DRAFT ENVIRONMENTAL IMPACT REPORT

SKYLINE HEIGHTS PROJECT

CITY OF CORONA, CALIFORNIA

PCR

DECEMBER 2015

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EXECUTIVE SUMMARY

1. INTRODUCTION

The Draft Environmental Impact Report (Draft EIR) (State Clearinghouse No. 2014021003) for the Skyline Heights Project (proposed project or project) has been prepared by PCR Services Corporation on behalf of the City of Corona (City or Lead Agency) to: 1) identify the proposed project's impacts on the environment; 2) discuss alternatives to the proposed project; and 3) propose mitigation measures that will offset, minimize or otherwise avoid significant environmental impacts associated with the proposed project. The EIR has been prepared in accordance with the California Environmental Quality Act[1] (CEQA) and Guidelines for California Environmental Quality Act,[2] both of which regulate the preparation of EIRs. This Executive Summary has been prepared in accordance with CEQA Guidelines Section 15123.

This Draft EIR has been prepared to evaluate comprehensively the potential impacts that would result from implementation of the proposed project. The Draft EIR addresses the short-term and long-term effects of the project on the environment, and evaluates the potential for the project to cause direct and indirect growth-inducing impacts as well as cumulative impacts. As appropriate, mitigation has been identified for those impacts determined to be significant. The Draft EIR also analyzes alternatives to the proposed project that would substantially reduce or avoid potentially significant impacts associated with the proposed project.

The environmental review process for the proposed project is normally a three-step process governed by CEQA. The first step is for the Lead Agency, the City of Corona, to determine whether a project is exempt from CEQA review. The City has determined that this project is not exempt. As permitted under CEQA Guidelines (§15060(d)), if an EIR is clearly required for a project, the City may skip initial review of the project and begin work directly on the EIR. As the City has determined the preparation of an EIR is clearly required for the project, it elected to prepare the DEIR without preparation of an Initial Study. To assess the environmental effects associated with implementation of the proposed project, the following issues have been addressed in this Draft EIR:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population, Housing, and Employment
- Public Services
- Transportation
- Utilities and Service Systems

[1] *California Environmental Quality Act, as amended January 1, 2013, §§21000–21189.3, Public Resources Code, State of California.*

[2] *Guidelines for California Environmental Quality Act, as amended January 1, 2013, §§15000–15387, California Code of Regulations, Title 14, Chapter 3, State of California.*

2. PROJECT SUMMARY

Richland Developers, the project Applicant, is proposing the development of 292 single-family residences on an approximately 270.9-acre site within an undeveloped hillside area to the south/southwest of the Foothill Parkway Westerly Extension. The project site is currently located within the City of Corona sphere of influence in unincorporated Riverside County. In order to facilitate the residential development and the completion of the Foothill Parkway Westerly Extension, the Applicant proposes the annexation of the project site and surrounding parcels totaling approximately 394.8 acres to the City of Corona. Of the approximately 270.9-acre project site, approximately 21.38 acres would be used as right-of-way for the construction of the Foothill Parkway Westerly Extension. The City of Corona is currently implementing a Capital Improvement Project for the Foothill Parkway Westerly Extension between Green River Road and Trudy Way. This roadway would provide primary access to the project site at "P" Street, "B" Street (aligned with Border Avenue) and Trudy Way.

3. AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

In addition to a summary of the significant effects that would result from implementation of the proposed project, this EIR includes proposed mitigation measures that have been identified to reduce or avoid such effects. CEQA Guidelines §15123(b)(2) requires that areas of controversy known to the City be stated in the EIR summary. The following discussion identifies issues raised by other agencies and the public during the 30-day public comment period of the Notice of Preparation (NOP).

a. Notice of Preparation

Pursuant to the provision of Section 15082 of the *CEQA Guidelines*, the City circulated a NOP to public agencies, special districts, and members of the public for a 30-day period commencing February 4, 2014 and ending March 5, 2014. However, copies of the NOP were subsequently re-distributed to public agencies due to mailing issues, and consequently the public comment period was extended to March 10, 2014. The purpose of the NOP was to formally communicate the City's intent to prepare a Draft EIR for the proposed project, and to solicit input regarding the scope and content of the environmental information to be included in the EIR. A brief description of the proposed project was included in the NOP, along with graphics depicting the location of the proposed project and the proposed improvements. The NOP indicated that the City of Corona determined that there is substantial evidence that significant effects may occur from the project, thereby necessitating the preparation of an EIR. The EIR addresses the following topical areas with potentially significant impacts as identified in the NOP: Aesthetics, Agriculture and Forestry Resources, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Noise, Population and Housing, Public Services, Transportation/Traffic, Utilities and Service Systems, and Cumulative Impacts. The NOP is provided in Appendix A, *Notice of Preparation/NOP Comment Letters*, of this Draft EIR.

b. NOP Comments

As noted above, the NOP was distributed to the public and various public agencies on February 4, 2014 in order to receive input on the scope and content of the environmental analysis to be provided in this EIR. In an effort to ensure comments were accurately recorded, the City requested that all comments be submitted

in writing by either providing written comments by mail or via e-mail. Comments on the scope and content of the EIR were received from the following agencies, organizations, and individuals:

Federal Agencies

- United States Department of Agriculture

State Agencies

- Department of Fish and Wildlife

Regional Agencies

- Southern California Association of Governments
- South Coast Air Quality Management District

Local Agencies

- Riverside County Local Agency Formation Commission
- Riverside County Flood Control and Water Conservation District
- County of Riverside Transportation and Land Management Agency
- Orange County Department of Public Works

Organizations

- Southern California Edison
- Pechanga Band of Luiseño Indians
- Soboba Band of Luiseno Indians

Individuals

- Mark German
- Steve Ford
- Brian Mowcomber
- Dwight Woodward
- Mark and Shelley Drew

c. Public Scoping Meeting

The NOP included notification that a public scoping meeting would be held to further inform public agencies and other interested parties of the proposed project and to solicit input regarding the Draft EIR. The public scoping meeting was held on March 4, 2014 at 6:30 P.M. in the Grand Boulevard Room of the City of Corona Public Library located at 650 South Main Street, Corona, California 92882. The meeting was held in a workshop format and provided interested individuals, groups and public agencies the opportunity to

understand the proposed project and to provide oral and written comments to the City regarding the scope and focus of the Draft EIR. Public comments received at the Scoping Meeting are contained in Appendix A of this Draft EIR.

d. NOP and Public Scoping Meeting Comments

The following list summarizes the environmental concerns raised by public agencies, organizations, or individuals in response to the NOP or provided at the public scoping meeting (the numerical reference in parenthesis is the EIR section in which the analysis is provided). All NOP and Scoping Meeting comments received are contained in Appendix A of this Draft EIR.

- Construction-related and operational air pollutant emissions and related air quality and health effects, as well as applicable mitigation measures to address them (refer to Section 4.C, *Air Quality and Greenhouse Gas Emissions*, of this Draft EIR);
- Potential impacts associated with unknown contamination on-site or the surrounding area, as well as risks associated with hazardous materials and wastes generated on-site by previous uses (refer to Section 4.H, *Hazards and Hazardous Materials*, of this Draft EIR);
- Health risks associated with former uses on the project site, including historic application of pesticides and herbicides (refer to Section 4.G, *Hazards and Hazardous Materials*, of this Draft EIR);
- Hazards to life and property associated with wildland fires (refer to Section 4.G, *Hazards and Hazardous Materials*, of this Draft EIR);
- Impacts to buried cultural resources resulting from project grading, excavation, and construction activities and treatment of recovered artifacts and/or human remains (refer to Section 4.E, *Cultural Resources*, of this Draft EIR);
- Potential adverse surface water and groundwater quality from construction and operation of the proposed project (refer to Section 4.H, *Hydrology and Water Quality*, of this Draft EIR);
- Impacts to the local and regional traffic system resulting from implementation of the proposed project (refer to Section 4.M, *Transportation/Traffic*, of this Draft EIR);
- Impacts associated with access to trails in the project area and adjacent Cleveland National Forest (refer to Section 4.L, *Public Services*, of this Draft EIR);
- Compliance with the tribal consultation requirements of Senate Bill 18 (refer to Section 4.E, *Cultural Resources*, of this Draft EIR);
- Impacts to potential historical resources within the project site (refer to Section 4.E, *Cultural Resources*, of this Draft EIR);
- Impacts to oak trees and other native vegetation (refer to Section 4.D, *Biological Resources*, of this Draft EIR);
- Adverse effects on wildlife from project-related lighting (refer to Section 4.D, *Biological Resources*, of this Draft EIR);

- Impacts to sensitive habitats, special-status species, migratory and nesting birds, wildlife corridors/movement, and jurisdictional features (refer to Section 4.D, *Biological Resources*, of this Draft EIR);
- Impacts to scenic vistas, public views of scenic resources, and light and glare resulting from project implementation (refer to Section 4.A, *Aesthetics*, of this Draft EIR);
- Safety hazards to existing and future development associated with mudslides (refer to Section 4.F, *Geology and Soils*, of this Draft EIR);
- Geologic hazards related to landslides (refer to Section 4.F, *Geology and Soils*, of this Draft EIR);
- Consistency with applicable local and regional plans, policies, and regulations (refer to Section 4.I, *Land Use and Planning*, of this Draft EIR);
- Impacts related to annexation of affected parcels into the City of Corona (refer to Section 4.I, *Land Use and Planning*, of this Draft EIR); and
- Impacts to flooding, floodplains, and drainage and flood control facilities, and degradation of water quality in groundwater and affected receiving surface water bodies (refer to Section 4.H, *Hydrology and Water Quality*, of this Draft EIR).

4. SIGNIFICANT AND UNAVOIDABLE IMPACTS

Section 15126.2(b) of the *CEQA Guidelines* requires that an EIR describe significant environmental impacts that cannot be avoided, including those effects that can be mitigated but not reduced to a less than significant level. Following is a summary of the impacts associated with the proposed project that were concluded to be significant and unavoidable. These impacts are also described in detail in Chapter 4, Environmental Impact Analysis, of this Draft EIR.

Aesthetics: Given the substantial landform alteration of the project site required to implement the proposed project, impacts related to views/scenic vistas, visual resources, and visual character would be significant and unavoidable, as no mitigation measures are available to reduce the significance of these impacts.

5. ALTERNATIVES

The *CEQA Guidelines* require an EIR to "describe the range of reasonable alternatives to the project, or to the location of the project, which will feasibly attain most of the basic objectives of the project but will avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." The *CEQA Guidelines* direct that selection of alternatives be guided by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice.

As described in detail in Chapter 5, *Alternatives*, of this Draft EIR, three alternatives to the project were identified, which include a No Project Alternative and two reduced density/intensity alternatives. Based on an analysis of these alternatives, an environmentally superior alternative is identified. The three identified alternatives, as well as the identified environmentally superior alternative, are summarized below.

a. Alternative 1 – No Project Alternative

This Alternative assumes that the proposed project would not occur. Under the No Project Alternative, the proposed annexation of the 394.8-acre annexation area would not occur, and construction of 292 single-family residential units within the 270.9-acre project site also would not occur. The project site would remain in its current undeveloped state and no residential development or infrastructure improvements would be implemented on-site. However, as noted in previous chapters of this Draft EIR, the Foothill Parkway Westerly Extension Project would still be implemented, which would result in limited physical changes along the northeastern boundary of the project site.

b. Alternative 2 – Reduced Density Alternative

Alternative 2, the Reduced Density Alternative, would result in the annexation of the proposed annexation area into the City of Corona as well as the development of a single-family residential neighborhood within the 270.9-acre project site, but at a density consistent with the existing Rural Residential I land use designation prescribed in the City of Corona General Plan for this portion of the City's Sphere of Influence, which allows for single-family residential uses between 0.2 and 0.5 dwelling units per acre. Thus, this Alterative would allow for development of up to 136 single-family dwelling units on the 270.9-acre project site, or an overall density of approximately 0.5 dwelling units per acre, with residential lots clustered throughout the project site (as under the proposed project) in order to minimize site disturbance. It is anticipated that given the topography of the project site, substantial grading would still be required to accommodate the development, which would include grading for residential lots, building pads, graded slopes, roadways, water tank(s), and other improvements, but the physical extent and intensity of earthmoving operations would be incrementally reduced under this Alternative. This Alternative is intended to decrease the overall development footprint of the proposed project, which would result in reduced landform alteration and urban development that is visible from surrounding viewpoints, including public trails and designated scenic roadways. Although reduced in terms of overall intensity, this Alternative would result in a similar suite of roadway and other related infrastructure improvements, though the size and capacity of such facilities could be incrementally reduced relative to the proposed project.

c. Alternative 3 – Reduced Density Alternative

The Phase III Only Alternative is being proposed in order to address the significant unavoidable impacts to views/scenic vistas, scenic resources, and aesthetics/visual character that would occur under the proposed project. The Phase III Only Alternative involves the development of single-family residential uses with a 7,200-square-foot minimum lot size, as under the proposed project, but only within the portion of the project site located north of Mabey Canyon. This development pattern is identical to Phase III improvements under the proposed project, and would only require infrastructure improvements to serve that portion of the project site, with the remaining property south of Mabey Canyon being left in its current undeveloped condition. Therefore, Alternative 3 would result in the development of up to 45 single-family residential units and associated infrastructure including streets, water and sewer facilities, storm drains and water quality BMPs, landscaping, lighting, and other improvements. It should be noted that given the existing topography within the Phase III portion of the project site, extensive soil excavation and removal would be required to prepare the site for urban development, which would substantially increase the number and frequency of haul truck trips to and from the site. By comparison, under the proposed project the cut soil

material from the Phase III area would be utilized as fill material elsewhere within the project site, as no off-site soil import or export would be required. Under this Alternative, it is assumed that the entire proposed annexation area is annexed into the City of Corona, but only the Phase III potion of the 270.9-acre project site would be developed with urban uses.

d. Environmentally Superior Alternative

Section 15126.6(e)(2) of the *CEQA Guidelines* indicates that an analysis of alternatives to a proposed project shall identify an environmentally superior alternative among the alternatives evaluated in an EIR. Based on the analysis presented in Chapter 5, Alternatives, of this Draft EIR, the No Project Alternative is determined to be the Environmentally Superior Alternative. Although Alternative 1 is considered the Environmental Superior Alternative, this Alternative would not satisfy any of the identified project objectives, as it would not provide any improvements to the project site (housing units or related infrastructure) or achieve any of the other project benefits.

As discussed in Chapter 5 of this Draft EIR, Alternatives 1, 2, and 3 all reduce the severity of the majority of project-related impacts. However, only Alternatives 1 and 3 would fully eliminate the significant unavoidable aesthetics impacts of the proposed project, including impacts to views/scenic vistas, scenic resources, and aesthetics/visual character. Furthermore, Alternative 1 would reduce or eliminate impacts associated with all but three remaining environmental topics (historic resources, housing growth and employment growth), as no development would occur under this Alternative.

However, Alternative 3, the Phase III Only Alternative, would at least partially achieve all of the 11 stated project objectives, as shown below in Table 5-2, but would only fully achieve six of them. Although this Alternative would not provide nearly as much housing, infrastructure, open space, and other improvements on-site as under the proposed project, it would still provide additional single-family housing stock within the City which would be contiguous with existing single-family residential development and future development along the Foothill Parkway Westerly Extension. Therefore, Alternative 3 has been determined to be the Environmentally Superior Alternative. However, Alternative 3 would not dedicate as much land or contribute as many fees for the construction of Foothill Parkway based on the substantial reduction in development intensity and lack of physical development south of Mabey Canyon along the proposed Foothill Parkway Extension corridor. Alternative 3 would also not provide as many strategic improvements within the project to assist the City with Master Plan improvements to existing water and sewer system, provide as many water reservoirs and infrastructure to improve service and reliability for other parts of the City, or provide a system of open space which combines natural and man-made areas to maintain a scenic and fire safe living environment for residents within areas south of Mabey Canyon. Lastly, the Phase III Only Alternative would not help meet the high market demand for high quality housing in western Riverside County or meet the City's housing needs to support forecasted population growth as discussed in the City's General Plan to the extent the proposed project would, as it would only provide approximately 15 percent of the residential units on the project site.

6. SUMMARY OF ENVIRONMENTAL IMPACTS

This section provides a summary of impacts, mitigation measures, and impacts after implementation of the mitigation measures associated with development of the proposed project. The table also indicates applicable mitigation measures that would be implemented by the project, as necessary. The summary is provided by environmental issue area below in **Table ES-1**, *Summary of Project Impacts and Mitigation Measures*.

Table ES-1

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
A. Aesthetics			
Impact 4.A-1: Construction and operation of the proposed project would permanently alter the viewshed at the project site and views of scenic resources in the project area. Therefore, the project would result in a significant and unavoidable impact relative to views and scenic vistas.	Potentially Significant	All feasible mitigation – including clustering and compliance with state and local development codes – have been incorporated into the project. There are no additional mitigation measures available that could reduce the significance of impacts to the scenic vistas, or the visual character and quality of the site.	Significant and Unavoidable
Impact 4.A-2: Although the proposed project would alter the foothills of the Santa Ana Mountains, long-distance views of the mountains from Chase Avenue would remain. There are no trees, rock outcroppings, or historic buildings designated in the area that would be affected by the project. Nonetheless, due to the substantial modification of on-site topography and introduction of urban uses into an existing undeveloped area, impacts to scenic resources are considered significant and unavoidable.	Potentially Significant	All feasible mitigation – including clustering and compliance with state and local development codes – have been incorporated into the project. There are no additional mitigation measures available that could reduce the significance of impacts to the scenic vistas, or the visual character and quality of the site.	Significant and Unavoidable

