal. Implementation of the General Plan is anticipated to increase solid waste collection and disposal capacity between 884 tons per day and 2,573 tons per day at buildout. By 2025 the City will contribute 14% of the amount of solid waste. Currently, the Badlands landfill has a remaining capacity of 15.749 million, El Sobrante landfill has a remaining capacity of 143.977 million, and Lamb Canyon has a capacity of 19.243 million. As shown on Table 5.16-M of the City's FEIR, the generation of solid waste for Multi-Family Residents is anticipated to increase between 139.30 tons for typical and 208.90 for maximum and Max w/PRD. The Project fall under this category as it has more than 15du/acre. (FEIR, p. 5-16-47) County Solid Waste Management has indicted that land to expand both the Badland Landfill and Lamb Canyon Landfill will be used to provide more capacity. Riverside County has submitted a CEQA document to allow the Badlands landfill to remain open for another 50 years by increasing the 278 acres landfill to 811 acres. (CEQAnet.opr.ca.gov) With the remaining capacity, the proposed General Plan is not anticipated to exceed capacity of the landfills. In addition, Public Resource Code Section 41780 requires every city and county to divert from landfills at least 50% of waste generated within their jurisdiction, and the City has exceeded its required reduction in recent years. (GP 2025)

Per the California Integrated Waste Management Act of 1989, the Project would have access to green waste collection, curbside recycling, newspaper drop-off, car tire amnesty, household hazardous waste and other service which will divert solid waste to the landfills (GP 2025).

As outlined in 5.12.3, Project Design Considerations, the Project will adhere to 2019 CALGreen building code standards which include management of construction waste, reuse or recycling of excavated soil and land clearing debris, and recycling by occupants (per Section 5.7.3.3, summary of the 2019 CALGreen standards that are applicable to the Project) as further outlined below:

- Construction waste management - Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste or meet a local construction and demolition waste management ordinance, whichever is more stringent.
- Excavated soil and land clearing debris - 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed.
- Recycling by Occupants - Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive.

With compliance with the 2019 CALGreen standards, the Project will not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Therefore, potential impacts would be **less than significant**.

5.12.6 Proposed Mitigation Measures

A EIR is required to describe feasible mitigation measures which could minimize significant adverse impacts (State CEQA Guidelines, Section 15126.4). Implementation of the proposed Project will not result in any significant impacts related to utilities and service systems, and therefore, no mitigation measures are necessary.

5.12.7 Cumulative Environmental Effects

As discussed in Section 4, Environmental Setting, cumulative development in the City and surrounding cities and County would include residential development, warehouses, commercial, office, and public facilities. As discussed, the Project would not result in any significant impacts related to utilities and service systems, nor would the Project impair the attainment of solid waste reduction goals. Therefore, cumulative impacts would be **less than significant** related to utilities and service systems.

5.12.8 References

The following references were used in the preparation of this section of the EIR:

CalRecycle	Badlands Sanitary Landfill, accessed on October 20, 2020 at (https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/2367), El Sobrante Landfill, accessed on October 20, 2020 at (https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/2402), Lamb Canyon Sanitary Landfill, accessed on October 20, 2020 at (https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/2368)
Carollo 2020	Carollo Engineers, Inc. *Crestview Apartments Sewer Capacity Evaluation – City of Riverside*. August 2020 (Appendix J).
CEQA	Badlands Landfill Integrated Project, accessed on October 21, 2020 at (https://ceqanet.opr.ca.gov/2019049142/2)
FEIR	City of Riverside, General Plan 2025 PEIR- Volume 2, 5.16-Utilities Service System, Accessed on October 21, 2020 at (https://riversideca.gov/cedd/sites/riversideca.gov.cedd/files/pdf/planning/general-plan/vol2/5-16_Utilities_Service_Systems.pdf)
GP 2025	City of Riverside, General Plan 2025, Section 5.16 Utilities Service System, Certified November 2007 with subsequent amendments to various elements. (Available at https://riversideca.gov/cedd/planning/city-plans/general-plan-0, accessed August 2020.)
RPU 2016	Riverside Public Utilities. *2015 Urban Water Management Plan for Riverside Public Utilities Water Division*. (Available at: https://www.riversideca.gov/utilities/about-rpu/urban-water-management-plan.asp)
RPU 2018	Riverside Public Utilities. *Riverside's Current Water Restrictions*. (Available at: https://riversideca.gov/utilities/residents/water-conservation-restrictions.asp)
Urban Crossroads 2019	Urban Crossroads. *Crestview Apartments Energy Analysis, City of Riverside*. August 2020 (Appendix E).
UWMP	2015 Urban Water Management Plan for Riverside Public Utilities Water Division, accessed on October 21, 2020 at (https://www.riversideca.gov/utilities/about-rpu/pdf/RPU_2015_UWMP_June.pdf)
WMWD 2008	Western Municipal Water District. *Integrated Regional Water Management Plan (IRWMP)*. (Available at: https://www.wmwd.com/214/Integrated-Regional-Water-Management-Pla)
WMWD and RPU 2017	Western Municipal Water District and Riverside Public Utilities 2017. *Regional Water Partnership*. (Available at: https://riversideca.gov/utilities/WMWDandRPU/)

5.13 Wildfire

This section analyzes the Project's potential impacts related to fire protection services, emergency response or evacuation plans, and wildfire risks. Based upon the analysis in the Initial Study/Notice of Preparation (IS/NOP) prepared for this Project (Appendix A), some thresholds related to hazards, public services, and wildfire were found to have a potentially significant impact and will be analyzed further below. The information in this section is based on the *Draft Fire Protection Plan* (FPP) prepared for the Project by FIREWISE 2000, LLC in February 2021 (Appendix K), architectural plans, including building elevations, section views, visual simulations, and review of aerial photographs, street views, and other available information. The discussion and analysis contained herein is informed by comments received during the NOP public review period.

5.13.1 Setting

A wildfire is a nonstructural and unplanned fire that occurs in vegetative fuels. Wildfires can occur in undeveloped areas and spread to urban areas where the landscape and structures are not designed and maintained to be ignition resistant. Wildfires burn in many types of vegetation—forest, woodland, scrub (including chaparral, sage scrub, and desert scrub), and grassland. Many species of native California plants are adapted to fire (Cal Fire 1999).

The City's undeveloped hillsides are visually appealing but can provide fuel for a wildfire or mudslides in heavy rains. The Project site is located adjacent to open space and partially located within a Very High Fire Hazard Severity Zone (VHFHSZ) as shown in Figure 5.13-2 – Fire Hazard Areas. Additionally, the Project site is within a mostly urbanized area, but no part of the City is immune from fire danger. Structural and automobile fires represent the most common types of fire in urbanized areas and can be caused by a variety of human, mechanical and natural factors. Urban fires have the potential to spread to other structures or areas, particularly if not extinguished promptly. Proactive efforts, such as fire sprinkler systems, fire alarms, fire resistant roofing and construction methods, can collectively lessen the likelihood and reduce the severity of urban fires.

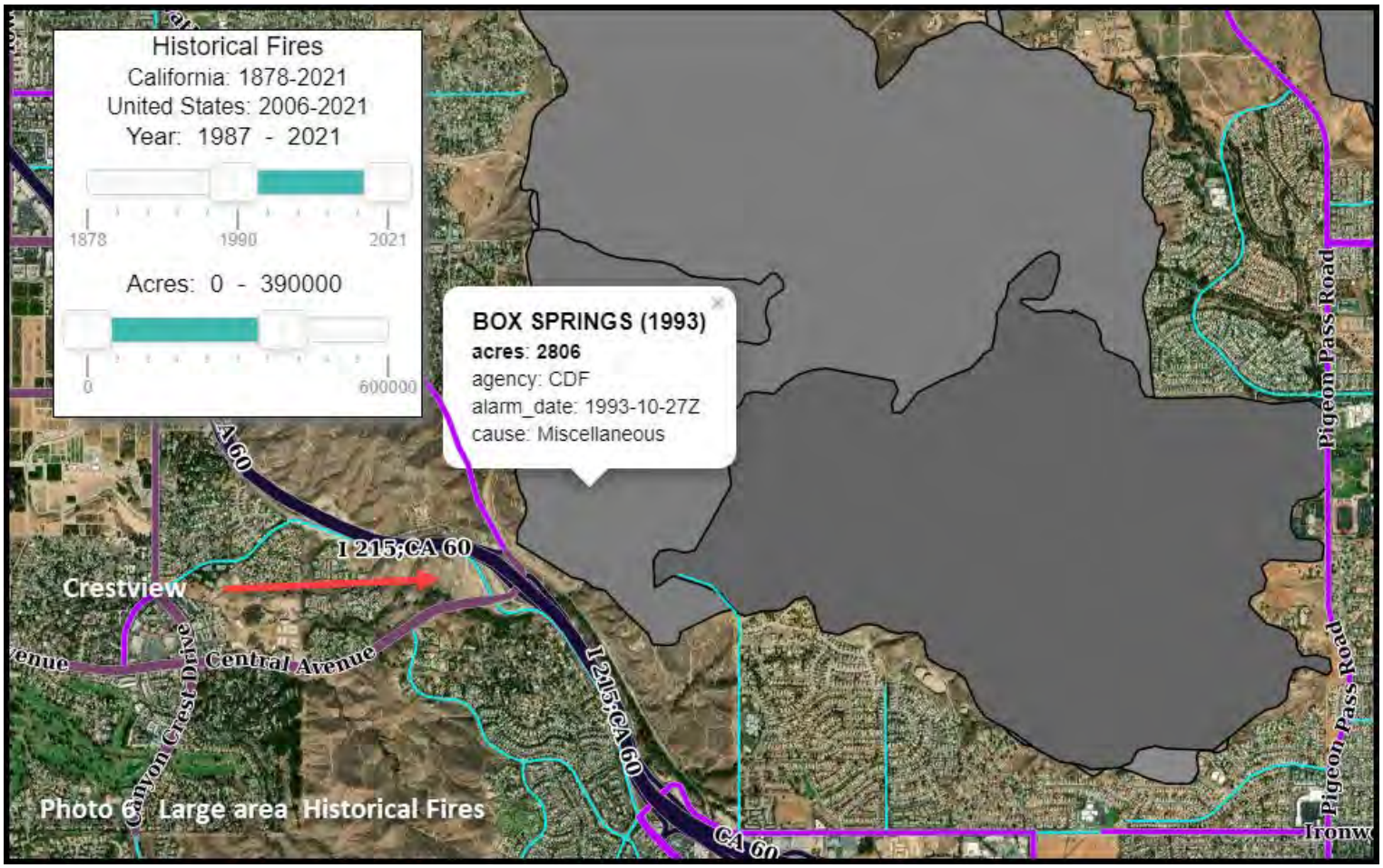
Areas of dense, dry vegetation, particularly in canyon areas and on hillsides, pose the greatest potential for wildfire risks. An urban/wildland interface is an area where urban development is in proximity to open space or "wildland" areas. The potential for wildland fires represents a hazard where development is adjacent to open space or within close proximity to wildland fuels or designated fire severity zones. Figure PS-7, "Fire Hazard Areas," of the GP 2025 identifies areas of fire hazard with hazard ratings ranging from moderate, high, and very high. The major urban/wildland interface areas closest to the Project site are from hills and canyons near the site, which includes Box Springs Mountain to the east and Sycamore Canyon to the south. These two areas include portions with fire hazard ratings of very high. An urban/wildland interface exists on a smaller scale on the western edge of the Project site where it abuts the Quail Run Open Space.

Wildfire Regional Trends

In the past decades, wildfire season in the West lengthened from an average of five months to an average of seven months, and the number of large wildfires (>1,000 acres) has increased from 140 to 250 per year. And more recently, wildfires now burn year-round in California (SBFFP and Cal Fire 2019). This is occurring as average annual temperatures in the West have risen by nearly two degrees Fahrenheit since the 1970s, and the winter snowpack has declined.

The latest large wildfire near the Project site was the 2006 Esperanza Fire (approximately 30 miles east). The fire was started by an arson but was also wind-driven resulting in the fire being designated as a wildfire. The fire burned an estimated 40,200 acres before containment resulting in the death of 5 firefighters and destroying 54 structures that included 34 homes. Due to the fire's close proximity to the surrounding chaparral biome vegetation, the fire spread rapidly in moderate Santa Ana winds and flammable brush, charring 24,000 acres (97 square kilometers [km^2]) in 18 hours. This was the largest fire in Riverside County, since 1994.

Historical wildland fire activity was considered during the development of the Project's FPP. Figure 5.13-1 provides a map showing historical large fire activity on and around the Project site over the past 100 years. The data for the map was obtained from CalFire. Smaller fires of under 100 acres are seldom mapped unless they caused significant damage or loss of life. It should be noted that most of the large fires have occurred in the hills and mountains located to the north and east of the Project, in the area known as Box Springs Mountain Reserve Park. (FPP p., 14)



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Fire History

FIREWISE2000, LLC

Figure 5.13-1

Topography

The review of previous site documentation, as well as observation of the current surface topography, indicates that the site has been extensively graded. The ground surface descends in elevation from northeast to southwest, from about 1,375 feet above mean sea level (amsl) to 1,315 feet amsl. This grade occurs over a distance of about 750 feet, at a surface gradient averaging about 7 percent. The site is lightly vegetated, with areas of bare soil and random rows of rocks and boulders. An approximately 38-foot high cut slope exposing granitic bedrock is located in the northwest corner of the property. Quail Run Open Space is located to the west and follows a general downslope as it spans further west from the site.

Weather

Weather conditions influence the potential for fire ignition and rates of spread, intensity, and the direction(s) toward which a fire burn. Wind, temperature of the wind and humidity levels are the variables used to predict fire behavior. According to the California Department of Forestry and Fire Protection (Cal Fire), the 2020 fire season is starting earlier and ending later each year. Climate Change has been considered an important influence on California fire season. Warmer spring and summer temperatures, reduced snowpack, and earlier spring snowmelt create longer and more intense dry seasons that increase moisture stress on vegetation and make forests more susceptible to severe wildfire (Cal Fire 2020).

Fire agencies throughout the western United States rely on a sophisticated system of Remote Automated Weather Stations (RAWS) to monitor weather conditions and aid in the forecasting of fire danger. Data for all RAWS is archived in the Western Region Climate Center in Reno, Nevada. The closest active RAWS to the Project site is the Clark RAWS located approximately 5.7 miles from the Project at an elevation of 1,720 feet (approximately 350 feet higher than the Project site). (FPP p., 8)

Vegetation

Vegetation usually provides most of the fuel that feeds wildfire, along with other flammable materials on-site (such as human-built structures). The volume, character, distribution, and arrangement of vegetation, the relative presence of volatile oils, and the moisture content of fuels all greatly influence fire behavior. Willow riparian and disturbed Riversidean sage scrub are the primary plant communities for the Project site. In addition, the Project site consists of a land cover type that would be classified as disturbed. The willow riparian plant community is found on the southwest corner of the Project site, in association with an unnamed drainage feature that extends along the bottom of Box Springs Canyon. Onsite, the drainage feature begins at an 84-inch corrugate metal culvert extending under Central Avenue. During the field investigation, approximately 2 to 8 inches of water were observed within the drainage and the culvert was not obstructed. The willow riparian plant community extends west of, and outside of the Project footprint. This plant community is lower in elevation than the majority of the Project site and is separated from the majority of the Project site.

The disturbed areas on the Project site no longer comprises a native plant community. Disturbed areas on the Project site consist of existing dirt access roads, areas that have been subject to frequent grading/disking activities, and illegal dumping activities. Portions of the disturbed area contain areas of bare ground due to extensive disturbance from anthropogenic disturbance, and areas that support early successional and ruderal/weedy plant species.

Wind

Wind plays a role in the flammability of fuels by removing moisture through evaporation, preheating fuels in a fire's path, and increasing spotting distances (the distance at which a spot fire might be ignited by a flying ember). Winds blowing more than 20 feet above the ground can carry embers downwind, causing spot fires.

As described above, the closest RAWS to the Project site is the Clark RAWS located approximately 5.7 miles from the Project site at an elevation of 1,720 feet (approximately 350 higher than the Project site). Winds within the Project site will tend to be slightly lower in comparison to the Clark RAWS. (FPP p., 8)

The typical prevailing summertime wind pattern is out of the west/southwest and normally is of a much lower velocity (5-10 MPH with occasional gusts to 20 MPH) and is associated with relative humidity readings ranging between 20 percent and occasionally more than 70 percent due to the site's proximity to the ocean. All other (northwest, southeast, and south) wind directions may be occasionally strong and gusty; however, they are generally associated with cooler moist air and have higher relative humidity (greater than 40 percent). These winds are considered a serious wildland fire weather condition when wind speeds reach greater than 20 miles per hour (mph). (FPP p., 8)

The most critical weather pattern to the Project area is a hot, dry offshore wind, typically called a Santa Ana. Such wind conditions are usually associated with strong (greater than 50 MPH), hot, dry winds with very low (less than 15 percent) relative humidity. Santa Ana winds originate over the dry desert land and can occur anytime of the year; however, they generally occur in the late fall (September through November). This is also when non-irrigated vegetation is at its lowest moisture content. (FPP p., 8)

City of Riverside Fire Department

Delivering and maintaining such a high level of service in the future as the City grows is a major concern to the City of Riverside Fire Department (RFD). The RFD's response time goal is 7 minutes and 45 seconds at the 90th percentile for the first unit to arrive on scene. The first arriving unit is capable of advancing the first line for fire control, initiating rescue, or providing basic life support for medical incidents. Table 5.13-1 below shows the RFD's fire and rescue stations in the City. The nearest fire station is Fire Station 14 – Sycamore Canyon (725 Central Avenue, Riverside, CA 92507) and is less than a mile from the Project site (approx. 0.7 miles west). Per the FPP prepared for the Project, the Project is within the RFD's 5-minute initial action response time, with the first fire engine arriving on scene from the Sycamore Canyon station within three to four minutes depending on traffic. The next closest station is Fire Station 13 – Box Springs (6490

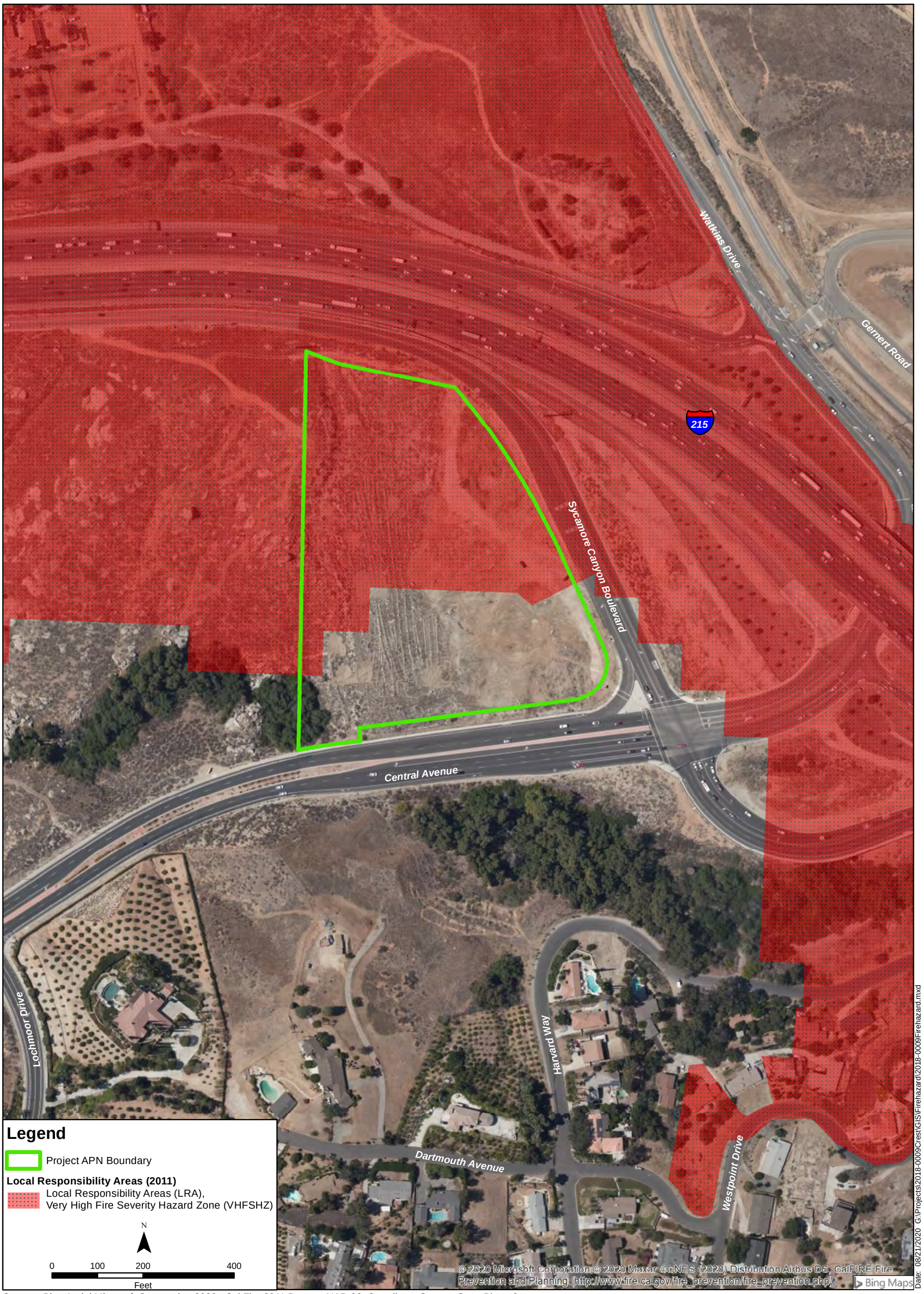
Sycamore Canyon Blvd.) approximately 5 minutes driving time to the Project. The next closest station is Fire Station 9 – Canyon Crest (6674 Alessandro Blvd.), approximately 8 minutes from the Project. (FPP p., 20).

Table 5.13-1 – RFD Fire and Rescue Stations

Station No.	Station Name	Location
Fire Station No. 1	**Downtown**	3401 University Avenue
Fire Station No. 2	**Arlington**	~~9449~~ 9450 Andrew Street
Fire Station No. 3	**Magnolia Center**	6395 Riverside Avenue
Fire Station No. 4	**University**	3510 Cranford Avenue
Fire Station No. 5	**Airport**	5883 Arlington Avenue
Fire Station No. 6	**Northside**	1077 Orange Street
Fire Station No. 7	**Arlanza**	10191 Cypress Avenue
Fire Station No. 8	**La Sierra**	11076 Hole Avenue
Fire Station No. 9	**Canyon Crest**	6674 Alessandro Boulevard
Fire Station No. 10	**Arlington Heights**	2590 Jefferson Street
Fire Station No. 11	**Orangecrest**	19595 Orange Terrace Parkway
Fire Station No. 12	**La Sierra South**	10692 Indiana Avenue
Fire Station No. 13	**Box Springs**	6490 Sycamore Canyon Boulevard
Fire Station No. 14	**Sycamore Canyon**	725 Central Avenue
Source: City of Riverside General Plan FPEIR, Section 5.13-Public Services Table 5.13-B		

Fire Hazard Severity Zone in the Project Area

The level of hazard to life and property is affected not only by a fire in itself but also by road access for evacuation, the number of available firefighters, vegetation clearance around the property, availability of water and water pressure, the effectiveness of building/fire codes, and inspection of developments in areas of higher fire hazard. The City will reduce the destructive potential of fire by providing funding for the RFD so that it continues to provide adequate levels of fire protection and fire hazard education. The current California Fire Code (CFC) is used to reduce structural fire hazards throughout the City. These proactive measures lay out a blueprint to reduce the risks from all types of fires in the City. The Project site is partially within a Very High Fire Hazard Severity Zone (VHFHSZ), as seen on Figure 5.13-2 – Fire Hazard Areas, due to the proximity of the Project site to Box Springs Mountain and Sycamore Canyon. The adjacent Quail Run Open Space and I-215/SR-60 freeway and are also within this VHFHSZ. The residential neighborhood south of Central Avenue and the apartments west of Quail Run Open Space, are not in the VHFHSZ. (Cal Fire Viewer)



Source: Bing Aerial Microsoft Corporation 2020, Cal Fire 2011 Datum: NAD 83, Coordinate Sytem: State Plane 6

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RVA

Fire Hazard Areas Map

Figure 5.13-2

5.13.2 Related Regulations

5.13.2.1 Federal Regulations

No Federal plans, policies, regulations, or laws related to fire response and wildfire hazards apply to the project under consideration.