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.A-3: Implementation of the proposed project would alter the topography of the foothills of the Santa Ana Mountain. In addition, the existing views would be altered with the development of 292 single-family residences. While the project would incorporate project design features to minimize impacts, such as the clustering of residences, the project would alter the visual character or quality of the site and its surroundings. Therefore, the project would result in a significant and unavoidable impact to the visual character and quality of the site.	Potentially Significant	All feasible mitigation – including clustering and compliance with state and local development codes – have been incorporated into the project. There are no additional mitigation measures available that could reduce the significance of impacts to the scenic vistas, or the visual character and quality of the site.	Significant and Unavoidable
Impact 4.A-4: Implementation of the proposed project would not create substantial light or glare which would adversely affect views in the area. Therefore, the project would result in less than significant impacts with regard to light and glare.	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4 A-5: Implementation of the proposed project would not result in measurable increases in off-site shading effects at nearby shade-sensitive uses. Therefore, shade/shadow impacts from the project would be less than significant.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 4.A-6: Implementation of the proposed project would not conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the General Plan, Specific Plan and Municipal Code) adopted for the purpose of avoiding or mitigating aesthetic impacts. This impact is considered less than significant.	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
B. Air Quality			
Impact 4.B-1: Project implementation would not conflict or obstruct implementation of the SCAQMD AQMP. Thus, the project would result in a less than significant impact.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 4.B-2: The project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. The project would generate construction and operational emissions that would not exceed the regional significance thresholds. Therefore, construction and operation of the project would result in less than significant impacts.	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.B-3: The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). The regional significance analysis for construction and operational emissions demonstrates that emissions would be below the regional significance thresholds. Therefore, the project would not contribute to a cumulative impact according to this criterion and impacts would be less than significant.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 4.B-4: Implementation of the project would not expose sensitive receptors to substantial pollutant concentrations during operational or construction activities. Construction and operation of the project would not result in emissions that exceed the localized	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
significance thresholds. The project would not cause or contribute to the formation of CO hotspots. Construction and operation of the project would not expose sensitive receptors to substantial sources of TAC emissions. Therefore, construction and operation of the project would be less than significant.			
Impact 4.B-5: The project would not create objectionable odors affecting a substantial number of people. Therefore, odors associated with project construction and operation would be less than significant.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 4.B-6: Implementation of the proposed project would not conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the General Plan and Municipal Code). This impact is considered less than significant.	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
C. Biological Resources			
Impact 4.C-1: The project site has been reported in CNDDB to support intermediate mariposa lily (in 30 locations) and chaparral Nolina (within a small portion of the project site), and was observed to support Coulter's matilija poppy. Since the intermediate mariposa lily and chaparral nolina species were not relocated during surveys conducted by GEC, no significant impacts to these species are anticipated. Nevertheless, intermediate mariposa lily is a covered species under the WRC MSHCP and payment of the MSHCP Development Fee would reduce impacts to less than significant. Chaparral nolina is not covered under the WRC MSHCP but was only recorded within a small portion of the project site; the record in CNDDB occurs over a large area outside of the project site. As such, any impacts would be considered adverse but not significant and would not	Potentially Significant	**Vegetation and Sensitive Species** <u>Vegetation and General Wildlife</u> **Mitigation Measure BIO-1:** The Project impact areas and avoidance areas shall be flagged or fenced prior to grubbing of any vegetation or jurisdictional drainage features to prevent incursion into unsurveyed or avoided areas. Qualified biological monitor(s) shall conduct periodic monitoring during construction as deemed appropriate, to ensure the flagging or fencing remains intact and no incursions into avoided areas occurs, and to flush any wildlife within the project impact footprint away from work areas. The following BMPs shall be adopted prior to and during construction to ensure biological resources within open space areas surrounding the proposed project will not be adversely affected: • The project impact footprint shall be surveyed, staked, and flagged and/or fenced (e.g., with flagging tape, snow fencing or silt fencing) by a surveyor and the boundary shall be confirmed by a qualified biological monitor. The construction site manager shall ensure that the fencing is maintained for the duration of construction and that any required repairs are completed in a timely manner. • Maintenance activities shall not commence until 0700 hours and shall be completed before dusk each day to the extent feasible. • If any wildlife is encountered during maintenance activities, the wildlife shall be allowed to leave the work area unharmed and shall be flushed or herded in a safe direction away from the work area(s). • Any open trenches shall be covered at the end of each work day in a manner to prevent the entrapment of wildlife, or adequately ramped to provide an animal escape.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
require mitigation. Coulter's matilija poppy is conditionally covered under the WRC MSHCP and the project would impact approximately 40 percent of the identified population. Impacts would be considered adverse but not significant due to the large distribution and number of locations of this species. Furthermore, mitigation measures proposed for the project would also benefit avoided populations of Coulter's matilija poppy by minimizing direct and indirect impacts, including Mitigation Measures BIO-1, BIO-4, and BIO-5, in addition to Project Design Features PDF BIO-1 through PDF BIO-9 to address edge effects pursuant to WRC MSHCP requirements for urban/wildlands interface. These measures would also reduce potential impacts to unobserved or new growth of sensitive species identified as having a moderate or high potential of occurring in the survey area. Focused surveys conducted for burrowing owl		• If night-time maintenance is required, lighting shall be directed away from native vegetation and should be limited to the minimum amount necessary to complete the maintenance activities. • Staging or storage areas shall occur outside of any drainages. Storage of potentially hazardous materials, including but not limited to fuel, paint, stains, pesticides, herbicides, solvents, and oils shall not be permitted within 50 feet of any habitat area to be retained by the project. During construction, disposal of such material shall occur in a controlled area that is physically separated from potential storm water runoff. • Any equipment or vehicles driven and/or operated within or adjacent to ponded or flowing water within any drainages shall be checked and maintained daily, to prevent leaks of materials that, if introduced to water, could be harmful to aquatic species. • All vehicles and equipment shall be maintained in proper working condition to minimize fugitive emissions and accidental spills from motor oil, hydraulic fluid, grease, or other fluids or hazardous materials. Maintenance and refueling of construction equipment shall be limited to areas specified as appropriate by the project biologist. All fuel or hazardous waste leaks, spills, or releases shall be stopped or repaired immediately and cleaned up at the time of occurrence. All spill material removed shall be disposed of at an appropriate off-site landfill. Maintenance vehicles shall carry appropriate equipment and materials to isolate and remediate leaks or spills, such as a spill containment kit. • Stationary equipment such as motors, pumps, or generators, located within or adjacent to ponded or flowing water within drainages shall be positioned over drip pans. • No equipment maintenance shall be done within or adjacent to	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
and least Bell's vireo were negative. Mitigation Measures BIO-2 and BIO-3 are proposed to ensure no future impacts will occur to migratory and nesting birds and burrowing owl, respectively, prior to construction. With the implementation of the proposed mitigation measures, which would provide protection to the special-status species if they are found on the project site, impacts would be reduced to a less than significant level. Mitigation measures are also proposed to address indirect impacts.		ponded or flowing water within drainages where petroleum products or other pollutants from the equipment may enter into the water. • No waste, cement, concrete, asphalt, paint, oil, or any other substances used during maintenance activities which could be hazardous to aquatic life, or other organic or earthen material, shall be allowed to contaminate the soil and/or enter into or be placed where it may be washed by rainfall or runoff into ponded or flowing water within any drainages. Any of these materials placed where they may affect ponded or flowing water shall be removed immediately upon observation. When operations are completed, any excess non-native materials shall be removed from the work area. • All litter and pollutions laws shall be followed. All refuse created or brought on site by personnel or contractors shall be placed in covered containers, removed from the site daily, and disposed of properly. • All exposed/disturbed areas shall be stabilized to the greatest extent possible using appropriate, industry standard erosion control measures. • No maintenance activities shall occur during active precipitation. If any precipitation is forecasted, the work area shall be secured at least one day prior so no materials enter or wash into any drainages. • Field crews shall maintain the speed limit on posted roads and limit vehicle/truck speeds on unpaved surfaces to 15 miles per hour. <u>Sensitive Wildlife</u> **Mitigation Measure BIO-2:** To prevent impacts to sensitive, migratory and nesting birds, including raptors, clearing or other work in native habitats shall be avoided during the critical nesting period of January 1 – September 1. If	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		work cannot be avoided during this timeframe, a nesting bird survey will be conducted within three days prior to clearing and/or grading, by a qualified biologist. If present, a nesting bird plan will be developed and implemented to include appropriate measures to mitigate the potential impacts, such as maintaining a buffer area until fledging has occurred as determined appropriate by the biologist. Active bird nests should be mapped utilizing a hand-held global positioning system (GPS) (getting as close as possible without disturbing the nest) and a buffer will be flagged around the nest (typically 300' for most species, 500' buffer for raptor nests, as determined appropriate by the biologist). Construction should not be permitted within the buffer areas while the nest continues to be active (eggs, chicks, etc.). Once fledging has occurred no further avoidance is required. **Mitigation Measure BIO-3:** A pre-construction burrowing owl clearance survey shall be conducted no more than 30 days before earth disturbance (construction) by an experienced burrowing owl biologist. The surveys will be conducted as close to the actual construction initiation date as possible. If burrowing owls are determined present following the pre-construction survey, occupied burrows shall be avoided to the greatest extent feasible, following the guidelines in the CDFW's Staff Report on Burrowing Owl Mitigation (March 7, 2012) including, but not limited to, avoiding occupied burrows during the nesting and non-breeding seasons, implementing a worker awareness program, biological monitoring, establishing avoidance buffers, and flagging burrows for avoidance with visible markers. If occupied burrows cannot be avoided, acceptable methods may be used to exclude burrowing owl either temporarily or permanently, pursuant to a Burrowing Owl Exclusion Plan that shall be prepared and approved by CDFW. The Burrowing Owl Exclusion Plan shall be prepared in accordance with the guidelines in the Staff Report on Burrowing Owl Mitigation. <u>Invasive Vegetation Control</u> **Mitigation Measure BIO-4:** All heavy equipment shall be washed,	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		particularly the wheels and under carriage, prior to entering the project site from other construction sites to prevent the spread of weedy species. **Mitigation Measure BIO-5:** Staging areas shall be placed in areas that have been previously disturbed or have degraded habitat within the project footprint, but do not show an infestation of non-native species. Staging areas will be maintained in a weed/noxious weed-free condition.	
Impact 4.C-2: Implementation of the proposed project would result in significant impacts to four riparian habitat alliances and a sensitive natural sage scrub community. However, implementation of the prescribed mitigation measure would reduce potentially significant impacts to a less than significant level.	Potentially Significant	Refer to Mitigation Measures BIO-4 and BIO-5 above, as well as the following mitigation measures. <u>Jurisdictional Drainage Features</u> **Mitigation Measure BIO-6:** To mitigate for the loss of 1.57 acres of non-wetland federal jurisdictional drainage features ("waters of the U.S. [WoUS]) due to project construction, the project Applicant shall enter into an agreement with the U.S. Army Corps of Engineers (via issuance and implementation of a Nationwide permit or Individual permit) to replace affected WoUS at a ratio specified by the U.S. Army Corps of Engineers at no less than a 1:1 basis, through off-site acquisition and preservation, participation in an approved mitigation bank, and/or on- or off-site creation, enhancement or reestablishment of WoUS or a combination of these options. The exact ratio shall be based on U.S. Army Corps of Engineers mitigation guidelines pursuant to their approval. Preparation of a Habitat Mitigation and Monitoring Plan (HMMP) outlining the details of the mitigation shall be required for on-site mitigation or off-site mitigation on lands other than those pre-approved by the U.S. Army Corps of Engineers. **Mitigation Measure BIO-7:** To mitigate for the loss of 1.57 acres of non-wetland federal jurisdictional drainage features ("waters of the U.S. [WoUS]) due to project construction, the project Applicant shall enter into an agreement with the California Regional Water Quality Control Board (via issuance and implementation of a Clean Water Act Section 401 Certification)	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		to replace affected WoUS at no less than a 1:1 basis, as specified by the California Regional Water Quality Control Board, through a combination of off-site acquisition and preservation, participation in an approved mitigation bank, and/or on- or off-site creation, enhancement or reestablishment of WoUS. The exact ratio shall be based on a functions and values assessment pursuant to their approval. Preparation of a Habitat Mitigation and Monitoring Plan (HMMP) outlining the details of the mitigation shall be required for on-site mitigation or off-site mitigation on lands other than those pre-approved by the U.S. Army Corps of Engineers. **Mitigation Measure BIO-8:** To mitigate for the loss of 6.17 acres of streambed and riparian vegetation due to project construction, the project Applicant shall enter into an agreement with the California Department of Fish and Wildlife (via issuance and implementation of a Streambed Alteration Agreement, Section 1600) to replace affected streambed at no less than a 1:1 basis, as specified by the California Department of Fish and Wildlife, through a combination of off-site acquisition and preservation, participation in an approved mitigation bank, and/or on- or off-site creation, enhancement or reestablishment of the streambed. The exact ratio shall be based on a functions and values assessment pursuant to their approval. Preparation of a Habitat Mitigation and Monitoring Plan (HMMP) outlining the details of the mitigation shall be required for on-site mitigation or off-site mitigation on lands other than those pre-approved by the U.S. Army Corps of Engineers. **Mitigation Measure BIO-9:** The project proponent shall employ all standard best management practices (BMPs) to prevent discharges from entering avoided waters of the U.S. and streambed with associated riparian vegetation during construction. BMPs, such as the following, shall be enforced (see also BIO-1): • the use of erosion control or sedimentation prevention methods, such as fiber rolls, sand bags, rice mats, straw wattles or similar measures, where appropriate;	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• the proper use and disposal of oil, gasoline, diesel fuel, antifreeze and other toxic substances. **Mitigation Measure BIO-12:** Mitigation shall be provided for the 6.17 acre of Riparian/Riverine impacts at no less than a 1:1 basis, as determined through consultation with the City of Corona and wildlife agencies based on their approval of the Determination of Biologically Equivalent or Superior Preservation report that provides a functions and values analysis pursuant to the requirements of the Western Riverside County Multiple Species Habitat Conservation Plan. The project Applicant proposes mitigation at a ratio of 2:1 for riparian habitat and 1:1 for riverine habitat in the form of off-site mitigation with the Riverside-Corona Resource Conservation District (RCRCD). In the event mitigation with the RCRCD is not finalized for any reason, equal or greater value mitigation shall be provided in the form of one or more of the following: off-site acquisition and preservation, participation in an approved mitigation bank, on-site or off-site creation, enhancement or reestablishment. If off-site mitigation is incorporated, the preferred choice shall be to find mitigation within or adjacent to the Santa Ana Watershed and in or adjacent to Corona if possible. In addition, avoided resources within the open space areas shall be preserved to the extent feasible pursuant to a deed restriction or other appropriate legal mechanism to prevent future development. If on-site mitigation is proposed as an alternative mitigation, a Habitat Mitigation and Monitoring Plan (HHMP) will be developed and provided for review and approval by the local and regulatory agencies and shall include, at minimum, the following: • Quantitative success criteria (vegetation cover and species richness); • Recommendations for soil preparation; • A plant palette to include native species occurring on the project site, such as coast live oak and Coulter's matilija poppy if feasible;	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• Planting methods; • Irrigation and maintenance requirements; and • A long-term mitigation maintenance and monitoring plan with remedial measures.	
Impact 4.C-3: As the project site does not contain any federally protected wetlands, no significant impacts to wetlands would occur. However, the project site supports jurisdictional waters of the U.S. and riparian scrub and streambed. Thus, compliance with applicable regulatory requirements and implementation of the prescribed mitigation measures would reduce potentially significant impacts in these regards to a less than significant level.	Potentially Significant	Refer to Mitigation Measures BIO-1 through BIO-9 above.	Less Than Significant
Impact 4.C-4: The site contains vegetation suitable for nesting birds. Therefore, the project may result in significant impacts on nesting bird species that are protected under the California Fish and Game Code and the MBTA if	Potentially Significant	Refer to Mitigation Measure BIO-4 above.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
removal, clearing, and/or grubbing were to occur during the general avian nesting season (January 1 to September 1). However, implementation of Mitigation Measure BIO-4 would reduce impacts to a less than significant level. Impacts to regional wildlife movement are less than significant and no mitigation is required.			
Impact 4.C-5: The project is substantially consistent with City policies or ordinances protecting biological resources. Therefore, no significant impact would occur.	Potentially Significant	**Mitigation Measure BIO-10:** Oak trees impacted by the project shall be replaced at no less than a 1:1 ratio in the landscape areas, as approved by the City of Corona.	Less Than Significant
Impact 4.C-6: The project site supports riparian/riverine habitat that will be mitigated as proposed in the DBESP Report; therefore, impacts would be less than significant. Additionally, the Applicant would pay the required MSHCP development mitigation fee.	Potentially Significant	Refer to Mitigation Measures BIO-3 and BIO-12, as well as the mitigation measure below: **Mitigation Measure BIO-11:** The ten (10) acres of natural habitat identified as a compensation parcel adjacent to Forest Service land shall be preserved in perpetuity pursuant to a deed restriction or other appropriate legal mechanism to prevent future development.	Less Than Significant
D. Cultural Resources			

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.D-1: No historic resources are located on the project site. As such, there is no potential for the project to cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the CEQA Guidelines. No impact would occur in this regard.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 4.D-2: Implementation of the project would not cause a substantial adverse change in the significance of a known archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines. However, there is potential for the project to impact previously undiscovered archaeological resources during construction activities associated with the project. This potentially significant impact would be reduced to a less than significant level with implementation of the prescribed mitigation measure.	Potentially Significant	**Mitigation Measure CR-1:** In the event that archaeological materials are discovered during construction, all earth-moving activity within and around the immediate discovery area shall be diverted until a qualified archaeologist can assess the nature and significance of the find, and, if necessary, develop appropriate treatment measures. Treatment measures typically include development of avoidance strategies, capping with fill material, or mitigation of impacts through data recovery programs such as excavation or detailed documentation. If during cultural resources monitoring the qualified archaeologist determines that the sediments being excavated are previously disturbed or unlikely to contain significant cultural materials, the qualified archaeologist can specify that monitoring be reduced or eliminated. Native American monitors from affected Tribes shall observe all project-related grading activities, and the treatment of any recovered artifacts shall be carried out in accordance with the provisions of a Treatment Agreement between affected Tribes. The Treatment Agreement shall be executed by the consulting Tribes prior to the issuance of grading permits for each construction phase. All cultural materials that are collected during the grading monitoring program and from any previous archaeological studies or excavations on the project site shall be curated according to the current professional repository standards. The collections and associated records shall be transferred, including title, to an appropriate curation facility which	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		meets the standards set forth in 36 CFR Part 79 for federal repositories. All sacred sites, should they be encountered within the project area, shall be avoided and preserved as the preferred mitigation. If changes are made to the project footprint to include earth-moving activities in areas not previously studied, additional archaeological investigations shall be required.	
Impact 4.D-3: Implementation of the project could directly impact paleontological resources during construction activities. This potentially significant impact would be reduced to a less than significant level with implementation of the prescribed mitigation measures.	Potentially Significant	**Mitigation Measure CR-2:** Prior to issuance of any grading permit, the Applicant shall retain a qualified vertebrate to develop a paleontological resource impact mitigation program (PRIMP) for excavations into the Upper Cretaceous Ladd Canyon Formation, the Upper Cretaceous Williams Formation, and Paleocene Silverado Formations. A qualified vertebrate paleontologist is defined as a paleontologist meeting the criteria established by the Society for Vertebrate Paleontology. The qualified vertebrate paleontologist shall conduct a pre-construction field assessment to locate fossils at surface exposures. The qualified vertebrate paleontologist shall supervise a paleontological monitor who shall be present at such times as required by the paleontologist during construction excavations into the fossiliferous formations mentioned above. Monitoring shall consist of visually inspecting fresh exposures of rock for larger fossil remains and, where appropriate, collecting wet or dry screened sediment samples of promising horizons for smaller fossil remains. The frequency of monitoring shall be determined by the paleontologist and shall be based on the rate of excavation and grading activities, the materials being excavated, and the depth of excavation, and if found, the abundance and type of fossils encountered. If resources are located, monitoring hours shall be increased as needed. **Mitigation Measure CR-3:** If a potential fossil is found, the qualified vertebrate paleontologist or paleontological monitor shall be allowed to temporarily divert or redirect grading and excavation activities in the area of the exposed fossil, as determined appropriate by the monitor, to assess the significance of the find and, if necessary, develop appropriate treatment	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		measures. Treatment measures may include avoidance or preservation in place, if feasible. If preservation or avoidance of the resource is not feasible, then the resource shall be removed from its location. Removal activities may consist of the relatively rapid removal of small isolated fossils from an active cut, to hand-quarrying of larger fossils over several hours, to excavations of large fossils or large numbers of smaller fossils from a bone bed over several days. These activities may include the assistance of the grading and excavation contractor's equipment to facilitate removal. Any fossils encountered and recovered shall be prepared to the point of identification and catalogued before they are donated to their final repository. Any fossils collected shall be donated to a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County, San Bernardino County Museum, the John D. Cooper Archaeological and Paleontological Curation Center at the California State University, Fullerton, or Western Science Center in Hemet, California. Accompanying notes, maps, and photographs shall also be filed at the repository. **Mitigation Measure CR-4:** Prior to the release of the grading bond, the paleontologist shall prepare a report summarizing the results of the monitoring and salvaging efforts, the methodology used in these efforts, as well as a description of the fossils collected and their significance. The report shall be submitted by the Applicant to the Community Development Director or his/her designee for approval. In addition, the report shall be submitted to at least one of the repositories mentioned in Mitigation Measure CR-3 and other appropriate or concerned agencies to signify the satisfactory completion of the project and required mitigation measures.	
Impact 4.D-4: In the unlikely event human remains are discovered during grading or construction activities within the project site, compliance with State law (Health and	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Safety Code § 7050.5) (HSC § 7050.5) would be required and would mitigate for potential impacts to human remains. Therefore, impacts related to the discovery of buried human remains would be less than significant and no mitigation is necessary.			
Impact 4.D-5: Implementation of the project would not conflict with an applicable plan, policy or regulation adopted for the purposes of avoiding or mitigating physical impacts associated with cultural resources. This impact is considered less than significant.	Less Than Significant	No mitigation measures are required.	Less Than Significant
E. Geology and Soils			
Impact 4.E-1: Project implementation could expose people or structures to strong seismic ground shaking, seismic-related ground failure, landslides and other ground failure hazards. However, adherence to the design and remedial grading recommendations of the	Potentially Significant	**Mitigation Measure GEO-1: Site Preparation and Removals.** All grading shall be accomplished under the observation and testing of the Project Geotechnical Engineer and Engineering Geologist in accordance with the recommendations contained in the Project Geotechnical Report, contained in Appendix F of this Draft EIR), the current codes practiced by the City of Corona and the Earthwork Specifications contained in Appendix IV of the Project Geotechnical Report. Loose, compressible residual soil, non-engineered onsite fill, colluvium, alluvium, landslide debris, older alluvium and weathered bedrock shall be	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Geotechnical Report, as required by Mitigation Measures GEO-1 through GEO-23, as well as compliance with applicable regulatory requirements would reduce such impacts to a less than significant level.		removed from fill areas prior to placement of fill and shall be removed from shallow cut areas, where exposed at finish grades. Guidelines to determine the depth of removals are presented below; however, the exact extent of the removals must be determined in the field during grading, when observation and evaluation of the greater detail afforded by those exposures can be performed by the Geotechnical engineer and/or Engineering Geologist. The minimum backcut ratio shall be 1:1 (horizontal to vertical). The bottoms of all removal areas shall be observed, mapped and approved by the Engineering Geologist prior to fill placement. It is recommended that the bottoms of removals be surveyed and documented by the Project Civil Engineer. Groundwater, if encountered during grading, shall be evaluated by the Geotechnical Engineer and/or Engineering Geologist. In general, groundwater is not anticipated to adversely affect grading although saturated soils and free water may be encountered along canyons and within alluvium removals. If groundwater is excessive, remedial measures such as horizontal drains or under drains may need to be installed. Further, settlement monuments and plates (see Plate VI of the Geotechnical Report) shall be installed during and after completion of grading to monitor settlement monuments and plates shall be used to determine when the majority of the primary settlement has been completed to allow for the release of affected lots for construction. • **Stripping**: Vegetation, debris and other deleterious materials are unsuitable as structural fill material and shall be disposed of offsite prior to commencing removals and placement of compacted fills. The thick, natural vegetative growth onsite is significant and will require consideration for removal. An onsite mulching operation may be considered. The mulched materials could then be used in future landscape areas. • **Soil and Weathered Bedrock (unmapped):** Loose, compressible onsite	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		soils and underlying weathered bedrock shall be removed to expose the underlying competent bedrock materials prior to placement of compacted fill and when exposed in shallow cut area. An average removal depth of 5 feet is anticipated for removal of topsoil and weathered bedrock. In general, onsite soils and weathered bedrock are suitable to be re-used as structural fill when properly moisture-conditioned. • **Undocumented Artificial Fill (locally mapped as AF_u):** Fills associated with "recreational" grading, construction of unpaved access roads, mining operations and existing trench backfill shall be removed prior to fill placement. Generally, these artificial fills range from a depth of 3 to 20 feet. Local areas of undocumented fill associated with previous geotechnical investigations are not plotted on the map. Other fills, including roadway fills and trench backfill, are not mapped due to their localized extent and minor thickness. Removals shall extend below the undocumented fill until competent materials are encountered. • **Alluvium/Colluvium (map symbol Q_{al}):** All alluvium deposits exposed at existing or cut grades shall be entirely removed prior to fill placement. These deposits range in thickness from approximately 5 feet to 35 feet. Ginter and Associates recommends that all alluvial and colluvial soils below proposed fill areas and in cut areas be removed to expose competent bedrock or terrace deposits. Anticipated average removal depths for alluvium/colluvium areas are expected to vary to an estimated maximum thickness of 35 feet. Groundwater was not encountered during PSE's subsurface investigation within the alluvium onsite. However, access was limited and certain alluvial areas could not be investigated such as within Krooner Canyon. If "saturated" alluvium is encountered that possesses a degree of saturation of 85% of more and is consistent with depth to bedrock, consideration may be given to leaving the saturated alluvium in-place, provided that settlement time-delay consequences are acceptable to the owner. If saturated alluvium is encountered and is going to remain in-place, an	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		additional liquefaction investigation may be required and dynamic settlement recommendations for those areas will likely change. • **Older Alluvium (Q_{oa}):** All older alluvium shall be removed to expose the underlying competent bedrock. Generally, these deposits range in depth from 10 to about 20 feet. • **Landslide Debris (Qls):** All landslide debris that could adversely affect the proposed development shall be removed to expose the underlying competent bedrock. Generally, these deposits range in depth from 10 to about 29 feet, but may range up to around 35 feet in depth. • **Removals Along Grading Limits:** Removals of unsuitable soils shall be required prior to fill placement along the grading limit. A 1:1 projection, from toe of slope or grading limit, outward to competent materials shall be established, when possible. Where removals are not possible due to grading limits, property line or easement restrictions, removals shall be initiated at the grading boundary (property line easement, grading limit or outside the improvement) at a 1:1 ratio inward to competent materials. Where this reduced removal criterion is implemented, special maintenance zones may be necessary. Affected areas shall be established, minimally, as a 1:1 projection from suitable removal bottom to finish ground surface. This condition is mainly expected in the slope areas. Where the projection intersects the face of the slope, the potential for distortion of the slope in response to post-grading settlements exists and provisions for future maintenance of such slopes shall be provided.	
		Mitigation Measure GEO-2: Slope Stability and Remediation • **Cut Slopes:** The majority of cut slopes have been designed at a slope ratio of 2:1. The Engineering Geologist shall observe cut slopes and cut slope stabilization backcuts during grading. Modifications to the recommendations presented herein will likely be required based upon	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		conditions exposed by grading. • **Williams Formation (KW):** Cut slopes within the Williams Formation may expose adverse bedding that shall require remediation. The cut slope superjacent to Lots 278 and 279 is anticipated to require replacement with a buttress fill. Probable buttresses are anticipated for the cut slope above Lots 261 through 267 and the cut slope below the WQMP Basin and Lots 247 through 255, as depicted on Figure 1 and Figure 2 (pocket) of the Geotechnical Report. • **Ladd Formation:** Cut slopes within the Ladd Formation may expose adverse bedding that shall require remediation. The majority of the cut slopes should expose bedding dipping into the slope or at an angle steeper than the proposed cut slopes (greater than 60 degrees). Cut slopes within the Ladd Formation that expose bedding dipping into the slope or at an angle steeper than the proposed cut slopes are expected to be grossly stable; however, the final determination shall be made based on exposed conditions during grading. Cut slopes within the Ladd Formation may expose conglomerate resulting in poorly cemented sands, cobbles and boulders at finish grade, producing a rough uneven surface. These cut slopes shall be evaluated in the field by the Project Engineering Geologist or Geotechnical Engineer. Replacement of those slopes with compacted stabilization fills may be required. Future exploration and in-grading observation could reveal more favorable geology in these specific areas. • **Alluvium/Colluvium:** Cut slopes exposing alluvial/colluvial soils (Q_{al}) shall require replacement with a drained stabilization fill. Typically, such corrective grading would be constructed with a minimum key width corresponding to one-half the full height of the superjacent slope, but not less than 15 feet. Minimum key depths at the toe shall be 2 feet. All stabilization fills shall be provided with a backdrain and outlet system as detailed in Appendix IV of the Geotechnical Report. • **Silverado Formation:** Cut slopes within the Silverado Formation are	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		expected to be grossly stable; however the final determination shall be made based on exposed conditions during grading. Cut slopes within the Silverado Formation may expose poorly cemented sands, cobbles and boulders at finish grade, which would produce a rough uneven surface. These cut slopes shall be evaluated in the field by the Project Engineering Geologist or Geotechnical Engineer. Replacement of those slopes with compacted stabilization fills may be required. • **Fill Slopes:** The majority of fill slopes on the project are designed at a maximum slope ratio of 2:1. The highest fill slope is approximately 160 feet in height and located subjacent to Lot 68. Based on the results of the calculations, the 2:1 fill slopes 160 feet and less in height, when properly constructed with onsite materials, are expected to be grossly stable, as designed. Keys shall be constructed at the toe of all fill slopes where unsuitable soil removals do not accomplish a minimum key width of one-half the slope height plus bench widths or twenty (20) feet, whichever is greater. Minimum key depths at the toe shall be 2 feet. Due to grading limit restrictions, removals of unsuitable soils beyond the proposed toe may be limited; therefore, additional slope maintenance shall be expected in the areas where a 1:1 projection into approved materials cannot be achieved.	
		Mitigation Measure GEO-3: Subsurface Drainage. Canyon subdrains are proposed as depicted on Figures 1 through 7 of the Geotechnical Report and shall consist of 6-inch and 8-inch diameter pipes and shall be constructed in accordance with the details shown in Appendix IV of the Geotechnical Report. Final determination of drain locations shall be made in the field. Outletting of subdrain systems shall require coordination with the Project Civil Engineer in determining suitable facilities to accept to drain water.	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Mitigation Measure GEO-4: Overexcavation. Where a transition of cut and fill occurs across a finished lot, it shall be necessary to overexcavate the bedrock portions and replace it with compacted fill. The depth of bedrock overecavation shall be equal to 1/3 the maximum fill depth (after removals) on the fill side of the transition. Anticipated transition lots are shown on figures 1-7 of the geotechnical report. Cut pads shall be overexcavated a minimum of 5 feet to provide a uniform foundation material. Some highly expansive soils of the silverado formation may be encountered at grade in some areas. Consideration shall be given to increasing the overexcavation depth to mitigate for highly expansive soils, if warranted. Difficult excavation with a backhoe can be expected in some street areas. Ginter & associates recommends street overexcavation and replacement with compacted fill to facilitate utility emplacement in these street areas and driveways. Depths of overexcavation shall extend one (1) foot below the deepest utility line.	
		Mitigation Measure GEO-5: Fill Materials. Excavated on-site soils may be used as compacted fill. The fill materials to be used as compacted engineered fill shall be free of organics, debris, deleterious materials, and rocks over 6 inches maximum dimension, and must be approved by the project geotechnical engineer or project geologist prior to use. Import soils, if required, shall be evaluated by the project geotechnical engineer for suitability prior to delivery. Import soils shall be free of trash, debris or other objectionable materials. All import fill shall have engineering characteristics similar to the on-site soils. **Mitigation Measure GEO-6: Fill Placement, Moisture Conditioning, And Compaction**. After approval of the over-excavation and prior to placement of any compacted engineered fill materials, the exposed removal bottoms shall be scarified to a minimum depth of six (6) inches. The area shall then be moisture conditioned approximately 1 to 2 percentage points above the optimum moisture content, and compacted to a minimum of 90 (or 93) percent of the applicable maximum density. The planned development will involve deep fills in the canyon areas and side-hill fill slopes. In order to	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

<table>
<tr><th>Description of Impact</th><th>Level of Significance Before Mitigation</th><th>Mitigation Measures</th><th>Level of Significance After Mitigation</th></tr>
<tr><td></td><td></td><td>reduce the amount of fill settlement, the fill shall be compacted to the minimum relative compaction shown below:</td><td></td></tr>
<tr><td></td><td></td><td>
<table>
<tr><th>Fill Depth (Feet)</th><th>Minimum Relative Compaction (ASTM: D1557) (%)</th></tr>
<tr><td>0 – 50</td><td>90</td></tr>
<tr><td>Below 50</td><td>93</td></tr>
</table>

Fill slopes shall also be constructed at the minimum relative compactions shown above, with the exception of the outer 3 feet of the slope face which can be placed at 90% relative compaction. Deep fill areas requiring 93% relative compaction are delineated in Plate VI of the Geotechnical Report.

Generation of oversized rock (over 8 inches in maximum dimension) from excavations in the bedrocks is anticipated. Oversize rock shall be placed in single file windrows not exceeding three feet in height and six (6) feet in width with a minimum equipment width (15 feet) separating each windrow or a rock blanket fill not exceeding two (2) to three (3) feet in height. Large erratic rocks shall be buried individually. Granular fill shall be thoroughly flooded in the rock voids and covered with a minimum two feet compacted fill blanket. Successive windrows shall be staggered and none shall be placed within 10 feet of finished grade or closer than 15 feet to compacted fill slope surfaces. Typical rock placement construction detail is provided in Appendix IV of the Geotechnical Report. Placement of rock windrows shall be performed under the observation and recommendations of the Project Geotechnical Engineer.

Fill materials shall be spread in thin lifts, moisture conditioned to about 1 to 2 percentage points over optimum moisture content and compacted to a minimum of 90 (or 93) percent of the laboratory maximum dry density as determined in accordance with ASTM Test Method D-1557. Each lift shall</td><td></td></tr>
</table>

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		be treated in a like manner until the desired finished grades are achieved. The grading contractor shall have suitable and sufficient compaction equipment in operation to achieve the required compaction. When necessary, earthmoving equipment may be utilized for compaction or temporarily halted in order to permit adequate compaction of fills.	
		Mitigation Measure GEO-7: Slope Construction 1. Care shall be taken during grading to prevent spillage of loose materials over slopes to remain natural. Should loose soil be spilled onto natural slopes by the grading contractor, removal of the loose fill shall be required. 2. Fill shall be properly benched into firm bedrock or compacted fill as directed by the Project Engineering Geologist and/or Geotechnical Engineer during grading. Typical benching shall include 4-foot verticals exposing approved, competent material (see Appendix D – Typical Benching Detail of the Geotechnical Report). 3. In order to minimize surficial slumps on compacted fill slopes, the following grading procedures shall be used: a) Where possible, fill slopes shall be constructed by overfilling a minimum of three (3) horizontal feet and then trimming back to expose the dense inner core of the slope surface. Compacted fill slopes shall be back-rolled during construction at intervals not exceeding four (4) vertical feet. Care shall be taken to construct the slope in a workmanlike manner so that it is positioned at its designed orientation and slope ratio. Achieving a uniform slope surface by subsequent thin wedge filling must be avoided. Any add-on correction to a fill slope shall be done by overfilling the affected area in horizontal, compacted lifts which must be benched into the existing fill prism. The overfilled slope may then be trimmed to the design gradient.	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		b) Where fill slopes are planned above natural slopes and cannot be overfilled and trimmed back, the slopes shall be rolled for the entire height of the slope with a sheepsfoot roller and then finished with a grid roller. If the desired compaction is not obtained in this manner, a vibratory sheepsfoot roller may be required. To be most effective, this equipment shall be anchored and manipulated from a side-boom tractor. In lieu of a grid roller, the slope may be track rolled with a John Deere 450, Caterpillar D-8 dozer or equivalent. To obtain the required compaction and appearance of the slope face, the soil moisture shall be maintained at above optimum from the time of mass filling to the completion of grid rolling. c) The grading contractor shall take proper care to avoid spillage of loose material down the face of the slopes during grading and during drainage terrace and down-drain construction. Fine grading operations for benches and down-drains shall not deposit loose trimmed soils on the finished slope surfaces. Loose soil materials shall require removal. d) Seeding and planting of slopes shall proceed as rapidly as possible to achieve a well-established and deep-rooted vegetal cover requiring minimal watering. The type of vegetation and watering schedule shall be established by a landscape architect familiar with hillside maintenance.	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Mitigation Measure GEO-8: Earthwork Observations And Testing a) The site preparation, over-excavation, and earthwork shall be performed under the observation and testing by a representative of the Project Geotechnical Engineer or Project Geologist. b) The fill shall be tested at the time of placement to verify that the required compaction is achieved. c) The fill compaction shall be determined in the field by the Sand Cone Method (ASTM: D 1556) or Nuclear Gauge Method (ASTM: D 2216), or other test method approved by the Project Geotechnical Engineer. d) During grading, an adequate number of field density tests shall be performed using approved test procedures in order to determine compliance of earthwork to the project requirements. The frequency of field density testing shall be in accordance with the recommendations of the Project Geotechnical Engineer. e) Quality control testing performed to determine the acceptability of the fill compaction shall be based on the laboratory maximum dry density and optimum moisture content determined in accordance with ASTM: D 1557 test procedure. f) Any surface or subsurface obstructions, or questionable materials encountered during grading shall be brought immediately to the attention of the Project Geotechnical Engineer. Deeper excavations may be required, should unsuitable soils be encountered locally, as determined by the Project Geotechnical Engineer and/or Project Geologist.	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Mitigation Measure GEO-9: **Deep Fill Settlement Monitoring**. In deep fill areas, settlement monuments shall be installed and periodically surveyed by the project civil engineer to evaluate the magnitude and progress of settlements. Ginter & associates proposes positioning settlement monuments at strategic locations in the deeper fill areas as shown on figure vi of the geotechnical report. These shall be monitored on a regular basis until the primary settlement has stabilized before those areas released for construction.	
		Mitigation Measure GEO-10: Foundation Design. The compacted engineered fill at the project site is anticipated to be low to medium soil expansion potential. Presented below are preliminary geotechnical criteria for design of building foundations, based on medium soil expansion potential for the on-site soils: **<u>Option 1 - Conventional Footing:</u>** Allowable Bearing Pressure (1) = 1,500 pounds per square foot (psf) Minimum Footing Depth (2) = 24 inches Minimum Footing Width = Continuous: 12 inches Isolated: 24 inches Passive Soil Pressure (3) = 250 psf/ft. Friction Coefficient = 0.30 (ultimate) Minimum Footing Reinforcement = Four No. 4 bars, 2 each at top and bottom Garage Door Grade Beam = 18 inches deep, Four No. 4 bars, Two each at top and bottom, tied into foundation elements. (1) The above value may be increased 250 psf for each additional foot exceeding the minimum embedment depth and/or width, subject to a	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		maximum of 2,500 psf. Allowable bearing pressures may be increased by one-third for short term loading due to wind or seismic forces. (2) Footing depth is from lowest adjacent finished soil grade. Footings shall be deepened, as necessary, to provide setback distance from adjacent slope in conformance with CBC criteria. (3) Value applies to level soil condition, and is subject to a maximum of 2000 psf. **<u>Option 2 – Post-Tensioned Foundation:</u>** If post-tensioned slab/footing system is selected for the subject project, the design may be based on the geotechnical criteria shown below for medium soil expansion potential. These are based on the guidelines presented in the PTI, Third Edition design manual. Thornthwaite Moisture Index = -20 Equilibrium Suction = 3.6 Edge Lift Moisture Variation Distance, em = 5.1 feet Edge Lift, ym = 1.1 inches Center Lift Moisture Variation Distance, em = 9.0 feet Center Lift, ym = 0.47 inches Minimum Footing Depth (Exterior) = 18 inches below adjacent grade The above foundation criteria are based on medium soil expansion consideration only. Foundation design shall consider anticipated post-construction settlements, as appropriate. Foundation design details such as slab thickness, concrete strength, reinforcements, etc. shall be established by the Project Structural Engineer considering medium soil expansion and	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		settlement potential provided below.	
		Mitigation Measure GEO-11: Foundation Settlement. Total static and differential post-construction settlements for footings designed and constructed in accordance with the criteria given below and supporting loads not exceeding the typical loadings for residential construction (column and wall loads on the order of 30 kips and 3 kips/lineal foot, respectively) are not anticipated to exceed the values shown below. The settlement estimates shall be confirmed based on review of the foundation plans. Structures shall be designed for the following post-construction settlements: - Total settlement = 1 inch - Differential settlement = ¾-inch (*) (*) Between similarly loaded column footings and for continuous footings and slabs over a distance of approximately 30 feet. General Remarks: (i) Footing depths shall not be allowed to be affected adversely, such as through erosion softening, digging, landscaping, etc. (ii) Where foundations encroach closer than five (5) feet horizontally from the flow line of drainage swales, the footing shall be deepened sufficiently to maintain the required embedment depth below the adjacent flow line. (iii) Foundation details such as concrete strength, reinforcements, etc. shall be established by the Project Structural Engineer, considering the loading and medium soil expansion potential. The footing and slab reinforcements recommended in the Geotechnical Report are minimum requirements. More restrictive criteria based on structural design considerations or Code requirements shall govern. (iv) Foundation excavations shall be observed and approved by the Project Geotechnical Engineer prior to the placement of reinforcement or concrete.	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Forming of footing excavations may be required. Excavations shall be free of slough and debris and thoroughly moisture conditioned prior to placing concrete. (v) Excavated material from footing and utility trenches shall not be placed in slab-on-grade areas unless properly compacted and tested.	
		Mitigation Measure GEO-12: Slab-On-Grade. Recommended Minimum Criteria For Slab-On-Grade Are Shown Below: **Concrete Floor Slabs:** Concrete floor slabs shall be 5 inches thick (minimum) and shall be reinforced with No. 3 bars at 18 inches on center, each way at mid height. No. 3 bars at 18 inches on center shall be provided connecting floor slabs to footings. In order to minimize migration of moisture up the concrete slab from soil subgrade and damage to floor coverings, a moisture barrier/water vapor retarder is recommended beneath floor slabs as discussed hereinafter. **Moisture/Water Vapor Retarder for Concrete Slab-on-Grade:** In order to reduce the potential for moisture/water vapor migration up through the slab and possibly affecting floor covering, a moisture/vapor retarder is recommended under concrete floor slab-on-grade. The moisture barrier shall be properly installed, lapped and sealed in accordance with the manufacturer's specifications. Punctures and rips shall be repaired prior to placement of sand. At a minimum, this moisture/water vapor retarder shall consist of 10-millimeter thick polyethylene ("Visqueen"), lapped and sealed, and placed mid-height within a 4-inch coarse sand layer. This moisture/water vapor retarder shall be installed in accordance with manufacturer's specifications. The following recommendations are based on the tentative guidelines by the American Concrete Institute (ACI, April 2001) to reduce the potential moisture/water vapor intrusion in concrete slab-on-grade. Based on Ginter & Associates' review of available literature, it appears that the ACI procedure would be more effective to help reduce	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		potential moisture/water vapor migration up through concrete slab-on-grade. Recommendations based on the ACI guidelines are presented below: • The moisture/water vapor retarder shall consist of high strength polyethylene membrane and shall meet or exceed the ASTM: E-1745-97 Class C material requirements for water vapor permeance, tensile strength and puncture resistance. The vapor retarder shall consist of "Moistop Plus" (Fortifiber Building Products Systems) or "Vapor Block" VB 15 (Americover, Inc.), or approved equal. The vapor retarder shall be underlain by a capillary break comprised of minimum 4 inches thick pea gravel layer. The gravel layer shall be placed and compacted on approved soil sub-grade. • The membrane shall be placed on approved gravel layer and properly lapped and sealed. Membranes intersecting utility pipes, sewer lines, ducts or drains shall be properly wrapped around the penetrations and sealed. All punctures and rips in the membrane shall be repaired prior to placement of concrete, following manufacturer's recommendations. The vapor retarder shall be installed in general accordance with the procedures outlined in ASTM: E-1643, and in conformance with the installation procedures recommended by the manufacturer. • To minimize slab curling, a low slump concrete (low shrinkage mix design) shall be used for the slab construction, as determined by the Project Structural Engineer. The moisture/water vapor protection for concrete slab-on-grade shall be selected based on cost and construction considerations, and considering potential future problems resulting from improper and uncontrolled landscape irrigation practices. Regardless of the moisture/water vapor retarder option selected, it should be emphasized that proper control of irrigation and landscape water adjacent to the structure is of paramount importance.	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Mitigation Measure GEO-13: Driveways. Driveway concrete slabs shall be 5 inches thick (minimum) with no. 3 bars at 18 inches on center, each way at mid-height. The slab may be placed directly on properly prepared sub-grade. No moisture barrier is required under driveway slabs.	
		Mitigation Measure GEO-14: Exterior Flatwork. Exterior concrete flatwork (e.g. Sidewalks, walkways) shall be 4 inches thick (minimum), with no. 3 bars at 24 inches on center, each way at mid-height and placed on properly prepared sub-grade. Hardscape areas within two feet of the descending slopes shall include a thickened edge deepened to provide a minimum five (5) feet horizontal setback between the bottom outside face of the thickened edge and slope face.	
		Mitigation Measure GEO-15: Sub-Grade Pre-Saturation. Prior to concrete placement, the soil sub-grade shall be thoroughly wetted to about 12 inches in depth at a moisture condition of about 2 to 3 percentage points above the optimum moisture content.	
		Mitigation Measure GEO-16: General. Interior floor slabs and exterior concrete flatwork, including driveway, shall be properly designed for the construction and service loading conditions, potential settlements and soil expansion. The structural details, such as slab thickness, concrete strength, reinforcing criteria, joint spacing, etc. Shall be established by the project structural engineer. The recommended minimum reinforcements for concrete slabs provided above are intended for preliminary design only. More restrictive criteria as dictated by structural design or regulatory requirements shall govern.	
		Mitigation Measure GEO-17: Retaining Walls • **Foundations:** Retaining wall foundations may be supported on either compacted engineered fill or competent bedrock. If a bedrock/fill transition is encountered, the bedrock portion shall be over-excavated	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