5.13.2.2 State and Regional Regulations

California Department of Forestry and Fire Protection

The Cal Fire is dedicated to the fire protection and stewardship of over 31 million acres of California's wildlands. The Office of the State Fire Marshal supports the Cal Fire mission to protect life and property through fire prevention engineering programs, law and code enforcement, and education. The State Fire Marshal provides for fire prevention by enforcing fire-related laws in state-owned or -operated buildings, investigating arson fires in California, licensing those who inspect and service fire protection systems, approving fireworks as safe and sane for use in California, regulating the use of chemical flame retardants, evaluating building materials against fire safety standards, regulating hazardous liquid pipelines, and tracking incident statistics for local and state government emergency response agencies. Classification of a zone as moderate, high, or very high fire hazard is based on a combination of how a fire will behave and the probability of flames and embers threatening buildings. Each area of the map gets a score for flame length, embers, and the likelihood of the area burning. Scores are then averaged over the zone areas. Final zone class (moderate, high, and very high) is based on the average scores for the zone (Cal Fire 2020).

The Board of Forestry and Fire Protection (Board) is a government-appointed body within the Cal Fire. It is responsible for developing the general forest policy of the State, determining the guidance policies of the Cal Fire, and representing the State's interest in Federal forestland in California. Together, the Board and the Cal Fire work to carry out the California Legislature's mandate to protect and enhance the State's unique forest and wildland resources.

The Board is charged with protecting all wildland forest resources in California that are not under Federal jurisdiction. These resources include major commercial and non-commercial stands of timber, areas reserved for parks and recreation, woodlands, brush-range watersheds, and all private and State lands that contribute to California's forest resource wealth.

2019 Strategic Fire Plan for California

The Board has adopted Strategic Fire Plans for California since the 1930s and periodically updates them to reflect current and anticipated needs of California's wildland. The Strategic Fire Plan is the State's road map for reducing the risk of wildfire through planning and prevention to reduce firefighting costs and property losses, increase firefighter safety, and contribute to ecosystem health. The Strategic Fire Plan is adopted to better respond to the changes of the environmental, social, and economic landscape of California's wildlands and to provide the Cal Fire with appropriate guidance for adequate statewide fire protection of State responsibility areas. The latest Strategic Fire Plan is dated January 22, 2019

Cal Fire implements and enforces the Board's policies and regulations. The 2019 Strategic Fire Plan reflects Cal Fire's focus on (1) improvement of core capabilities (2) enhancement of internal operations (3) ensuring health and safety, and (4) building an engaged, motivated, innovative workforce.

California Office of Emergency Services

The California Emergency Management Agency was incorporated into the Governor's Office on January 1, 2009, by Assembly Bill (AB) 38, and merged the duties, powers, purposes, and responsibilities of the Governor's Office of Emergency Services (Cal OES) with those of the Governor's Office of Homeland Security. Cal OES is responsible for the coordination of overall State agency response to major disasters in support of local government. The agency is responsible for ensuring the State's readiness to respond to and recover from all hazards—natural, man-made, emergencies, and disasters—and for assisting local governments in their emergency preparedness, response, recovery, and hazard mitigation efforts.

The Cal OES Fire and Rescue Division coordinates statewide response of fire and rescue mutual aid resources to all types of emergencies, including hazardous materials. Operations Section under the Fire and Rescue Division coordinates the California Fire and Rescue Mutual Aid System and coordinated response through the Mutual Aid System includes responses to major fires, earthquakes, tsunamis, hazardous materials and other disasters.

California Building Code

The California Building Standards Code (CBC), in Part 2 of Title 24 of the California Code of Regulations (CCR), identifies building design standards, including those for fire safety. The CBC is based on the International Building Code but has been amended for California conditions. The CBC is updated every three years, and the current 2019 CBC went into effect January 1, 2020. It is effective statewide, but a local jurisdiction may adopt more restrictive standards based on local conditions under specific amendment rules prescribed by the State Building Standards Commission. Commercial and residential buildings are plan-checked by local city and county building officials for compliance with the CBC. Typical fire safety requirements of the CBC related to this Project include the installation of fire sprinklers in all new residential buildings, the establishment of fire resistance standards for fire doors, building materials, and particular types of construction; and clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas.

California Fire Code

The CFC, contained in Part 9 of CCR Title 24, incorporates by adoption the International Fire Code of the International Code Council, with California amendments. The CFC is updated every three years, and the current 2019 CFC went into effect January 1, 2020. It is effective statewide, but a local jurisdiction may adopt more restrictive standards based on local conditions under specific amendment rules prescribed by the State Building Standards Commission. The CFC regulates building standards in the CBC, fire department access, fire protection systems and devices, fire and explosion hazards safety, hazardous materials storage and use, and standards

for building inspection. A sprinkler system will be installed per the National Fire Protection Association (NFPA) 13 Standards and a National Fire Alarm and Signaling Code will be installed per NFPA 72 Standards.

Very High Fire Hazard Severity Zone

Public Resource Code Sections 4201 to 4204 and Government Code Title 5, Part 1, Chapter 6.8, 51178 to 51179 and 51181 direct Cal Fire to identify areas of very high fire hazard within local responsibility areas. Mapping of Very High Fire Hazard Severity Zones (VHFHSZ) is based on data and models of potential fuels over a 30- to 50-year time horizon and their associated expected fire behavior and expected burn probabilities in order to quantify the likelihood and nature of vegetation fire exposure (including firebrands) to buildings. Local Responsibility Area (LRA) VHFHSZ maps were initially developed in the mid-1990s and are now being updated based on improved science, mapping techniques, and data.

In late 2005, effective in 2008, the California Building Commission adopted CBC Chapter 7A, requiring new buildings in VHFHSZ to use ignition-resistant construction methods and materials. CBC Chapter 7A is applicable to building materials, systems, and/or assemblies used in the exterior design and construction of new buildings in a Wildland-Urban Interface Fire Area as defined in CBC Section 702A. Chapter 7A establishes minimum standards for the protection of life and property by increasing the ability of a building in any fire hazard severity zone within State Responsibility Areas or any wildland-urban interface fire area to resist the intrusion of flames or burning embers projected by a vegetation fire, and therefore contributes to a systematic reduction in conflagration losses. Related regulations include CFC Chapter 49, which provides the requirements for wildland-urban interface areas, and Title 19 California Code of Regulations (CCR) § 3.07, which provides provisions on clearances. Additionally, Title 14 CCR § 1299 – 1299.05 discuss fire hazard reduction around buildings and structures, with § 1299.03 providing Zone 1 and Zone 2 requirements for defensible space and § 1299.05 discussing Alternate Methods.

VHFHSZs are delineated and used to identify property whose owners must comply with natural hazards disclosure requirements at time of property sale as well as a 100-foot defensible space clearance and/or other alternative means and methods to reduce fire hazards. The Project's FPP includes the Project's Application for Alternative Materials & Methods (AM&M) of Design and Construction. The AM&M application and its alternate methods are discussed further in Section 5.13.3, Project Design Considerations.

5.13.2.3 Local Regulations

Riverside Operational Area -- Multi-Jurisdictional Local Hazard Mitigation Plan (LHMP)

The Riverside Operational Area -- Multi-Jurisdictional Local Hazard Mitigation Plan (LHMP) dated October 5, 2004 is Riverside's commitment to reduce risks from natural and other hazards and serves as a guide for decision makers as they commit resources to reducing the effects of natural and other hazards. It also serves as a basis for Cal OES to provide technical assistance and to prioritize project funding.

Emergency Operations Plan

The Emergency Operations Plan, approved in May 2002, addresses the City's planned response to emergencies associated with natural disasters and technological incidents – including both peacetime and wartime nuclear defense operations.

Hazardous Materials Response Plan

The RFD has two levels of a Hazardous Materials Response Plan. The first level is for all responders and the second is specifically for the City's Hazardous Materials Response Team. In addition, the County has a similar plan for multi-agency response. The following are objective and policies within the GP 2025 related to this Project:

Objective PS-6: Protect property in urbanized and nonurbanized areas from fire hazards.

Policy PS-6.1: Ensure that sufficient fire stations, personnel and equipment are provided to meet the needs of the community as it grows in size and population.

Policy PS-6.2: Endeavor to meet/maintain a response time of five minutes for Riverside's urbanized areas.

Policy PS-6-3: Integrate fire safety considerations in the planning process.

Policy PS-6.4: Evaluate all new development to be located in or adjacent to wildland areas to assess its vulnerability to fire and its potential as a source of fire.

Policy PS-6.5: Mitigate existing fire hazards related to urban development or patterns of urban development as they are identified and as resources permit.

Policy PS-6.6: Continue to implement stringent brush-clearance requirements in areas subject to wildland fire hazards.

Policy PS-6.7: Continue to involve the City Fire Department in the development review process.

Policy PS-6.8: Pursue strategies that maintain and improve the City's Class 2 ISO rating.

Policy PS-6.9: Provide outreach and education to the community regarding fire safety and prevention.

Policy PS-6.10: Identify noncontiguous streets and other barriers to rapid response and pursue measures to eliminate the barriers.

Policy PS-6.11: Promote the prevention, detection, investigation and prosecution of accidental and arson fires through coordinated investigative and training partnerships with fire and law enforcement agencies and prosecuting authorities.

Multi-Hazard Functional Planning and Interagency Response

Policy PS-10.1: Ensure that Police and Fire service facilities are strategically located to meet the needs of all areas of the City.

Policy PS-10.3: Ensure that public safety infrastructure and staff resources keep pace with new development planned or proposed in Riverside and the Sphere of Influence.

Policy PS-10.4: Continue to ensure that each development or neighborhood in the City has adequate emergency ingress and egress, and review neighborhood access needs to solve problems, if possible.

Policy PS-10.6: Improve communications between public safety agencies and other City departments, particularly with regard to new development or annexation areas.

Policy PS-10.7: Encourage the development of financial programs to improve emergency response services

5.13.3 Project Design Considerations

The Project is partially within a VHFHSZ and will comply with Local Regulations from the Office of Emergency Management, the Riverside Operational Area -- Multi-Jurisdictional Local Hazard Mitigation Plan (LHMP), the Hazardous Materials Response Plan, the Multi-Hazard Functional Planning and Interagency Response. The Project's FPP was prepared as a requirement of Cal Fire Code Chapter 49, Section 4902 and is based on RFD requirements. The following is a list from Appendix E of the FPP with ignition resistant construction requirements for buildings located in a Wildland Urban Interface Area under the California Fire Code (CFC), Chapter 7A of the California Building Code (CBC), and the California Residential Code (CRC) R327. These requirements will be Project conditions of approval. The Project, including all exterior building construction including roofs, eaves, exterior walls, doors, windows, decks, and other attachments, will be required to meet, in full, all of the CBC Chapter 7A ignition resistance requirements, CRC R337, CFC requirements, and all current applicable codes and any exceptions or local requirements effective at the time of building permit application.

- Project design considerations include: Ventilation openings for enclosed attics, soffit spaces, rafter spaces formed where ceilings are applied directly to the underside of the roof rafters, and underfloor ventilation openings shall be fully covered with metal wire mesh, vents, other materials or other devices that are corrosion-resistant, a minimum of 1/16 inch and not exceed 1/8-inch and are non-combustible. Vents located under the roof covering, along the ridge of roofs, with the exposed surface of the vent covered by non-combustible wire mesh may be of combustible materials.
- Vents shall not be installed on the underside of eaves and cornices except vents meeting the requirements of Item 1 may be installed if the attic space is protected by interior fire sprinklers or the exterior wall covering and exposed underside of the eave are of noncombustible or ignition resistant materials and the vent is located more than 12 feet from the ground or walking surface of a deck, porch, patio or similar surface.
- The enforcing agency may approve special eave or cornice vents that resist intrusion of flame and burning embers.
- Paper-faced insulation shall be prohibited in attics or ventilated spaces.

- Where valley flashing is installed, the flashing shall not be less than 0.019 inch No. 26 gage galvanized sheet corrosion resistant metal installed over not less than one layer of minimum 72 pound mineral surfaced non-perforated cap sheet complying with ASTM D 3909 at least 36 inch wide running the full length of the valley.
- Rain gutters shall be provided with the means to prevent the accumulation of leaf litter and debris that contribute to roof edge ignition.
- All rain gutters, down spouts and gutter hardware shall be constructed from metal or other noncombustible material to prevent wildfire ignition along eave assemblies.
- All structures will be built with a Class A roof assembly, including a Class A roof covering.
- Where the roof profile allows a space between the roof covering and roof decking, the spaces shall be constructed to prevent the intrusion of flames and embers, be fire stopped with approved materials or have one layer of minimum No. 72 mineral surfaced on-perforated ASTM D 3909 cap sheet installed over the combustible decking.
- The exposed roof deck on the underside of unenclosed roof eaves shall be protected by either non-combustible material; ignition resistant material; one layer of 5/8 inch Type X gypsum on the underside exterior; or 1-hour fire resistive exterior wall assembly applied to the underside of roof deck. Solid wood rafter tails with a 2 inch nominal minimum dimension; solid wood blocking installed between rafter tails with a 2 inch nominal minimum dimension; gable end overhangs and roof assembly projections beyond an exterior wall other than the lower end of the rafter tails; fascia; and other architectural trim boards do not require protection.
- The exposed underside of roof eaves and roof eave soffits shall be protected by either non-combustible material; ignition resistant material; one layer of 5/8 inch Type X gypsum on the underside exterior; or 1-hour fire resistive exterior wall assembly applied to the underside of rafter tails or soffits. Gable end overhangs and roof assembly projections beyond an exterior wall other than the lower end of the rafter tails, fascia, and other architectural trim boards do not require protection.
- The exposed underside of porch ceilings and the exposed underside of cantilevered floor projections where a floor assembly extends over an exterior wall shall be protected by non-combustible material, ignition resistant material, one layer of 5/8 inch Type X gypsum on the underside exterior, or 1-hour fire resistive exterior wall assembly applied to the underside of the porch ceilings or floor projections. Architectural trim boards do not require protection.
- All chimney, flue or stovepipe openings shall have an approved spark arrester. An approved spark arrester is defined as a device constructed of nonflammable materials, 12-gauge minimum thicknesses or other material found satisfactory by the FAHJ, having ½-inch perforations for arresting burning carbon or sparks. It shall be installed to be visible for the purposes of inspection and maintenance.

- All structures shall have automatic interior fire sprinklers designed and installed according to the National Fire Protection Association (NFPA) 13 - Standard for the Installation of Sprinkler Systems.
- All exterior windows and exterior glazed door assemblies or other transparent, translucent or opaque glazing materials including skylights shall be constructed multi-layered glazed panels one layer of which must be tempered glass.
- The exterior wall covering or assembly shall be non-combustible, ignition resistant, a heavy timber exterior wall assembly or log wall construction assembly and meet the performance criteria set forth in SFM Standard 12-7A-1. Exterior walls coverings shall extend from the top of the foundation to the roof and terminate at 2-inch nominal solid blocking between rafters at all roof overhangs or in the case of enclosed eaves, terminate at the enclosure.
- Exterior doors shall conform to the performance requirements of standard SFM 12-7A-1, shall have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 252, and shall be of approved non-combustible or ignition resistant material; or constructed of solid core wood having stiles and rails not less than 1⅜ inches thick with interior field panel thickness no less than 1¼ inches thick.
- Vinyl window assemblies are deemed acceptable if the windows have the following characteristics:
    - Frame and sash are comprised of vinyl material with welded corners
    - Metal reinforcements in the interlock area
    - Glazed with insulating glass, annealed or tempered (one layer of which must be tempered glass)
    - Frame and sash profiles are certified in AAMA Lineal Certification Program
    - Certified and labeled to ANSI/AAMA/NWWDA 101/LS2-97 for Structural Requirements
- The underfloor area of elevated or overhanging buildings and appendages shall be enclosed to grade and shall be protected by non-combustible material, ignition resistant material, one layer of 5/8 inch Type X gypsum on the underside exterior, or 1-hour fire resistive exterior wall assembly applied to the underside of the exposed underfloor. Heavy timber structural columns and beams are exempt.
- The walking surface material of decks, porches and stairs shall be constructed of one of the following: ignition resistant material that complies with both SFM Standard 12-7A-4 & 5; exterior fire retardant wood; non-combustible material; any material that complies with SFM Standard 12-7A-4 when attached exterior wall covering is also either non-combustible or ignition resistant material.

- Detached accessory structures located less than 50 feet from a building containing habitable space shall be constructed in accordance with Chapter 7A of the California Building Code.
- All attached fences, gate assemblies (fences, gate and gate posts), arbors, trellises, patio covers, carports and similar structures shall be of non-combustible or ignition resistant materials.

City of Riverside AM&M Application

Section 7.3, page 24 of the Project's FPP provides the Project's AM&M application to the City, which states how the Project will comply with CBC Chapter 7A, Materials and Construction Methods for Exterior Wildfire Exposure, in regard to construction of structures within and adjacent to a wildland-urban interface. The Project will be constructed as follows in compliance with the CBC and in order to construct within and adjacent to the wildland-urban interface.

- Ignition-Resistant Construction will comply with CBC Section 704A, Roofing will comply with CBC Section 705A;
- Vents will comply with CBC Section 706A;
- Exterior Coverings will comply with CBC Section 707A;
- Exterior Windows, Skylights, and Doors will comply with CBC Section 708A. Decking will comply with CBC Section 709A; and
- Accessory Structures will comply with CBC Section 710A.

Other design factors for the Project that address wildfire risk include: RFD access to facility during all phases of construction and operation; fire resistant landscaping; and pedestrian gates for RFD access fronting Sycamore Canyon Boulevard adjacent to building #3 and between buildings #1 and #2.

The Project plans include a Fire Access Plan as seen in Figure 5.13-3. The Project will provide adequate fire access to ensure the safety of the residences. As seen on the fire access exhibit, the fire access will leave room for fire trucks to come in and out of the Project and will allow them to reach all areas of the Project site in case of a fire. As RFD requires a minimum 20-foot-wide fire lane, the Project's fire access will have a clear fire lane/fire access that is 24 feet wide to allow room for the fire trucks to navigate through the Project. There are three pedestrian gates for RFD access along Sycamore Canyon Boulevard. The Fire Access Plan also shows various fire truck locations inside and outside of the project and how a 150-foot fire hose length can be extended to various parts of the Project site.

NO PUBLIC ACCESS, FIRE ACCESS ONLY, 42" GATE W/ KNOX LOCK.

NO PUBLIC ACCESS, FIRE ACCESS ONLY, 42" GATE W/ KNOX LOCK.

SYCAMORE CANYON BOULEVARD

CENTRAL AVENUE

TYPE I-a BLDG 1

TYPE I-a BLDG 2

TYPE I-b BLDG 3

TYPE I-b BLDG 4

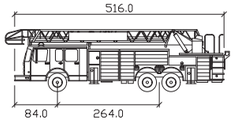
TYPE I-a BLDG 5

TYPE II BLDG 6

TYPE III BLDG 7

"NO PARKING-FIRE LANE INSIDE" THE HAMMERHEAD TURN AROUND

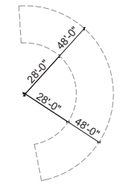
FIRE ACCESS LEGEND



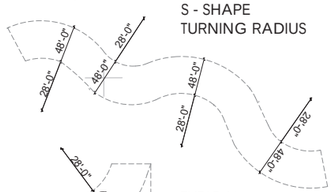
FIRE TRUCK

Aerial Fire Truck

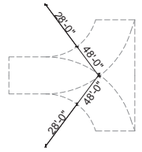
	inches
Width	: 102.0
Track	: 102.0
Lock to Lock Time	: 6.0
Steering Angle	: 33.3



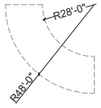
TYPICAL U - SHAPE TURNING RADIUS



TYPICAL S - SHAPE TURNING RADIUS



TYPICAL HAMMERHEAD TURNING RADIUS



TYPICAL APPARATUS TURNING RADIUS

150' FIRE HOSE LENGTH

CLEAR FIRE LANE/ FIRE ACCESS

2 HR RATED PASSAGEWAY

2 STORY

3 STORY

4 STORY

NORTH

1"=30'-0" 0 15' 60' 90'

SCALE : 1"= 30'-0"
DATE: 12-22-2020
JOB NO.: 2018-549

CRESTVIEW APARTMENTS

RVA ARCHITECTS ORANGE

KA Enterprises

Fire Access Plan

Figure 5.13-3



FUEL TREATMENT SITE PLAN LEGEND

CRESTVIEW APARTMENTS - APN 256-050-0-12
RIVERSIDE, CALIFORNIA

Symbol	Description
	IRRIGATED ZONE 1 (OWNER MAINTAINED) - All designated manufactured slopes, within 30 feet of a roadside or driveway, and within 50 feet of any habitable structure shall be planted with fire resistant vegetation and maintained to Irrigated Zone 1 criteria. Maintenance will be on-going throughout the year as needed. See Fuel Treatment Site Plan for proposed locations.
	THINNING ZONE 2 (OWNER MAINTAINED) - An area located along the western boundary between 50 and 100 feet from each structure. This area may include single or small clusters of trimmed fire resistance native plants up to 18 inches in height and trimmed native trees limbed up to 6 feet from the ground where 50% of the vegetation is removed. Selected native plant clusters must be separated by at least 1 1/2 times the mature height of the retained plants. The ground cover, native plants and grasses below the tree canopies shall be weed whipped and maintained to 4" or less in stubble height. See Fuel Treatment Site Plan for proposed locations.
FH	**FIRE HYDRANTS -** Proposed locations, final locations to be determined by engineering.
	Emergency/Fire Access Way Entrance - two means of access are provided. Access with a gate shall be installed per proposed locations in the Fuel Treatment Site Plan.
	TWO HOUR RATED WALLS - Buildings 1, 2, 3, & 7 are to have two-hour exterior wall assemblies. Building 6 has the exposed faces and that portion within the VHFHSZ to be as rapped as above. All buildings are compartmentalized with two-hour walls as required to comply with an NFPA 13R sprinkler system design for fire area per the CBC. However, buildings 1, 2, 3, 6, & 7 are proposed to be provided with a full NFPA 13 sprinkler system as an enhancement to protection. Refer to architectural plans for more details. See Fuel Treatment Site Plan for proposed locations.

Prepared for: KA Enterprises
5820 Oberlin Drive, Suite 201
San Diego, CA 92121

Prepared By: FIRE WISE 2000, LLC.
PO Box 39
Valley Center, CA 92082
Telephone: 760-745-3947

LANDSCAPE NOTE:
ALL LANDSCAPE ZONES WILL BE COORDINATED WITH CITY CASE PLANNER ON SELECTING THE FIRE RESISTIVE APPROVED LANDSCAPE.

Certified By

Mel Johnson, Owner Date: 11/10/2020
FIRE WISE 2000, LLC
PO Box 339
Valley Center, CA 92082
Info@firewise2006.com
Telephone: (760) 745-3947
This Exhibit is found to be compliant with the Fire Protection Plan dated 11/10/2020.

February 1, 2021

0' 30' 60' 90'

CRESTVIEW APARTMENTS

5.13.4 Thresholds of Significance

The City has not established local CEQA significance thresholds as described in Section 15064.7 of the State CEQA Guidelines. The City generally utilizes the CEQA significance thresholds in Appendix G ("Environmental Checklist") of the State CEQA Guidelines. The Environmental Checklist prepared by the City for the Project (see Appendix A of this document) indicates that impacts related to the Crestview Apartments Project may be considered potentially significant if the Project would:

- (Threshold A) substantially impair an adopted emergency response plan or emergency evacuation plan;
- (Threshold B) result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for Fire Protection Public Services;
- (Threshold C) due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;
- (Threshold D) require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment;
- (Threshold E) expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes;
- (Threshold F) expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

5.13.5 Environmental Impacts

Threshold A: *Would the Project Substantially impair an adopted emergency response plan or emergency evacuation plan?*

The Project will be served by Sycamore Canyon Boulevard and Central Avenue. No street closures are required during the Project's construction. Per the GP 2025, Public Safety Element, Figure-PS 8.1 Evacuation Routes, Central Avenue is an arterial evacuation route and the SR-60 and I-215 are designated as freeway evacuation routes. Thus, the Project site is located adjacent to and has immediate access to Central Avenue and SR-60 and I-215, designated evacuation routes.

In the event of an accident or natural disaster, the increase in traffic in the City may impede the rate of evacuation for the residents. The City's Office of Emergency Management (OEM) is also known as the RFD's Emergency Service Division. The RFD operates and manages the OEM, a comprehensive all-hazards community-based emergency management program. According to the RFD's OEM, and per the GP 2025 FPEIR, in the event of a disaster, the location of a shelter will only be established if needed; otherwise a "shelter-in-place" order will be enacted to provide protection. "Shelter-in-place" is intended to protect public safety by encouraging people to remain indoors. This order would keep unnecessary traffic off the roads to allow emergency vehicles to respond and/or direct an orderly evacuation, if needed. In certain circumstances, local officials may direct people to go to a community shelter for safety purposes.

Emergency response and evacuation procedures would be coordinated through the City in coordination with the police and RFD. The Project would not impair an adopted emergency response plan or evacuation plan and would comply with necessary procedures. The Project's surrounding roadways would continue to provide emergency access to the Project area and to surrounding properties during construction and operation of the Project. Therefore, the Project will have a **less than significant** impact directly or indirectly to an emergency response or evacuation plan.

Threshold B: *Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for Fire Protection Public Services?*

The Project site is within RFD's 5-minute initial action response time. The nearest fire station is Fire Station 14 – Sycamore Canyon (725 Central Avenue) and is less than a mile from the Project site. It would be the first engine to arrive on scene to the furthest structure (3 or 4-minutes driving time depending on traffic). The second engine would be from Fire Station 13 – Box Springs (6490 Sycamore Canyon Boulevard) approximately 5 minutes driving time to the Project. The next closest station is Fire Station 9 – Canyon Crest (6674 Alessandro Boulevard), approximately 8 minutes from the Project. Additional agencies such as Riverside County and nearby cities would also likely respond, but they would probably arrive after RFD. (FPP p., 20)

According to the GP 2025 FPEIR, the average time for on-site response to fire calls is 5 minutes, 30 seconds. Delivering and maintaining such a high level of service in the future as the City grows is a major concern to the RFD. The RFD's goal is to maintain a 5-minute response time for the first arriving units 90% of the time for all EMS and fire related incidents. As earlier mentioned, the Project is within the RFD's 5-minute initial action response time, with the first fire engine arriving on scene from the Sycamore Canyon station within three to four minutes depending on traffic. The first arriving unit can advance the first line for fire control, initiating rescue, or providing basic life support for medical incidents. Additionally, the RFD policy states that units will be located and staffed such that an effective response force of 4 units with 12 personnel minimum shall be available to all areas of the City within a maximum of 10 minutes (total response time).

The Project includes a Fire Access Plan to ensure fire trucks will be able to navigate through the planned development to reach all areas of Project. The fire access plan also allows of a typical apparatus turning radius that will allow a typical standard fire truck can navigate through. As RFD requires a clear fire access lane width of 20 feet and the City requires a width of 24 feet for two-way traffic, all clear fire lane access within the Project is 24-feet wide.

Additionally, the Project does not propose to use substantially hazardous materials or engage in hazardous activities that will require new or expanded fire protection equipment to meet potential emergency demand.

As there are already two existing fire stations (# 13 and 14) within RFD's 5-minute initial action response time, construction of new fire stations would not be triggered by the Project. The City of Riverside does not collect development impact fees as all fire stations have been built.

With the Project design (including Fire Access Plan), the nearest Fire Station being less than a mile from the Project site, the Project's incremental impacts on fire protection services would be **less than significant**.

Threshold C: *Due to slope, prevailing winds, and other factors, would the Project exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

The northern portion of the Project site is within a VHFHSZ. Wildland fire may impact the project as there are wildland fuels within 1,000 feet of the project on all sides. The greatest threat comes from the adjacent undeveloped properties and steep terrain. There is potential for wildfire to enter the project primarily from the west thus exposing numerous structures to wildfire convective and radiant heat. All the structures within the Project are subject to embers showers. (FPP p., 8)

The Project site is bordered by Sycamore Canyon Boulevard to the north and east and Central Avenue to the south. The Quail Run Open Space borders the west side of the Project site and sits at a lower elevation at the southwest border and a higher elevation at the northwest border. Generally, though, the Quail Run Open Space follows an overall downslope as it spans further west from the Project site.

A fire will generally spread uphill due to the preheating of the fuel and the up-slope draft unless the general wind is strong enough to overcome these two forces. The flames are closer to the fuel on the uphill side and they receive more radiant heat. This results in more preheating and faster igniting of the fuel. The heated air rises along the slope increasing the draft that further increases the rate of spread. As a result of winds blowing up-slope, more convective heat also reaches the fuel in front of the fire and it is pre-heated more quickly to the ignition temperature. The opposite is true at night. When the slope becomes shaded, the surface generally loses heat rapidly and becomes cool. The air adjacent to the surface also cools and becomes denser thus heavier and it can begin to flow down-slope.

The typical prevailing summertime wind pattern is out of the west/southwest and normally is of a much lower velocity (5-10 MPH with occasional gusts to 20 MPH) and is associated with relative humidity readings ranging between 20% and occasionally more than 70% due to the sites

proximity to the ocean. All other (northwest, southeast and south) wind directions may be occasionally strong and gusty; however, they are generally associated with cooler moist air and have higher relative humidity (>40%). They are considered a serious wildland fire weather condition when wind speeds reach >20-MPH. The most critical weather pattern to the project area is a hot, dry offshore wind, typically called a Santa Ana. Such wind conditions are usually associated with strong (>50 MPH), hot, dry winds with very low (<15%) relative humidity. Santa Ana winds originate over the dry desert land and can occur anytime of the year; however, they generally occur in the late fall (September through November). This is also when non-irrigated vegetation is at its lowest moisture content. (FPP p., 8)

Historically, wildland fires have burned in the City of Riverside during moderate west to southwest winds. This moderately strong, dry wind condition that occurs during these fires usually develops in the late afternoon or early evenings. These winds occur during the normal summer and early fall (June through October) months. These winds may blow from 20-30 MPH. The most significant wind pattern that will impact the project is a Santa Ana wind which typically occur in September thru November and in the range of 50-60 MPH within this portion of Riverside County. (FPP p., 10)

Sycamore Canyon Boulevard is to the north and east of the Project site as well as the SR-60 and I-215. A fire starting along the I-215/SR-60 corridor during a strong Santa Ana wind condition would blow embers directly toward the Project site. However, the combination of the boulevard and freeways results in over 200 feet of a near vegetation free landscape. (FPP p., 11) Thus, the risk for the Project site to exacerbate wildfire risks for a wildfire spreading to the Project site from these roadways or vice versa would be lessened as there is generally little wildfire fuel on roadways and with the implementation of the AM&M design considerations described in Section 5.13.3 Project Design Considerations.

As described, the eastern boundary of the Project site abuts Sycamore Canyon Boulevard. The presence of Sycamore Canyon Boulevard along the eastern boundary is highly important as this roadway is approximately 70 feet in width. The presence of this roadway in addition to required irrigated fire resistant landscape planted along the west side of Sycamore Canyon Boulevard; the installation of ignition resistant construction in all the buildings, parking lots, emergency access roadways; and construction requirements provided in the Project's FPP would be sufficient to lessen any threat of wildfire and embers coming from the east of the Project, and thus lessen the risk for the Project to exacerbate wildfire risks from this area of the Project site. (FPP pp., 11-12)

The southern boundary of the Project abuts Central Avenue, which borders approximately 101 acres of undeveloped land on the other side of the road from the Project. Southwest or west winds of up to 30 mph may occur along the southern boundary. These "*rare event*" dry winds pose a threat to the structures near the southern Project boundary, mostly from embers from a wildland fire occurring to the south in the undeveloped land adjacent to Central Avenue. However, the wildland fuels would be removed within the Project due to grading and replaced with structures and Zone 1 landscaping. This removal of wildland fuels, in addition to implementation of required fuel treatments, installation of ignition resistant construction, and construction requirements per

the Project's FPP would reduce the risk of the Project exacerbating wildfire risks along the Project's southern boundary. (FPP p., 12-13)

The western Project boundary is the greatest wildland fire threat to the Project. A wildland fire burning west of the Project during a "*rare event*" west or southwest wind could burn with high intensity towards the Project site. Fuels in the area are light to moderate with slopes in the adjacent open space area ranging from 25-40%. Most of the proposed buildings are located uphill from the expected fire behavior, which is a concern as a fire will generally spread uphill, as described above. However, several parking areas and roadways would separate buildings 1, 2, 3, 4, 5, and portions of buildings 6 and 7 from the wildland fuels, and per the FPP, carports within the defensible space area(s) would be constructed with non-combustible materials (FPP pp., 14, 24). As depicted in Figure 5.13-4 Fuel Treatment Site Plan, the portions of buildings 6 and 7 that are along/within closer proximity to the western Project boundary would be buffered by Irrigated Zone 1 areas as well as portions of Thinning Zone 2 areas. Additionally, as is also depicted and described in Figure 5.13-4, building 7 and the exposed faces of building 6 would be wrapped with 2-hour rated walls, equipped with NFPA 13 sprinkler systems, and would have fire hydrants located within close proximity to each building (see Figure 5.13-4).

The Project specific FPP was reviewed and approved by RFD and includes Project construction requirements as described in Section 5.13.3 above, as well as proposed mitigation measures **MM FIRE-1** through **MM FIRE-17**, that would reduce the Project's potential to exacerbate wildfire risks to a less than significant level. The Project will also incorporate RMC standards related to fire suppression at the Project site such as smoke detectors meeting the current CBC and CFCs installed in all units and other enclosed common areas such as hallways, recreation rooms, and utility rooms. Additional fire suppression equipment such as alarm systems, fire extinguishers and sprinklers will also be incorporated as recommended by the RFD. Furthermore, Project structures would be required to comply with the CFC with regard to emergency fire access and use of building materials that would limit the spread of wildfire to the greatest extent possible. This would reduce potential spread of a wildfire from the Project site to areas outside the Project site boundary, reducing the Project's potential to exacerbate wildfire risks.

Overall, the Project would be constructed in compliance with the CFC and CBC, along with being compliant with the GP 2025 and RFD requirements as reflected in the Project's FPP. Additionally, with the implementation of proposed mitigation measures **MM FIRE-1** through **MM FIRE-17**, the Project would not expose Project occupants to pollutant concentrations from wildfire or the uncontrolled spread of a wildfire by exacerbating wildfire risks. Impacts would be **less than significant with mitigation measures MM FIRE-1 through MM FIRE-17**, compliance with the CFC and CBC, and implementation of design considerations (including landscaping, retaining walls, and WQMP LID BMPs) and approved AM&M design considerations..

Threshold D: *Would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

The Project site is partially within a VHFHSZ at the northern portion and sits on vacant land in a mostly developed area with roadways, residential units, and open space adjacent to the site and its surrounding area. Additionally, the SR-60 and I-215 is in close proximity to the north and east of the Project site. There are existing utilities adjacent to the Project site such as power lines, pad-mounted transformers, water sources, and other utilities. There are no offsite staging areas, and the only offsite improvements are wet and dry utility connections from the Project site to existing facilities/pipelines in Sycamore Canyon Boulevard and Central Avenue. There are no offsite improvements required to the west of the Project that would extend into the undeveloped wildland area.

The Project would not require the installation or maintenance of other associated infrastructure to the west, or beyond already existing developed conditions in Sycamore Canyon Boulevard and Central Avenue to the north, east, and south, where the Project would connect to existing utilities. Implementation of the Project would not require installation of new or increased level of infrastructure maintenance into wildland areas that could exacerbate fire risk or result in temporary or ongoing impacts to the environment. The Project's potential to exacerbate wildfire risk from installation and maintenance of infrastructure would be **less than significant**.

Threshold E: *Would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

As outlined in Threshold C analysis above, the northern portion of the Project site is within a VHFHSZ. Wildland fire may impact the project as there are wildland fuels within 1,000 feet of the project on all sides. The greatest threat comes from the adjacent undeveloped properties and steep terrain. There is potential for wildfire to enter the project primarily from the west thus exposing numerous structures to wildfire convective and radiant heat. All the structures within Project are subject to embers showers. (FPP p., 8)

The Project site is bordered by Sycamore Canyon Boulevard to the north and east and Central Avenue to the south. The Quail Run Open Space borders the west side of the Project site and sits at a lower elevation at the southwest border and a higher elevation at the northwest border. Generally, though, the Quail Run Open Space follows an overall downslope as it spans further west from the Project site.

The Project would be constructed in compliance with the CFC and CBC, along with being compliant with the GP 2025 and RFD requirements as reflected in the Project's FPP and would implement City and RFD-approved AM&M design considerations as described in Section 5.13.3 Project Design Features. Additionally, with the implementation of proposed mitigation measures **MM FIRE-1** through **MM FIRE-17**, the Project would not expose people or structures within the Project to significant risks from wildfire or exacerbate wildfire risks from the Project to adjacent areas to the west and south that are downslope.

As outlined in Section 3.0 Project Description, Subsection 3.3.3 Open Space, Landscaping and Walls/Fencing, and Figure 3.0-5 Landscape Plan, irrigated landscaping is proposed throughout the Project site and will consist of low water use trees, shrubs, and ground cover. Trees,

groundcover, shrubs and accent plants are proposed along walkways and throughout the residential common open space areas. The stormwater runoff bioretention areas include trees, and shrubs and grass. A concrete walkway perimeter loop trail surrounds the apartment development and outside of the walkway there are terraced retaining walls along Central Avenue and at the southwest corner of the site. The slopes between the walls will include irrigated landscaping as well. All of the fences and walls will be designed to enhance the aesthetics of the proposed project, while providing security, privacy, and slope stability where needed. A hillside landscape buffer with shrubs and groundcovers is proposed along the western edge of the project. The landscaping along the perimeters of the development is required to be fire resistant within all areas that fall within the VHFHSZ. The landscaping would not only mitigate the spread of wildfire but also help stabilize the slopes and prevent erosion and landslides.

The Preliminary Project Specific WQMP outlines the Low Impact Development (LID) Best Management Practices (BMPs) required to adequately meet water quality standards and reduce storm water runoff and include fourteen bioretention/biotreatment basins located throughout the site. On-site storm water runoff and erosion would be minimized through site development, including buildings, parking and paved areas and storm drain infrastructure. Storm drain infrastructure planned for the site includes various size storm drains, underground detention system, landscape catch basin, and rip rap at two storm drain outlets along the western development boundary. As outlined in the Preliminary Project Specific WQMP prepared for the project and reviewed and approved by the City of Riverside, the volume and time of concentration of storm water runoff for the post-development condition is not significantly different from the pre-development conditions. Therefore, the project would not result in storm water runoff from the site that would result in erosion or flooding off-site. Prior to issuance of a grading permit, a final approved WQMP will be required, as well as coverage under the State's General Permit for Construction Activities.

Impacts related to exposure of people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes would be **less than significant with mitigation measures MM FIRE-1 through MM FIRE-17,** compliance with the CFC and CBC and implementation of design considerations (including landscaping, retaining walls, and WQMP LID BMPs and approved AM&M design considerations.

Threshold F: *Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?*

As outlined in Threshold C analysis above, the northern portion of the Project site is within a VHFHSZ. Wildland fire may impact the project as there are wildland fuels within 1,000 feet of the project on all sides. The greatest threat comes from the adjacent undeveloped properties and steep terrain. There is potential for wildfire to enter the project primarily from the west thus exposing numerous structures to wildfire convective and radiant heat. All the structures within Project are subject to embers showers. (FPP p., 8)

The nearest fire station is Fire Station 14 – Sycamore Canyon (725 Central Avenue, Riverside, CA 92507) and is less than a mile from the Project site (approx. 0.7 miles west). Per the FPP prepared for the Project, the Project is within the RFD's 5-minute initial action response time, with the first fire engine arriving on scene from the Canyon Crest station within three to four minutes depending on traffic. The next closest station is Fire Station 13 – Box Springs (6490 Sycamore Canyon Blvd.) approximately 5 minutes driving time to the Project. Due to the Project's close proximity to existing fires stations, adequate response times can be provided by RFD. Also, the Project plans include a Fire Access Plan as seen in Figure 5.13-3. The Project will provide adequate fire access to ensure the safety of the residences. As seen on the fire access exhibit, the fire access will leave room for fire trucks to come in and out of the proposed development and will allow them to reach all areas of the Project site in case of a fire.

The Project would be constructed in compliance with the CFC and CBC, along with being compliant with the GP 2025 and RFD requirements as reflected in the Project's FPP. Additionally, with the implementation of proposed mitigation measures **MM FIRE-1** through **MM FIRE-17**, the Project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. Impacts would be **less than significant** with compliance with the CFC and CBC and implementation of design considerations (including landscaping, retaining walls, and WQMP LID BMPs), **including approved AM&M design considerations, and mitigation measures MM FIRE-1 through MM FIRE-17**.

5.13.6 Proposed Mitigation Measures

An EIR is required to describe feasible mitigation measures which could minimize significant adverse impacts (State CEQA Guidelines, Section 15126.4). Implementation of the Project requires implementation of the following mitigation measures to ensure potential impacts related to wildfire risks are reduced to less than significant levels.

MM FIRE-1: Prior to issuance of building permits, water and power utilities shall be installed and approved by the appropriate inspecting City department (Riverside Fire Department and/or Public Utilities) prior to the delivery of combustible building construction materials to the Project site. An approved permanent water supply capable of supplying the required fire flow for each fire protection system shall be installed and shall be a looped system served from two points.

MM FIRE-2: Fuel treatment in the Project shall require meeting the minimum City fuel treatments of 50-feet of Irrigated Zone 1 (described in Section 5.13.3 Project Design Considerations), which includes all manufactured slopes located within the Project. Irrigated Zone 1 additionally includes 30 feet of fuel treatment on either side of each roadway. Thinning Zone 2 fuel treatment (described in Section 5.13.3 Project Design Considerations) shall be required between 50 and 100 feet of any structure. The establishment of the Project fuel treatment Zones 1 and 2 shall be inspected and must be approved by the Riverside Fire Department prior to the issuance of building permits.

MM FIRE-3: Irrigated Zone 1 Required Landscaping

Irrigated Zone 1 is the defensible space zone and shall be free of all combustible construction and materials. The establishment of the Irrigated Zone 1 shall be inspected and must be approved

by the Riverside Fire Department prior to the issuance of occupancy permits. Containerized plants and landscaping located in Zone 1 shall meet the following requirements of this mitigation measure:

- Plants in this zone shall be fire resistant and shall not include any pyrophytes that are high in oils and resins such as pines, eucalyptus, cedar, cypress or juniper species. Thick, succulent or leathery leaf species with high moisture content are the most 'fire resistant'. Refer to APPENDIX 'A' of the Project's Fire Protection, which is incorporated by reference into this mitigation measure, Plan for the Prohibited Plant list.
- Zone 1 shall be cleared of all fire prone and prohibited plant species (refer to APPENDIX 'A' of the Project's Fire Protection Plan).
- All landscaping shall be fire-resistant. Landscaping elements shall be coordinated with the Case Planner through Landscape and Irrigation Design Review.

MM FIRE-4: Irrigated Zone 1 Required Maintenance

The following maintenance measures shall be implemented for Irrigated Zone 1. Maintenance shall be performed year-round by the Project owner/manager and a Maintenance Schedule Log shall be kept on site at all times and made available upon City Staff request.

- Maintenance shall be year-round by the owner as required by the Fire Protection Plan in addition to the Weed Abatement Program in accordance with Riverside Municipal Code 6.15.020, which is managed by the Code Enforcement Division.
- Remove and replace any dead or dying plant material monthly.
- Native annual and perennial grasses will be allowed to grow and produce seed during the winter and spring. As grasses begin to cure (dry out), they shall be cut to four inches or less in height.
- Trees shall be maintained to a minimum of six feet of vertical separation from low growing, irrigated vegetation beneath the canopy of each tree. All trees must be maintained to the current ANSI A300 standards [*Tree, Shrub, and Other Woody Plant Maintenance —Standard Practices (Pruning)]*
- The owner/manager shall be responsible for maintaining Fuel Modification Zone 1. All highly flammable plant species identified in Appendix A of the Project's Fire Protection Plan, which is incorporated by reference into this mitigation measure, shall be permanently removed from the Irrigated Zone 1 due to their susceptibility to wildland fire.

MM FIRE-5: Thinning Zone 2 Vegetation Management

Zone 2 is the fuel treatment zone, 50-to-100-feet away from any structure and shall include the removal of 50% of the above ground vegetation and the application of mulch to maintain soil moisture, reduce soil erosion and reduce weed growth. The Thinning Zone 2 plan shall be reviewed and approved through the Landscape and Irrigation Design Review process. Vegetation located in Zone 2 shall meet the following requirements of this mitigation measure:

- Mulches, chips and other small multi-cuttings (cut to less than 2 inches in diameter and 4 inches in length) shall be evenly spread over the area to prevent weed and grass encroachment into the treated area.
- Allowances for the needs of protected species and habitats shall be considered in this zone.
- The Thinning Zone 2 Plan shall include a note not allowing combustible construction or materials in Zone 2.

MM FIRE-6: Thinning Zone 2 Signage

Prior to issuance of occupancy permits, the western side boundary of Zone 2 abutting wildland fuels shall be permanently marked on the ground where it transitions to wildland fuels for the purpose of guiding annual fuel treatment maintenance and inspection operations. As the most reliable markers are steel fence posts with a baked on painted finish, these types of markers shall be installed and maintained/replaced as needed. These Fuel Modification Zone markers shall be spaced no more than 100 feet apart so that the markers on each side of an installed marker can be seen from that marker. (See APPENDIX 'F' of the Project's Fire Protection Plan for an example).

MM FIRE-7: Thinning Zone 2 Required Maintenance

The following required maintenance measures shall be implemented for Thinning Zone 2. Maintenance shall be performed year-round by the Project owner/manager and a Maintenance Schedule Log shall be kept on site at all times and made available upon City Staff request.

- Thinning/removal of the native vegetation shall be completed to create 50 percent of open space, with no vegetation.
- All native grasses or weeds shall be mowed or weed-whipped to a 4-inch stubble height by June 15th or earlier if they dry out earlier.
- All dead, woody debris, and exotic or native flammable vegetation shall be removed (refer to APPENDIX 'A' of the Project's Fire Protection Plan, which is incorporated by reference into this mitigation measure)
- Annually maintain all tree crowns to keep a separation of six feet between the ground fuels (shrubs and ground covers) and the lower limbs. All trees shall be maintained to the current ANSI A300 standards [*Tree, Shrub, and Other Woody Plant Maintenance — Standard Practices (Pruning)]*
- Annually prune vegetation (refer to APPENDIX 'B' of the Project's Fire Protection Plan) to maintain a 50% thinning from the original vegetation cover. Selected native plant clusters shall be separated by at least 1 ½ times the fully developed height of the retained plants.
- Annually, native annual and perennial grasses are allowed to grow and produce seed during the winter and spring. As grasses begin to cure (dry out), they shall be cut to 4 inches or less in height. Note that the Code Enforcement Division regulates weed

abatement year-round and requires weed abatement to be performed by May 15th. The owners shall provide an additional cutting should the rainy season be prolonged into June.

- Annually remove all dead and dying vegetation and highly flammable exotic species (refer to APPENDIX 'B' of the Project's Fire Protection Plan, which is incorporated by reference into this mitigation measure) by June 15th of each year or when the fuels become cured, whichever occurs first.
- Any vegetative biomass (debris and trimmings) produced by thinning and pruning shall be removed from the site or converted to mulch by course chipping or multi-cut into 4-inch lengths and evenly distributed to a maximum depth of four (4) inches.
- Mulches, chips, and other small multi-cuttings (cut to less than two (2) inches in diameter and four (4) inches in length) shall be evenly spread over the area to prevent grass and weed encroachment within the treated areas. This mulching concept helps to maintain soil moisture for the designated plants, reduces the growth of annual grass, minimizes soil erosion, and recycles plant residue thus reducing disposal cost.
- The owner/manager shall be responsible for maintaining Fuel Modification Zone 2. All highly flammable plant species identified in Appendix A of the Project's Fire Protection Plan, which is incorporated by reference into this mitigation measure, shall be permanently removed from the Thinning Zone 2 due to their susceptibility to wildland fire.