<table>
<tr><th>Description of Impact</th><th>Level of Significance Before Mitigation</th><th>Mitigation Measures</th><th>Level of Significance After Mitigation</th></tr>
<tr><td></td><td></td><td>minimum 2 feet and replaced with approved compacted fill. Alternatively, a cold joint shall be constructed in both the footing and the wall. Footings may be designed in accordance with the foundation design criteria presented in the Geotechnical Report when embedded at least two feet below lowest adjacent grade. Footings located on or at top of slopes shall be deepened, as necessary, to provide minimum lateral setback between footing and slope faces in accordance with CBC requirements.
• Lateral Earth Pressures: The earth pressures acting on retaining walls depend primarily on allowable wall movement, type of backfill materials, backfill slopes, wall inclination, surcharges, and any hydrostatic pressure. The following lateral earth pressures are recommended for vertical walls with no hydrostatic pressure and no surcharge loading:</td><td></td></tr>
<tr><td></td><td></td><td><table>
<tr><th rowspan="2">Wall Condition</th><th rowspan="2">Backfill Type</th><th colspan="2">Lateral Earth Pressure (Equivalent Fluid Pressure) (pcf)</th></tr>
<tr><th>Level</th><th>2:1 (H:V)</th></tr>
<tr><td>Active (Cantilever)</td><td>Sandy Soils</td><td>40</td><td>65</td></tr>
</table></td><td></td></tr>
<tr><td></td><td></td><td>The surcharge effect of anticipated loads on the wall backfill (i.e. traffic, construction equipment, footings, etc.) shall be included in the wall design. If the wall is free to deflect, 33 percent of the maximum surcharge load located within a distance equal to the height of wall shall be used in the design.
• Backfill: Retaining wall backfill shall consist of predominantly granular non-expansive soils. The backfill shall extend within a 45-degree plane from the wall footing. Retaining wall backfill shall be mechanically compacted to minimum 90 percent of the applicable laboratory maximum density and performed under the observation and testing of the Project Geotechnical Engineer. No jetting, ponding, or flooding shall be permitted.</td><td></td></tr>
</table>

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		No backfill shall be placed against concrete until minimum design strengths are attained. • **Backfill Drainage:** The wall design shall include waterproofing and weep holes or sub-drains or back-drains, as appropriate, for relieving possible hydrostatic pressures. If on-site soils are utilized for wall backfill, the design shall include a prefabricated drainage blanket (such as Miradrain 2000, or equivalent). At a minimum, sub-drains shall consist of 4-inch diameter, perforated Schedule 40, PVC pipe or equivalent, embedded in approximately 3 cubic feet per lineal foot of ¾-inch (maximum) rock, or approved alternate. This permeable material shall be enveloped in Geofabric consisting of Mirafi 140 or equivalent. The pipe and trench bottom shall be sloped at a gradient of 2± percent to a suitable discharge outlet. Sub-drains placed behind retaining walls shall be approved by the Project Geotechnical Engineer prior to backfill placement.	
		Mitigation Measure GEO-18: Soil Corrosion. The previous geotechnical consultants, pacific soils engineering, inc., performed preliminary testing and indicated that the site soils are corrosive to metals. Therefore, representative finished grade samples shall be tested for corrosion suites (sulfate, chloride, ph and resistivity) upon completion of grading. It may be necessary to retain a corrosion engineer for consultation.	
		Mitigation Measure GEO-19: Utility Trench Backfill • Bedding material shall consist of on-site sandy or imported materials exhibiting a San Equivalent (S.E.) value of 30 or greater. • The on-site soils are considered suitable for trench backfill, provided they are free of organic materials and oversize rocks. • Backfill of all exterior and interior trenches shall be placed in thin lifts not exceeding 4 inches and mechanically compacted to achieve a relative compaction of not less than 90% based on ASTM: D1157. Care shall be taken not to damage utility lines.	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• Utility trenches shall not be located within the influence of footings. This is defined as a zone located below the footing and a line sloping at an inclination of 1:1 (horizontal to vertical) outward from the outside edge of footings. If utility lines are located within the zone of footings, the backfill shall be compacted to a minimum 95 percent relative compaction or slurry backfilled (minimum 1-1/2 sack cemented sand mix. • To reduce potential water migration into building sub-grade through the granular bedding/shading layer and/trench backfill, utility trenches shall be backfilled with the onsite finer grained materials or sand-cement slurry for minimum 3 feet length at their entry points. • Trenches in fill soils and alluvial deposits greater than 4 feet in depth shall be shored or sloped back as required by the local regulatory agency, the state of California Division of Industrial Safety Construction Safety Orders, and Federal OSHA requirements.	
		Mitigation Measure GEO-20: Asphalt Concrete Pavement. Preliminary asphalt concrete pavement sections for the planned streets in the development were developed utilizing the Caltrans method of design and the structural section design guide for California cities and counties. The following recommended pavement sections were computed assuming an "r" value of 30 for site soils compacted as sub-grade material, and assumed traffic indices. The actual "r" value will depend on the soil conditions exposed at the planned street sub-grade elevations. During rough grading, "r" value testing shall be performed on the pavement sub-grade soils to confirm the pavement design basis. Further analysis and evaluation are necessary if the design traffic index and the sub-grade "r" value are different from those used in Ginter & Associates' analyses.	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

<table>
<tr><th>Description of Impact</th><th>Level of Significance Before Mitigation</th><th>Mitigation Measures</th><th>Level of Significance After Mitigation</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><th rowspan="2">Traffic Index</th><th colspan="3">Recommended Minimum Pavement Section</th></tr>
<tr><th>Asphalt Concrete (inches)</th><th>Aggregate Base (inches)</th><th>Total (inches)</th></tr>
<tr><td>5.0</td><td>3.0</td><td>6.0</td><td>9.0</td></tr>
<tr><td>6.0</td><td>4.0</td><td>8.0</td><td>12.0</td></tr>
<tr><td>7.0</td><td>4.0</td><td>10.0</td><td>14.0</td></tr>
<tr><td>8.0</td><td>5.0</td><td>12.0</td><td>16.0</td></tr>
</table>
</td><td></td></tr>
<tr><td></td><td></td><td>Aggregate base shall consist of crushed aggregate base (CAB) or crushed miscellaneous base (CMB) and shall comply with the specifications outlined in the “Standard Specifications for Public Works Construction”, (“Green Book”). The base material shall be compacted to minimum 95 percent of the maximum laboratory density, determined in accordance with ASTM: D-1557. The soil sub-grade shall be compacted to minimum 90 percent relative compaction. The subgrade soils shall exhibit a firm and unyielding surface, in addition to the recommended minimum compaction. Final compaction and testing of pavement sub-grade shall be performed just prior to placement of aggregate base.</td><td></td></tr>
<tr><td></td><td></td><td>Mitigation Measure GEO-21: Site Drainage. All roof and surface drainage shall be directed away from structures and their appurtenances and slopes to approved drainage facilities. Ponding of water shall be avoided. For graded soil areas, a minimum gradient of 2 percent away from structures shall be maintained. The drainage patterns designed by the project civil engineer shall be established at the time of fine grading and maintained throughout the life of the structure or, if altered, shall be replaced with a properly designed area drain system. Irrigation activities at the site shall be monitored and controlled to prevent overwatering. Planter areas adjacent to structures shall be avoided. If utilized, such planters shall include measures to contain irrigation water and prevent moisture migration into walls and under foundations and slabs-on-grade.</td><td></td></tr>
</table>

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Mitigation Measure GEO-22: Slope Planting, Irrigation And Maintenance. General guidelines for slope planting, irrigation and maintenance are shown below: a) Slope planting shall consist of appropriate drought resistant vegetation as recommended by the Landscape Architect. Landscaping of slopes shall be completed as soon as possible and properly maintained. b) The property owner is responsible for proper irrigation and for maintenance and repair of installed irrigation systems. Leaks shall be repaired immediately. Sprinklers shall be adjusted to provide maximum coverage with a minimum of water usage and overlap. Over-watering with consequent excessive runoff and ground saturation shall be avoided. c) If automatic sprinkler systems are installed, their use shall be adjusted to account for natural rainfall conditions. d) All interceptor ditches, drainage terraces, down-drains, and any other drainage devices that have been installed shall be maintained and cleaned. e) If rodent activity is present, the property owner shall undertake a program for the elimination of burrowing animals. This shall be an ongoing program in order to promote slope stability. f) Water shall not be allowed to flow over the constructed or natural slopes. This may require the construction of berms or ditches along the top of slopes, if such devices are not in place.	
		Mitigation Measure GEO-23: Additional Investigation. Additional geologic and geotechnical investigation may be necessary during the 40-scale grading plan review phase to obtain supplemental information relative to the site geologic conditions and engineering properties of on-site materials and to confirm the preliminary recommendations provided herein.	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.E-2: Project construction would require mass grading on the site and removal of fill, alluvium, and other loose materials. Best Management Practices would be implemented in accordance with an approved Erosion Control Plan. After construction, any non-paved, exposed areas would be landscaped. Therefore, with compliance with applicable requirements, impacts regarding soil erosion or the loss of topsoil would be less than significant.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 4.E-3: Mass grading at the site has the potential to reduce slope stability and result in settling and other geologic hazards. However, adherence to the design and remedial grading and monitoring recommendations of the Geotechnical Report, as required by Mitigation Measures GEO-1 through GEO-15, would reduce such impacts to a less than significant level.	Potentially Significant	Refer to Mitigation Measures GEO-1 through GEO-15.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.E-4: On-site soils are anticipated to have low to medium expansion potential. Any soils with high or critical expansion potential would be replaced with compacted fill with low or medium expansion potential as required by Mitigation Measure GEO-4. Design of foundations to meet medium soils expansion potential, as required by Mitigation Measure GEO-10, would reduce risks to life or property to a less than significant level.	Potentially Significant	Mitigation Measures GEO-4 and GEO-10.	Less Than Significant
Impact 4.E-5: The project would be served by the City's wastewater system. Infrastructure (i.e., pipes) would be installed to accommodate the proposed expansion. No significant impact would occur with regard to soils supporting septic tanks or alternative wastewater disposal systems.	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.E-6: The proposed project would comply with all requirements related to seismic and geologic hazard safety standards. The project would not conflict with an applicable plan, policy or regulations adopted for the purpose of avoiding or mitigating physical impacts associated with geology and soils and impacts would be less than significant with implementation of Mitigation Measures GEO-1 through GEO-23.	Potentially Significant	Refer to Mitigation Measures GEO-1 through GEO-23.	Less Than Significant
F. Greenhouse Gas Emissions			
Impact 4.F-1: Based on a threshold of significance determined by the City of Corona to be functionally equivalent to those in its CAP, project implementation would generate GHG emissions such that a less than significant impact on the environment would occur.	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.F-2: The project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs. Therefore, the project would result in a less than significant impact.	Less Than Significant	No mitigation measures are required.	Less Than Significant
G. Hazards and Hazardous Materials			
Impact 4.G-1: Project implementation would result in the development of the currently largely undeveloped site with 292 residences, roads, landscaping, and detention basins, which would result in an increase in the use, storage, transport, and disposal of hazardous materials. During construction, hazardous materials, such as gasoline and oil would be used. During occupancy of the residences household hazardous materials, such as pesticides, cleaners, paints, and pool supplies would be used and stored on site. Compliance with applicable regulations would reduce potential	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
significant impacts regarding hazardous materials to a less than significant level.			
Impact 4.G-2: The site is located further than one-quarter mile from an existing or proposed school. The project would result in the development of 292 single-family residences. While some hazardous materials are used in homes, the quantities are generally small. Therefore, the project would not result in the handling or emissions of hazardous materials, substances, or waste within one-quarter mole of an existing or proposed school and no significant impact would occur.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 4.G-3: Based on the Phase I ESA, the site is not located on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5. As the project would not create a significant hazard to the public or the environment, no significant impact would occur.	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.G-4: The site is located approximately three miles south of the Corona Municipal Airport and no private airstrips are located within the vicinity of the site. Therefore, the project would not result in a safety hazard for people living in the subdivision as a result of a public airport or private airstrip.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 4.G-5: The project would not conflict with an applicable plan, policy or regulation associated with hazards or hazardous materials. The residential subdivision would not physically interfere with an adopted emergency response plan. The project would be consistent with the applicable General Plan policy. Thus, no significant impacts would occur.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 4.G-6: With the implementation of the fuel modification plan the project would not expose people or structures to a significant risk of loss, injury or death	Potentially Significant	Refer to Mitigation Measures PS-1 and PS-2 under Public Services below.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
involving wildland fires. Thus, no significant impact would occur with regard to wildland fires with implementation of applicable project design features and mitigation measures.			
H. Hydrology and Water Quality			
Impact 4.H-1: Construction and operation of the project would comply with all applicable regulatory requirements regarding water quality. Compliance with applicable regulatory requirements and implementation of the project design features, including BMPs as part of the project's WQMP, would ensure that construction and operational water quality impacts would be less than significant.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 4.H-2: The project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
lowering of the local groundwater table level. As such, impacts to groundwater resources would be less than significant.			
Impact 4.H-3: The project would be designed to maintain existing drainage patterns of the site and area. Post development runoff would be consistent with applicable regulatory requirements and the post-project site would not result in significant hydrology impacts downstream such that flooding or erosion would occur on- or off-site. Furthermore, the project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage. Overall, impacts regarding changes in drainage patterns and stormwater flows would be less than significant with mitigation.	Potentially Significant	**Mitigation Measure HYD-1:** For Drainage Management Area C, the final engineering for the drainage of Area C shall include a concrete impact basin energy dissipater and rip-rap pad and shall be designed in accordance with City standards. The outlet velocity shall be at or below the existing condition or to a non-erosive velocity. The plans shall be submitted to the City for review and approval.	Less Than Significant
Impact 4.H-4: Implementation of the project would not expose people and structures to flood hazards since	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
residential pad elevation would be approximately 25 feet higher than the streambed flowline. In addition, the site is not located within an area subject to inundation from a levee or dam failure. Given the site location impacts from seiches, mudflows, or tsunamis would not occur. Therefore, impacts related to flooding are considered less than significant.			
Impact 4.H-5: Implementation of the proposed project would not conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the General Plan and Municipal Code) with regard to hydrology, drainage, flooding, and water quality. Therefore, the project would result in a less than significant impact.	Less Than Significant	No mitigation measures are required.	Less Than Significant
I. Land Use and Planning			
Impact 4.I-1: The proposed project would not physically divide established residential communities in the vicinity of	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
the project site. The Construction Traffic Management Plan would relegate haul traffic to major roadways and would not allow construction parking or staging in existing developed areas. The focus of project traffic at "P" Street would reduce project traffic through existing, adjacent residential neighborhoods. No existing uses would be removed and existing access to Skyline Drive and trails to the Cleveland National Forest would be retained. Impacts with respect to the physical division of an established community would be less than significant.			
Impact 4.I-2: The proposed project would result in less than significant land use impacts with regard to consistency with the CKH Act, SCAG's Regional Comprehensive Plan, RTP/SCS and Compass Blueprint Growth Vision, and the City of Corona General Plan. With the approval of the requested amendments to the General	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Plan existing inconsistencies between the General Plan and uses on the project site would be resolved.			
Impact 4.I-3: The proposed project would not conflict with any applicable habitat conservation plan or natural community conservation plan. The project site is located within the Temescal Canyon Area Plan of the WRC MSHCP. The payment of a development mitigation fee is intended to provide full mitigation. Therefore, impacts would be less than significant.	Less Than Significant	No mitigation measures are required.	Less Than Significant
J. Noise			
Impact 4.J-1: Implementation of the proposed project could result in temporary increases in ambient noise levels and expose people to temporary, intermittent, and moderate to high-level noise levels. However, as the proposed project would comply with the City of Corona's Noise Ordinance, construction noise impacts would be less than	Potentially Significant	**Mitigation Measure NS-1:** Construction and demolition shall be restricted to the hours of 7:00 A.M. to 8:00 P.M. Monday through Saturday, and 10:00 A.M. to 6:00 P.M. on Sundays and Federal holidays. **Mitigation Measure NS-2:** Noise and groundborne vibration construction activities whose specific location on the project site may be flexible (e.g., operation of compressors and generators, cement mixing, general truck idling) shall be conducted as far as possible from the nearest noise-and vibration-sensitive land uses. **Mitigation Measure NS-3:** Construction and demolition activities shall be scheduled so as to avoid operating several pieces of equipment	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
significant. Nonetheless, mitigation has been prescribed to minimize the potential for construction noise impacts at the nearby noise sensitive residential land uses. The proposed project's residential uses would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the proposed project. Thus, long-term operational noise impacts would be less than significant.		simultaneously, which causes high noise levels. **Mitigation Measure NS-4:** The use of construction equipment or construction methods with the greatest peak noise generation potential shall be minimized (i.e., use of drills, jackhammers). **Mitigation Measure NS-5:** The project contractor shall use power construction equipment with state-of-the-art noise shielding and muffling devices. **Mitigation Measure NS-6:** Barriers such as, but not limited to, plywood structures of flexible sound control curtains shall be erected between the proposed project and the adjacent existing residences to the northeast and west, to minimize the amount of noise to the maximum extent feasible during construction. **Mitigation Measure NS-7:** All construction truck traffic shall be restricted to truck routes approved by the City of Corona Public Works Department, which shall avoid residential areas and other sensitive receptors to the extent feasible. **Mitigation Measure NS-8:** Adjacent land uses within 300 feet of the construction site shall be notified about the estimated duration and hours of construction activities at least 30 days before the start of construction.	
Impact 4.J-2: Implementation of the proposed project would not result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. Impacts would be less than significant in this regard.	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.J-3: Implementation of the proposed project would not result in exposure of persons to or generation of excessive noise levels from airport-related noise. Impacts would be less than significant in this regard.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 4.J-4: Implementation of the proposed project would not conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the proposed project with regard to noise (including, but not limited to the General Plan and Municipal Code). This impact is considered less than significant.	Less Than Significant	No mitigation measures are required.	Less Than Significant
K. Population, Housing, and Employment			
Impact 4.K-1: Implementation of the proposed project would not induce substantial population, housing, or employment growth in the project area beyond that anticipated by SCAG projections. Further, implementation of the proposed project would not displace substantial numbers	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
of existing housing or people and would not necessitate the construction of replacement housing elsewhere. These impacts are considered less than significant.			
Impact 4.K-2: Implementation of the proposed project would not conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan and municipal code). This impact is considered less than significant.	Less Than Significant	No mitigation measures are required.	Less Than Significant
L. Public Services			
Impact 4.L-1: Implementation of the proposed project could result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times	Potentially Significant	**Mitigation Measure PS-1:** Prior to issuance of building permits, the project Applicant shall obtain CFD review and approval of the site plan, fuel modification plan, and project design features including, but not limited to roadway design to meet or exceed minimum fire and emergency access requirements including ingress/egress; driveway and fire lane width; turning radii inside and outside; grades/elevations; adequate on-site space to park CFD apparatus; fire hydrant sizing, spacing and locations; fire protection systems including automatic fire sprinkler systems and fire alarms installed in each residence; availability of adequate firefighting water flow; and approved building materials. **Mitigation Measure PS-2:** Prior to the issuance of building permits, the project Applicant shall pay the required service and development fees	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
or other performance objectives for fire protection and emergency medical services. However, compliance with applicable regulatory requirements and implementation of the project design features and prescribed mitigation measures would reduce potentially significant impacts in these regards to a less than significant level.		pursuant to the "Fire Facilities Fund" as amended in Chapter 3.36 of the CMC to the City of Corona for the public improvements and facilities associated with the CFD.	
Impact 4.L-2: Implementation of the proposed project could result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection and law enforcement services. However, compliance with applicable regulatory requirements and	Potentially Significant	**Mitigation Measure PS-3:** Prior to the issuance of building permits, the project Applicant shall reserve a portion of the project site for a future radio facility site, the specific size and location of which is subject to review and approval of CPD. **Mitigation Measure PS-4:** Prior to the issuance of building permits, the project Applicant shall pay the required service and development fees to the City of Corona for the public improvements and facilities associated with the CPD.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
implementation of the project design features and prescribed mitigation measures would reduce potentially significant impacts in these regards to a less than significant level.			
Impact 4.L-3: Implementation of the proposed project could result in substantial adverse physical impacts associated with the provision of new or physically altered government 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 parks and recreational facilities. Further, the proposed project could increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility could occur or be accelerated, and the proposed project could include	Potentially Significant	**Mitigation Measure PS-5:** Prior to the issuance of building permits, the project Applicant shall comply with the City of Corona Municipal Code (Chapter 16.35, Park Dedication and In Lieu Fees). The City's subdivision map review authority shall determine whether land dedication, an in lieu fee, or a combination of the two shall be required in conjunction with its approval of a subdivision map.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. However, compliance with applicable regulatory requirements and implementation of the project design features and prescribed mitigation measures would reduce potentially significant impacts in these regards to a less than significant level.			
Impact 4.L-4: Implementation of the proposed project could result in substantial adverse physical impacts associated with the provision of new or physically altered government 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 schools. This impact is considered less than significant with mitigation	Potentially Significant	**Mitigation Measure PS-6:** Pursuant to Section 65995 of the California Government Code, the project Applicant shall pay the required SB 50 mitigation fees to the CNUSD.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
incorporated.			
Impact 4.L-5: Implementation of the proposed project could result in substantial adverse physical impacts associated with the provision of new or physically altered government 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 library services. This impact is considered less than significant with mitigation incorporated.	Potentially Significant	**Mitigation Measure PS-7:** Prior to the issuance of a building permit for the construction of the proposed project, the project Applicant shall pay the required service and development fees pursuant to the Section 16.23.080 of the CMC and in the City's Library Facility and Collection section of the Master Facility Plan to the City of Corona for the public improvements and facilities associated with the CPL.	Less Than Significant
Impact 4.L-6: Implementation of the proposed project could conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the General Plan and Municipal Code). This impact is considered less than significant with mitigation incorporated.	Potentially Significant	Refer to Mitigation Measures PS-1 through PS-7.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
M. Transportation			
Impact 4.M-1: With regard to construction, aside from the nuisance traffic that would occur as a result of construction-related activities (e.g., construction materials, construction workers, etc.), impacts resulting from construction traffic would be less than significant. With regard to operation, the project would add trips to the transportation network. The Existing With Project, 2020 With Project and 2035 With Project would result in significant impacts at the four study intersections identified in the table below during the a.m. or p.m. peak hours. With the implementation of recommended mitigation measures, the impacts would be reduced to a less than significant level.	Potentially Significant	**Mitigation Measure TR-1:** Intersection 3 – Paseo Grande at Ontario Avenue: If the project is developed prior to the construction of the Foothill Parkway Extension then prior to issuance of any building permit for the project, the Applicant shall install a traffic signal and design for two-phase operation. **Mitigation Measure TR-2:** Intersection 4 - Border Avenue at Ontario Avenue: Prior to issuance of any building permit for the project, a traffic signal designed for two-phase operation shall be installed. Intersection improvements shall include: 1) restriping of the eastbound shared left-through lane and the exclusive right-turn lane on Ontario Avenue to an exclusive left-turn lane and a shared through-right turn lane and 2) restriping of the westbound shared left-through lane and the exclusive right-turn lane on Ontario Avenue to an exclusive left-turn lane and a shared through-right turn lane. **Mitigation Measure TR-3:** Intersection 10 - Elysia Street at Foothill Parkway: Prior to issuance of any building permit for the project, the Applicant shall install a traffic signal and design for five-phase operation to the satisfaction of the City. **Mitigation Measure TR-4:** Intersection 11 - Trudy Way at Foothill Parkway: Prior to issuance of any building permit for the project, the Applicant shall install a traffic signal and design for three-phase operation to the satisfaction of the City.	Less Than Significant
Impact 4.M-2: Under Existing With Project conditions, a significant impact would occur on Paseo Grande between	Potentially Significant	**Mitigation Measure TR-5:** Roadway Segment 2 – Paseo Grande between Ontario Avenue and Green River Road: If the project is developed prior to the construction of the Foothill Parkway Extension then the Applicant shall improve this roadway segment to a 4-Lane Secondary Roadway to the	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Ontario Avenue and Green River Road if the project were to be developed prior to the completion of the Foothill Parkway Extension. In the event that were to occur, with the implementation of a mitigation measure, impacts would be reduced to less than significant. The project would result in less than significant impacts to roadway segments under both Year 2020 and Year 2035 scenarios. In addition, all of the roadways within the subdivision have been designed to accommodate the average daily trips (ADT) that would occur on each of the segments. Therefore, no mitigation measures would be required.		satisfaction of the City prior to issuance of any building permit for the project.	
Impact 4.M-3: The project would not result in the realignment of any existing streets thereby creating a hazardous design feature. With the implementation of the project design features, the proposed roadways within the tract would provide adequate sight access and would not	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
result in a substantial increase in hazards. The roadway design of the project would result in less than significant Impacts.			
Impact 4.M-4: The internal roadways would be constructed to accommodate the projected traffic and would not create hazardous circumstances. In addition, with the implementation of mitigation measures the project would not result in significant impacts at intersections or on roadway segments within the study area. Finally, the project would be reviewed by the appropriate agencies to ensure that adequate emergency access is provided in accordance with City requirements. Impacts with regard to emergency access would be less than significant.	Potentially Significant	Refer to Mitigation Measures TR-1 through TR-5.	Less Than Significant
Impact 4.M-5: The project would provide parking within garages in each of the single family residences. In addition, parking would be	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
provided on some of the proposed streets. Therefore, the project would provide sufficient parking in compliance with the City of Corona parking requirements.			
Impact 4.M-6: The project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. As such, impacts would be less than significant.	Less Than Significant	No mitigation measures are required.	Less Than Significant
N. Utilities and Service Systems			
Impact 4.N-1: Implementation of the proposed project could require or result in the construction of new on-site and off-site water facilities or the expansion of existing on-site and off-site facilities, the construction of which could cause significant environmental effects. However, compliance with applicable regulatory requirements and	Potentially Significant	**Mitigation Measure UTIL-1:** Prior to issuance of the first certificate of occupancy, the project Applicant shall pay the required CDWP water connection fees as set forth in Section 13.04.040 and Section 13.14.050 of the CMC.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
implementation of the prescribed mitigation measures would reduce potentially significant impacts in these regards to a less than significant level. Further, the project site would have sufficient water supplies available to serve the proposed project from existing and proposed entitlements and resources. Thus, impacts regarding water supply and water infrastructure would be less than significant.			
Impact 4.N-2: Implementation of the proposed project could require or result in the construction of new on-site and off-site wastewater facilities or the expansion of existing on-site and off-site facilities, the construction of which could cause significant environmental effects. However, compliance with applicable regulatory requirements and implementation of the prescribed mitigation measure would reduce potentially significant impacts in these	Potentially Significant	**Mitigation Measure UTIL-2:** Prior to the issuance of the first certificate of occupancy, the project Applicant shall pay the required CDWP sewer connection fees as set forth in Section 13.08.600 of the CMC.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
regards to a less than significant level. Further, implementation of the proposed project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board or result in a determination by the wastewater treatment provider, which serves or may serve the proposed project, that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. Thus, impacts regarding wastewater would be less than significant.			
Impact 4.N-3: Implementation of the proposed project would require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. However, compliance with applicable regulatory requirements and implementation of project	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
design features would reduce potentially significant impacts in these regards to a less than significant level.			
Impact 4.N-4: Implementation of the proposed project would not exceed the capacity of the landfill serving the project area. Further, the proposed project would comply with federal, state, and local statues and regulations related to solid waste. Compliance with applicable regulatory requirements and implementation of prescribed mitigation measures would reduce potentially significant impacts in these regards to a less than significant level.	Potentially Significant	**Mitigation Measure UTIL-3:** Prior to the issuance of any demolition or construction permit, the project Applicant shall provide a copy of the receipt or contract indicating that the construction contractor shall only contract for waste disposal services with the City's exclusive franchise contract hauler, Waste Management of the Inland Empire. The contract specifying recycled waste service shall be presented to the Municipal Operations Department prior to approval of the first certificate of occupancy for the project. **Mitigation Measure UTIL-4:** In order to facilitate on-site separation and recycling of construction related wastes, the construction contractor shall provide temporary waste separation bins on-site during demolition and construction activities. **Mitigation Measure UTIL-5:** Waste Diversion. The project Applicant shall demonstrate a plan to ensure adherence to the City of Corona Waste Diversion Program, which diverts 75 percent of all waste away from landfills. The City shall ensure that the project proponent implements the waste diversion plan objectives. These requirements shall be specified in the final architectural plans to be approved by the City of Corona Planning and Building Agency prior to issuance of building permits.	Less Than Significant
Impact 4.N-5: Implementation of the proposed project would not conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the General Plan and	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
the CMC). This impact is considered less than significant.			
O. Agriculture and Forestry Resources			
Impact 4.B-1: The proposed project would not directly convert, or otherwise result in the conversion of, any existing agricultural land to non-agricultural uses, or forest land to non-forest use, and would not trigger a significant impact per the LESA Model. As such, impacts related to conversion of farmland and forest land would be less than significant.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 4.B-2: The proposed project would not conflict with existing zoning for agricultural uses or forest land or a Williamson Act contract. As such, impacts in this regard would be less than significant.	Less Than Significant	No mitigation measures are required.	Less Than Significant