MM FIRE-8: In order to reduce potential wildfire risks to the Project, as being partially located within and adjacent to, a mapped Very High Fire Hazard Severity Zone (VHFHSZ) zone, the following additional structural protection elements shall be designed and installed during construction. These elements shall be included in the Construction Drawings, to be reviewed and approved by the Riverside Fire Department and Building and Safety Division, prior to issuance of building permit.

- All buildings (1-7) shall be compartmentalized with two-hour fire walls, as required to be compliant with standard NFPA 13R sprinkler systems.
- Buildings 4 and 5 shall be protected with standard NFPA 13R fire sprinkler systems.
- Buildings 1, 2, 3, 6 and 7 shall be protected with full NFPA 13 sprinkler systems.
- Buildings 1, 2, 3, and 7 shall have two-hour exterior wall assemblies (gypsum board assembly, not type III construction with fire retardant-treated lumber).
- The northern portion of Building 6 shall have two-hour exterior wall assemblies (gypsum board assembly, not type III construction with fire retardant-treated lumber), as this portion of the building is within or facing the VHFHSZ.
- Carports within the defensible space area(s), within 50 feet of buildings, shall be constructed of non-combustible material.

MM FIRE-9: All non-habitable accessory structures such as decks, balconies, patio covers, gazebos and fences shall built from non-combustible materials as described in APPENDIX D of the Project's Fire Protection Plan. The owner/manager is not restricted from having concrete/brick patios or walkways within the Fuel Modification Zones in compliance with other codes. Refer to APPENDIX 'D' of the Project's Fire Protection Plan, which is incorporated by reference into this mitigation measure, for photos and descriptions of non-combustible decks, patio covers, and railings for these non-habitable accessory structures. These elements shall be included in the Construction Drawings, to be reviewed and approved by the Riverside Fire Department and Building and Safety Division, prior to issuance of building permit.

MM FIRE-10: To further mitigate the hazard of showering embers from a wildfire in the adjacent wildlands and for the lack of 100 feet of fuel treatment for Building 7, the following additional construction requirements shall be implemented:

- All vents in the structures shall be "Brandguard", "O'Hagin Fire & Ice® Line – Flame and Ember Resistant" or equivalent type vents.
- All operable windows shall be provided with metal mesh bug screens over the operable opening to replace traditional vinyl bug screens to prevent embers from entering the structure during high wind conditions when windows may be inadvertently left open.
- All swinging exterior doors shall be self-closing (e.g., pneumatic or spring-loaded hinges) and self-latching.

These elements shall be included in the Construction Drawings, to be reviewed and approved by the Riverside Fire Department and Building and Safety Division, prior to issuance of building permit.

MM FIRE-11: A copy of the Project's Fire Protection Plan shall be available in the Crestview Apartments Manager's office for review by any potential renter or employee. The Office shall provide a copy of this Fire Protection Plan to any new owner at the close of escrow. Subsequent sellers shall include copies of the Fire Protection Plan in all escrow papers.

MM FIRE-12: The Crestview Apartments' owner/manager shall be responsible for conducting a safety training for all new employees that includes the recommendations outlined in the Fire Protection Plan (Section 8.0, Owner, Occupant/Employee Education, page 25). The Crestview Apartments Manager's office shall keep a log of all new employee safety trainings on file for inspection at any time by the City of Riverside Staff.

MM FIRE-13: Water supplies for fire protection and hydrants shall be provided in accordance with the 2019 California Fire Code, or applicable Fire Code at time of building permit issuance, as amended by the City. The minimum fire flow shall be 3,000 gallons per minute (gpm) at 20 pounds per square inch (psi) residual pressure for a 4-hour duration for all buildings classified as R-2 occupancies per the State Fire Code.

MM FIRE-14: Fire hydrant installation shall conform to City standards and the 2019 NFPA 14, Standard for the Installation of Standpipe, Private Hydrant, and Hose Systems. Hydrant spacing

shall be not less than 300 feet between hydrants, as measured from an approved emergency access route and shall be placed at all road intersections. Fire hydrants shall be tested, accepted and placed in service prior to the delivery of any combustible materials to the Project site.

MM FIRE-15: The Project plans shall retain two means of public access into the Project. One via Sycamore Canyon Boulevard from the north and the second from the east. Rolling gates shall be installed for the northern entrance and west of Building 3.

MM FIRE-16: Driveways and access roads within the development shall be termed 'Fire Access Roads'. All fire access roads shall meet the requirements of the Riverside Fire Department, and shall be all weather surface capable of supporting loads of 80,000 pounds gross vehicle weight. Unless otherwise approved by the Riverside Fire Department Fire Marshal, the grade of a fire apparatus access road shall not exceed 16 percent and the cross slope shall not exceed 2.5 percent. Access to all exterior portions of each structure must be within 150 feet of the available fire department access. The required turning radius of a fire apparatus access road shall be 28-foot inside radius and a minimum 48-foot outside radius on all turns in the fire apparatus access road, in accordance with City standards, unless otherwise approved by the fire code official. Fire lanes shall be marked in accordance with City standards.

MM FIRE-17: Gates to be installed shall meet Riverside Fire Department standards and shall be approved by the Riverside Fire Department prior to fabrication and installation. A Knox override key switch or similar device must be installed outside the gate in an approved, readily visible, and unobstructed location at or near the gate to provide emergency access. Gates accessing major roadways shall also be equipped with approved emergency traffic control-activating strobe light sensor(s), or other devices approved by the Fire Chief, which will activate the gate on the approach of emergency apparatus with a battery back-up or manual mechanical disconnect in case of power failure. All gates shall always be equipped to allow for automatic egress from the Crestview Apartments.

5.13.7 Cumulative Environmental Effects

The Project will have a **less than significant impact** directly or indirectly to an emergency response or evacuation plan and mitigation is not required. With the Project design (including Fire Access Plan), the nearest Fire Station being less than a mile from the Project site, the Project's incremental impacts on fire protection services would be **less than significant**, and mitigation is not required. The Project's potential to exacerbate wildfire risk from installation and maintenance of infrastructure would be **less than significant** and mitigation is not required.

The planned and pending projects near the Project site, listed in Table 4-1 of this EIR, include residential, warehouse, commercial, office, fast food, gas station, hotel, church, carwash, and school-related land uses. These planned and pending projects would increase structural development near the Project site, in turn exposing new residents and property to potential risks from fires in the area.

The Project site is in a VHFHSZ. The only other cumulative project (from Table 4.0-1: Summary of Cumulative Development Projects) that is located in a VHFHSZ is MV1, a 25 dwelling unit

single family detached residential development, in Moreno Valley, near the southern foothills of Box Springs Mountain. With compliance with the CFC and CBC and implementation of design considerations and mitigation measures **MM FIRE-1** through **MM FIRE-17** potential impacts from the Project are reduced to less than significant levels. The MV1 project in Moreno Valley would also be required to comply with applicable codes, the (Moreno Valley Municipal Code, CFC, and CBC), laws and standards and implement any project specific mitigation measures as appropriate identified through the CEQA review process for that project's specific site conditions and design. In addition, as the MV1 project is located within a VHFHSZ, it would also be required to be designed and built-in accordance with Chapter 7a (Materials and Construction Methods for Exterior Wildfire Exposure) of the 2019 CBC. Both projects are required to be constructed in compliance with applicable CBC and CFC that ensure appropriate measures, including fire prevention and fuel modification features, are provided so that urban development does not expose project occupants to increased and uncontrolled wildfire hazards. Applicable CBC and CFC standards are designed to minimize the potential for uncontrolled fires. Furthermore, the cumulative projects would not result in permanent road closures, nor impede an established emergency or evacuation access route, or interfere with emergency response requirements, or fire protection response time standards. The Project is surrounded by mostly urban development and served by existing infrastructure. It would not contribute incrementally with other projects in the City or surrounding area to create an environment that would exacerbate wildfire risks. Cumulative wildfire hazard impacts **would be less than significant with mitigation**.

5.13.8 References

The following references were used in the preparation of this section of the EIR:

2019 Strategic Plan	Strategic 2019 January Plan (Available at https://www.fire.ca.gov/about-us/strategic-plan/, accessed January 2021.)
Cal Fire 1999	California Department of Forestry and Fire Prevention (Cal Fire). 1999. Learning to Live with Fire. (Available at https://www.fire.ca.gov/media/8657/live_w_fire.pdf)
Cal Fire 2020	Cal Fire 2020 Incident Archive website. (Available at https://www.fire.ca.gov/incidents/2020/)
Cal Fire Viewer	California Fire Hazard Severity Zone Viewer. (Available at: https://gis.data.ca.gov/datasets/789d5286736248f69c4515c04f58f414)
FPP	FIREWISE 2000, LLC. *Fire Protection Plan, Crestview Apartments*. February 2021. (Appendix K)
GP 2025	City of Riverside, General Plan 2025, Public Safety Element. (Available at https://riversideca.gov/cedd/sites/riversideca.gov.cedd/files/pdf/planning/general-plan/18_Public_Safety_Element_with%20maps.pdf, accessed October 2020.)

GP 2025 FPEIR	City of Riverside, General Plan 2025 Program Environment Impact Report (SCH# 2004021108), Section 5.13 Public Services. (Available at https://riversideca.gov/cedd/planning/city-plans/general-plan-0, accessed October 2020.)
OEM	City of Riverside, Office of Emergency Management, Riverside Operational Area – Multi-Jurisdictional LHMP, 2019 Part 1/Part 2 and OEM's Strategic Plan. (Available: https://www.rivcoemd.org/Portals/0/FINAL%20PUBLIC%20VERSION%20Riv_Co_%202018%20Multi%20Jurisdictional%20Local%20Hazard%20Mitigation%20Plan.pdf, Accessed November 2020)
SBFFP and Cal Fire 2019	State Board of Forestry and Fire Protection (SBFFP). California Department of Forestry and Fire Protection, Strategic Fire Plan. January 22, 2019. (Available at https://www.fire.ca.gov/media/5504/strategicplan2019-final.pdf)

6.0 Other CEQA Topics

This section analyzes the Project's consistency with regional plans, potential irreversible environmental effects, and growth-inducing impacts of the proposed Project.

6.1 Consistency with Regional Plans

CEQA, Section 15125(d), requires an EIR to discuss any inconsistencies between the proposed Project and applicable general and regional plans.

City of Riverside General Plan and Municipal Code

A discussion of the Project's consistency with applicable GP 2025 objectives and policies in the Housing Element, Land Use and Urban Design Element, Circulation and Community Mobility Element, and Public and Safety Element is contained in Section 5.8 Land Use and Planning of this EIR, Table 5.8-6 Summary of Consistency with Applicable General Plan Policies in these elements. As discussed in Section 5.8 Land Use and Planning, the Project would comply with the applicable GP 2025 objectives and policies in the Housing Element, Land Use and Design Element, Circulation and Community Mobility Element, and Public and Safety Element. Section 5.8 Land Use and Planning also includes a discussion of consistency with applicable sections of the Zoning and Grading Codes. The proposed Project will comply with the applicable GP 2025 Housing Element objectives and policies (H-2.2, H-2.3 and H-2.4) by increasing the types and availability of housing in the City. The Project will comply with smart growth principles by providing high-density housing near the SR-60/I-215 freeway, a major regional transportation corridor. The Project site is approximately 4 miles drive on surface streets from the Hunter Park/ UCR Metrolink station and about 4 ½ miles from the Riverside Metrolink station. Metrolink is a commuter rail system that provides service to Los Angeles, Orange County, and San Diego County.

The Project will provide appropriate site design, landscaping, and building design in order to comply with the GP 2025 Land Use and Urban Design Elements. The Project site includes a combination of undulating, undisturbed land, with a large, relatively flat area that was created previously by undocumented grading operations. The proposed Project will utilize the more flat and disturbed portions of the site for the apartment buildings, amenities and infrastructure. The western boundary is largely undisturbed with a large knoll near the northwesterly corner and a deep, vegetated ravine near the southwestern corner. These areas with the greatest extent of topographic relief and lack of disturbance will not be graded or impacted by the proposed development but will be preserved and left in place. The preservation of the drainage course and ravine in the southwest portion of the site will continue to allow for wildlife movement along this existing corridor (see Section 5.3 Biological Resources). With utilization of the disturbed portion of the site for development and preservation of the largely undisturbed areas, the Project will comply with objectives and policies related to the preservation of the City's hillsides (LU 3-1, LU-4.1 and LU-4.2).

As outlined above, the proposed Project will comply with the General Plan Land Use density guidelines and intended land uses of VHDR - Very High Density Residential land use designation. The proposed Project would comply with the development standards of the Zoning Code for the

R-4 - Multiple-Family Residential Zone, with the exception of a fully landscaped front yard setbacks and solid walls within the front yard setback that are higher than allowed by the Zoning Code. Portions of various site improvements, including retaining walls and perimeter fencing, are proposed to encroach into the required 15-foot wide front yard setback. The variance will allow reasonable development of the property in accordance with the City's General Plan and Zoning Code. Further, the proposed walls will provide a safe, functional and stable transition between the Project site and the public roadways. The tiered retaining wall design provides better aesthetics and ample area to accommodate the desired front yard landscaping along Central Avenue. The site design provides ample landscape screening along the public street frontages and the required perimeter fencing. The multi-family residential development will provide quality rental opportunities with desired amenities in close proximity to public transportation and retail developments, in accordance with the objectives of the Housing Element. Implementation of the Project would include approval of the necessary General Plan Land Use Amendment, Zoning Code Amendment and Variance, and Grading Code Exceptions. No mitigation measures would be required. Therefore, the proposed Project will have less than significant environmental impacts as it will not conflict with the General Plan or the Zoning Code.

Air Quality Management Plan (AQMP)

Section 5.2 Air Quality discusses consistency with the current Air Quality Management Plan (AQMP). As discussed in Section 5.2 Air Quality, the Project's consistency with the AQMP was determined using criteria defined in Chapter 12, Section 12.2 and Section 12.3 of the South Coast Air Quality Management District's (SCAQMD's) CEQA Air Quality Handbook. As discussed in Section 5.2, the Project would not result in or cause National Ambient Air Quality Standards (NAAQS) or California Ambient Air Quality Standards (CAAQS) violations and construction and operational-source impacts would not exceed the applicable SCAQMD regional and localized thresholds. As such, the Project is therefore considered to be consistent with the AQMP.

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

Consistency with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) is contained in Section 5.3 Biological Resources. As discussed in Section 5.3, the Project site is located within Subunit 1 – Sycamore Canyon/Box Springs Central of the Highgrove Area Plan of the MSHCP and within Criteria Cell 721, which is an independent Cell that is not affiliated with any Cell group and which contributes to assembly of Proposed Constrained Linkage 7. The proposed Project has been designed to avoid impacts to and conserve the southwest corner of the Project site, containing a vegetated drainage course, which will contribute to the assemblage of the MSHCP Proposed Constrained Linkage 7. With compliance with all applicable requirements of the MSHCP and payment of the MSHCP Local Development Mitigation Fee, the proposed Project will be fully consistent with the MSHCP.

City's Restorative Growthprint-Climate Action Plan (RRG-CAP)

Section 5.7 Greenhouse Gas Emissions includes a discussion of the Project's consistency with the City's Restorative Growthprint-Climate Action Plan (RRG-CAP). As discussed in Section 5.7 and shown in Table 5.7-8 – RRG CAP Project Consistency, while some measures are not

applicable, the Project would not conflict with any measures of the City RRG CAP or conflict with their implementation. Further, the Project would be consistent with applicable RRG and CAP measures.

Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)

The Southern California Association of Governments (SCAG) is an association of local governments and agencies that serves as a Metropolitan Planning Organization (MPO), a Regional Transportation Planning Agency (RTPA) and a Council of Governments (COG). The SCAG region encompasses six (6) counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) and 191 cities. SCAG is responsible for developing long-range regional transportation plans, including the regional Sustainable Communities Strategy (SCS) and associated growth forecasts, regional transportation improvement programs, and regional housing needs allocations.

SCAG's Connect SoCal – The 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals. Connect SoCal embodies a collective vision for the region's future and is developed with input from local governments, county transportation commissions (CTCs), tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura.

Section 5.10 Transportation includes a discussion of whether the Project would conflict with an applicable program, plan, ordinance or policy addressing the circulation system. With implementation of the improvements identified in the Traffic Analysis (Appendix I) to address deficiencies to study area intersections (MM LU-1), and improvements for pedestrians and public transit (MM TRANS-1 through MM TRANS-3), the Project would not conflict with applicable programs, plans, ordinances, or policies addressing the local circulation system. Therefore, the Project will not conflict with the Connect SoCal – 2020-2045 RTP/SCS.

2015 Urban Water Management Plan

Section 5.12 Utilities and Service Systems discusses Project consistency with the Riverside Public Utilities, Water Division Urban Water Management Plan (UWMP). As discussed in Section 5.12 Utilities and Service Systems, the Project would be subject to compliance with the City's Water Conservation Ordinance and the California Green Building Code. Further, based on the water supply and demand projections, projected water supplies would be sufficient to meet the projected water demand for the Project. Thus, the Project would not conflict with the provisions of the UWMP.

6.2 Significant Environmental Effects Which Cannot be Avoided

CEQA requires decision makers to balance the benefits of a Project against its unavoidable environmental risks in determining whether to approve a project. The analysis contained in this EIR concludes the Project would not result in a significant and unavoidable impacts.

6.3 Significant Irreversible Environmental Changes

Section 15126.2(d) of the CEQA Guidelines requires EIRs to contain a discussion of significant irreversible environmental changes which would be caused by the proposed Project should it be implemented. This section addresses the use of non-renewable resources during initial and continued phases of the Project, the commitment of future generations to environmental changes or impacts because of the Project, and any irreversible damage from environmental accidents associated with the Project.

6.3.1 Use of Non-Renewable Resources

Construction of the Project would involve an irreversible commitment of construction materials and non-renewable energy resources. The Project would involve the use of building materials and energy resources, some of which are non-renewable, to construct the 237 apartment units. Consumption of these resources would occur with any development of the Project site and are not unique to the Project.

Operation of the Project would irreversibly increase local demand for non-renewable energy resources, such as petroleum products and natural gas. Increasingly efficient building design, however, will offset this demand to some degree by reducing energy demands of the Project. The Project will be subject to the energy conservation requirements of the California Energy Code 2019 (Title 24, Part 6, of the California Code of Regulations, California's Energy Efficiency Standards for Residential and Nonresidential Buildings) and the California Green Building Standards Code (Title 24, Part 11 of the California Code of Regulations). The California Green Building Standards Code functions to:

- Reduce GHG emissions from buildings
- Promote environmentally responsible, cost-effective, healthy places to live and work
- Reduce energy and water consumption
- Respond to the environmental directives of the administration

The California Energy Code provides energy conservation standards for all new and renovated commercial and residential buildings constructed in California, and the Green Building Standards Code requires solar access, natural ventilation, and stormwater capture. With adherence to these standards, the Project would not use unusual amounts of energy or construction materials, and impacts related to consumption of non-renewable and slowly renewable resources would be less than significant. Consumption of these resources would occur with any development of the Project site and would not be unique to the Project.

6.3.2 Commitment of Future Generations

Approval of the Project would result in environmental changes or impacts that commit future generations to new environmental circumstances. Primarily, the approval of the Project would change the underlying GP 2025 land use designations and zoning of the Project site, as detailed in Section 5.8, Land Use and Planning. The change in the underlying regulations would allow for a change from C – Commercial to VHDR – Very High Density Residential for a multi-family

development. This would result, in turn, in an increase in population as compared to commercial development as envisioned in the City's GP 2025. However, as outlined Section 7.0 Environmental Effects Found Not Significant, the GP 2025 was designed to accommodate anticipated growth under the typical development scenario by providing adequate services, access and infrastructure. The Project area is currently served by existing roads and other infrastructure and the Project would only require minor extensions or laterals from nearby roads and utilities to the site. Also, the Project would result in a very small incremental increase in population growth one (1) percent beyond what was anticipated under the typical growth scenario. A one (1) percent incremental increase is anticipated to be a less than significant increase. The Project would also require an irreversible commitment of law enforcement, fire protection, water supply, wastewater treatment, and solid waste disposal services. However, as discussed in Section 5.12 Utilities, Section 5.13 Wildfire, and Section 7.0 Environmental Effects Found Not Significant, impacts to these services and systems would not be significant.

6.4 Growth-Inducing Impacts

Section 15126.2(e) of the CEQA Guidelines requires a discussion of a proposed project's potential to foster economic or population growth, including ways in which a project could remove an obstacle to growth. Growth does not necessarily create significant physical changes to the environment. However, depending upon the type, magnitude, and location of growth, it can result in significant adverse environmental effects. The Project's growth inducing potential is therefore considered significant if project-induced growth could result in significant physical effects in one or more environmental issue areas.

6.4.1 Population Growth

The Project would involve the development of multi-family residences, which will directly increase the City's population. The Project proposes 237 residential units. Using the average City household size of 3.18, the Project would create a population growth of approximately 753 persons (CalEEMod). In 2013, the City had 311,955 residents. According to the GP 2025 FPEIR, the City has a projected population of 383,077 at the ultimate buildout of the City, which equates to a population increase of 71,122. Therefore, the Project is anticipated to directly contribute approximately one (1) percent of this total anticipated growth. A population growth of 735 could therefore be accommodated under the City's current growth projections. In regard to indirect population growth, the Project area is currently served by existing roads and other infrastructure and the Project would only require minor extensions or laterals from nearby roads and utilities to the site. Therefore, the Project is not anticipated to indirectly induce population growth by the extension of infrastructure into undeveloped areas.

6.4.2 Economic Growth

The Project would generate temporary employment opportunities during construction. Because workers would be expected to come from the existing regional work force, construction of the Project would not be growth-inducing from a temporary employment standpoint.

The operations (on-site leasing office) and maintenance of the development (cleaning and landscape maintenance of the on-site amenities) would generate new employment opportunities. However, the proposed Project would not provide a substantial number of long-term jobs and workers would be expected to come from the existing regional work force.

The Project would not be expected to induce substantial economic expansion in the Project vicinity to the extent that direct physical environmental effects would result. Moreover, the environmental effects associated with any future development in or around Riverside would be addressed as part of the CEQA environmental review for each of those development projects.

6.5 References

The following references were used in the preparation of this section of the EIR:

GP 2025	Riverside, City of. 2007. General Plan 2025. Riverside, CA. November 2012. (Available at :https://riversideca.gov/cedd/sites/riversideca.gov.cedd/files/pdf/planning/generalplan/04_Land_Use_and_Urban_Design_Element_with%20maps%20COMPLETE%20AUGUST%202019.pdf accessed February 2020)
RMC, Title 17	City of Riverside, Code of Ordinances, Title 19 Zoning (Available at: https://library.municode.com/ca/riverside/codes/code_of_ordinances?nodeId=PTIICOOR_TIT17GR accessed February 2020)
RMC, Title 19	City of Riverside, Code of Ordinances, Title 19 Zoning https://library.municode.com/ca/riverside/codes/code_of_ordinances?nodeId=PTIICOOR_TIT19ZO accessed February 2020)
MSHCP	Western Riverside County Multiple Species Habitat Conservation Plan (Available at https://www.wrc-rca.org/document-library/, accessed June 2020)
RRG-CAP	Riverside Restorative Growthprint – Climate Action Plan (Available at: https://riversideca.gov/cedd/planning/city-plans/other-city-plans, accessed May 2020)
SCAG 2020	Southern California Association of Governments. Connect SoCal – the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy. (Available at https://www.connectsocal.org/Pages/What-Is-Connect-SoCal.aspx, accessed August 2020)

7.0 Environmental Effects Found not to be Significant

CEQA provides that a DEIR shall focus on all potentially significant effects created by the project onto the environment, discussing the effects with emphasis in proportion to their severity and probability of occurrence. This section summarizes the analysis of issue areas, as identified in the CEQA Guidelines Appendix G Environmental Checklist Form, for which no significant adverse impacts were identified as part of the Environmental Initial Study

Section 21100(c) of the Public Resources Code states that an EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore, not discussed further in the EIR. Section 15128 of the *CEQA Guidelines* adds, "Such a statement may be contained in an attached copy of an Initial Study." Please refer to the Project's Initial Study (Appendix A) for the complete issue area analysis. Resources that were found not to be significant during preparation of the NOP are:

- Agriculture & Forest Resources
- Hazards and Hazardous Material (except threshold 9g, Wildland Fires)
- Hydrology/Water Quality
- Mineral Resources
- Population/Housing
- Public Services (except threshold 15a, Fire Protection Services)
- Recreation.

7.0.1 Agriculture and Forestry Resources

7.0.1.1 Threshold 2a: *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.*

A review of Figure OS-2 – Agricultural Suitability of the GP 2025 reveals that the Project site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, and is not adjacent to or in proximity to any land classified as, Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Figure OS-2 was prepared pursuant to the California Department of Conservation, Farmland Mapping and Monitoring Program. Therefore, the Project will **have no impact** directly, indirectly or cumulatively to agricultural uses.

7.0.1.2 Threshold 2b: *Conflict with existing zoning for agricultural use, or a Williamson Act contract.*

A review of Figure OS-3 – Williamson Act Preserves of the GP 2025 and Figure 5.2-2 – Williamson Act Preserves of the General Plan 2025 Final Programmatic Environmental Impact Report (GP 2025 FPEIR) reveals that the Project site is not located within an area that is affected by a

Williamson Act Preserve or under a Williamson Act Contract. Moreover, the Project site is not zoned for agricultural use and is not next to land zoned for agricultural use; therefore, the Project will have **no impact** directly, indirectly or cumulatively.

7.0.1.3 Threshold 2c: *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) timberland (as defined in Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).*

Forest land, as defined in the Public Resources Code section 12220(g)) is land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. Timberland, as defined in the Public Resources Code section 4526, is land, other than land owned by the federal government, and land designated by the State Board of Forestry and Fire Protection as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees. The City does contain riparian vegetation, including scrub woodland, and forest subtypes that are associated with waterways and drainages throughout the City.

The Project site contains a drainage feature in the southwest corner of the site from which an existing culvert in Central Avenue conveys waterflows to the site. The drainage feature crosses the southwest corner of the Project site and continues off site in a northwest direction. This drainage feature supports a willow riparian plant community dominated by arroyo willow trees, a native species. Although the willow trees associated with the drainage feature are anticipated to meet the definition of forest land contained in the Public Resources Code, it will not be impacted, but preserved in place, with the proposed development Project. As the willow riparian plant community associated with the drainage feature will be preserved in place, the Project will have **less than significant impacts** to forest land.

The Project site does not contain timberland, is not zoned for timberland production and is not next to land zoned for timberland. Therefore, **less than significant impacts** to timberland will occur from this Project directly, indirectly or cumulatively.

7.0.1.4 Threshold 2d*: Result in the loss of forest land or conversion of forest land to non-forest use.*

As outlined above in 7.1.1.3, 2c, the willow trees associated with the drainage feature in the southwest corner of the Project site are anticipated to meet the definition of forest land contained in the Public Resources Code; however, it will not be impacted, but preserved in place, with the proposed development Project. The Project site is not next to land with forest land and would not be expected to result in the conversion of any forest land. Therefore, **less than significant impacts** to forest land will occur from this Project directly, indirectly or cumulatively.

7.0.1.5 Threshold 2e: *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.*

The Project site is not designated as, or in close proximity to any land classified as Prime Farmland, Unique Farmland, and does not support agricultural resources or operations. The Project will not result in the conversion of designated farmland to non-agricultural uses. In addition, there are no agricultural resources or operations, including farmlands within proximity of the Project site. As outlined above in 7.1.1.3, 2c, the willow trees associated with the drainage feature in the southwest corner of the Project site is anticipated to meet the definition of forest land contained in the Public Resources Code; however, it will not be impacted, but preserved in place, with the proposed development Project. Therefore, **less than significant impacts** to conversion of Farmland, to non-agricultural use or to the loss of forest land will occur from this Project directly, indirectly or cumulatively.

7.0.2 Hazards and Hazardous Materials

7.0.2.1 Threshold 9a: *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

Potential hazardous materials, such as fuel, paint products, lubricants, solvents, cleaning products, pool supplies, and fertilizers may be used and/or stored on site during construction and operation of the Project. However, due to the limited quantities of these materials to be used by the Project, they are not considered hazardous to the public at large. In accordance with the City's Hazardous Materials Policy, the transport, use, and storage of hazardous materials during the construction and operation of the site would be conducted pursuant to all applicable local, State and Federal laws, including but not limited to Title 49 of the Code of Federal Regulations for the safe transportation of hazardous materials, and in cooperation with the County's Department of Environmental Health. As required by California Health and Safety Code Section 25507, a business shall establish and implement a Hazardous Materials Business Emergency Plan for emergency response to a release or threatened release of a hazardous material in accordance with the standards prescribed in the regulations adopted pursuant to Section 25503 if the business handles a hazardous material or a mixture containing a hazardous material that has a quantity, at any one time, above the thresholds described in Section 25507(a)(1) through (6). Furthermore, the proposed land use, as residential, would not entail the manufacturing or disposal of hazardous materials. Compliance with all applicable local, State and Federal laws would ensure a less than significant impact from routine transport, use, or disposal of hazardous materials. As such, the Project will have a **less than significant impact** related to the transport, use, or disposal of any hazardous material either directly, indirectly, and cumulatively.

7.0.2.2 **Threshold 9b:** *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

A Phase I Environmental Site Assessment (ESA) was prepared by Ardent Environmental Group, Inc. in March 2020. The following is a summary of the findings and opinions as outlined in the Phase I ESA report. From at least 1931 through the time of the report, the Project site has been vacant land. In recent years, it was reported that portions of the site underwent various earthwork activities including the removal of shallow bedrock to ready the site for redevelopment.

There was no readily available information regarding depth to groundwater for the Project site or on properties within the general site vicinity. Groundwater is expected to traverse through fractured bedrock at an unknown depth. Direction of flow is expected to follow surface topography away from the Box Springs Mountains in a southwesterly direction.

The Project site is located immediately adjacent to the Moreno Valley Freeway [SR-60/I-215]. Due to the close proximity of the site to the freeway, aerially deposited lead from automobiles using leaded-gasoline may be present in shallow soil at the site. The possible presence of lead in shallow soil would be considered a possible recognized environmental condition (REC).

Based on Ardent's review of a recently completed preliminary geotechnical evaluation for the Project site on January 20, 2020, up to 35 feet of undocumented fill materials were reportedly located in a large portion of the site. Some of these materials were associated with the shallow bedrock removal, but the source of other fill materials is unknown. Although a representative familiar with the site indicated that no import soil was used as backfill, there was no documentation to support this statement. Therefore, the undocumented fill would be considered a possible REC.

The Phase I ESA identified two possible RECs, aerially deposited lead and undocumented fill. To further assess these possible concerns, Ardent excavated seven test pits at target locations throughout the Project site. Laboratory results of shallow soils samples indicated no detectable to low concentrations of lead, below the State and Federal screening levels for the protection of human health. Laboratory results of soil samples collected from the undocumented fill indicated no detectable concentrations of total petroleum hydrocarbons carbon chain C6-C32 (TPHcc) and volatile organic compounds (VOCs), and no detectable to low concentrations of Title 22 metals, well below the State and Federal screening levels for the protection of human health and background concentrations of arsenic. Based on this information, the aerially deposited lead and the undocumented fill would not be considered an REC.

No other on- or off-site environmental concerns were identified in the Phase I ESA report. Thus, the Project will have a **less than significant impact** directly, indirectly or cumulatively for creating a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

7.0.2.3 Threshold 9c: *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within on-quarter mile of an existing or proposed school?*

The Project does not involve any hazardous emissions or handling of any hazardous materials, substances or waste within one-quarter mile of an existing school. The Project site is located approximately 0.60 miles from the nearest existing or proposed school (Riverside Stem Academy, 4466 Mt Vernon Ave, Riverside, CA 92507). Therefore, the Project will have **no impact** regarding emitting hazardous emissions or handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school directly, indirectly or cumulatively.

7.0.2.4 Threshold 9d: *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

As outlined above in 7.1.2.2, 9b above, a Phase I ESA was prepared by Ardent Environmental Group, Inc. on March 26, 2020. The Phase I ESA identified two possible RECs: aerially deposited lead and undocumented fill. To further assess these possible concerns, Ardent excavated seven test pits at target locations throughout the Project site. Laboratory results of soils samples indicated no detectable to low concentrations of lead, below the State and Federal screening levels for the protection of human health. As discussed, laboratory results of soil samples collected from the undocumented fill indicated no detectable concentrations of C6-C32 (TPHcc) and VOCs, and no detectable to low concentrations of Title 22 metals, well below the State and Federal screening levels for the protection of human health and background concentrations of arsenic. Based on this information, the aerially deposited lead and the undocumented fill would not be considered an REC. No other on- or off-site environmental concerns were identified in the Phase I ESA report.

Further, a review of hazardous materials site lists compiled pursuant to Government Code Section 65962.5 found that the Project site is not included on any such lists. Therefore, the Project would have **no impact** to creating any significant hazard to the public or environment directly, indirectly or cumulatively.

7.0.2.5 Threshold 9e: *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

The Project is located within Airport Land Use Compatibility Zone E – Other Airport Environs as depicted on Figure PS-6B of the GP 2025 for the March Air Reserve Base/March Inland Port (MARB/MIP) and in the March Air Reserve Base/March Inland Port Comprehensive Land Use Plan (CLUP).

The Project was reviewed by the Airport Land Use Commission (ALUC) to ensure that the project is consistent with the compatibility zone as well as in compliance with the land use standards in the Riverside County Airport Land Use Plan (RCALUP), in which the CLUP is included.

On April 30, 2020, ALUC found the Project to be consistent with the 2014 March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan (March ALUCP). ALUC determined residential densities are not restricted in Compatibility Zone E of the March ALUCP and deemed the Project to be consistent with the March ALUCP, provided that the City applies the following recommended conditions:

1. Any new outdoor lighting that is installed shall be hooded or shielded as to prevent either the spillage of lumens or reflection into the sky. Outdoor lighting shall be downward facing.
2. The following uses/activities are not included in the Project and shall be prohibited at this site:
    a. Any use which would direct a steady light or flashing light of red, white, green, or amber colors associated with airport operations toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing at an airport, other than a Federal Aviation Administration (FAA)-approved navigational signal light or visual approach slope indicator.
    b. Any use which would cause sunlight to be reflected towards an aircraft engaged in an initial straight climb following takeoff or towards an aircraft engaged in a straight final approach towards a landing at an airport.
    c. Any use which would generate smoke or water vapor, or which would attract large concentrations of birds, or which may otherwise affect safe air navigation within the area. (Such uses include landscaping utilizing water features, aquaculture, production of cereal grains, sunflower, and row crops, composting operations, trash transfer stations that are open on one or more sides, recycling centers containing putrescible wastes, construction and demolition debris facilities, fly ash disposal, and incinerators.)
    d. Any use which would generate electrical interference that may be detrimental to the operation of aircraft: and/or aircraft instrumentation.
3. The attached notice shall be provided to all prospective purchasers of the property and tenants of the building.
4. Any new aboveground detention or water quality basins on the site shall be designed so as to provide for a maximum 48-hour detention period following the conclusion of the storm event for the design storm (may be less, but not more), and to remain totally dry between rainfalls. Vegetation in and around the detention basins that would provide food or cover

for bird species that would be incompatible with airport operations shall not be utilized in project landscaping.

The FAA determined, based on an aeronautical study, the residential building structures will not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any are met:

- Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, the FAA recommend it be installed in accordance with FAA Advisory circular 70/7460-1 L Change 2.

The FAA determination for the Project expires on 9/25/2021 unless:

a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by the office

b) extended, revised, or terminated by the issuing office

c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

The anticipated start of construction date would be October 2021. Therefore, at least 15 days prior to the potential expiration determination, the applicant would file a request for extension. Because the Project has been found to be consistent with the RCALUP and the FAA, impacts related to hazards or excessive noise from airports are **less than significant** directly, indirectly and cumulatively.

7.0.3 Hydrology & Water Quality

7.0.3.1 Threshold 10a: *Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.*

The Project site is currently undeveloped with a small percent of impervious surface due to disturbed/compacted soils and existing granitic bedrock. Upon construction of the Project, including: residential buildings, amenities and drive aisles, the permeable area of the Project site will decrease. Expected pollutant sources from the Project include on-site storm drain inlets, landscape/outdoor pesticide use, refuse areas, plazas, sidewalks, and parking lots.

Prior to issuance of a grading permit, a final approved water quality management plan (WQMP) will be required for the Project, as well as coverage under the State's General Permit for Construction Activities, administered by the Santa Ana Regional Water Quality Control Board (RWQCB). Stormwater management measures identified in a Stormwater Pollution Prevention Plan (SWPPP) will be required to be implemented to effectively control erosion and sedimentation and other construction-related pollutants for the duration of construction. The Preliminary Project

Specific WQMP includes the following post-construction Low Impact Development (LID) Principles (page 10):

- The existing drainage patterns have been identified as southwesterly overland flow. The proposed drainage patterns will be preserved at the existing site drainage discharge locations. Pollutant and flow control practices will maintain the site's existing hydrologic response.
- The proposed landscaping will improve upon existing vegetation conditions with native, drought-tolerant vegetation.
- The proposed impervious area has been limited to provide for essential proposed functions and safety (i.e., building footprint, parking, sidewalk, ADA compliance, etc.). Paved parking and drive aisles are necessary to support the vehicular traffic required by the Project.
- Proposed rooftop downspouts will disperse runoff to adjacent pervious areas. In addition, sidewalks will be graded to disperse runoff to adjacent pervious areas throughout the Project site.

The Preliminary Project Specific WQMP outlines the LID Best Management Practices (BMPs) required to adequately meet water quality standards and reduce stormwater runoff and include a series of 13 small bioretention/biotreatment basins located throughout the site: one small basin at Building 4, one in parking area between Buildings 4, 5 and 6, eight around Building 6, and three around Building 7. The LID Principles and LID BMPs have been incorporated into the site design to fully address all expected pollutant sources and stormwater runoff volumes.

With compliance with all applicable local, State, and Federal laws regulating surface water quality including implementation of the Project specific SWPPP and WQMP, the Project is anticipated to result in a **less than significant impact** directly, indirectly or cumulatively to any water quality standards or waste discharge requirements.

7.0.3.2 Threshold 10b: *Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.*

The Project will be served by Riverside Public Utilities for domestic water supply. The Project's potential to decrease groundwater supplies is analyzed in the Section 5.12, Utilities and Services Systems, specifically under Threshold A, "Will the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?"

As outlined in the Preliminary Project Specific WQMP (page 10), natural infiltration capacity is not present as the site is barren rockland and does not percolate per the geotechnical report. Therefore, development of the site would not impede groundwater recharge because it does not currently provide for groundwater recharge of stormwater at the site. Also, per the WQMP (page

10), the existing drainage pattern at the site is in a southwesterly overland flow. The proposed drainage patterns will be preserved at the existing site drainage discharge locations. Pollutant and flow control BMPs will maintain the site's existing hydrologic response. Therefore, development of the Project would not significantly alter the volume of stormwater runoff leaving the site or the point of discharge from the site and would not in turn alter groundwater management of downstream receiving water bodies, including the basin. Therefore, there will be **less than significant impacts** related to groundwater recharge either directly, indirectly or cumulatively.

7.0.3.3 Threshold 10c: *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*

i. result in substantial erosion or siltation on- or off-site;

The Project is subject to NPDES requirements; areas of one acre or more of disturbance are subject to preparing and implementing a SWPPP for the prevention of runoff during construction. Erosion, siltation and other possible pollutants associated with long-term implementation of projects are addressed as part of the WQMP and grading permit process. Stormwater management measures identified in a SWPPP will be required to be implemented to effectively control erosion and sedimentation and other construction-related pollutants for the duration of construction.

The Preliminary Project Specific WQMP includes the following post-construction LID Principles (page 10):

- The existing drainage patterns have been identified as southwesterly overland flow. The proposed drainage patterns will be preserved at the existing site drainage discharge locations. Pollutant and flow control practices will maintain the site's existing hydrologic response.
- The proposed landscaping will improve upon existing vegetation conditions with native, drought-tolerant vegetation.
- The proposed impervious area has been limited to provide for essential proposed functions and safety (i.e., building footprint, parking, sidewalk, ADA compliance, etc.). Paved parking and drive aisles are necessary to support the vehicular traffic required by the Project.
- Proposed rooftop downspouts will disperse runoff to adjacent pervious areas. In addition, sidewalks will be graded to disperse runoff to adjacent pervious areas throughout the Project site.

The Preliminary Project Specific WQMP outlines the LID BMPs required to adequately meet water quality standards and reduce stormwater runoff and include a series of thirteen small bioretention/biotreatment basins located throughout the site: one small basin at Building 4, one in

parking area between Buildings 4, 5 and 6, eight around Building 6, and three around Building 7. The LID Principles and LID BMPs have been incorporated into the site design to fully address all expected pollutant sources and stormwater runoff volumes from the project site. On-site stormwater runoff and erosion would be minimized through site development, including buildings, parking and paved areas and storm drain infrastructure. Storm drain infrastructure planned for the site includes various size storm drains (8, 12, 18, and 24-inch), inlet catch basin, 24 by 24-inch drain box, underground detention system, 12-inch landscape catch basin with atrium grate, and 12-inch diameter angular rip rap at two storm drain outlets along the western development boundary. As outlined in the Preliminary Project Specific WQMP (page 24) the volume and time of concentration of stormwater runoff for the post-development condition is not significantly different from the pre-development conditions for a two- (2) year return frequency storm (a difference of five [5] percent or less is considered insignificant). Therefore, the Project would not result in stormwater runoff from the site that would result in erosion or siltation off-site.

Further, the drainage patterns on the site have been identified as southwesterly overland flow towards an existing drainage feature in the southwest corner of the site from where an existing 84-inch culvert that crosses under Central Avenue conveys waterflows to the site. The outlet or discharge point of the culvert to the Project site is clear and flowing freely. The drainage feature crosses the southwest corner of the site and continues off-site in a northwest direction. This drainage feature supports riparian vegetation. The drainage feature will not be impacted, but preserved in place, with implementation of the Project. The proposed drainage patterns will preserve the existing site drainage discharge locations. Pollutant and flow control practices will maintain the site's existing hydrologic response. Therefore, the Project will have a **less than significant impact** directly, indirectly or cumulatively to existing drainage patterns which could result in substantial erosion or siltation on or off site.

ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

The Project site is not located within a flood hazard area. The Preliminary Project Specific WQMP outlines the LID BMPs required to adequately meet water quality standards and reduce stormwater runoff and include a series of thirteen small bioretention/biotreatment basins located throughout the site: one small basin at Building 4, one (1) in parking area between Buildings 4, 5 and 6, eight (8) around Building 6, and three (3) around Building 7. The LID BMPs have been incorporated into the site design to fully address all expected pollutant sources and stormwater runoff volumes.

On-site stormwater runoff and flooding would be minimized through site development, including buildings, parking and paved areas and storm drain infrastructure. Storm drain infrastructure planned for the site includes various size storm drains (8, 12, 18, and 24-inch), inlet catch basin, 24 by 24-inch drain box, underground detention system, 12-inch landscape catch basin with atrium grate, and 12-inch diameter angular rip rap at two storm drain outlets along the western development boundary.

The increased runoff from the Project in a developed condition has been studied and is required to be attenuated on site, so although the drainage pattern will be altered from construction of impervious building footprints, sidewalks, drive aisles and parking areas, the off-site discharge is generally the same as the undeveloped condition. As outlined in the WQMP (page 24), the volume and time of concentration of stormwater runoff for the post-development condition is not significantly different from the pre-development conditions for a two-year return frequency storm (a difference of five [5] percent or less is considered insignificant). Therefore, the Project would not result in stormwater runoff from the site that would result in flooding off site. There will be a **less than significant impact** directly, indirectly or cumulatively on the rate or amount of surface runoff in a manner which would result in flooding on or off site.

iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;

As outlined in response 10.a above, the Project site is currently undeveloped with a small percent of impervious surface due to disturbed/compacted soils and existing granitic bedrock. Upon construction of the Project, including residential buildings, amenities and drive aisles, the permeable area of the Project site will decrease. Expected pollutant sources from the Project include on-site storm drain inlets, landscape/outdoor pesticide use, refuse areas, plazas, sidewalks, and parking lots.

Prior to issuance of a grading permit, a final approved WQMP will be required for the Project, as well as coverage under the State's General Permit for Construction Activities, administered by the Santa Ana RWQCB. Stormwater management measures identified in a SWPPP will be required to be implemented to effectively control erosion and sedimentation and other construction-related pollutants for the duration of construction. The Preliminary Project Specific WQMP includes the following post-construction LID Principles (page 10):

- The existing drainage patterns have been identified as southwesterly overland flow. The proposed drainage patterns will be preserved at the existing site drainage discharge locations. Pollutant and flow control practices will maintain the site's existing hydrologic response.
- The proposed landscaping will improve upon existing vegetation conditions with native, drought-tolerant vegetation.
- The proposed impervious area has been limited to provide for essential proposed functions and safety (i.e., building footprint, parking, sidewalk, ADA compliance, etc.). Paved parking and drive aisles are necessary to support the vehicular traffic required by the Project.
- Proposed rooftop downspouts will disperse runoff to adjacent pervious areas. In addition, sidewalks will be graded to disperse runoff to adjacent pervious areas throughout the Project site.

The Preliminary Project Specific WQMP outlines the LID BMPs required to adequately meet water quality standards and reduce stormwater runoff and include a series of thirteen small bioretention/biotreatment basins located throughout the site: one small basin at Building 4, one (1) in parking area between Buildings 4, 5 and 6, eight (8) around Building 6, and three (3) around Building 7. The LID Principles and LID BMPs have been incorporated into the site design to fully address all expected pollutant sources and stormwater runoff volumes.

With compliance with all applicable local, State, and Federal laws regulating surface water quality including implementation of the Project specific SWPPP and WQMP, the Project will not create or contribute runoff water exceeding capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff and there will be a **less than significant impact** directly, indirectly or cumulatively.

iv. impede or redirect flood flows.

The Project site is not located within a flood hazard area. The stormwater drainage system will be installed concurrently with the construction of this Project and will be adequately sized to accommodate the drainage created by this Project. On-site stormwater and non-stormwater runoff will be treated with on-site BMPs identified in the Preliminary Project Specific WQMP and then discharged to the existing drainage courses within the site where they extend off-site, retaining the overall drainage pattern of the site. As outlined in 10.c.i above, the drainage feature that crosses the southwest corner of the site and continues off-site in a northwest direction will not be impacted but preserved in place with implementation of the Project. Therefore, the Project will not impede or redirect flood flows and there will be a **less than significant impact** directly, indirectly or cumulatively.

7.0.3.4 Threshold 10d: *In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.*

Tsunamis are large tidal waves that occur in coastal areas. The Project site is not located in a coastal area and would not be susceptible to tsunamis. A seiche is a to-and-fro vibration of a waterbody that is similar to the slopping of water in a basin. Once initiated, oscillation within the waterbody can continue independently. Seiches are often triggered by earthquakes. The most likely areas that could be subject to a seiche are the areas surrounding lakes. The Project site is not within proximity to Lake Mathews (10 miles), Lake Evans (4.5 miles), or the Santa Ana River (4.7 miles). The Project site is also not located within a flood zone area or a dam inundation area as seen on Figure 5.8-2 in the GP FPEIR. Therefore, **no impact** potential for seiche or mudflow exists either directly, indirectly or cumulatively.

7.0.3.5 Threshold 10e: *Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.*

The Project site is located in the Santa Ana watershed and in the Tequesquite Arroyo sub-watershed. The 1995 Water Quality Control Plan for the Santa Ana River Basin (Region 6), as amended, includes water quality goals and policies, descriptions of conditions and discussions of

solutions. It is also the basis for the Regional Board's regulatory programs and establishes water quality standards for the ground and surface waters of the region. The term "water quality standards," as used in the Federal Clean Water Act (CWA), includes both the beneficial uses of specific waterbodies and the levels of quality which must be met and maintained to protect those uses. The downstream receiving waters, as identified in the Basin Plan, in order from upstream to downstream are: Box Springs Canyon; Box Springs Dam; and Santa Ana River Reach 3, Reach 2, and Reach 1. As outlined in response 10a above, prior to issuance of a grading permit, a final approved WQMP will be required for the Project, as well as coverage under the State's General Permit for Construction Activities, administered by the Santa Ana RWQCB. Stormwater management measures identified in a SWPPP will be required to be implemented to effectively control erosion and sedimentation and other construction-related pollutants for the duration of construction. The Preliminary Project Specific WQMP outlines the LID BMPs required to adequately meet water quality standards and reduce stormwater runoff and include a series of thirteen small bioretention/biotreatment basins located throughout the site: one (1) small basin at Building 4, one in parking area between Buildings 4, 5 and 6, eight (8) around Building 6, and three (3) around Building 7. The LID Principles and LID BMPs have been incorporated into the site design to fully address all expected pollutant sources and stormwater runoff volumes. With compliance with all applicable local, State, and Federal laws regulating surface water quality including implementation of the Project specific SWPPP and WQMP, the Project would not conflict with or obstruct implementation of the 1995 Water Quality Control Plan for the Santa Ana River Basin (Region 6), as amended.