Source: PCR Services Corporation, 2015.

1.0 Introduction

1. INTRODUCTION

This document is a Draft Environmental Impact Report ("Draft EIR") that has been prepared at the direction and under the supervision of the City of Corona ("City") in accordance with the California Environmental Quality Act ("CEQA") and the Guidelines for California Environmental Quality Act ("CEQA Guidelines"), as amended.[1,2] Richland Developers, Inc., the project Applicant ("Applicant"), is seeking various approvals for the development of the Skyline Heights Project (herein referred to as the "proposed project"), as well as approval from the Riverside County Local Agency Formation Commission (LAFCO) for annexation of the project site and surrounding parcels into the City of Corona. The proposed project involves the development of up to 292 single family homes on the 271-acre project site within the approximately 394.8-acre annexation area. A detailed discussion of the proposed project is provided in Chapter 2, *Project Description*, of this Draft EIR.

A. PURPOSE OF THE EIR

The City of Corona, as the Lead Agency under CEQA, is responsible for preparing the EIR for the proposed Skyline Heights Project (State Clearinghouse No. 2014021003). This EIR has been prepared in conformance with CEQA (California Public Resources Code Section 21000 et seq.) and the *CEQA Guidelines* (California Code of Regulations, Title 14, Section 15000 et seq.). The principal *CEQA Guidelines* sections governing content of this document are Sections 15120 through 15132 (Content of an EIR).

In accordance with Section 15121 of the *CEQA Guidelines*, a primary purpose of this EIR is to provide decision-makers and the public with specific information regarding the environmental effects associated with the proposed project, identify ways to minimize the significant effects and describe reasonable alternatives to the proposed project. In addition, this EIR is the primary reference document in the formulation and implementation of a mitigation monitoring and reporting program for the proposed project.

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

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

[1] *Public Resources Code Section 21000-21178.*

[2] *California Code of Regulations Title 14, Chapter 3, Section 15000-15387.*

term effects associated with their implementation. This EIR discusses both the direct and indirect impacts of this proposed project, as well as the cumulative impacts associated with other past, present, and reasonably foreseeable future projects. CEQA requires the preparation of an objective, full disclosure document to inform agency decision makers and the general public of the direct and indirect environmental effects of the proposed action; provide mitigation measures to reduce or eliminate significant adverse effects; and identify and evaluate reasonable alternatives to the proposed project.

This Draft EIR is intended to serve as a Project EIR under CEQA. Section 15161 of the CEQA Guidelines states that a Project EIR should focus primarily on changes in the environment that would result from development of the proposed project. A Project EIR must examine all phases of a project, including planning, construction, and operation. This Project EIR is intended to provide the environmental information necessary for the City to make a final decision on the requested entitlements for this proposed project. This EIR is also intended to support discretionary reviews and decisions by other agencies.

B. COMPLIANCE WITH CEQA

The Draft EIR is subject to a 45-day public review period by responsible and trustee agencies, members of the public and other interested parties. In accordance with the provision of Sections 15085(a) and 15087(a)(1) of the *CEQA Guidelines*, the City, serving as the Lead Agency will: 1) circulate a Notice of Availability of a Draft EIR to all residents within 500 feet of the project site, in addition to public agencies, interested individuals, and/or organizations that commented on the Notice of Preparation (NOP), and 2) prepare and transmit a Notice of Completion (NOC) to the State Clearinghouse. Proof of publication is available at the City. The NOA indicates the Draft EIR will be available for review at: the City's website - http://www.discovercorona.com/City-Departments/ Community-Development/Planning-Division.aspx; the City Planning Division offices located at 400 S. Vicentia Avenue, Corona, California 92882; and the Corona Public Library located at 650 S. Main Street, Corona, California 92882. All comments on the Draft EIR should be addressed to:

Jason Moquin, Senior Planner
City of Corona
400 S. Vicentia Avenue
Corona, CA 92882
Re: Skyline Heights Project
Or via e-mail at: Jason.Moquin@ci.corona.ca.us

Any public agency or members of the public desiring to comment on the Draft EIR must submit their comments in writing to Mr. Jason Moquin at the above referenced mailing or e-mail address prior to the end of the public review period. Upon the close of the public review period, the Lead Agency will then proceed to evaluate and prepare written responses to all relevant written comments received from both citizens and public agencies during the public review period. The City's responses at this point in the process will be limited to issues relating to the adequacy of the EIR, and not the relative merits of the proposed project.

The Final EIR will consist of the Draft EIR, corrections and additions to the Draft EIR, responses to comments addressing concerns raised by responsible agencies or reviewing parties and a mitigation monitoring and reporting program (MMRP). After the Final EIR is completed and at least 10 days prior to its certification, a

copy of the response to comments made by public agencies on the Draft EIR will be provided to the respective agency.

C. EIR SCOPING PROCESS

In compliance with the *CEQA Guidelines*, the City has provided opportunities for the public to participate in the environmental review process. During the preparation of the Draft EIR, an effort was made to contact various federal, State, regional, and local government agencies and other interested parties to solicit comments and inform the public of the proposed project. This included, as further described below, the distribution of a Notice of Preparation (NOP).

1. Notice of Preparation

Pursuant to the provision of Section 15082 of the *CEQA Guidelines*, the City circulated a NOP to public agencies, special districts, and members of the public for a 30-day period commencing February 4, 2014 and ending March 5, 2014. However, copies of the NOP were subsequently re-distributed to public agencies due to mailing issues, and consequently the public comment period was extended to March 10, 2014. The purpose of the NOP was to formally communicate the City's intent to prepare a Draft EIR for the proposed project, and to solicit input regarding the scope and content of the environmental information to be included in the EIR. A brief description of the proposed project was included in the NOP, along with graphics depicting the location of the proposed project and the proposed improvements. The NOP indicated that the City of Corona determined that there is substantial evidence that significant effects may occur from the project, thereby necessitating the preparation of an EIR. The EIR addresses the following topical areas with potentially significant impacts as identified in the NOP: Aesthetics, Agriculture and Forestry Resources, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Noise, Population and Housing, Public Services, Transportation/Traffic, Utilities and Service Systems, and Cumulative Impacts. The NOP is provided in Appendix A, *Notice of Preparation/NOP Comment Letters*, of this Draft EIR.

2. NOP Comments

As noted above, the NOP was distributed to the public and various public agencies on February 4, 2014 in order to receive input on the scope and content of the environmental analysis to be provided in this EIR. In an effort to ensure comments were accurately recorded, the City requested that all comments be submitted in writing by either providing written comments by mail or via e-mail. Comments on the scope and content of the EIR were received from the following agencies, organizations, and individuals:

Federal Agencies

- United States Department of Agriculture

State Agencies

- Department of Fish and Wildlife

Regional Agencies

- Southern California Association of Governments
- South Coast Air Quality Management District

Local Agencies

- Riverside County Local Agency Formation Commission
- Riverside County Flood Control and Water Conservation District
- County of Riverside Transportation and Land Management Agency
- Orange County Department of Public Works

Organizations

- Southern California Edison
- Pechanga Band of Luiseño Indians
- Soboba Band of Luiseno Indians

Individuals

- Mark German
- Steve Ford
- Brian Mowcomber
- Dwight Woodward
- Mark and Shelley Drew

3. Public Scoping Meeting

The NOP included notification that a public scoping meeting would be held to further inform public agencies and other interested parties of the proposed project and to solicit input regarding the Draft EIR. The public scoping meeting was held on March 4, 2014 at 6:30 P.M. in the Grand Boulevard Room of the City of Corona Public Library located at 650 South Main Street, Corona, California 92882. The meeting was held in a workshop format and provided interested individuals, groups and public agencies the opportunity to understand the proposed project and to provide oral and written comments to the City regarding the scope and focus of the Draft EIR. Public comments received at the Scoping Meeting are contained in Appendix A of this Draft EIR.

4. NOP and Public Scoping Meeting Comments

The following list summarizes the environmental concerns raised by public agencies, organizations, or individuals in response to the NOP or provided at the public scoping meeting (the numerical reference in parenthesis is the EIR section in which the analysis is provided). All NOP and Scoping Meeting comments received are contained in Appendix A of this Draft EIR.

- Construction-related and operational air pollutant emissions and related air quality and health effects, as well as applicable mitigation measures to address them (refer to Section 4.C, *Air Quality and Greenhouse Gas Emissions*, of this Draft EIR);

- Potential impacts associated with unknown contamination on-site or the surrounding area, as well as risks associated with hazardous materials and wastes generated on-site by previous uses (refer to Section 4.H, *Hazards and Hazardous Materials*, of this Draft EIR);
- Health risks associated with former uses on the project site, including historic application of pesticides and herbicides (refer to Section 4.G, *Hazards and Hazardous Materials*, of this Draft EIR);
- Hazards to life and property associated with wildland fires (refer to Section 4.G, *Hazards and Hazardous Materials*, of this Draft EIR);
- Impacts to buried cultural resources resulting from project grading, excavation, and construction activities and treatment of recovered artifacts and/or human remains (refer to Section 4.E, *Cultural Resources*, of this Draft EIR);
- Potential adverse surface water and groundwater quality from construction and operation of the proposed project (refer to Section 4.H, *Hydrology and Water Quality*, of this Draft EIR);
- Impacts to the local and regional traffic system resulting from implementation of the proposed project (refer to Section 4.M, *Transportation/Traffic*, of this Draft EIR);
- Impacts associated with access to trails in the project area and adjacent Cleveland National Forest (refer to Section 4.L, *Public Services*, of this Draft EIR);
- Compliance with the tribal consultation requirements of Senate Bill 18 (refer to Section 4.E, *Cultural Resources*, of this Draft EIR);
- Impacts to potential historical resources within the project site (refer to Section 4.E, *Cultural Resources*, of this Draft EIR);
- Impacts to oak trees and other native vegetation (refer to Section 4.D, *Biological Resources*, of this Draft EIR);
- Adverse effects on wildlife from project-related lighting (refer to Section 4.D, *Biological Resources*, of this Draft EIR);
- Impacts to sensitive habitats, special-status species, migratory and nesting birds, wildlife corridors/movement, and jurisdictional features (refer to Section 4.D, *Biological Resources*, of this Draft EIR);
- Impacts to scenic vistas, public views of scenic resources, and light and glare resulting from project implementation (refer to Section 4.A, *Aesthetics*, of this Draft EIR);
- Safety hazards to existing and future development associated with mudslides (refer to Section 4.F, *Geology and Soils*, of this Draft EIR);
- Geologic hazards related to landslides (refer to Section 4.F, *Geology and Soils*, of this Draft EIR);
- Consistency with applicable local and regional plans, policies, and regulations (refer to Section 4.I, *Land Use and Planning*, of this Draft EIR);
- Impacts related to annexation of affected parcels into the City of Corona (refer to Section 4.I, *Land Use and Planning*, of this Draft EIR); and
- Impacts to flooding, floodplains, and drainage and flood control facilities, and degradation of water quality in groundwater and affected receiving surface water bodies (refer to Section 4.H, *Hydrology and Water Quality*, of this Draft EIR).

D. FORMAT OF THE EIR

The EIR includes the following eight technical sections, followed by appendices:

ES **Executive Summary**. This section presents a summary of the proposed project and alternatives, potential impacts and mitigation measures, and impact conclusions regarding significant unavoidable adverse impacts and effects not found to be significant.

1. **Introduction**. This section provides: a description of the purpose of the EIR; CEQA compliance information relative to the proposed project and the EIR; a brief overview of the environmental review process; and, outlines the organization of the EIR.

2. **Project Description**. Describes the location, details, and the objectives for the proposed project.

3. **Basis for Cumulative Analysis**. This section contains a list of related projects anticipated to be built within the project vicinity.

4. **Environmental Impact Analysis**. This section contains the environmental setting, project and cumulative impact analyses, mitigation measures, and conclusions regarding the level of significance after mitigation for each of the following environmental issues: (A) Aesthetics, (B) Air Quality, (C) Biological Resources, (D) Cultural Resources, (E) Geology and Soils, (F) Greenhouse Gas Emissions (G) Hazards and Hazardous Materials, (H) Hydrology and Water Quality, (I) Land Use and Planning, (J) Noise, (K) Population and Housing, (L) Public Services, (M) Transportation/Traffic, (N) Utilities and Service Systems, and (O) Agriculture and Forestry Resources.

5. **Alternatives**. This section evaluates the environmental effects of the project alternatives, including the No Project Alternative. It also identifies the environmentally superior project.

6. **Other Environmental Considerations**. This section includes a discussion of issues required by CEQA that are not covered in other chapters. This includes unavoidable adverse impacts, impacts found not to be significant, irreversible environmental changes, potential secondary effects caused by the implementation of the mitigation measures for the proposed project, and growth inducing impacts.

7. **Document Preparation and References**. This section lists all of the persons, public agencies, and organizations that were consulted or contributed to the preparation of this EIR, as well as all the references and sources used in the preparation of the document.