As outlined in response 10.b above, the Preliminary Project Specific WQMP (page 10) outlined that natural infiltration capacity is not present at the site and does not percolate per the geotechnical report. Therefore, development of the Project site would not impede groundwater recharge because it does not currently provide for groundwater recharge of stormwater at the site. Also, per the WQMP (page 10), the existing drainage pattern at the site is in a southwesterly overland flow. The proposed drainage patterns will be preserved at the existing site drainage discharge locations. Pollutant and flow control BMPs will maintain the site's existing hydrologic response. Therefore, development of the Project would not significantly alter the volume of stormwater runoff leaving the site that would conflict with or obstruct implementation of a sustainable groundwater management plan. Therefore, there will be **less than significant impacts** related to conflicting with or obstructing implementation of a water quality control plan or sustainable groundwater management plan, either directly, indirectly or cumulatively.

7.0.4 Mineral Resources

7.0.4.1 Threshold 12a: *Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.*

State-classified Mineral Resource Zones (MRZ) are shown in Mineral Land Classification Map prepared by California Department of Conservation. Per the GP 2025, Figure OS-1 Mineral Resources, the Project site is located in an MRZ-3 Zone. The MRZ-3 designation is for areas that have been determined by the California Department of Conservation to contain "known or inferred

mineral occurrences of undetermined mineral resource significance." The Project site is not within or adjacent to areas of known mineral resources that would be of value to the region or the State as identified in Figure OS-1 Mineral Resources.

The Phase I ESA did not identify any active or previous mining occurring on site. There are no current mining operations surrounding the Project site, as land to the north (across Sycamore Canyon Boulevard and SR-60/I-215) and land to the south (across Central Avenue) is currently vacant. Land to the east (across Sycamore Canyon Boulevard) is also currently vacant, but a commercial development was recently approved for that area. Land to the west is the City's Quail Run Open Space Park. Zoning for lands surrounding the Project site include: Residential Conservation Zone to the west and north, Commercial General Zone to the east, and Scenic Highway Commercial (Riverside County jurisdiction) to the south. Therefore, the site and surrounding areas are not designated for mineral resources or mining or allow for these types of uses/operations. Thus, development of the Project site is not anticipated to result in the loss of a known mineral resource that would be of value to the region and the residents of the State. The Project would have **no impacts** to known mineral resources, directly, indirectly and cumulatively.

7.0.4.2 Threshold 12b: *Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.*

The GP 2025 FPEIR determined that there are no specific areas with the City boundary or the Proposed Sphere of Influence Area which have locally-important mineral resource recovery sites and that the implementation of the GP 2025 would not significantly preclude the ability to extract State-designated resources. Therefore, there is **no impact** from implementation of the Project.

7.0.5 Population/Housing

7.0.5.1 Threshold 14a: *Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).*

According to GP 2025 estimates, population is projected to increase under the typical development scenario to 346,867 within the City limits by 2025. The Project includes a General Plan Amendment from C – Commercial to VHDR - Very High Density Residential to allow for the multi-family development. Based on the California Emissions Estimator Model® (CalEEMod) results, the estimated population growth from the Project would be 753 persons. In 2013, the City had 311,955 residents. According to the GP 2025 FPEIR, the City has a projected population of 383,077 at the ultimate buildout of the City, which equates to a population increase of 71,122. Therefore, the Project is anticipated to contribute approximately one (1) percent of this total anticipated growth.

The GP 2025 was designed to accommodate anticipated growth under the typical development scenario by providing adequate services, access and infrastructure. The Project area is currently served by existing roads and other infrastructure and the Project would only require minor extensions or laterals from nearby roads and utilities to the site. Also, the Project would result in

a very small incremental increase in population growth one (1) percent beyond what was anticipated under the typical growth scenario. A one (1) percent incremental increase is anticipated to be a less than significant increase. Therefore, the Project would have a **less than significant** impact, both directly and indirectly.

7.0.5.2 Threshold 14b: *Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.*

The Project will not displace existing people or housing, necessitating the construction of replacement housing elsewhere because the Project site is proposed on vacant land or that has no existing housing that will be removed or affected by the Project. Therefore, there will be **no impact** on existing housing either directly, indirectly or cumulatively.

7.0.6 Public Services

7.0.6.1 Threshold 15: *The project would result in substantial adverse physical impacts associated with the provision or new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*

- *15b - Police protection;*

The Riverside Police Department (RPD) provides police protection services to the City and the Project site. The closest RPD station is located at 8181 Lincoln Avenue, approximately 7 miles southwest of the Project site. The 237-unit residential apartments would cause a minuscule incremental increase in the need for police protection services in a generally urbanized area already served by the RPD. Also, any incremental impacts on the level of police services are offset from revenue generated for the City from the Project's property taxes per the City's General Plan EIR. Therefore, the Project would have **less than significant impact** on the demand for additional police facilities of services either directly, indirectly or cumulatively.

- *15c - Schools;*

The Project site is located within the Moreno Valley Unified School District (MVUSD), which has 29 schools including elementary (19), middle (6), and high schools (4). The schools serving the Project area are as follows:

- Seneca Elementary (11615 Wordsworth Road, Moreno Valley, CA 92557)
- Box Springs Elementary (11900 Athens Drive, Moreno Valley, CA 92557)
- Edgemont Elementary (21790 Eucalyptus Avenue, Moreno Valley, CA 92553)
- Vista Heights Middle School (23049 Old Lake Drive, Moreno Valley, CA 92557)
- Sunnymead Middle School (23996 Eucalyptus Avenue, Moreno Valley, CA 92553)
- Moreno Valley High School (23300 Cottonwood Avenue, Moreno Valley, CA 92553)

- Canyon Springs High School (23100 Cougar Canyon Road, Moreno Valley, CA 92557)

The Project includes 237 residential apartment units which would permanently generate new elementary, middle, and high schoolers to be served by the schools identified above. Using the Riverside Unified School District (RUSD) Student Generation formula (as no student generation rate is available on MVUSD's website), the Project would generate a total of approximately 166 elementary, middle school, and high school students, as outlined in Table 7.0-1 below. Per the City of Moreno Valley General Plan Table 5.13-2 – Moreno Valley Unified School District Schools, the capacity of enrollment was 39,001 students while the estimated projected enrollment is 34,162 students. Based on this data, the MVUSD has capacity for several thousand new students. Thus, the school district would remain under the capacity given the Project's 166 new students.

Table 7.0-1: RUSD Student Generation for Project

School Type	Grades Served	Student Generation Rates (per dwelling unit)	Number of Students Generated by Project
Elementary	K-6	.38	90
Middle	7-8	.11	26
High School	9-12	.21	50
Overall	**K-12**	**.70**	**166**

Pursuant to City of Moreno Valley Municipal Code, school impact fees shall be paid prior to the issuance of building permits for residential development. Although the Project potentially increases the population of school age children in the area, the required school impact fees of $6.94/ per square foot of residential development would offset the incremental impact to school facilities from new development projects. Therefore, the Project would have a **less than significant impact** on the demand for school facilities or services either directly, indirectly or cumulatively.

- *15d - Parks;*

The City has many different types of parks, including population-based parks (neighborhood and community), resource-based parks that include natural or man-made resources intended to serve the citywide population, and open space parks that allow public access to undeveloped natural spaces. According to the GP 2025, Table PR-1 Park and Recreation Facilities, there are 30 City Owned Neighborhood Parks, 15 Community Parks, 11 Citywide/Special Use Parks, six (6) Reserve/Open Space Parks, 13 Community Centers and six (6) Non-City Owned/Maintained Regional Parks and Facilities. There is approximately 2,806 acres of total City owned and recreational facilities within the City boundaries and an additional 12,854 acres of non-City owned regional parks and facilities in the local area.

The Project includes the following recreational amenities for its residents: putting green, outdoor resort style pool and spa, dog run area and dog wash station, fitness center, clubhouse, shade

structure with barbeques and tables, and a walking perimeter loop trail (1/2 mile loop) with learning or exercise stations. Immediately west of the Project site is the City's Quail Run Open Space Park (27 acres). The City's Sycamore Canyon Wilderness Park (1,423 acres) is located southwest of the Project, with a trail head/staging area located approximately 0.5 mile southwest of the Project site off of Central Avenue. Additionally, neighborhood parks including Sycamore Highlands (10.5 acres with playground, picnic area, barbeques, ballfield, butterfly garden, and water spray feature), located southeast, and Islander Park (20.5 acres with community pool, parking and undeveloped park), located to the north, are within a two- (2) mile radius of the Project site . Community parks including Andulka (36 acres with lighted baseball fields, picnic area, playground, tennis courts and pro shop, jogging path, restrooms and parking), Bordwell Park & Stratton Community Center (23 acres with lighted softball field and basketball court, community center, senior activity area, childcare center, playground, picnic tables and barbeques), and Castleview Park (31 acres with playground and picnic tables) are all located within a three (3) mile radius of Project.

The Project would be required to pay impact fees, including the Trail Development Fee, Local Park Development Fee, Aquatic Facility Fee, and Regional Parks and Reserve Parks Development Fee, per the Riverside Municipal Code Chapters (RMC) 16.44, 16.60, and 16.76. As detailed in RMC Chapter 16.44 and 16.76, the trail and regional park fees would be used solely for the acquisition of new parkland or trails. Local park fees could be used to purchase new parkland and for maintaining and upgrading existing neighborhood and community park facilities.

The Project would incrementally increase use of existing City parks and recreational facilities, from its estimated population growth of 753 persons (assuming all residents of the Project were new to the City). However, the Project includes on-site recreational amenities for its residents that would supplement existing facilities and is located adjacent to the Quail Run Open Space Park and near the Sycamore Canyon Wilderness Park, with a trail head/staging area within walking distance, approximately 0.5 mile southwest of the Project site. Also, there are two (2) neighborhood parks within a two-(2) mile radius, and three (3) community parks within a three-(3) mile radius of the Project. Payment of applicable park development impact fees would mitigate impacts to parks from its associated population increase. With payment of Park Development Impact Fees (local, aquatic, regional/reserve and trail fees) per Title 16, Chapters 16.60, 16.44 and 16.76 of the Municipal Code , with the Project's on-site recreational amenities, and the number and size of available parks within three (3) miles of the Project, there will be **less than significant impacts** on the demand for additional park facilities or services either directly, indirectly or cumulatively.

- *15e - Other public facilities*.

As discussed in Section 14, Population and Housing, the estimated population growth from the Project would be 753 persons, which would permanently increase the population, thereby increasing the demand for public services in the City. However, the Riverside library system includes five (5) neighborhood libraries that provide books, multimedia, sound recordings,

magazine subscriptions, internet access and other resources. The Riverside library system also includes two (2) cybraries (cyber-libraries) that provide a collection of "virtual" materials and educational resources.

The SPC. Jesus S. Duran Eastside Library (4033-C Chicago Avenue, Riverside, CA 92507) is located approximately 3.5 miles northwest of the Project site. The SPC. Jesus S. Duran Eastside Library encompasses approximately 10,816 square feet. The services provided at this branch are focused on technology access and training, after-school homework assistance, youth programming, and adult literacy.

The City currently funds the operation of nine (9) community centers, three (3) senior citizen centers and two (2) service centers. As part of the Riverside Renaissance Initiative, the Bobby Bonds Youth Opportunity Center, the Orange Terrace Community Center and the Bordwell Childcare Center were opened. The Stratton Community Center (2008 Martin Luther King Boulevard, Riverside, CA 92507) consists of 12,617 square feet and is located approximately three (3) miles west of the Project site.

These community facilities are anticipated to accommodate the Project's residents without resulting in substantial adverse physical impacts to these facilities or the need for new facilities. The Project would have **less than significant impacts** on the demand for additional public facilities or services either directly, indirectly or cumulatively.

7.0.7 Recreation

7.0.7.1 Threshold 16a: *The project would increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.*

As outlined in response 15d under Section 7.1.6 above, the City has many different types of parks, including population-based parks (neighborhood and community), resource-based parks that include natural or man-made resources intended to serve the citywide population, and open space parks that allow public access to undeveloped natural spaces.

The Project would be required to pay impact fees, including the Trail Development Fee, Local Park Development Fee, Aquatic Facility Fee, and Regional Parks and Reserve Parks Development Fee, per the RMC Chapters 16.44, 16.60, and 16.76.

The Project would incrementally increase use of existing neighborhood and regional parks and recreational facilities, from its estimated population growth of 753 persons (assuming all residents of the Project were new to the City). However, the Project includes on-site recreational amenities for its residents that would supplement existing facilities and is located in close proximity to Quail Run Open Space Park and Sycamore Canyon Wilderness Park. As mentioned, there are two (2) neighborhood parks within a two- (2) mile radius, and three (3) community parks within a three- (3) mile radius of the Project. Payment of applicable park development impact fees would mitigate impacts to parks and recreational facilities from its associated population increase. With payment of Park Development Impact Fees (local, aquatic, regional/reserve and trail fees) per Title 16,

Chapters 16.60, 16.44 and 16.76 of the Municipal Code , with the Project's on-site recreational amenities, and the number and size of available parks within three (3) miles of the Project, there will be **less than significant impacts** on the demand for additional park facilities or services either directly, indirectly or cumulatively.

7.0.7.2 Threshold 16b: *The project includes recreational facilities or requires the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.*

The Project includes recreational amenities that would supplement the existing parks and recreational facilities in the area. In addition, the Quail Run Open Space Park is located immediately west of the Project and the Sycamore Canyon Wilderness Park is located southwest of the Project, with a trail head/staging area located approximately 0.5 mile southwest of the Project site off of Central Avenue. Also, as outlined in response to 15d above, there are two (2) neighborhood parks within a two- (2) mile radius, and three (3) community parks within a three- (3) mile radius of the Project.

Although the Project would incrementally increase use of existing neighborhood and regional parks and recreational facilities, from its estimated population growth of 753 persons (assuming all residents of the Project were new to the City), the on-site recreational amenities and the nearby neighborhood, community and regional parks are anticipated to accommodate the Project's residents without requiring the construction or expansion of recreational facilities. Payment of applicable park development impact fees would mitigate impacts to parks and recreational facilities from its associated population increase. With payment of Park Development Impact Fees (local, aquatic, regional/reserve and trail fees) per Title 16, Chapters 16.60, 16.44 and 16.76 of the RMC; the Project's on-site recreational amenities; and the number and size of available parks within three (3) miles of the Project, the Project would not require the construction or expansion of recreational facilities which might have an adverse effect on the environment. Potential impacts are **less than significant** directly, indirectly or cumulatively.

8.0 Alternatives to the Proposed Project

The following discussion considers alternatives to implementation of the Project. The discussion examines the potential environmental impacts resulting from each alternative. Through comparisons of these alternatives to the Project, the relative advantage(s) of each can be weighed and analyzed.

The *CEQA Guidelines*, Section 15126.6, identify the parameters within which consideration and discussion of alternatives to the proposed Project should occur. As stated in this section of the guidelines, alternatives must focus on those that are potentially feasible, and which attain most of the basic objectives of the Project.

8.1 Project Objectives

As stated in Section 3.0 of this EIR, the objectives for the Project, are as follows:

- Provide a high-quality residential development in close proximity to the University of California, Riverside, Downtown Riverside, and high-quality transit corridors.
- Provide housing to increase the type and amount of housing available consistent with the goals of the City's Housing Element and to assist the City in meeting project housing demand as part of the City's growth projections. Per Regional Housing Need Allocation (RHNA), the City will need to make space for a minimum of 18,458 housing units, with an anticipated goal of 24,000 units, by 2029.
- Use land resources more efficiently by providing a well-planned, infill development on a currently vacant and largely disturbed site.
- Implement green building practices and other sustainable development methods throughout the project, consistent with the City's Climate Action Plan.
- Preserve the existing natural bed and bank of the drainage course and associated sensitive vegetation outside of the development footprint to maintain its hydrologic and biological function for water flow conveyance and wildlife movement.
- Incorporate design and landscaping elements that complement and are responsive to the Canyon Crest community and edge conditions that buffer the project's effect on the nearby natural environments, including the City of Riverside's Quail Run Open Space and the Sycamore Canyon Wilderness Park.
- Provide for an aesthetically pleasing project with design elements that have compatible overall theme and identity that harmonizes with the surrounding environment in terms of colors and materials and landscaping.

Included in this analysis are three alternatives, including the CEQA-required "no Project" alternative, that involve changes to the Project that may reduce Project-related environmental impacts as identified in this EIR. Alternatives have been developed to provide a reasonable range

of options to consider that would help decision makers and the public understand the general implications of revising or eliminating certain components of the proposed Project.

The following alternatives are evaluated in this EIR:

- **Alternative 1**: No Project Alternative
- **Alternative 2:** Commercial Development: Develop the Site Pursuant to Current Underlying Zoning Regulations
- **Alternative 3**: Mixed Use Development: Develop the Site Pursuant to MU-U – Mixed Use Urban Zoning Regulations

Detailed descriptions of the alternatives are outlined below.

8.2 Rationale for Alternative Selection

State CEQA Guidelines Section 15126.6(a) requires that an EIR "…describe a range of reasonable alternatives to the project, or the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." Each alternative must be capable of avoiding or substantially lessening any significant effects of the proposed project. According to this section of the State CEQA Guidelines, "…an EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation." An EIR is not required to consider alternatives which are infeasible. The City, as lead agency, is responsible for selecting a range of Project alternatives to be discussed other than the "rule of reason" (CEQA Guidelines Section 15126.6(a)). Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control, or otherwise have access to an alternative. (CEQA Guidelines Section 15126.6 (f)(1)).

The rationale for selecting the alternatives to be evaluated, and a discussion of the "no project" alternative are also required (State CEQA Guidelines, Section 15126.6(e)). The No Project alternative is no development of the site at all. As the Project is not consistent with designated land use and zoning for the site, the "no project" alternative is development of the site that remains in accord with the current land use and zoning designations. Under this alternative, the land use designation and zoning would remain as is, and the Project site would be under a CG - Commercial General zoning designation. Development under Alternative 2 would include general commercial uses. Due to the Project site location in close proximity to the freeway network and the University of California, Riverside (UCR) a mixed use development was considered for Alternative 3. The Alternative 3 – Mixed Use Development would include both residential and commercial uses and would require a General Plan Amendment (GPA) and a Zoning Code Amendment (RZ).

8.2.1 Alternative 1 – No Project/No Development

The No Project/No Development Alternative assumes that the proposed 237 residential unit development will not be constructed. Alternative 1 considers no development/disturbance on the Project site beyond which occurs under the existing conditions. As such, the entire 9.44-acre site would remain vacant and undeveloped. Further, the No Project alternative would not fulfill any of the Project's objectives as the existing site would not provide housing. Under this alternative, no improvements would be made to the Project site and none of the Project infrastructure improvements such as roadway, utilities, and construction and grading would be made. This alternative has no characteristics in common with the proposed Project nor any of the other alternatives as no proposed development would occur. Impacts under the No Project alternative would be less than impacts under the proposed Project.

8.2.1.1 Impact Analysis of Alternative 1

Aesthetics

The Project site is currently vacant land and undeveloped with evidence of extensive grading in the past. The Project site was graded and used as a construction staging area in 2005-2006 for the realignment of Sycamore Canyon Boulevard. The Project site is lightly vegetated, with areas of bare soil and windrows of rocks and boulders. The low-growing vegetation is green during the rainy season then dry and mostly brown for much of the rest of the year. The site does not appear to undergo regular maintenance and features a few highly disturbed dirt roads. The dirt roads seem to be used by vehicles, including potentially off-road vehicles, that access the site from Sycamore Canyon Boulevard.

Photos of the Project can be seen in Section 5.1, Aesthetics. Under the No Project Alternative, the site would remain undeveloped. Assuming the Project site remains vacant and undeveloped, there would be no construction of residential structures; thus, no views would be altered for adjacent properties, and there would be no new sources of light and glare at the site as no structures or vehicles would be in place to cause these impacts. Aesthetic impacts concerning views, light, or glare would not occur, and impacts would be **less than** those associated with the proposed Project.

Air Quality

As analyzed in Section 5.2, Air Quality, the proposed Project would generate emissions through construction and operations, though emissions would not exceed regional localized significance thresholds (LSTs) for any criteria pollutant, nor would the proposed Project expose sensitive receptors to substantial pollutant concentrations. Under Alternative 1, there would be no development and therefore, no emissions from construction or operation activities would be generated. Thus, the No Project/Development Alternative would impact air quality **less than** the proposed Project.

Biological Resources

As discussed in Section 5.3, Biological Resources, 15 special-status plant species, 57 special-status wildlife species, and one (1) special-status plant community are known to have the potential

to occur within the Riverside East quadrangle. Special-status plant and wildlife species were evaluated for their potential to occur within the Project boundaries based on habitat requirements, availability and quality of suitable habitat, and known distributions. Under Alternative 1, No Project/Development, the Project site will remain undeveloped and left in its existing condition. The Project site primarily consists of vacant, undeveloped land that has been subject to a variety of anthropogenic disturbances from grading/disking activities. These disturbances have resulted in a majority of the Project site being dominated by early successional and nonnative vegetation, with rocky and compacted soils which has reduced, if not eliminated, the ability of the Project site to provide suitable habitat for special-status plant species. However, it was determined that the proposed Project site has a moderate potential to support Cooper's hawk, sharp-shinned hawk, yellow warbler, and LBVI; and a low potential to provide suitable habitat for burrowing owl, California horned lark, and loggerhead shrike.

The majority of the Project site does not support any discernible drainage courses, inundated areas, or wetland vegetation that would be considered riparian/riverine habitat under the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). However, a single drainage feature and associated willow forest plant community were observed on the southwest corner of the Project site would qualify as a jurisdictional feature under the regulatory authority of the U.S. Army Corps of Engineers (Corps), Santa Ana Regional Water Quality Control Board (Regional Board), and the California Department of Fish and Wildlife (CDFW), and as riparian/riverine habitat under the MSHCP. This drainage feature is an unnamed, intermittent water feature that extends along the bottom of Box Springs Canyon.

Under the No Project/Development alternative, the Project would not involve construction or the development of the site. Thus, no impacts would occur to any special-status species, plants, drainage features, or habitat corridors that currently exist on-site. Impacts to biological resources under Alternative 1 would be **less than** those of the proposed Project.

Cultural Resources

As discussed in Section 5.4, Cultural Resources, the Project site is considered to be sensitive for buried cultural resources. Under the No Project/Development alternative, construction or ground-disturbing activities would not occur, which could eliminate potential impacts to previously unidentified archaeological resources and human remains. Therefore, under Alternative 1, implementation of mitigation measures would not be required, and impacts would be **less than** those under the proposed Project.

Energy

Under Alternative 1, No Project/Development, the site would remain vacant and there would be no use of electricity, natural gas, or petroleum in the construction or operation of the Project. As discussed under Section 5.5, Energy, the proposed Project would utilize electricity, natural gas, and petroleum in the construction and operation of the development. The No Project/Development alternative would not utilize any energy resources or generate energy consumption and impacts related to energy would be **less than** the proposed Project and the other alternatives.

Geology and Soils

Under Alternative 1, No Project/Development, the Project site would not be altered and there would be no ground disturbance on the site. Additionally, there would be no increased potential for the loss of topsoil or soil erosion. Additionally, with no development, there would be no construction in a seismically active area, nor would there be any potential to impacts to surrounding structures or people. Overall, impacts associated with geology and soil hazards would be **less than** significant those associated with the proposed Project.

Greenhouse Gas Emissions

As discussed in Section 5.7 Greenhouse Gas Emissions, construction of the proposed Project would generate greenhouse gas (GHG) emissions during the construction and operation of the Project, though emissions do not exceed any of the GHG significance thresholds. The No Project/Development alternative would not include on-site development and would thus not generate any construction or operational GHG emissions. Therefore, impacts associated with GHG emissions under Alternative 1 would be **less than** those of the proposed Project.

Land Use and Planning

The Project site would remain vacant and unoccupied under Alternative 1. With the site remaining vacant, no potential conflicts with any applicable land use plans and policies or habitat conservation plans would occur under the No Project/Development alternative. The proposed Project requires a General Plan Amendment and a Zoning Code Amendment, but under Alternative 1, no changes would be required. However, under this Alternative 1, certain General Plan goals and objectives for increasing residential development in the City would not be met. Nevertheless, impacts related to land use and planning under Alternative 1 would be **less than** the proposed Project.

Noise

As the No Project Alternative would not include any form of development or use of the site, Alternative 1 would have no impact related to construction or operational noise. Although the proposed Project's impacts related to temporary construction and vibration and long-term operation would be less than significant, because there would be no development, the No Project/Development alternative's noise impacts would be **less than** the proposed Project.

Transportation

Under Alternative 1, No Project/Development, no additional traffic would be generated. Temporary traffic associated with construction activities, the increase in average daily trips from the operation of the Project and associated vehicle miles traveled, and the impacts to surrounding intersections would not be generated. Therefore, overall transportation impacts under the No Project/Development Alternative would be **less than** impacts under the proposed Project.

Tribal Cultural Resources

Construction of the proposed Project would involve ground-disturbing activities with the potential to unearth or adversely impact previously unidentified tribal cultural resources. The No Project Alternative would have no ground-disturbing activities and there would be no potential for

adversely impacting tribal cultural resources. The No Project/Development alternative would have **less** potential impact than the proposed Project.

Utilities

As there would be no development on the site, no impact to utilities or service systems would occur under Alternative 1, No Project/Development. As discussed in Section 5.12, Utilities, the proposed development in the Project area would increase water demand and would be subject to requirements of the City's Water Efficient Landscaping and Irrigation Ordinance. The No Project/Development alternative's impact would be **less than** the proposed Project as there would be no increase in water demand or demand for other utilities.

Wildfire

Though the site would remain vacant and undeveloped under the No Project/Development alternative, the site would still be partially within a mapped Very High Fire Hazard Severity Zone (VHFHSZ). Areas of dense, dry vegetation, particularly in canyon areas and on hillsides, pose the greatest potential for wildfire risks. While none of the fire preventative features associated with the proposed Project would be implemented under Alternative 1, the risk of exposing people to wildfire would be lessened as there would be no structures or residents on the site. However, without maintenance of any dry vegetation present on the site, which would serve as additional fuel for a potential future fire, there would still be wildfire risks. Thus, this alternative's potential wildfire impacts would be **similar to** those of the proposed Project.

8.2.2 Alternative 2 – Commercial Development

This discussion analyzes alternative development of the site that remains in accord with the current land use and zoning designations. Under this alternative, the land use designation and zoning would remain as is, and the Project site would be under a CG - Commercial General zoning designation.

Development under Alternative 2 would include general commercial uses. The Project applicant previously considered development of the site as commercial and had a conceptual site plan prepared, refer to Figure 8.0-1 - Alternative 2 Commercial Development Conceptual Site Plan. Development under Alternative 2 would include a total square footage (SF) of 61,800 and approximately 400 parking spots. This development would include a 34,000 SF fitness club, a 3,400 SF drive-thru restaurant, a 12,000 SF restaurant building, and an 8,800 SF multi-tenant building with retail along with a drive-thru restaurant. A 3,600 SF convenient store/gas station would also be provided under this alternative that would include a car wash, fuel pump station, and store.

RESTAURANT PAD 2 W/ DRIVE THRU ±3,400 SF 1/100 SF MIN.

RESTAURANT PAD 3 12,000 SF 120 PARKING SPACES (1/100 SF MIN)

FITNESS CLUB 34,000 SF 227 PARKING SPACES (1/150 SF MIN)

MULTI-TENANT 2ND BUILDING FOOD/RETAIL W/DRIVE THRU END CAP ±8,820 SF (60' x 147')

C-STORE 3,600 SF 15 PARKING SPACES (1/250 SF MIN)

CAR WASH 1,200 SF (60'x20')

GAS CANOPY 6,000 SF (38' x 85')

CENTRAL AVE.

SYCAMORE CANYON BLVD.

01 SITE PLAN
SCALE: 1" = 30'

30 15 0 30 60 90
SCALE: 1" = 30'

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CRESTVIEW APARTMENTS

Alternative 2 Commercial Conceptual Plan

Figure 8.0-1

8.2.2.1 Impact Analysis of Alternative 2

Aesthetics

Under Alternative 2, the land use and zoning for the site would remain for commercial uses and no General Plan and Zoning Code Amendments would be required. As with the proposed Project, the architectural and landscaping design would comply with the City's Citywide Design Guidelines and the Zoning Code and would not substantially degrade the existing visual character of the area. Development under Alternative 2 would include multiple drive-thru restaurants, a fitness club, a multi-tenant retail/food restaurant building, and a gas station with a car wash. Similar to the proposed Project, Alternative 2 would develop structures that would bring vehicular circulation, which would produce light and glare in the Project area. General commercial use in the City, per the CG - Commercial General Zone for City of Riverside Municipal Code Chapter 19.620, would allow for a maximum building height of 75 feet, which would be greater than the building heights allowed under the proposed Project and would have a greater potential to obstruct views from adjacent neighborhoods. Thus, impacts related to Aesthetics would be greater under Alternative 2 due to the increased maximum building height, which could obstruct views from adjacent neighborhoods **more than** the proposed Project would.

Air Quality

Under Alterative 2, Commercial Development, construction air quality impacts would be similar to the proposed Project during site grading and paving as the same area would be graded and improved. Commercial uses have a higher trip generation rate than residential uses, per the ITE Trip Generation Manual. Therefore, the Alternative 2 commercial development would generate more vehicle trips per day than the Project, which would in turn result in a higher generation of vehicle emissions during operations. Air quality impacts would be **greater than** under Alternative 2 than the proposed Project.

Biological Resources

Development of the site under Alternative 2 would still require site preparation and grading. It is anticipated that the commercial development would have the same grading limits, series of retaining walls and slopes, and development footprint as the proposed Project. As a result, Alternative 2 would have the same direct impacts related to biological resources. With the proposed Project and Alternative 2, no permanent impacts on the willow riparian plant community or its associated drainage on the southwest corner of the Project site are anticipated. With the implementation of mitigation measures, potential impacts to nesting birds and indirect impacts from construction activities would be reduced to less than significant levels. Alternative 2 would require and implement the same mitigation measures (MM BIO-1 through MM BIO-11) as the proposed Project. Alternative 2 would include multiple drive-thru restaurants, a fitness club, a multi-tenant retail/food restaurant building, and a gas station with a car wash. It is anticipated that one or more of these developments would operate 24-hours due to close proximity to and easy access from the freeway. The 24-hour operations are expected to generate higher operational nighttime noise levels than a residential project. Also, night-time light from headlights of vehicles going through the restaurant drive thrus would shine out into the MSHCP conservation area and

adjacent Quail Run Open Space, unless mitigated with some type of shielding. Therefore, Alternative 2 could result in greater indirect noise impacts to biological resources west of the project. Therefore, it is anticipated that Biological Resources impacts under Alternative 2 would be **similar to** the proposed Project, but with greater operational noise impacts.

Cultural Resources

Development of the site under Alternative 2 would still require site preparation and grading. It is anticipated that the commercial development would have the same grading limits and development footprint as the proposed Project. Thus, ground-disturbing activities, with the potential to unearth or adversely impact unidentified archaeological resources and/or human remains would also occur under Alternative 2. As with the proposed Project, implementation of mitigation measures MM CUL-1 through MM CUL-4 would be necessary to reduce any potential impacts to less than significant levels. It is anticipated that Cultural Resource impacts under Alternative 2 would be similar to impacts under the proposed Project. Potential impacts to cultural and could occur during proposed Project construction and ground-disturbing activities that could unearth unidentified resources. Therefore, it is anticipated that potential impacts to cultural resources under Alternative 2 would be **similar to** the proposed Project.

Energy

Energy under Alternative 2 would still be supplied by Riverside Public Utilities and SoCalGas for electricity and natural gas, respectively. It is anticipated that construction fuel consumption under Alternative 2 would be similar to the proposed Project for construction equipment, vendor trips, and worker trips. Moreover, the electricity and natural gas consumption is anticipated to be greater than under the proposed Project due to the addition of commercial, gas station, and restaurant uses and the expected 24-hours of operations of one or more in lieu of the residential units proposed under the Project. Alternative 2 is anticipated to be local serving retail as it is located in a residential rich area. As outlined in the City's Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment, local serving retail generally improves the convenience of shopping close to home and has the effect of reducing vehicle travel. Therefore, Alternative 2 would be expected to have less VMT than the proposed Project, which would in turn result in a lower consumption of fuel for vehicles for operations. While development under Alternative 2 would also be required to comply with all applicable energy conservation standards, it is anticipated the project would consume more Energy resources overall; thus, energy impacts under Alternative 2 would be **greater than** those under the proposed Project.

Geology and Soils

The existing geology and soils conditions of the site would remain the same for both the proposed Project and Alternative 2. Potential impacts associated with seismic ground failure, including liquefaction, would be less than significant, however the unsaturated sandy soils of Unit 1 (unconsolidated fill) are presently of sufficiently loose consistency that these soils would be prone to measurable seismic settlement. Thus, development under Alternative 2 would still require the implementation of mitigation measure MM GEO-1, which would include densification of the unconsolidated fill by method of Deep Dynamic Compaction (DDC), to reduce the level of potential

impacts from settlement to less than significant levels. Overall, as development under Alternative 2 would also be required to comply with the adopted building code and any seismic design considerations, impacts related to Geology and Soils under Alternative 2 would be **similar to** those under the proposed Project.

Greenhouse Gas Emissions

Similar to air quality impacts under Alternative 2, GHG emissions related to construction and site preparation would be similar to the proposed Project under this alternative as the same area would be graded and improved. However, it is anticipated that operational GHG emissions impacts would be increased primarily through an increase of vehicle trips. Commercial uses have a higher trip generation rate than residential uses, per the ITE Trip Generation Manual. Therefore, the Alternative 2 commercial development would generate more vehicle trips per day than the Project, which would in turn result in a **higher** generation of vehicle GHG emissions during operations.

Land Use and Planning

Under Alternative 2, there would be no need for General Plan or Zoning Code Amendments as CG - Commercial General Zone would remain as the underlying zoning and C- Commercial as the land use designation. As discussed, commercial uses under Alternative 2 include multiple drive-thru restaurants, a fitness club, a multi-tenant retail/food restaurant building, and a gas station with a car wash. As Alternative 2 would not conflict with the existing land use and setting, there would no conflict with the General Plan land use designation or the zoning code. Moreover, the alternative would comply with building standards and City code standards placed on commercial uses. As with the proposed Project, Alternative 2 would not conflict with a local plan or physically divide an established community. As Alternative 2 does not require a General Plan Amendment or zoning code amendment, land use and planning impacts under Alternative 2 would be **less than** the proposed Project.

Noise

Noise on local roadways from traffic generated under Alternative 2 would increase as the number of trips is anticipated to be higher as a result of the alternative's commercial uses. Construction and site preparation under Alternative 2 would contribute to similar impacts to those under the proposed Project for ambient noise levels in the area; however, operational noise levels under Alternative 2 would contribute to an increase in ambient noise levels in the area in comparison to the proposed Project. Therefore, it is anticipated that noise impacts under Alternative 2 would be **similar to** the proposed Project in regard to construction and site preparation but **greater** in terms of operational noise level increases.

Transportation

Commercial uses have a higher trip generation rate than residential uses. As such, Alternative 2 as development of general commercial use(s) would increase traffic on local roadways and the associated noise generated from traffic. Alternative 2 would also increase the development's impact on level of service (LOS) of local roadways and intersections. Transportation impacts

related to LOS under Alternative 2 would therefore be **greater** than those under the proposed Project. Alternative 2 is anticipated to be local serving retail as it is located in a residential rich area. As outlined in the City's Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment, local serving retail generally improves the convenience of shopping close to home and has the effect of reducing vehicle travel. Therefore, Alternative 2 would be expected to have **less** VMT than the proposed Project.

Tribal Cultural Resources

Development of the site under Alternative 2 would still require site preparation and grading. It is anticipated that the commercial development would have the same grading limits and development footprint as the proposed Project. Thus, ground-disturbing activities, with the potential to unearth or adversely impact unidentified tribal cultural resources would also occur under Alternative 2. As with the proposed Project, implementation of mitigation measures MM CUL-1 through MM CUL-4 would be necessary to reduce any potential impacts to less than significant levels. It is anticipated that potential impacts to tribal cultural resources under Alternative 2 would be **similar** to impacts under the proposed Project.

Utilities

Riverside Public Utilities would provide water service and the City's Public Works Department would provide sewer service to the development under Alternative 2, as with the proposed Project. Therefore, the current and projected available water supplies would be the same under Alternative 2 as under the proposed Project. Based on the water demand projections in the City for the proposed Project, projected water supplies were determined to be enough for the projected water demand of the proposed Project. It is anticipated that the commercial uses under Alternative 2 would have a similar or less water demand as the proposed Project. Commercial development is anticipated to generate similar or less sewer than the proposed Project. The hydraulic analysis for the proposed Project showed that the City's existing sewer collection system is adequately sized to handle the sewer that will be generated, which would also be adequate for a commercial development. Further, as discussed under energy above, the electricity and natural gas consumption is anticipated to be greater than under the proposed Project due to the addition of commercial, gas station, and restaurant uses and the expected 24-hours of operations of one or more of those. Therefore, while water demand under Alternative 2 would be similar to that of the Project, there would be an increased demand on electrical utilities under Alternative 2 in comparison to the Project. Thus, it is anticipated that Utilities and Service Systems impacts under Alternative 2 could have a **greater** demand of utilities and be more impactful than those under the proposed Project.

Wildfire

As with the proposed Project, Alternative 2 would be partially located within a VHFHSZ. The Alternative 2 commercial development would bring in tenants and patrons of the commercial uses but would not include residents living on site all the time (24-hours a day, 7-days a week). Alternative 2 would be required to comply with the CFC and CBC and implement any project specific mitigation measures as appropriate for commercial uses within a VHFHSZ. However,

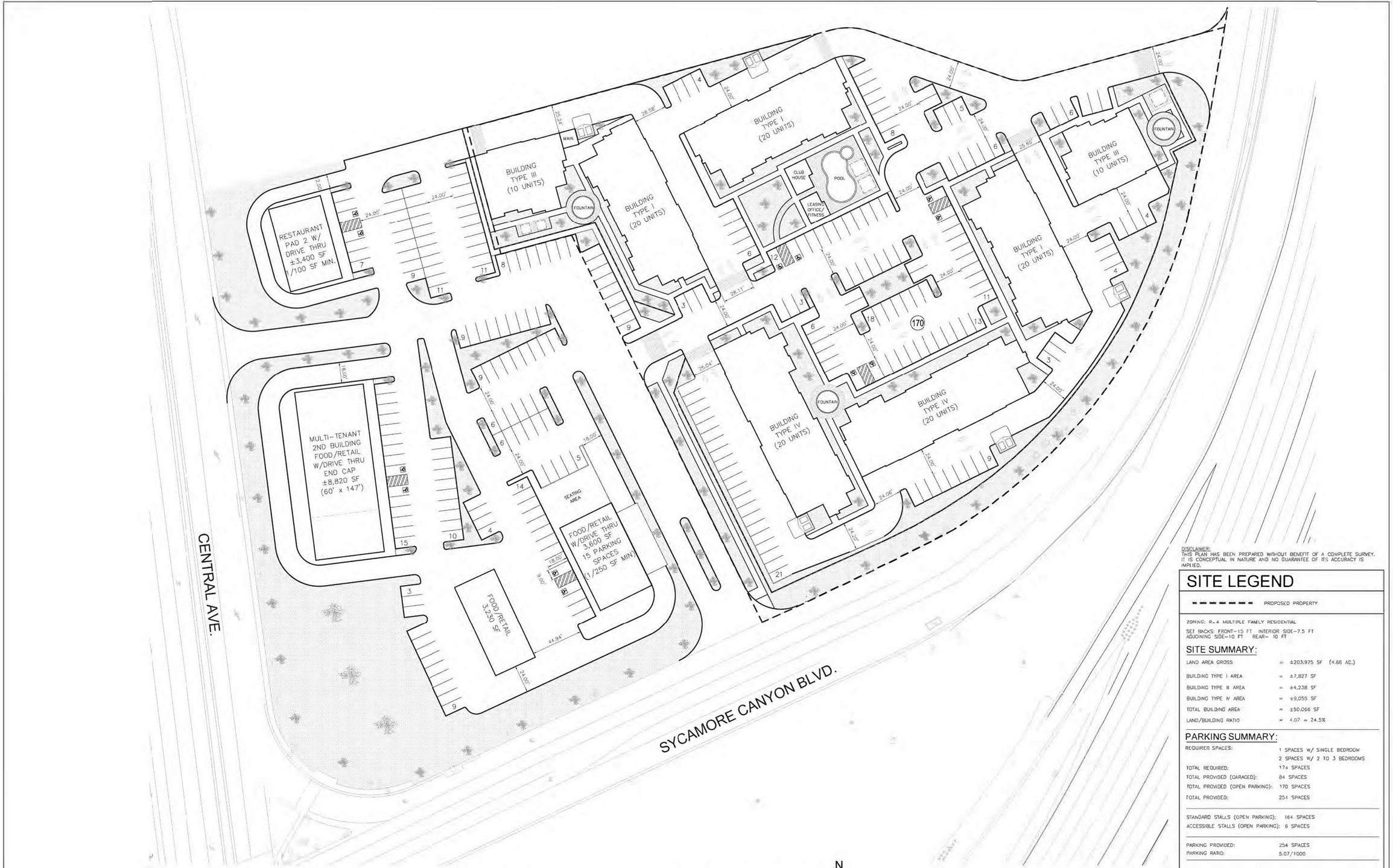
Alternative 2 would not have the same mitigation measures as the proposed Project, as many of them related specifically to residential development/structures. Similar to the Project, Alternative 2 would place tenants and patrons within a VHFHSZ. However, as the development under Alternative 2 would include a gas station, which would be highly flammable in the event of a fire, located within the VHFHSZ, the risks associated with placing tenants and patrons within a VHFHSZ would be greater under Alternative 2. Thus, Alternative 2 would be expected to have **greater** impacts related to exposure to wildfire risks than the proposed Project.

8.2.3 Alternative 3 – Mixed Use Development

Alternative 3 – Mixed Use Development would include both residential and commercial uses. Thus, under alternative 3, the site would require a General Plan Amendment (GPA) from C – Commercial to MU-U – Mixed Use-Urban designation and a Zoning Code Amendment (RZ) from C – Commercial to MU-U – Mixed Use-Urban Zone.

The Project applicant previously considered development of the site as mixed use and had a conceptual site plan prepared, refer to Figure 8.0-2 - Alternative 3 Mixed Use Development Conceptual Site Plan. Under Alternative 3, the residential component of the project is approximately 4.66 acres, with seven apartment buildings with 10 to 20 dwelling units each, with a total of 120 units. Alternative 3 with 120 units, is 117 less units than those of the proposed Project.

The remaining portion of the site, approximately 4.78 acres, includes three commercial buildings: 3,600-SF food/retail with drive thru, and 3,230 SF food/retail, a 3,400-SF drive-thru restaurant and an 8,820-SF multi-tenant building with food/retail uses and drive-thru.



01 SITE PLAN
SCALE: 1" = 30'

30 15 0 30 60 90
SCALE: 1" = 30'

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DISCLAIMER:
THIS PLAN HAS BEEN PREPARED WITHOUT BENEFIT OF A COMPLETE SURVEY. IT IS CONCEPTUAL IN NATURE AND NO GUARANTEE OF ITS ACCURACY IS IMPLIED.

SITE LEGEND

PROPOSED PROPERTY

ZONING: R-4 MULTIPLE FAMILY RESIDENTIAL

SET BACKS: FRONT- 15 FT INTERIOR SIDE- 7.5 FT
ADJOINING SIDE- 10 FT REAR- 10 FT

SITE SUMMARY:

LAND AREA GROSS	=	±203,975 SF (4.68 AC.)
BUILDING TYPE I AREA	=	±7,827 SF
BUILDING TYPE III AREA	=	±4,238 SF
BUILDING TYPE IV AREA	=	±9,055 SF
TOTAL BUILDING AREA	=	±50,066 SF
LAND/BUILDING RATIO	=	4.07 = 24.5%

PARKING SUMMARY:

REQUIRED SPACES:	1 SPACES W/ SINGLE BEDROOM 2 SPACES W/ 2 TO 3 BEDROOMS
TOTAL REQUIRED:	174 SPACES
TOTAL PROVIDED (GARAGED):	84 SPACES
TOTAL PROVIDED (OPEN PARKING):	170 SPACES
TOTAL PROVIDED:	254 SPACES
STANDARD STALLS (OPEN PARKING):	164 SPACES
ACCESSIBLE STALLS (OPEN PARKING):	6 SPACES
PARKING PROVIDED:	254 SPACES
PARKING RATIO:	5.07/1000

CRESTVIEW APARTMENTS

Alternative 3 Mixed Use Conceptual Plan

Figure 8.0-2

8.2.3.1 Impact Analysis of Alternative 3

Aesthetics

Alternative 3 would include seven residential apartment buildings along with a retail building with multi-tenant use, another food/retail building, and two drive-thru restaurants. Under Alternative 3, the site would require a General Plan Amendment (GPA) from C – Commercial to MU-U – Mixed Use-Urban designation and a Zoning Code Amendment (RZ) from C – Commercial to MU-U – Mixed Use-Urban Zone. Similar to the proposed Project and Alternative 2, the existing visual character of the site would be altered through the introduction of development on a currently vacant site. As with the proposed Project, the architectural and landscaping design would comply with the City's Design Guidelines and the Zoning Code and would not substantially degrade the existing visual character of the area.

Similar to the proposed Project, Alternative 3 would develop structures that would bring vehicular circulation, which would produce light and glare in the Project area. Mixed Use-Urban use in the City, per the General Commercial Zone for City of Riverside Municipal Code Chapter 19.120, would allow for a maximum building height of 60 feet, which would be 10 feet greater than the building heights allowed under the proposed Project and would have a greater potential to obstruct views from adjacent neighborhoods. Thus, impacts related to Aesthetics would be **greater** under Alternative 3 due to the increased maximum building height, which could obstruct views from adjacent neighborhoods more than the proposed Project would.

Air Quality

Under Alterative 3, Mixed Use Development, construction air quality impacts would be similar to the proposed Project during site grading and paving. Operational air quality impacts would be similar for the residential portion of the site, however as commercial uses have a higher trip generation rate than residential uses, there would be a higher vehicle trip generation rate for the commercial component of the project as compared to residential with the proposed Project. The higher trip generation rate for the commercial component of the project would in turn result in a higher generation of vehicle emissions during operations. Air quality impacts would be **greater** under Alternative 3 than the proposed Project.

Biological Resources

Development of the site under Alternative 3 would still require site preparation and grading. It is anticipated that the commercial development would have the same grading limits, series of retaining walls and slopes, and development footprint as the proposed Project. As a result, Alternative 3 would have the same direct impacts related to biological resources. With the proposed Project and Alternative 3, no permanent impacts on the willow forest plant community or its associated drainage on the southwest corner of the Project site are anticipated. With the implementation of mitigation measures, potential impacts to nesting birds and indirect impacts from construction activities would be reduced to less than significant levels. Alternative 3 would require and implement the same mitigation measures (MM BIO-1 through MM BIO-11) as the proposed Project. Alternative 3 would include apartments and two drive-thru restaurants, a multi-tenant retail/food restaurant building, and another food/retail building. It is anticipated that one or

more of the commercial developments would operate 24-hours due to close proximity to and easy access from the freeway. The 24-hour operations are expected to generate higher operational nighttime noise levels than an all residential project. Also, night-time light from headlights of vehicles going through the restaurant drive thrus would shine out into the MSHCP conservation area and adjacent Quail Run Open Space, unless mitigated with some type of shielding. Therefore, Alternative 3 could result in greater indirect noise impacts to biological resources west of the project. Therefore, it is anticipated that Biological Resources impacts under Alternative 3 would be **similar** to the proposed Project, but with greater operational noise impacts.