This EIR includes the environmental analysis prepared for the project and appendices as follows:

- Appendix A – Notice of Preparation/NOP Comment Letters/Scoping Meeting Comments
- Appendix B – Land Evaluation and Site Assessment (LESA) Model
- Appendix C – Air Quality and Greenhouse Gas Analysis Report
- Appendix D – Biological Resources Assessment, Surveys, and Jurisdictional Delineation
- Appendix E – Cultural Resources Assessments
- Appendix F – Preliminary Geotechnical Investigation
- Appendix G – Phase I Environmental Site Assessment and Fuel Modification Report

- Appendix H – Preliminary Drainage Report and Water Quality Management Plan
- Appendix I – Noise Impact Analysis
- Appendix J – Public Services and Utility Correspondence and Background Information
- Appendix K – Traffic Impact Analysis
- Appendix L – Water Study, Recycled Water Study, and Sewer Study

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2.0 Project Description

2. PROJECT DESCRIPTION

INTRODUCTION

Richland Developers, the project Applicant, is proposing the development of 292 single-family residences on an approximately 270.9-acre site within an undeveloped hillside area to the south/southwest of the Foothill Parkway Westerly Extension. The project site is currently located within the City of Corona sphere of influence in unincorporated Riverside County. In order to facilitate the residential development and the completion of the Foothill Parkway Westerly Extension, the Applicant proposes the annexation of the project site and surrounding parcels totaling approximately 394.8 acres to the City of Corona. Of the approximately 270.9-acre project site, approximately 21.38 acres would be used as right-of-way for the construction of the Foothill Parkway Westerly Extension.

The City of Corona is currently implementing a Capital Improvement Project for the Foothill Parkway Westerly Extension between Green River Road and Trudy Way. This roadway would provide primary access to the project site at "P" Street, "B" Street (aligned with Border Avenue) and Trudy Way.

A. PROJECT OBJECTIVES

Section 15124(b) of the CEQA Guidelines states that a project description shall contain "a statement of the objectives sought by the proposed project." In addition, Section 15124(b) of the CEQA Guidelines further states that "the statement of objectives should include the underlying purpose of the project." As set forth by the CEQA Guidelines, the list of objectives that the project Applicant seeks to achieve for the project is provided below.

Objective 1: Provide high quality residential development consistent with adjacent neighborhoods.

Objective 2: Build residential housing which is in compliance with proposed zoning and Corona General Plan land use designations consistent with surrounding area.

Objective 3: Facilitate the annexation of the project development and adjacent lands into the City of Corona.

Objective 4: Provide efficient and safe movement of vehicles and pedestrians with minimum intrusion on adjacent residential neighborhoods.

Objective 5: Dedicate land and contribute fees for the construction of Foothill Parkway.

Objective 6: Ensure that all community facilities and services including circulation improvements, drainage facilities, water, reclaimed water and sewer facilities are available to serve the project and meet or exceed applicable City standards and requirements prior to, or concurrent with development.

Objective 7: Provide strategic improvements within the project to assist the City with Master Plan improvements to existing water and sewer system.

Objective 8: Provide water reservoirs and infrastructure to improve service and reliability for other parts of the City.

Objective 9: Provide a system of open space which combines natural and man-made areas to maintain a scenic and fire safe living environment for residents.

Objective 10: Implement a comprehensive landscape program which provides visual continuity throughout the project area and the natural areas of the Cleveland National Forest.

Objective 11: Help meet the high market demand for high quality housing in western Riverside County and to meet the City's housing needs to support forecasted population growth as discussed in the City's General Plan (2004).

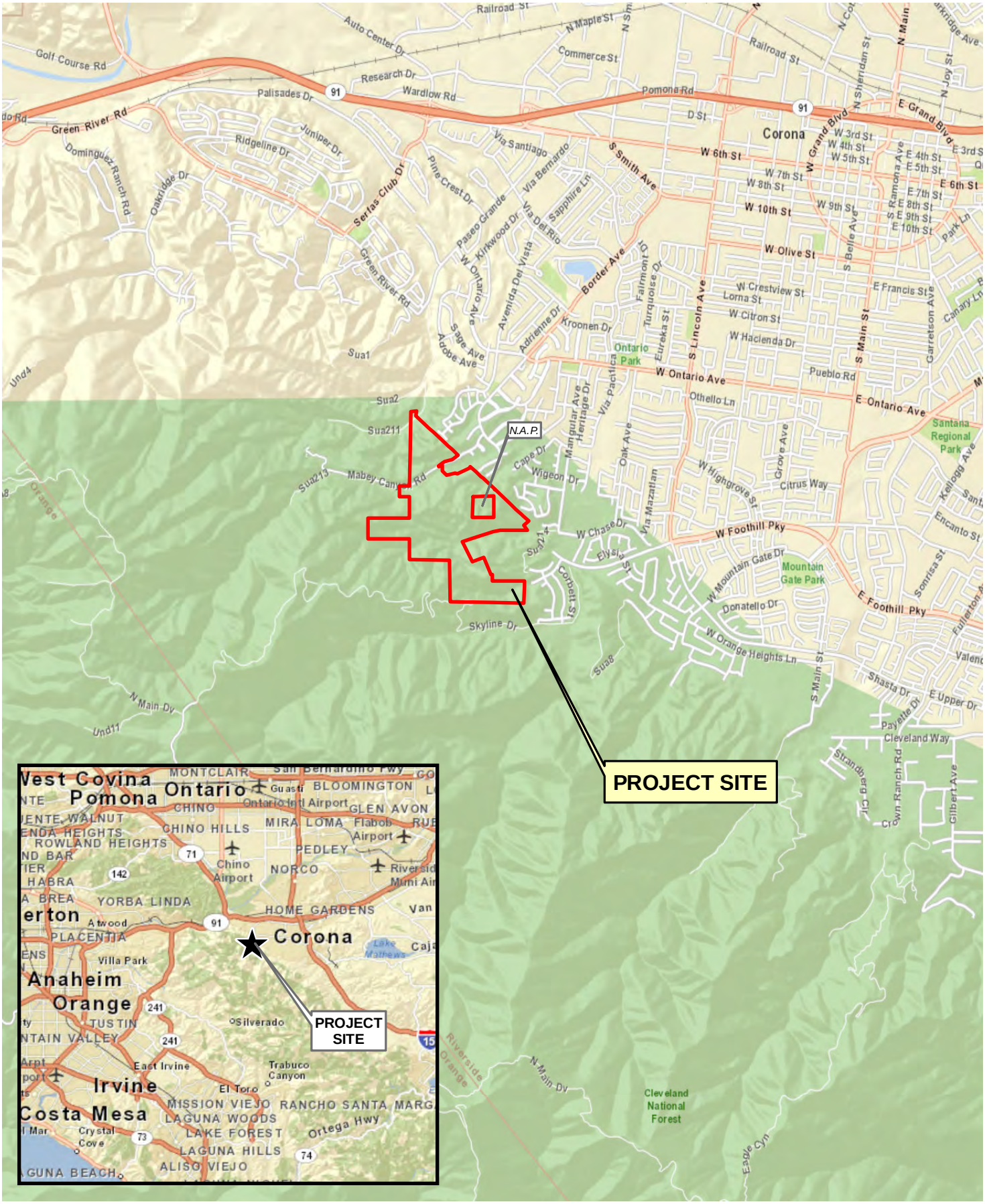
B. PROJECT LOCATION AND SURROUNDING USES

The location of the project site is shown in **Figure 2-1**, *Regional and Vicinity Map*. As shown in Figure 2-1, the site is located in unincorporated Riverside County, approximately three miles south of State Route 71 (SR-71, Chino Valley Freeway) and SR-91 (Riverside Freeway) and approximately four miles west of Interstate 15 (I-15, Temecula Valley Freeway) along the southwestern boundary of the City of Corona. The 270.9-acre project site is located adjacent to, and southwest of, the proposed Foothill Parkway Westerly Extension.

The project site is vacant; however, one single-family home is located within the larger 394.8-acre annexation area surrounding the site, which is located to the north of the project site (Assessor's Parcel Number [APN] 102-320-010). Access to the single-family residence is provided via Green River Road. Miscellaneous vacated buildings, used in conjunction with a former horse stable enterprise, are located APN within APN 102-320-009, adjacent to and east of the existing residence. Other uses within the surrounding annexation area, but not within the 270.9-acre project site include a nursery (APN 275-080-021) to the north of Browning Circle and four open space parcels owned by the U.S. Wildlife Service in the southeasterly sector of the larger annexation area.

Figure 2-2, *Aerial Photograph of the Project Site and Surrounding Uses*, illustrates the location of the 270.9-acre project site, the annexation area, and surrounding development. As shown in Figure 2-2, the project site is generally bounded on the north and east by single-family residences and on the south and west by the Cleveland National Forest and large privately owned parcels. No commercial land uses are located within the immediately surrounding area.

The nearest development (Tract Map 31955) is located adjacent to and southeast of the project site, south of the Foothill Parkway, with access provided by Trudy Way, Rawley Street, Elker Road, and Corbett Street. Tract 31955 consists of an approximately 154-lot, residential subdivision within the R1-7.2 zone, which corresponds to low-density single-family and a 7,200-square-foot minimum lot area. The edges of the



Regional and Vicinity Map

Skyline Heights Project

Source: ESRI Street Map, 2009; PCR Services Corporation, 2014.

FIGURE

2-1

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0 2,000 4,000 Feet

Aerial Photograph of the Project Site and Surrounding Uses

Skyline Heights Project

Source: ESRI Street Map, 2009; PCR Services Corporation, 2014.

FIGURE

2-2

subdivision are zoned R1-AD/HD, which corresponds to agricultural/hillside uses in a residential zone. The purpose for the latter zone is to maintain common open spaces on the periphery of the residential development.

The area to the south of Tract 31955 is zoned R1-9.6 (single-family residential, with a 9,600-square-foot minimum lot size) and OS (open space) and vacant. This area is accessed by, and to the south of, Skyline Drive.

Existing single-family neighborhoods are also located to the northeast of the project site and Foothill Parkway Westerly Extension. These neighborhoods are generally zoned low density residential (R1-7.2, R1-8.4, and R1-9.6). Large, undeveloped parcels within the OS zone are interspersed among the residential areas. All of the adjacent developed areas are located within the City of Corona.

The Cleveland National Forest is located to the west and south of the annexation area and project site. The National Forest is accessed via Skyline Drive, a graded forest service access road to the south of the project site. This road provides recreational hiking and mountain biking opportunities to residents on a local and regional level.

C. ANNEXATION, ZONING DESIGNATIONS, AND BACKGROUND

1. City of Corona Sphere of Influence

Lands within the City of Corona corporate limits and Sphere of Influence (SOI) are shown in **Figure 2-3**, *City of Corona Sphere of Influence*. The City boundary currently comprises 37.6 square miles, while 35.2 square miles in Riverside County are contained within the City's SOI. The SOI acreages, shown in Figure 2-3, were defined by the City of Corona, the Southern California Association of Governments (SCAG), and the Riverside County Local Agency Formation Commission (LAFCO). It represents those areas that are likely to be served by and potentially annexed by the City.

The SOI is defined by three geographically distinct areas, including the West, East, and South Spheres. The West Sphere encompasses three geographic areas: the Prado Basin, Coronita, and the Foothill area. The East Sphere includes the areas of Home Gardens, Eagle Valley East, and El Cerrito. Temescal Canyon makes up the South Sphere. The project site is located within the Foothill area of the City's West SOI. Since 2002, two areas totaling 579 acres in the west sphere have been annexed to the City that are not mapped in the General Plan.[1]

Figure 2-4, *West Sphere of Influence Existing Land Use*, illustrates the designated land uses under the Riverside County General Plan within the City's West SOI. As shown in Figure 2-4, most of the SOI is designated under the current Riverside County General Plan as Rural Mountainous (RM), which allows for residential development at a density of one dwelling unit per ten acres, with the remaining portion designated as Conservation-Habitat (OS-CH). While the County's land use designations for the project site and larger annexation area are currently in force, the City's General Plan also designates the property as

[1] *City of Corona, General Plan Technical Background Report, March 2004, page 1-4.*

Rural Residential I (0.2-0.5 dwelling units per acre) and Open Space/General (OS/G), respectively, for the same parcels, since these parcels are located within the City's SOI. **Figure 2-5**, *West Sphere of Influence County of Riverside Zoning*, shows the current Riverside County zoning designation for West SOI. As shown in Figure 2-5, most of the SOI is zoned as R-R (Rural Residential), which allows single-family residential development with a minimum lot size of one-half acre, or a density of up to two dwelling units per acre. A smaller section to the south of the current Trudy Way terminus is zoned A-1-10 (Light Agriculture).

2. Riverside Local Agency Formation Commission

The Riverside Local Agency Formation Commission (LAFCO) was established by the State of California to coordinate logical and timely changes in local government boundaries, discourage urban sprawl and encourage orderly and efficient provision of services, such as water, sewer, fire protection, etc. while agricultural lands are protected. As a state-mandated legislative agency, LAFCO is independent of county government.

Riverside LAFCO is responsible for reviewing and approving proposed jurisdictional boundary changes, including annexations and detachments of territory to and/or from cities and special districts, incorporations of new cities, formations of new special districts, and consolidations, mergers, and dissolutions of existing districts. In addition, LAFCO must review and approve contractual service agreements, determine spheres of influence for each city and district, and may initiate proposals involving district consolidation, dissolution, establishment of subsidiary districts, mergers, and reorganizations (combinations of these jurisdictional changes).[2] Any annexations to the City of Corona must be reviewed and approved by Riverside LAFCO.

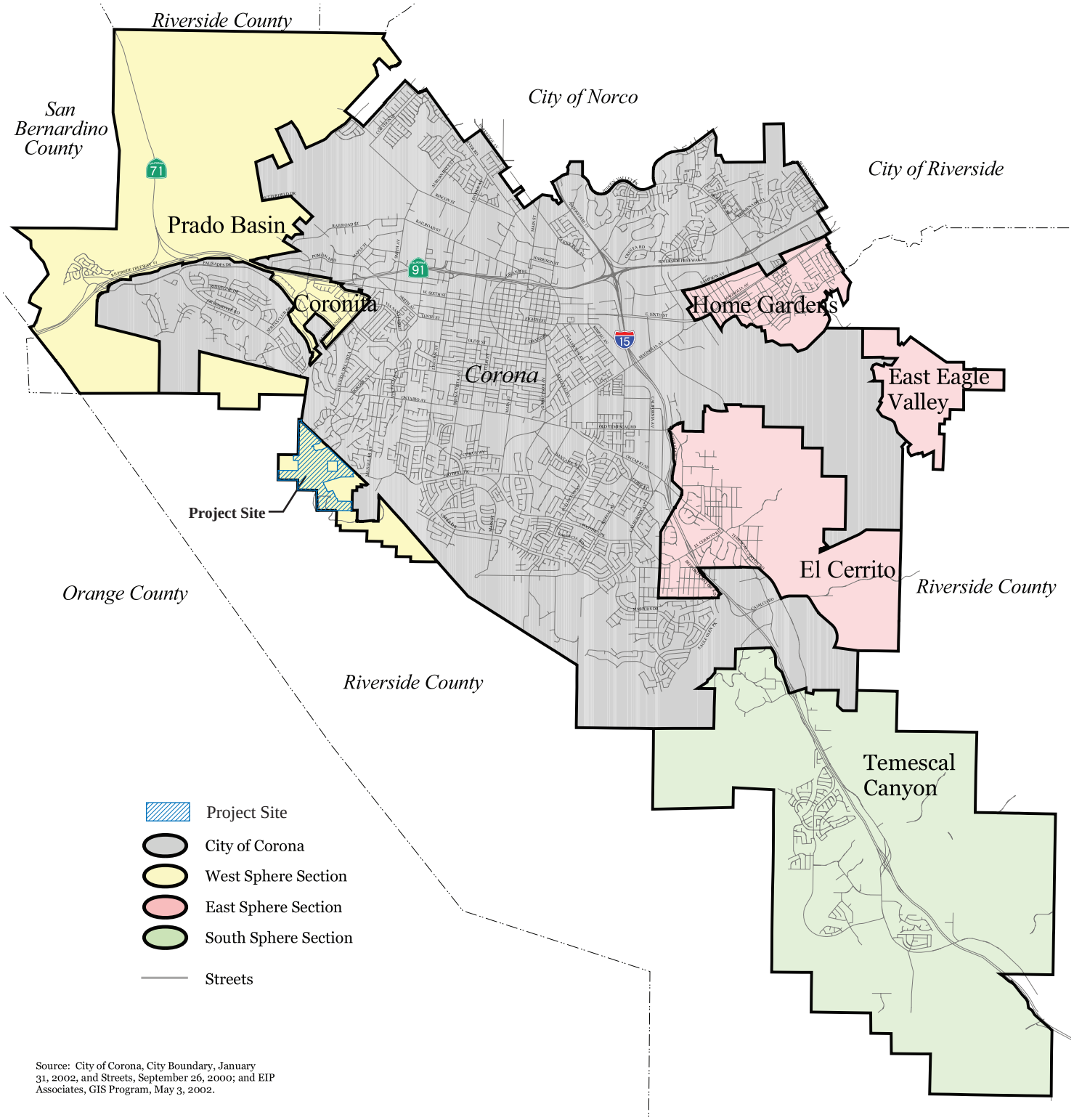
The annexation of 394.8 acres located within the City of Corona SOI would be required for the implementation of the proposed project. The area proposed for annexation and a detailed representation of individual land parcels are presented in **Figure 2-6**, *Proposed Annexation Area*. As shown in Figure 2-6, the annexation area encompasses the project site (proposed 292-lot subdivision), four open space parcels owned by the U.S. Fish and Wildlife Service, other private properties. Annexation would require pre-zoning that anticipates a change from the County's R-R zone, corresponding to Rural Residential (0.5-acre minimum lot size or up to two dwelling units per acre), and AG designations of the annexation area to zones consistent with the City of Corona zoning code and proposed residential and open space land uses on the annexation site.

3. Foothill Parkway Westerly Extension

The City of Corona has initiated the extension of Foothill Parkway with an anticipated completion date of 2016.[3] The proposed Foothill Parkway Westerly Extension is located within the southwesterly limits of the City of Corona and in the unincorporated area of Riverside County within the City's sphere of influence. The Foothill Parkway currently extends approximately five miles in south Corona to Trudy Way. Anticipated since the 1980s, the westerly extension would consist of two miles of new four-lane highway from Trudy

[2] *http://www.lafco.org/opencms/faq.html, accessed June 16, 2014.*

[3] *http://www.discovercorona.com/City-Departments/Public-Works/Foothill-Parkway-Westerly-Extension.aspx, accessed June 16, 2104.*



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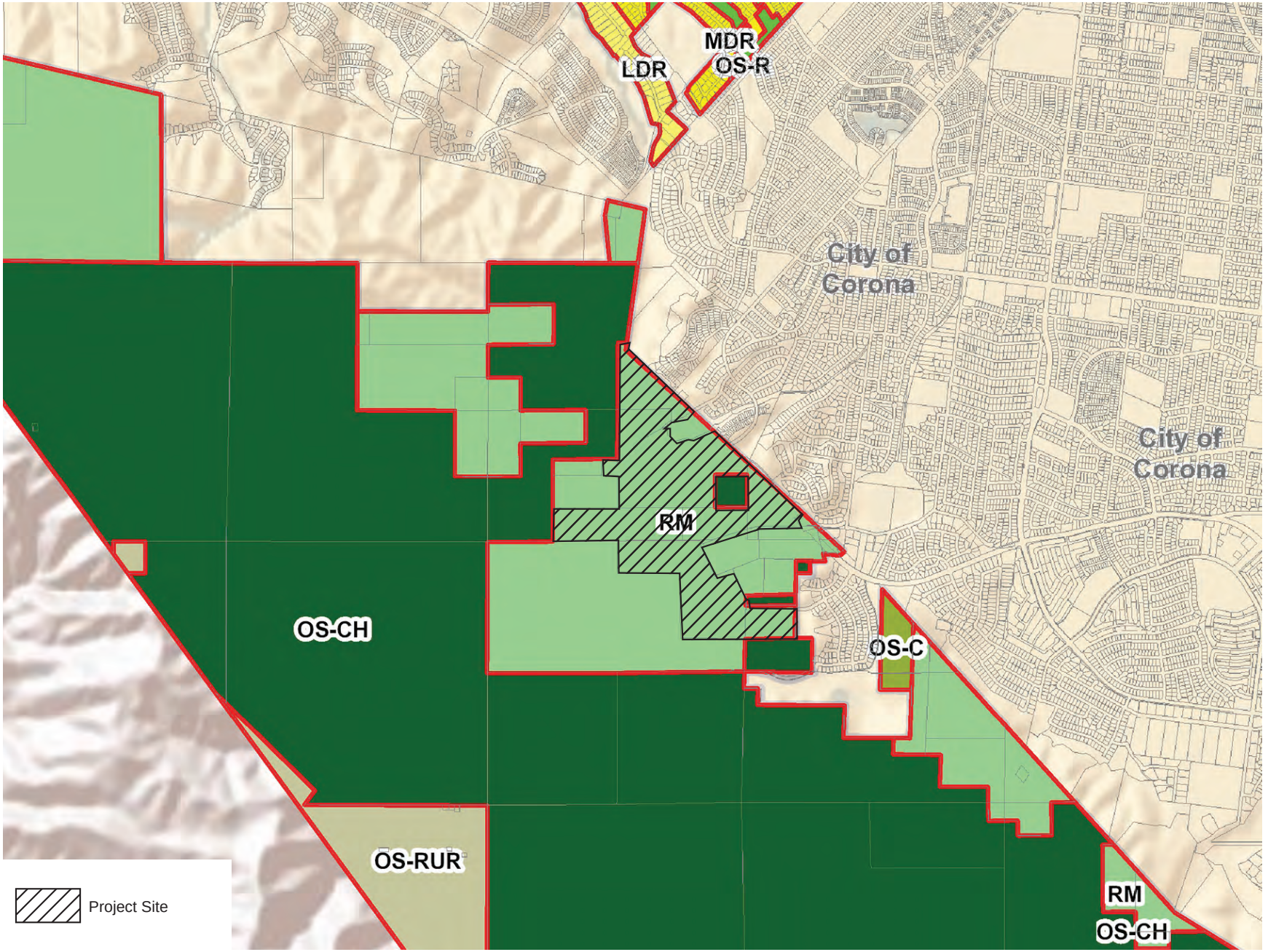
City of Corona Sphere of Influence

Skyline Heights Project
Source: City of Corona, 2002.