Cultural Resources

Alternative 3 development would still require site preparation and grading. It is anticipated that the mixed-use development would have the same grading limits and development footprint as the proposed Project. Thus, ground-disturbing activities, with the potential to unearth or adversely impact unidentified archaeological resources and/or human remains would also occur under Alternative 3. As with the proposed Project, implementation of mitigation measures MM CUL-1 through MM CUL-4 would be necessary to reduce any potential impacts to less than significant levels. It is anticipated that cultural resource impacts under Alternative 3 would be similar to impacts under the proposed Project. Potential impacts to cultural and could occur during proposed Project construction and ground-disturbing activities that could unearth unidentified resources. Therefore, it is anticipated that potential impacts to cultural resources under Alternative 3 would be **similar** to the proposed Project.

Energy

Riverside Public Utilities would still supply electricity and SoCalGas would still supply natural gas under Alternative 3. As the development under Alternative 3 would be a mixed-use development consisting of both commercial and residential uses, including restaurants, drive-thrus, and a gas station. It is anticipated that construction energy consumption would be similar for Alternative 3 as the proposed Project. However, the operational electricity and natural gas consumption is anticipated to be greater than under the proposed Project due to the addition of commercial, gas station, and restaurant uses and expected 24-hours of operations. Alternative 3 is anticipated to be local serving retail as it is located in a residential rich area. As outlined in the City's Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment, local serving retail generally improves the convenience of shopping close to home and has the effect of reducing vehicle travel. Therefore, Alternative 3 would be expected to have less VMT than the proposed Project, which would in turn result in a lower consumption of fuel for vehicles for operations. While development under Alternative 3 would also be required to comply with all applicable energy conservation standards, it is anticipated the project would consume more energy resources overall; thus, energy impacts under Alternative 3 would be **greater** than those under the proposed Project.

Geology and Soils

The geology and soils of the site would not change between the proposed Project and Alternative 3. While potential impacts associated with seismic ground failure, including liquefaction, were

found to be less than significant for the site, the unsaturated sandy soils of Unit 1 (unconsolidated fill) are presently of sufficiently loose consistency so that these soils would be prone to measurable seismic settlement. Thus, development under Alternative 3 would still require the implementation of mitigation measure MM GEO-1, which would include densification of the unconsolidated fill by method of DDC, to reduce the level of potential settlement impacts to less than significant. Overall, as development under Alternative 3 would also be required to comply with the adopted building code and any seismic design considerations, geology and soils hazard risk impacts under Alternative 3 would be **similar** to those under the proposed Project.

Greenhouse Gas Emissions

Under Alternative 3, construction, equipment needs, and grading, and paving quantities would be comparable to the proposed Project. As such, construction GHG emissions would be similar to the proposed Project. Operational residential GHG Emissions impacts would be reduced primarily due to a reduction in the number of residential units from 237 units to 117 fewer residential units and vehicle miles traveled for the reduced dwelling units. However, the development under Alternative 3 would also include commercial uses, and commercial uses have a higher trip generation rate than residential uses and associated higher generation of vehicle GHG emissions. Overall, Alternative 3 is anticipated to have **similar** GHG Emissions impacts to the proposed Project.

Land Use and Planning

Similar to the proposed Project, the development under Alternative 3 would require a General Plan and Zoning Amendments. Under Alternative 3, the site would require a General Plan Amendment (GPA) from C – Commercial to MU-U – Mixed Use-Urban designation and a Zoning Code Amendment (RZ) from C – Commercial to MU-U – Mixed Use-Urban Zone.

Overall, as Alternative 3 would comply with development standards and City codes for its respected land use and zoning designations and would not conflict with land use plans and policies, land use and planning impacts under Alternative 3 would be **similar** to those of the proposed Project.

Noise

Construction and site preparation under Alternative 3 would contribute to **similar** impacts to those under the proposed Project for ambient noise levels in the area. As commercial uses have a higher trip generation rate than residential uses, the commercial component of Alternative 3 (approximately half of the project) would generate more operational traffic and associated noise on local roadways. As earlier mentioned, commercial uses such as the gas station and drive-thru restaurants proposed under Alternative 3 would likely include 24-hour operations, which may increase the operational and vehicle-related noise levels, particularly at night. Thus, it is anticipated that Noise impacts under Alternative 3 would be **greater** than those of the proposed Project.

Transportation

Transportation would still be impacted under Alternative 3, Mixed Use Development, as development on an existing undeveloped property would increase traffic on local roadways over existing conditions. Although development under Alternative 3 would have 117 less dwelling units, and resulting reduced VMT associated with each dwelling unit, the commercial component of the project would have a higher trip generation rate than residential, i.e., more trips but shorter distance. Thus, it is anticipated that Alternative 3 would have **more** impacts to the local roadway network, but **less** impacts related to total VMT than the proposed Project.

Tribal Cultural Resources

Development under Alternative 3 would involve ground-disturbing activities such as grading and surface excavation that has the potential to unearth or adversely impact unidentified tribal cultural resources. It is anticipated that the Alternative 3 development would have the same grading limits and development footprint as the proposed Project. Thus, ground-disturbing activities, with the potential to unearth or adversely impact unidentified tribal cultural resources would also occur under Alternative 3. As with the proposed Project, implementation of mitigation measures MM CUL-1 through MM CUL-4 would be necessary to reduce any potential impacts to less than significant levels. It is anticipated that potential impacts to tribal cultural resources under Alternative 3 would be **similar** to impacts under the proposed Project.

Utilities

Riverside Public Utilities would provide water service and the City's Public Works Department would provide sewer service to the development under Alternative 3, as with the proposed Project. Therefore, the current and projected available water supplies would be the same under Alternative 3 as under the proposed Project. Based on the water demand projections in the City for the proposed Project, projected water supplies were determined to be enough for the projected water demand of the proposed Project. It is anticipated that the commercial uses under Alternative 3 would have a similar or less water demand as the proposed Project. The hydraulic analysis for the proposed Project showed that the City's existing sewer collection system is adequately sized to handle the sewer that will be generated, which would also be adequate for commercial development. Further, as discussed under energy above, the electricity and natural gas consumption is anticipated to be greater than under the proposed Project due to the addition of commercial, gas station, and restaurant uses and the expected 24-hours of operations of one or more of those. Thus, while water demand under Alternative 3 would be similar to the Project, it is anticipated that Utilities and Service Systems impacts under Alternative 3 could have a **greater** demand of utilities due to the increased demand on energy utilities and be more impactful than those under the proposed Project.

Wildfire

As with the proposed Project, all alternatives including Alternative 3 would partially be located within a VHFHSZ. For Alternative 3, the proposed apartments are located in the VHFHSZ and the commercial development is largely located outside of the VHFHSZ. Thus, the development of Alternative 3 would similarly expose residents and patrons to the potential wildfire risks of the

VHFHSZ. Alternative 3 would be required to comply with the CFC and CBC and implement any project specific mitigation measures as appropriate for commercial uses within a VHFHSZ. It is anticipated that the development under Alternative 3 would require implementation of the same mitigation measures, MM FIRE-1 through MM FIRE-16, to reduce potential Wildfire impacts to less than significant levels. It is anticipated that potential impacts associated with wildfires under Alternative 3 would be **similar** to impacts under the proposed Project.

8.2.4 Alternatives Rejected from Further Consideration

Section 15126.6(c) of the State CEQA Guidelines specify that an EIR should identify alternatives that were considered by the lead agency but were rejected during the scoping process and identify the reasons for eliminating the alternatives from further consideration. Section 15126.6(c) further indicates that a lead agency may eliminate an alternative from detailed consideration in an EIR if it fails to meet the basic Project objectives, is infeasible, or does not avoid significant environmental impacts. One such alternatives was considered and rejected by the City.

Mixed use development with General Plan and Zoning Amendment to MU-V – Mixed Use-Village Zone. The MU-V Zone allows high-density residential development with retail, office, and service uses primarily at the street level to facilitate a pedestrian environment. It is intended to encourage new housing opportunities, such as live/work units and residential over retail units that are nearby to commercial services. Plazas, courtyards, outdoor dining, transit stops, and other public gathering spaces and community amenities, such as art in public spaces, are strongly encouraged. The focus of the development and design standards is on landscaping and buffering techniques to provide transitions from developed commercial areas to lower density residential neighborhoods. Per the City's Municipal Code, the maximum residential density for a MU-V is 30 dwelling units per acre and a lot area minimum of 20,000 SF. With the Project site of 9.44 acres, the maximum allowed dwelling units would be 283 units, with 46 more units than the proposed Project. Because this alternative would be a more intense development, with nearly 50 more dwelling units in addition to the commercial component, potential impacts related to transportation, air quality, greenhouse gases, energy, land use and planning, and utility demands are anticipated to be greater than the proposed Project. Potential impacts related to aesthetics, biological, cultural, and tribal resources, geology and soils, noise and wildfire are anticipated to be the same or similar to the proposed Project. The proposed Project's objectives do not include commercial development. Therefore, this alternative was eliminated from further consideration.

8.3 Environmentally Superior Alternative

CEQA requires the identification of the environmentally superior alternative among the options studied. The environmentally superior alternative must be an alternative to the proposed project that reduces some of the environmental impacts of the proposed project, regardless of the financial costs associated with that alternative. Identification of the environmentally superior alternative is an informational procedure and the alternative identified as environmentally superior may not be the one that best meets the goals or needs of the proposed project.

Table 8.0-1 - Comparison of Alternatives Matrix, indicates whether each alternative's environmental impact is reduced, increased, or similar compared to that of the proposed Project

for each of the issue areas studied. Based on the alternative's analysis provided above, Alternative 1: No Project/Development Alternative, would be the environmentally superior alternative. The No Project/Development Alternative would either avoid or lessen the severity of all significant impacts of the proposed project, as nothing would be constructed. However, the No Project Alternative would not fulfill the objectives of the proposed project.

When the "No Project/Development" alternative is determined to be environmentally superior, State CEQA Guidelines also requires identification of the environmentally superior alternative among the development options. Of the other alternatives evaluated in this EIR, Alternative 2: Commercial Development, is determined to be the environmentally superior alternative, however; it is not consistent with the proposed Project's Objectives and Goals. As outlined above in 8.1.2 the Project applicant previously considered development of the site as commercial and had a conceptual site plan prepared, refer to Figure 8.0-1 - Alternative 2 Commercial Development Conceptual Site Plan. The applicant tried to solicit tenants for the commercial development and were not able to do so. Therefore, a commercial development was eliminated as a feasible alternative.

8.4 Comparison of Alternatives

Table 8.0-1 – Comparison of Alternatives Matrix, below, compares the potential environmental impacts of each alternative to the proposed Project.

Table 8.0-1 – Comparison of Alternatives Matrix

Environmental Issue	Proposed Project	Alternative 1 No Project/No Development	Alternative 2 Commercial Development	Alternative 3 Mixed Use Development
Aesthetics	**LTSM**	**Reduced**	**Increased**	**Increased**
Air Quality	**LTS**	**Reduced**	**Increased**	**Increased**
Biological Resources	**LTSM**	**Reduced**	**Similar**	**Similar**
Cultural Resources	**LTSM**	**Reduced**	**Similar**	**Similar**
Energy	**LTS**	**Reduced**	**Increased**	**Increased**
Geology and Soils	**LTSM**	**Reduced**	**Similar**	**Similar**
Greenhouse Gas Emissions (GHG)	**LTS**	**Reduced**	**Increased**	**Similar**
Land Use and Planning	**LTSM**	**Reduced**	**Reduced**	**Increased**
Noise	**LTSM**	**Reduced**	**Similar/ Increased**	**Similar/ Increased**
Transportation	**LTSM**	**Reduced**	**Increased /Reduced**	**Increased /Reduced**
Tribal Cultural Resources	**LTSM**	**Reduced**	**Similar**	**Similar**
Utilities	**LTS**	**Reduced**	**Increased**	**Increased**
Wildfire	**LTSM**	**Similar**	**Reduced**	**Similar**
Meets Project Objectives?		Alternative does not meet **any** of the Project objectives	Alternative 2 does not meet **all** of the Project objectives	Alternative 2 does not meet **all** of the Project objectives

Environmental Issue	Proposed Project	Alternative 1 No Project/No Development	Alternative 2 Commercial Development	Alternative 3 Mixed Use Development
LTS = Less than Significant Impact				
LTSM = Less than Significant Impact with Mitigation				
SU = Significant and Unavoidable				

9.0 References

The following documents were referred to as general information sources during preparation of this EIR. They are available for public review at the locations identified after each listing. They are referenced in the EIR shown at the end of each section.

Aesthetics

California Department of Transportation (Caltrans). 2011. "Riverside County." California Scenic Highway Mapping System. http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/ (Accessed September 2018).

City of Riverside, Citywide Design Guidelines and Sign Guidelines, adopted November 2007

City of Riverside General Plan 2025. Riverside, CA. November 2007.

City of Riverside General Plan 2025 PEIR – Volume 2: 5.1, Aesthetics

Riverside Downtown Partnership. 2017. "Downtown Riverside Historic Walking Guide." Riverside, CA. December 2017. http://www.riversidedowntown.org/wp-content/uploads/2018/06/Downtown-Riverside-Historic-Walking-Guide-.pdf

Air Quality

Urban Crossroads. *Crestview Apartments Air Quality Impact Analysis,* City of Riverside. September 2020.

Urban Crossroads. *Crestview Apartments Air Toxic and Criteria Pollutant Health Risk Assessment, City of Riverside*. July 2020.

Urban Crossroads. *Crestview Apartments Focused Traffic Analysis, City of Riverside*. August 2020.

Biological Resources

City of Riverside Public Works Department, *Urban Forestry Policy Manual*, August 2015. (Available at https://www.riversideca.gov/publicworks/trees/pdf/UrbanForestry-TOC.pdf, accessed January 2021.)

ELMT Consulting, Inc., *Sycamore Canyon Boulevard and Central Avenue Project, City of Riverside, Riverside County, Habitat Assessment and Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis*, July 2020 (Appendix C)

ELMT Consulting, Inc., *Sycamore Canyon Boulevard and Central Avenue Project, City of Riverside, Riverside County, California, Delineation of State and Federal Jurisdictional Waters*, January 2020 (Appendix C)

Regional Conservation Authority Joint Project Review, JPR #: 08 01 29 01, February 12, 2008, Amended November 18, 2020. (Appendix C)

State Water Resources Control Board (SWRCB). 2017. Preliminary Draft State Wetland Definition and Procedures for Discharges of Dredged or Fill Materials to Waters of the State. Staff report. Sacramento, CA. July 21, 2017.

Stephens' Kangaroo Rat Habitat Conservation Plan. 1996. https://rchca.us/187/SKR-Habitat-Conservation-Plan (Accessed August 2020).

Western Riverside County Multiple Species Habitat Conservation Plan. https://rctlma.org/Portals/0/mshcp/volume1/index.html (Accessed August 2020).

Cultural Resources

BCR Consulting LLC, *Cultural Resources Assessment, Crestview Apartments Project*, July 2020.

City of Riverside General Plan 2025. Riverside, CA. November 2007.

(https://riversideca.gov/cedd/planning/city-plans/general-plan-0)

History of Riverside, accessed October 22, 2020 at (https://www.riversideca.gov/visiting-aboutriv.asp).

Energy

Ace Resources. "Title 24, Part 6 (Building Energy Efficiency Standards) Fact Sheet." (file:///C:/Users/RVA-12/AppData/Local/Temp/2019.Whats%20Changed.Nonres.pdf).

California Energy Commission. "2019 Building Efficiency Standards: Frequently Asked Questions." (https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf).

California Public Utilities Commission. "Natural Gas and California." (accessible at: http://www.cpuc.ca.gov/general.aspx?id=4802).

California Department of Resources, Recycling, and Recovery (CalRecycle). "History of California Solid Waste Law, 1985-1989." (https://www.calrecycle.ca.gov/laws/legislation/calhist/1985to1989).

City of Riverside General Plan 2025. November 2007. (accessible at https://riversideca.gov/cedd/planning/city-plans/general-plan-0).

Urban Crossroads. *Crestview Apartments Energy Analysis, City of Riverside.* August 2020.

Urban Crossroads. *Crestview Apartments Air Quality Impact Analysis, City of Riverside.* August 2020.

Geology and Soils

Ardent Environmental Group, Inc. *Phase I environmental Site Assessment and Subsurface Investigation, Northwest Corner of Central Avenue and Sycamore Canyon Boulevard Riverside, California*. April 27, 2020 (Appendix A).

BCR Consulting LLC, *Cultural Resources Assessment, Crestview Apartments Project*, July 2020.

City of Riverside, *General Plan 2025,* certified November 2007 with subsequent amendments to various elements. (Available at https://riversideca.gov/cedd/planning/city-plans/general-plan-0, August 2020.)

ELMT Consulting, Inc. *Sycamore Canyon Boulevard and Central Avenue Project, Delineation of State and Federal Jurisdictional Waters*, City of Riverside, Riverside County, California, Prepared January 2020 (Appendix C).

EQ Zapp: California Earthquake Hazards Zone Application, https://maps.conservation.ca.gov/cgs/EQZApp/app/ (Accessed August 19, 2020)

Nova Services, Inc., *Report Preliminary Geotechnical Evaluation Proposed Crestview Apartment Complex, Sycamore Canyon Boulevard and Central Avenue,* Riverside, California, Prepared September 18, 2020 (Appendix F)

Possible Explanations For “Extent” For Expansive Soils (Available at https://www.fema.gov/media-library-data/20130726-1825-25045-8152/expansive_soils_explanations.txt, accessed September 23, 2020).

Southern California Earthquake Data Center. 2020. Significant Earthquakes and Faults. [website]: https://scedc.caltech.edu/significant/index.html. (Accessed July 2020)

Greenhouse Gas Emissions

Urban Crossroads. *Crestview Apartments Greenhouse Gas Analysis, City of Riverside*. August 2020.

Urban Crossroads. *Crestview Apartments Air Quality Impact Analysis, City of Riverside*. August 2020.

Land Use and Planning

City of Riverside, Code of Ordinances, Title 17 Zoning https://library.municode.com/ca/riverside/codes/code_of_ordinances?nodeId=PTIICOOR_TIT17GR accessed February 2020)

City of Riverside, Code of Ordinances, Title 19 Zoning https://library.municode.com/ca/riverside/codes/code_of_ordinances?nodeId=PTIICOOR_TIT19ZO accessed February 2020)

City of Riverside General Plan 2025 PEIR – Volume 2: 5.9, Land Use

https://riversideca.gov/cedd/sites/riversideca.gov.cedd/files/pdf/planning/general-plan/vol2/5-9_Land_Use_Planning.pdf accessed February 2020)

Riverside, City of. 2007. General Plan 2025. Riverside, CA. November 2012.

(Available at https://riversideca.gov/cedd/sites/riversideca.gov.cedd/files/pdf/planning/general plan/04_Land_Use_and_Urban_Design_Element_with%20maps%20COMPLETE%20AUGUST%202019.pdf accessed February 2020)

Noise

City of Riverside, Code of Ordinances, Title 7 Noise Control https://library.municode.com/ca/riverside/codes/code_of_ordinances?nodeId=PTIICOOR_TIT7NOCO accessed August 2020).

Urban Crossroads, Inc. *Crestview Apartments Noise Impact Analysis*. July 2020.

Western Riverside County Regional Conservation Authority. "Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)." (https://www.wrc-rca.org/document-library/).

Transportation and Traffic

City of Riverside Bicycle Master Plan Update: Addendum. March 2012. https://www.riversideca.gov/traffic/pdf/Plan-Update.pdf.

City of Riverside General Plan – Circulation and Community Mobility Element

City of Riverside General Plan 2025 PEIR – Volume 2: 5.15 Transportation Traffic

Crestview Apartments Focused Traffic Analysis, Urban Crossroads, August 27, 2020 (Appendix I)

Crestview Apartments Vernicle Miles Travelled (VMT) Analysis, Urban Crossroads, September 16, 2020 (Appendix I)

Southern California Association of Governments. Connect SoCal – the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy. https://www.connectsocal.org/Pages/What-Is-Connect-SoCal.aspx

Tribal Cultural Resources

BCR Consulting LLC, *Cultural Resources Assessment, Crestview Apartments Project*, July 2020.

City of Riverside, *General Plan 2025 Program Environmental Impact Report* (SCH# 2004021108), certified November 2007. (Available at https://www.riversideca.gov/planning/gp2025program/.)

Utilities

Badlands Sanitary Landfill, accessed on October 20, 2020 at (https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/2367), El Sobrante Landfill, accessed on October 20, 2020 at (https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/2402), Lamb Canyon Sanitary Landfill, accessed on October 20, 2020 at (https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/2368)

Badlands Landfill Integrated Project, accessed on October 21, 2020 at (https://ceqanet.opr.ca.gov/2019049142/2)

Carollo Engineers, Inc. *Crestview Apartments Sewer Capacity Evaluation – City of Riverside*. August 2020 (Appendix J).

City of Riverside, General Plan 2025 PEIR- Volume 2, 5.16-Utilities Service System, Accessed on October 21, 2020 at (https://riversideca.gov/cedd/sites/riversideca.gov.cedd/files/pdf/planning/general-plan/vol2/5-16_Utilities_Service_Systems.pdf)

City of Riverside, General Plan 2025, Section 5.16 Utilities Service System, Certified November 2007 with subsequent amendments to various elements. (Available at https://riversideca.gov/cedd/planning/city-plans/general-plan-0, accessed August 2020.)

Riverside Public Utilities. *2015 Urban Water Management Plan for Riverside Public Utilities Water Division*. (Available at: https://www.riversideca.gov/utilities/about-rpu/urban-water-management-plan.asp)

Riverside Public Utilities. *Riverside's Current Water Restrictions*. (Available at: https://riversideca.gov/utilities/residents/water-conservation-restrictions.asp)

Urban Crossroads. *Crestview Apartments Energy Analysis, City of Riverside*. August 2020 (Appendix E).

2015 Urban Water Management Plan for Riverside Public Utilities Water Division, accessed on October 21, 2020 at (https://www.riversideca.gov/utilities/about-rpu/pdf/RPU_2015_UWMP_June.pdf)

Western Municipal Water District. *Integrated Regional Water Management Plan (IRWMP)*. (Available at: https://www.wmwd.com/214/Integrated-Regional-Water-Management-Pla)

Western Municipal Water District and Riverside Public Utilities 2017. *Regional Water Partnership*. (Available at: https://riversideca.gov/utilities/WMWDandRPU/)

Wildfire

California Department of Forestry and Fire Prevention (Cal Fire). 1999. Learning to Live with Fire. (Available at https://www.fire.ca.gov/media/8657/live_w_fire.pdf)

Cal Fire 2020 Incident Archive website. (Available at https://www.fire.ca.gov/incidents/2020/)

California Fire Hazard Severity Zone Viewer. (Available at: https://gis.data.ca.gov/datasets/789d5286736248f69c4515c04f58f414)

City of Riverside, General Plan 2025, Public Safety Element. (Available at https://riversideca.gov/cedd/sites/riversideca.gov.cedd/files/pdf/planning/general-plan/18_Public_Safety_Element_with%20maps.pdf, accessed October 2020.)

City of Riverside, General Plan 2025 Program Environment Impact Report (SCH# 2004021108), Section 5.13 Public Services. (Available at https://riversideca.gov/cedd/planning/city-plans/general-plan-0, accessed October 2020.)

City of Riverside, Office of Emergency Management, Riverside Operational Area – Multi-Jurisdictional LHMP, 2019 Part 1/Part 2 and OEM's Strategic Plan.

(Available: https://www.rivcoemd.org/Portals/0/FINAL%20PUBLIC%20VERSION%20Riv_Co_%202018%20Multi%20Jurisdictional%20Local%20Hazard%20Mitigation%20Plan.pdf, Accessed November 2020)

FIREWISE 2000, LLC. *Fire Protection Plan, Crestview Apartments*. February 2021. (Appendix K)

State Board of Forestry and Fire Protection (SBFFP). California Department of Forestry and Fire Protection, Strategic Fire Plan. January 22, 2019. (Available at https://www.fire.ca.gov/media/5504/strategicplan2019-final.pdf)

Strategic 2019 January Plan (Available at https://www.fire.ca.gov/about-us/strategic-plan/, accessed January 2021.)

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