FIGURE
2-3



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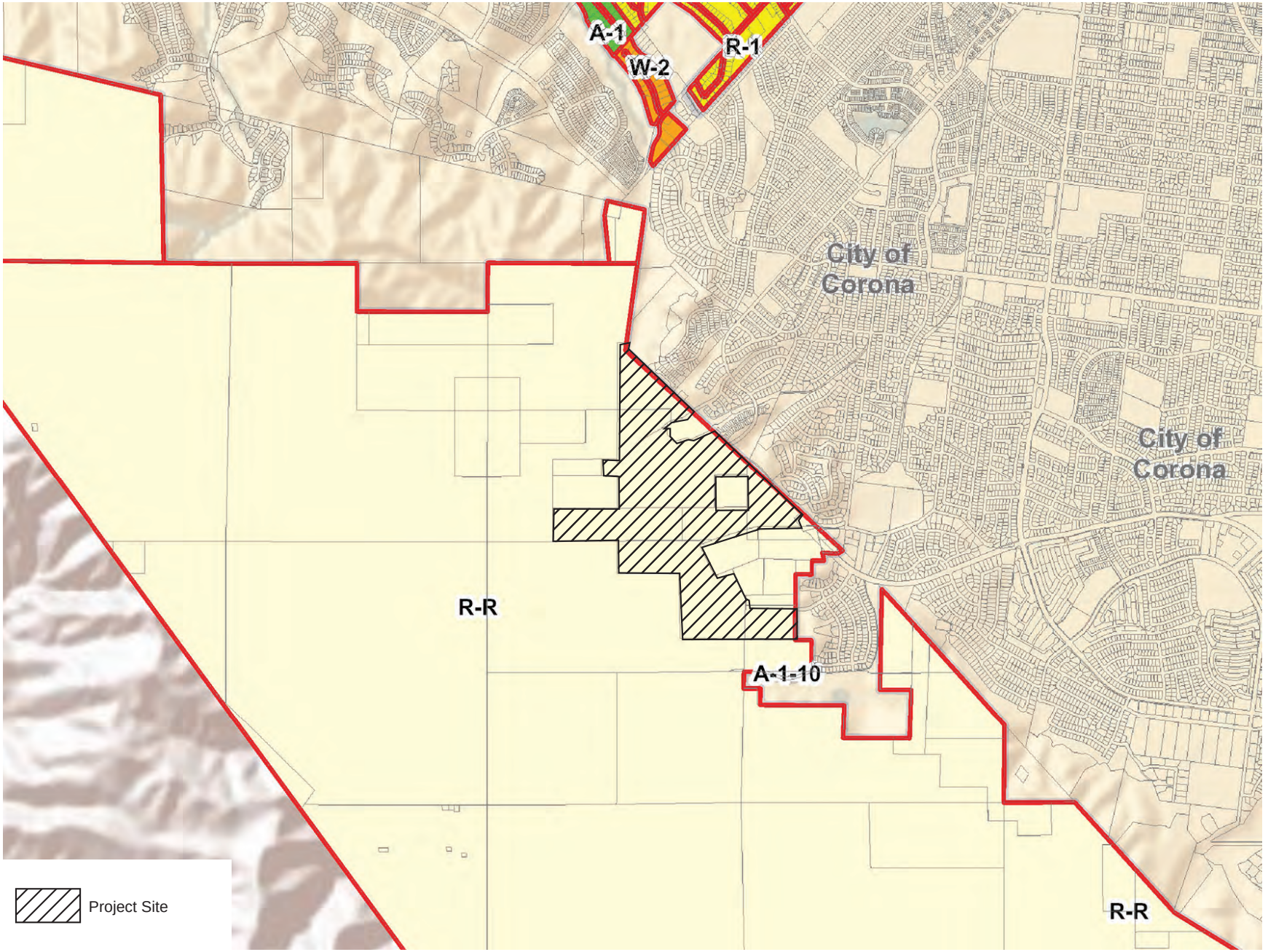
West Sphere of Influence Existing Land Use

Skyline Heights Project

Source: City of Corona, 2015.

FIGURE

2-4



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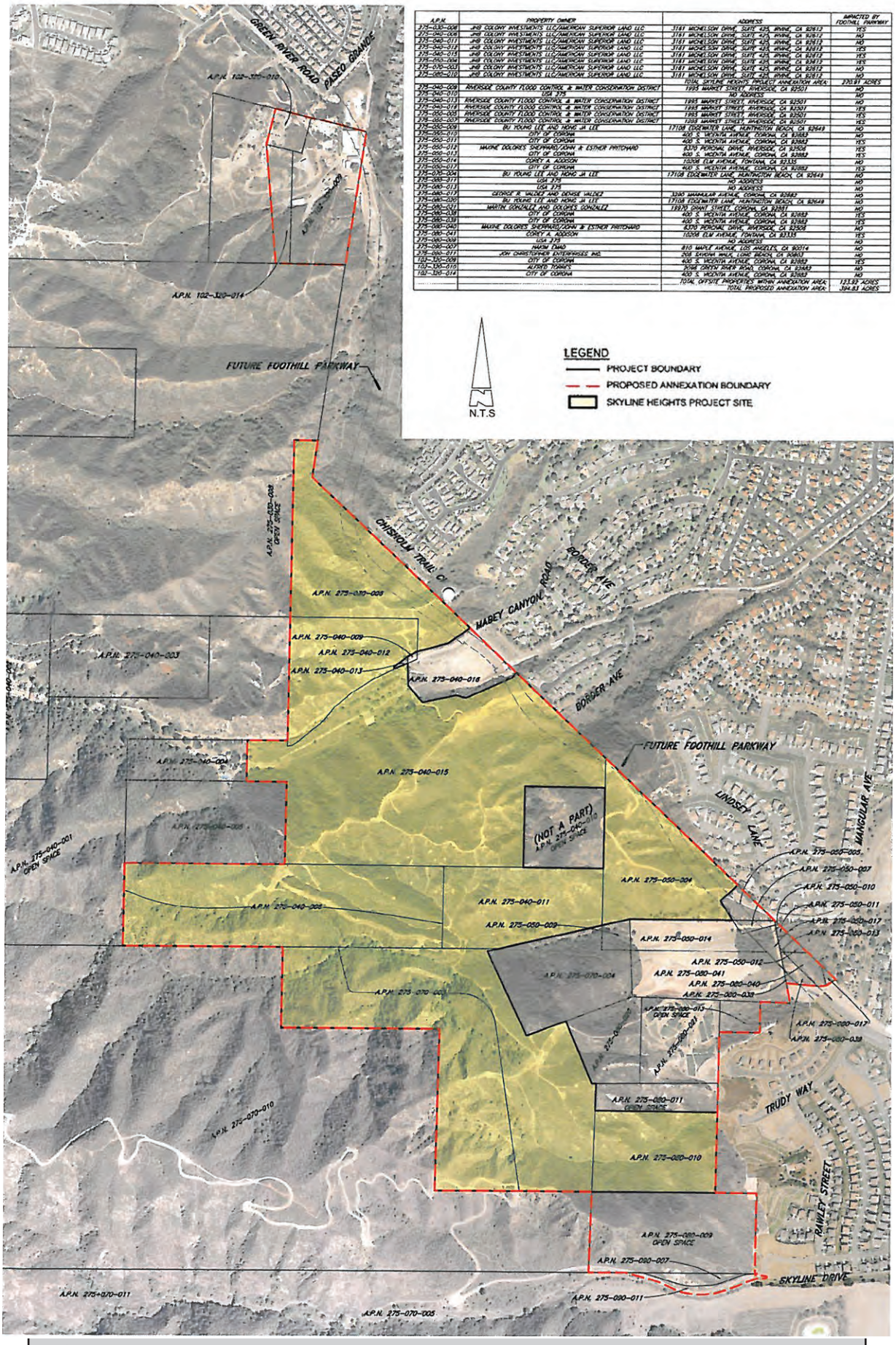
West Sphere of Influence Existing Zoning

Skyline Heights Project

Source: City of Corona, 2015.

FIGURE

2-5



A.P.N.	PROPERTY OWNER	ADDRESS	IMPACTED BY FOOTHILL PARKWAY
275-030-008	JHB COLONY INVESTMENTS LLC/AMERICAN SUPERIOR LAND LLC	3161 MICHELSON DRIVE, SUITE 425, IRVINE, CA 92612	YES
275-040-009	JHB COLONY INVESTMENTS LLC/AMERICAN SUPERIOR LAND LLC	3161 MICHELSON DRIVE, SUITE 425, IRVINE, CA 92612	NO
275-040-011	JHB COLONY INVESTMENTS LLC/AMERICAN SUPERIOR LAND LLC	3161 MICHELSON DRIVE, SUITE 425, IRVINE, CA 92612	NO
275-040-012	JHB COLONY INVESTMENTS LLC/AMERICAN SUPERIOR LAND LLC	3161 MICHELSON DRIVE, SUITE 425, IRVINE, CA 92612	YES
275-040-013	JHB COLONY INVESTMENTS LLC/AMERICAN SUPERIOR LAND LLC	3161 MICHELSON DRIVE, SUITE 425, IRVINE, CA 92612	YES
275-040-016	JHB COLONY INVESTMENTS LLC/AMERICAN SUPERIOR LAND LLC	3161 MICHELSON DRIVE, SUITE 425, IRVINE, CA 92612	YES
275-050-009	JHB COLONY INVESTMENTS LLC/AMERICAN SUPERIOR LAND LLC	3161 MICHELSON DRIVE, SUITE 425, IRVINE, CA 92612	NO
275-050-004	JHB COLONY INVESTMENTS LLC/AMERICAN SUPERIOR LAND LLC	3161 MICHELSON DRIVE, SUITE 425, IRVINE, CA 92612	NO
275-070-006	JHB COLONY INVESTMENTS LLC/AMERICAN SUPERIOR LAND LLC	3161 MICHELSON DRIVE, SUITE 425, IRVINE, CA 92612	NO
		TOTAL SKYLINE HEIGHTS PROJECT ANNEXATION AREA:	370.91 ACRES
275-040-008	RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT	1995 MARKET STREET, RIVERSIDE, CA 92501	NO
275-040-010	USA 276	NO ADDRESS	NO
275-040-014	RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT	1995 MARKET STREET, RIVERSIDE, CA 92501	NO
275-040-015	RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT	1995 MARKET STREET, RIVERSIDE, CA 92501	YES
275-050-005	RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT	1995 MARKET STREET, RIVERSIDE, CA 92501	YES
275-050-007	RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT	1995 MARKET STREET, RIVERSIDE, CA 92501	YES
275-050-009	BU YOUNG LEE AND YONG JA LEE	17108 EDGEWATER LANE, HUNTINGTON BEACH, CA 92649	NO
275-050-010	CITY OF CORONA	400 S. VICENTIA AVENUE, CORONA, CA 92882	NO
275-050-011	CITY OF CORONA	400 S. VICENTIA AVENUE, CORONA, CA 92882	YES
275-050-013	WAYNE DOLORES SHEPHARD/JOHN & ESTHER PRITCHARD	8370 PERSONAL DRIVE, RIVERSIDE, CA 92508	YES
275-050-014	CITY OF CORONA	400 S. VICENTIA AVENUE, CORONA, CA 92882	YES
275-050-017	COREY A. ADDISON	10208 ELM AVENUE, FONTANA, CA 92335	NO
275-070-004	CITY OF CORONA	400 S. VICENTIA AVENUE, CORONA, CA 92882	YES
275-080-011	BU YOUNG LEE AND YONG JA LEE	17108 EDGEWATER LANE, HUNTINGTON BEACH, CA 92649	NO
275-080-013	USA 276	NO ADDRESS	NO
275-080-017	USA 276	NO ADDRESS	NO
275-080-038	GEORGE R. VALDEZ AND DENISE VALDEZ	1390 MANGULAR AVENUE, CORONA, CA 92882	NO
275-080-039	BU YOUNG LEE AND YONG JA LEE	17108 EDGEWATER LANE, HUNTINGTON BEACH, CA 92649	NO
275-080-041	MARTIN GONZALEZ AND DOLORES GONZALEZ	13935 PRAIT STREET, CORONA, CA 92881	NO
275-040-018	CITY OF CORONA	400 S. VICENTIA AVENUE, CORONA, CA 92882	YES
275-080-038	CITY OF CORONA	400 S. VICENTIA AVENUE, CORONA, CA 92882	YES
275-080-040	WAYNE DOLORES SHEPHARD/JOHN & ESTHER PRITCHARD	8370 PERSONAL DRIVE, RIVERSIDE, CA 92508	NO
275-080-041	COREY A. ADDISON	10208 ELM AVENUE, FONTANA, CA 92335	YES
275-080-039	USA 276	NO ADDRESS	NO
275-080-007	HAKIM EMAD	810 MAPLE AVENUE, LOS ANGELES, CA 90014	NO
275-080-011	JOH CHRISTOPHER ENTERPRISES INC.	208 SAVONA WALK, LONG BEACH, CA 90803	NO
102-100-009	CITY OF CORONA	400 S. VICENTIA AVENUE, CORONA, CA 92882	YES
102-100-010	ALFRED TORRES	2068 GREEN RIVER ROAD, CORONA, CA 92883	NO
102-320-014	CITY OF CORONA	400 S. VICENTIA AVENUE, CORONA, CA 92882	NO
		TOTAL OFFSITE PROPERTIES WITHIN ANNEXATION AREA:	133.69 ACRES
		TOTAL PROPOSED ANNEXATION AREA:	394.83 ACRES

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Proposed Annexation Area

Skyline Heights Project
Source: KWC Engineers, 2014.

FIGURE
2-6

Way to Paseo Grande at Green River Road. This would connect Sierra del Oro to south Corona and is expected to provide traffic congestion relief to existing east-west City roads, including Ontario Avenue and 6th Street. Connections to the new section of Foothill Parkway from both Border Avenue and Mangular Avenue, via Chase Drive, are also part of the overall Foothill Parkway Westerly Extension project.

The Westerly Extension alignment passes through portions of the Municipal Water District (MWD) Lower Feeder Easement and Mabey Canyon Debris Basin. The adjusted alignment concept was developed with the goal of minimizing impacts to existing development and environmental resources and avoiding encroachments into the Cleveland National Forest. The westerly extension would be a four-lane roadway from its existing terminus approximately 600 feet west of Skyline Drive to Green River Road. At Skyline Drive, the roadway would veer to the west into the unincorporated area of Riverside County and continue in an east/west direction along the City/County boundary. The alignment would then curve to the north and connect to Green River Road in the vicinity of Paseo Grande. The roadway construction would include either two parallel bridge structures or an aboveground arch structure to protect the existing 108-inch Metropolitan Water District (MWD) feeder line approximately 1,000 feet east of Paseo Grande.

Roadway improvements would require right-of-way (R/W) acquisition for the proposed roadway alignment roadway improvements (curb, shoulders, travel lanes, and landscaped medians), slope easement areas, and drainage facilities, as well as temporary construction easements. The roadway project also includes a new signalized intersection at Paseo Grande, and two possible additional signalized intersections at the proposed Border Avenue and Chase Drive connections.

Portions of Foothill Parkway have been recently completed as a four-lane divided roadway from I-15 to Skyline Drive. Green River Road from west of Paseo Grande to Tanglewood Drive will be widened to a four-lane roadway. The remainder of Green River Road to SR-91 is paved as a four-lane roadway. A portion of Green River Road from SR-91 to Palisades Drive is improved as a four-lane roadway and will be ultimately improved to a six-lane roadway in the future in conjunction with improvements at the SR-91/Green River Road interchange. The Green River Road Widening Project involves the widening of Green River from four to six lanes between State Route 91 and Palisades Drive. Construction was scheduled to begin in April 2015 with completion anticipated by December 2015. The project includes paving, slope grading, new curb and gutter, sidewalks, ADA access ramps, modifications to existing storm drains and a new traffic signal at Palisades Drive and signal modifications at Dominguez Ranch Road.[4] A sidewalk would be provided on the north side of the roadway throughout the length of the Westerly Extension and a multi-purpose trail will be provided on the south side of the roadway for the majority of the alignment. The latter would provide linkage to existing and future potential trails adjacent to the new roadway.[5]

The proposed alignment is consistent with the City of Corona General Plan Circulation Element roadway functional classification system and is reflected in the City's General Plan Update (2004).

[4] *City of Corona. www.InnerCircleCorona.com, "Green River Road Widening Project", posted March 22, 2015. Available at: http://www.innercirclecorona.com/green-river-road-widening-project/. Accessed July 2015.*

[5] *City of Corona Foothill Parkway Westerly Extension Draft EIR, Executive Summary, pages 2-1 and 2-2, August 2008.*

D. EXISTING SITE CONDITIONS AND ZONING

The project site is distinguished by two topographic regions divided by Mabey Canyon. The area north of Mabey Canyon consists of approximately 39 acres and is bounded on the west by Cleveland National Forest, on the northeast by the proposed Foothill Parkway Westerly Extension, and on the south by Mabey Canyon. The portion of the project site south of Mabey Canyon consists of approximately 232 acres and is situated near the mouths of Mabey, Tin Mine and Kroonen Canyons. At the south edge this area connects to the south terminus of Trudy Way near existing Tract 31955. An unimproved road leading from Mabey Canyon provides access to the southerly area. Vehicular access however, is limited, owing to the steep topography, which generally increases in elevation from the northeast to the southwest, and lack of maintenance of the road. Elevations over the site range from approximately 945 feet to 1,730 feet above mean sea level (AMSL).

The 270.9-acre project site is in an almost natural, undisturbed state. Steep topography with a thin soil mantle has precluded agricultural development common elsewhere in the general area. Very dense chaparral punctuated by sporadic stands of scrub oak covers most slopes. Unimproved roads from Mabey Canyon Road and Mangular Avenue provide access to this area. However, vehicular access is limited because of steep topography and other factors as noted above. Skyline Drive, which abuts the south edge of the annexation area, provides recreational access to the Cleveland National Forest.

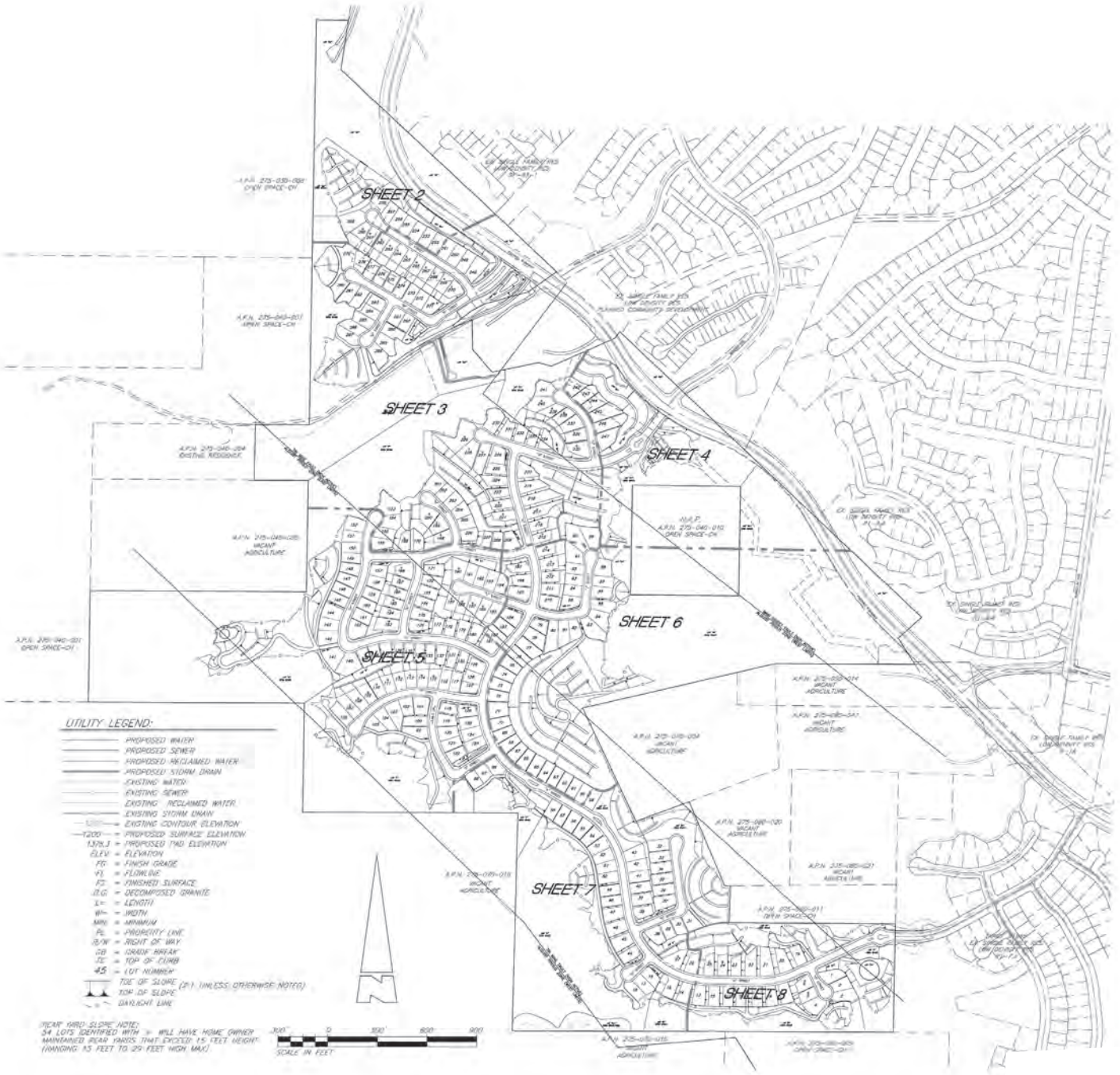
The 394.8-acre annexation area, currently within unincorporated Riverside County, is mostly designated as Rural Mountainous (single-family residential), with a smaller portion designated as Conservation Habitat (OS-CH), both Riverside County General Plan designations. However, of this total, an approximately 1.3-acre parcel in the vicinity of Skyline Drive is zoned AG (agriculture), also a Riverside County designation. All of the parcels contained within the 270.9-acre project site are currently zoned Rural Residential (Riverside County).

E. PROJECT DESCRIPTION

The project involves the approval of Tentative Tract Map 36544 for the development of 292 single-family homes. In order to facilitate the development of the residential subdivision, an annexation of the project site and surrounding annexation area is required. As such, the primary facets of the project are the following:

- Annexation of 394.8 acres from unincorporated Riverside County in the City of Corona's SOI to the City of Corona.
- General Plan Amendment to Corona's General Plan Sphere of Influence Land Use Plan (West Sphere) to amend 394.8 acres from Rural Residential 1 (0.2 – 0.5 dwelling units/acre) to Low Density Residential (3-6 dwelling units/acre) on 357.14 acres and Open Space on 37.61 acres.
- Application to rezone 37.61 acres to Open Space, 86.23 acres to Agriculture, and 270.9 acres to R-1-7.2 (single-family residential, 7,200 square-foot minimum lot size located in the city's SOI (westerly sphere) to facilitate the annexation of property into the City of Corona.
- Approval of Tentative Tract Map 36544.

Tentative Tract Map 36544 is illustrated in **Figure 2-7**, *Tentative Tract Map 36544*. Tentative Tract 36544 includes numerous lettered lots to be set aside for open space, slope landscaping, streets, and utilities. As



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Tentative Tract Map 36544

Skyline Heights Project
Source: KWC Engineers, 2014.

FIGURE
2-7

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shown in Figure 2-7, 45 lots would be developed to the north of Mabey Canyon and 247 lots would be developed to the south of Mabey Canyon. The residential development would occur in three phases. Phase I would consist of 157 homes to be located in the central and south sectors of the site, to the south of Mabey Canyon and along the future Trudy Way alignment. Phase II would consist of 90 homes to be constructed in the central sector of the site, south of Mabey Canyon and west of the Trudy Way alignment. Phase III would consist of 45 homes to be constructed in the north sector of the project site, north of Mabey Canyon. It is anticipated that the three phases would be completed by 2020.

1. Access and Roadways

Vehicle access to the project would be from the Foothill Parkway Westerly Extension, which would be constructed along the northeast side of the site. Access to the south edge of the project site would be via Trudy Way, which currently serves Subdivision Tract 31955. The central access point from the Foothill Parkway Westerly Extension would be at "P" Street and access to the northerly sector would be via "B" Street, which would align with Border Avenue. The access points along Trudy Way and "B" Street will be gated. The alignment of the Foothill Parkway Westerly Extension would require the dedication of approximately 21.38 acres from the 270.9-acre project site.

"P" Street would be developed to meet "local collector," 88-foot-wide standards. The 88-foot-wide "local collector" standards require a 16-foot-wide raised, landscaped median; two 24-foot-wide, two-lane roadways; five-foot-wide sidewalks; and seven-foot landscaped parkways. Trudy Way and "B" Street would be developed to meet "local collector," 68-foot-wide standards. These "local collector" standards require a 44-foot-wide, four-lane roadway, five-foot-wide sidewalks, and seven-foot-wide landscaped parkways. Interior streets would be developed to meet "local street," 60-foot-wide or 56-foot-wide standards. "Local street" 60-foot-wide standards require four-foot-wide sidewalks and eight-foot-wide landscaped parkways. "Local street" 56-foot-wide standards require four-foot-wide sidewalks and six-foot-wide landscaped parkways.

2. Open Space and Landscaping

As previously shown in Figure 2-6, the four U.S. Fish and Wildlife Services parcels within the annexation area and the open space parcel at the south edge of the annexation area would be maintained as permanent open space. This would allow permanent access to Skyline Drive and trails within the Cleveland National Forest. Open space would also be provided within the project site (Tentative Tract 36544) in the form of landscaped slopes, landscaped and native open space areas, and landscaped detention basins. **Figure 2-8**, *Landscape Plan – Northerly Portion of Skyline Heights,* and **Figure 2-9***, Landscape Plan – Southerly Portion of Skyline Heights*, illustrate proposed landscaping for slopes, open space areas, and detention basins. As shown in Figures 2-8 and 2-9, plantings on commonly-owned (i.e., under Homeowners' Association [HOA] ownership) and private slopes would be chosen from "Defensible Space Landscaping Plant Palette for Fuel Modification in Riverside County" guidelines and all trees and shrubs would be California Department of Water Resources "Water Use Classifications of Landscape Species" (WUCOLS) low water use. Trees would be required to be provided in minimum 15-gallon planter boxes for each 400 square feet of slope, shrubs would be two shrubs for each 64 square feet of slope, with sixty percent one-gallon and forty percent five-gallon. Approved trees and shrubs for common and private slopes are listed on Figures 2-8 and 2-9.

Irrigation would consist of point source drip or in-line drip irrigation. Overhead spray irrigation would not be permitted. Groundcovers would consist of three inches of "gorilla hair" mulch that would be spread evenly over all slope areas.

Twenty-four-inch boxed trees would be planted at a rate of one per lot or at 35 feet on center along street frontages. Approved tree species include *ginko biloba* (maidenhair tree), *lagerstroemia indica* (Crape myrtle tree), *platanus acerifoliaI* (London planetree), *quercus agrifolia* (coast live oak tree), and *rhus lancea* (Karee tree). Common open space recreation areas would be planted with WUCOLS low-water plants, as shown in Figures 2-8 and 2-9. Areas containing native open space would not be altered from existing conditions.

Detention basin areas would be planted with trees and shrubs to screen views of the basin at the perimeter. The basin floor would be hydroseeded with an appropriate native mix to be determined. Approved trees and shrubs are listed on Figures 2-8 and 2-9.

Figure 2-10, *Open Space Concept Plan*, illustrates a typical layout for common slopes and open space areas. As shown in Figure 2-10, five-foot walkways would enhance access to open space areas. Where views are available, the view corridor would be retained and an overlook area with seating would be provided. Open space would combine plant and tree species and provide for turf areas to enhance use and access. However, through the City's design review process on the landscape plans, the turf areas may be subject to removal depending on the adoption of current ordinances pertaining to water conservation.

Landscaping on private property would be consistent with City of Corona standards. One 15-gallon tree or larger is required for each 400 square feet of slope. No less than 50 percent of the trees shall be evergreens. Two shrubs are required for each sixty-four feet of slope area. For groundcovers, rooted cuttings shall be planted at 12 inches on center minimum and 24 inches on center maximum, depending on the variety of groundcover. Smaller trees and shrubs shall be planted at the top of the slope and larger trees and shrubs are to be planted further downslope to preserve views and lines of sight. Trees are to be planted near the property line to further frame the view.

3. Grading

The grading operation entails cut and fill from the existing grades to the proposed ultimate roadway and pad grades within the project development within a single phase. The anticipated maximum cut and fill depths are 160 feet and 145 feet, respectively. The estimated earthwork volume to be moved is approximately 5,000,000 cubic yards. The site is designed to balance the cut and fill within the project site with no import or export of material.

4. Infrastructure

The proposed project would implement a number of infrastructure improvements that are necessary for operation of the proposed uses, which include new water distribution and storage facilities, wastewater conveyance facilities, and stormwater drainage and detention facilities.

As relates to water facilities, the project would construct on- and off-site water pipelines ranging in size from 8 to 12 inches in diameter, upgrade the existing on-site Mabey Canyon Booster Pump Station to 1,340 gallons

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0 600 Feet

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Landscape Plan – Northerly Portion of Skyline Heights

Skyline Heights Project

Source: bmla Landscape Architecture, 2014.

FIGURE **2-8**

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Landscape Plan – Northerly Portion of Skyline Heights

Skyline Heights Project

Source: bmla Landscape Architecture, 2014.

FIGURE
2-9

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Open Space Concept Plan

Skyline Heights Project

Source: bmla Landscape Architecture, 2014.

FIGURE

2-10

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per minute (gpm) capacity, as well as construct a new on-site Booster Pump Station with 500 gpm capacity, a new on-site 0.6-million-gallon above-ground water reservoir, and install a new on-site zone valve in "B" Street. In addition, new water infrastructure is proposed as part of the City's Foothill Parkway Westerly Extension Improvements Project of which is assumed to be in place prior to implementation of the proposed project. As such, the proposed project would require the following City of Corona Capital Improvements/Water Infrastructure to be constructed prior to the build-out condition:

- Construction of the new 16-inch Zone 5 waterline in Foothill Parkway from Trudy Way to the Sierra Bella Development and the 12-inch inter-tie in Mabey Canyon Road to the existing Zone 5B water system (Mabey Canyon Booster System) as part of the Foothill Parkway Westerly Extension Improvements;
- Construction of the new 16-inch Zone 4 waterline in Trudy Way from Foothill Parkway to the proposed Zone 4 Reservoir site within the proposed project located at the southeastern corner of the project site; and
- Construction of a new 2.5 mg Zone 4 Reservoir and related appurtenances within the project site.

In the event that these improvements are not already in place and operational prior to completion of the proposed project, any improvements necessary to serve the project would be the sole responsibility of the project Applicant.

With regard to wastewater infrastructure, the project would require the following improvements:

- Construction of 8-inch on-site gravity sewer lines within the proposed project;
- Construction of off-site 8-inch gravity sewer lines from on-site sewer system to existing sewer system connection points; and
- Potential mitigation of downstream trunk sewer impacts as a result of the sewer contributions from the proposed project. The existing sewer system impacts are approximately 503 linear feet ("LF") of 8-inch pipe, 503 LF of 8-inch pipe, 3,248 LF of 10-inch pipe, and 228 LF of 12-inch pipe.

The project would also include new on-site stormwater drainage facilities that would be constructed in accordance with the most recent City of Corona and Riverside County and Water Conservation District design requirements. New off-site storm drain pipes would also be constructed as part of the Foothill Parkway Westerly Extension Project, which would also serve the proposed project. In addition, the project would install a system of flow-by basins, detention basins, and storm drain piping so that off-site flows would by-pass the project site and would not be co-mingled with development runoff which would be treated at the designated Best Management Practice ("BMP") treatment areas. The site is divided into five tributary areas, or Drainage Management Areas ("DMAs"), which are designated as Basins A, B, C, D, and E. The Applicant will install biotreatment BMPs (i.e., extended detention basins) within each DMA as approved by the City Department of Public Works.

F. PROJECT CONSTRUCTION

1. Construction Phasing

As described above, the project would be constructed in three phases. It is anticipated that these development phases would be completed by 2020. It is also anticipated that the Foothill Parkway Westerly Extension would be completed prior to the initiation of construction. Therefore, if the Foothill Parkway Westerly Extension Project were not completed, the proposed project would not be implemented.

2. Truck Routes

Truck routes to and from the construction site would take access at "B" Street and "P" Street to the Foothill Parkway Westerly Extension. The truck route leading to the Riverside Freeway (SR-91) would be via the Foothill Parkway Westerly Extension to Green River Road, and along Green River Road approximately three miles to the Green River Road/SR-91 interchange. Truck access to the site from SR-91 would follow this route in reverse. The truck route to I-15 would be via the Foothill Parkway to the east, approximately 1.7 miles to Main Street, north on Main Street approximately 0.5-mile to Magnolia Avenue, north on Magnolia Avenue approximately 1.9 miles to I-15 for a total of approximately four miles. Truck access to the site from I-15 would follow this route in reverse. Final truck route shall be determined and approved by the City Engineer.

3. Construction Staging and Parking Areas

All construction staging, material and equipment storage, and construction worker parking would occur within the project site boundaries. No off-site construction-related staging, storage, or parking would be permitted.

4. Construction Management Plan

In order to reduce the potential impact of construction-related traffic, the Applicant would implement a Construction Management Plan to minimize traffic impacts upon the local circulation system in the area. The Construction Management Plan would be developed in coordination with, and subject to approval from, the City of Corona Traffic Engineer.

G. NECESSARY APPROVALS

Approvals required for implementation of the proposed project include, but are not limited to, the following:

1. City of Corona

- City Council approval of project and certification of Environmental Impact Report
- General Plan Amendment 13-003 (GPA13-003) to amend Corona's General Plan Sphere of Influence Land Use Plan (westerly sphere) to amend 394.8 acres from Rural Residential I (0.2 - 0.5 dwelling units per acre) to Low Density Residential (3-6 dwelling units per acre) on 357.14 acres and Open Space on 37.61 acres.

- Change of zone 13-002 (CZ13 002) to rezone 37.61 acres to Open Space, 86.23 acres to Agriculture, and 270.9 acres to R-1-7.2 (single-family residential, 7,200 square-foot minimum lot size) located in the City's SOI (westerly sphere) to facilitate the annexation of property into the City of Corona.
- Annexation 117 to annex 394.8 acres from unincorporated Riverside County in the City of Corona's SOI to the City of Corona.
- Approval of Tentative Tract Map 36544 (TTM 36544) to provide for the subdivision of 270.9 acres into 292 single family residential lots, including numerous lettered lots to be set aside for open space, slope landscaping, streets and utilities in the R-1-7.2 zone being proposed by CZ13-002.
- Approval of a Radio Study (for Corona Police Department communications), as well as haul route, demolition, grading, and building permits.

2. Riverside LAFCO

- Review and approval of the annexation of 394.8 acres located within the City of Corona SOI from unincorporated Riverside County to the City of Corona

3. South Coast Air Quality Management District (SCAQMD)

- Construction and operation permits pursuant to SCAQMD Regulation II

4. Regional Water Quality Control Board (RWQCB)

- National Pollution Discharge Elimination System (NPDES) Permits

5. Metropolitan Water District of Southern California (Metropolitan)

- Annexation of the project site into the Metropolitan service area

6. State Water Resources Control Board (SWRCB)

- General Construction Stormwater Permit

7. Federal

- Clean Water Act (CWA) Section 404 Permit
- Clean Water Act (CWA) Section 401 Water Quality Certification
- California Fish and Game Code Section 1602 Streambed Alteration Agreement for impacts to jurisdictional features regulated by the USACE, RWQCB, and/or CDFW.

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3.0 Basis for Cumulative Analysis

3. BASIS FOR CUMULATIVE ANALYSIS

The California Environmental Quality Act (CEQA) requires that Environmental Impact Reports (EIRs) analyze cumulative impacts. As defined in *CEQA Guidelines* Section 15355, a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. *CEQA Guidelines* Section 15130(a) states that an EIR must discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in Section 15065(a)(3). Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but must briefly describe its basis for concluding that the incremental effect is not cumulatively considerable. However, an EIR should not discuss impacts which do not result in part from the project evaluated in the EIR. Furthermore, when the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, the EIR must briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR. A lead agency must identify facts and analysis supporting the lead agency's conclusion that the cumulative impact is less than significant.

In addition, *CEQA Guidelines* Section 15130(b) indicates that the analysis of cumulative impacts shall reflect the severity of the impacts and the likelihood of occurrence, but the discussion need not provide as great a level of detail as is provided for the effects attributable to the project alone. Instead, the discussion should be guided by the standards of practicality and reasonableness, and should focus on the particular impacts to which the other related projects contribute to cumulative effects in conjunction with the proposed project, rather than those attributes of the other related projects that do not contribute to the cumulative impact in conjunction with the proposed project.

As indicated above, "cumulative impacts" are defined as "two or more individual effects which, when considered together, are considerable or compound or increase other environmental impacts."[1] A project has "cumulatively considerable" impacts when its incremental effects "are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."[2]

For an adequate discussion of significant cumulative impacts, the *CEQA Guidelines* allow an EIR to determine cumulative impacts and reasonably foreseeable growth based on either of the following methods:[3]

- A list of past, present, and probable future projects producing related or cumulative impacts; or
- A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental planning document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact.

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1 *Cal. Pub. Res. Code § 21083(b); CEQA Guidelines § 15355*

2 *Cal. Pub. Res. Code § 21083(b); see also* CEQA Guidelines *§ 15355(b).*

3 *CEQA Guidelines Section 15130(b)(1)(A) and (B)*

For the purposes of the cumulative impacts analysis for the proposed project, the City has opted to use both the list approach and the growth projections approach, as applicable, for evaluating cumulative effects. The list of "related projects" was developed by the City by reviewing the most current list of approved projects in the City's project status database. Projects identified within the general area of the project site were confirmed by City staff to be current or probable future developments with the potential to contribute to cumulative effects in conjunction with the proposed project given their proximity and anticipated development intensity. The City identified 22 related projects, which are summarized below in **Table 3-1**, *Related Projects List*, while the locations of the related projects are shown in **Figure 3-1**, *Related Projects Map*.

Although the projects listed below serve as the primary bases for evaluation of cumulative impacts, the approach to these analyses vary for certain environmental issues. According to *CEQA* Guidelines Section 15130 (b)(3), the City established a general geographic scope of the area affected by the potential cumulative effects based on the potential for the proposed project and related projects to contribute impacts within a particular distance from the project site, jurisdiction, viewshed, watershed, air basin, service area, or other geography, as applicable. The specific geographic scope for each environmental issue analyzed in this EIR is provided below.

- The scope for cumulative analysis of impacts related to aesthetics and views is the viewshed surrounding the project site, as only those projects that can be viewed in the context of the proposed project could contribute to cumulative visual effects.
- The geographic scope of cumulative effects for air quality and global climate change is the South Coast Air Basin, since all regional air emissions from development within the area occur within the Basin.
- The geographic scope of cumulative effects for agriculture and forestry resources is the State of California, which encompasses the entirety of existing farmland and forestry resources within the State.
- The cumulative analysis of effects on biological resources considers species and habitats within a specific geographic area in which one would expect to find such resources, in this case the southwestern portion of Riverside County.
- The geographic scope for archaeological and paleontological resources is the southern California region, based on the historic extent of Native American settlements and the distribution of fossil-bearing geologic formations in the region.
- Cumulative impacts on historic resources are evaluated in the context of local, State, and national regulations, since historic resources can be considered significant at each of these levels; however, cumulative impacts are generally evaluated in terms of whether or not impacts would contribute directly or indirectly to cumulatively significant effects on resources eligible for listing on the California or National registers.
- Geology and soils effects typically localized cumulative effects are evaluated based on the potential for the project to pose risks to people or structures to adjacent land uses as the result of on-site conditions.

- Cumulative impacts related to hazards and hazardous materials are evaluated in the context of the local vicinity of the project site, which for the proposed project includes the southwest area of the City of Corona.
- Cumulative effects related to hydrology and water quality are limited to the watershed within which a project is located, and therefore the geographic scope for cumulative analysis is the Santa Ana River watershed.
- Land use and planning impacts generally affect the jurisdiction in which projects are located, and therefore the geographic context for cumulative analysis is the City of Corona, County of Riverside, and the southern California region (Southern California Association of Governments jurisdiction).
- Noise effects are by nature localized, and therefore potential cumulative noise impacts are analyzed for those identified related projects in close enough proximity to the project site to increase ambient noise levels on-site or in the immediate project vicinity.
- The cumulative analysis context for population and housing impacts relate to the geographies identified in regional growth management plans (such as the 2012-2035 SCAG RTP/SCS), which include the City of Corona, County of Riverside, and entire SCAG Region.
- The geographic scope for cumulative effects on public services and utilities (including police, fire, schools, parks/recreation, libraries, water, wastewater, and solid waste) are limited to each respective service area.
- The geographic context for cumulative traffic and circulation impacts is the area within which related projects could contribute 50 or more peak hour trips to the street network serving the project site. In addition to the traffic associated with the identified related projects, the cumulative traffic analysis also includes an overall growth factor of one percent (1%) per year to account for smaller projects and other ambient growth in the project area.

Cumulative analysis for each environmental issue is provided in the respective environmental subsections in Chapter 4, *Environmental Impact Analysis*, of this EIR.

Table 3-1

Related Projects List

Related Project No.	Project Name	Location	Description
1	Foremost Communities (TTM 36541)	South of Calle Del Oro (Sierra Bella)	237 single family lots 322 acres
2	MBK Homes and Turner Development (TTM 35590, PP07-007)	Southwest corner of Serfas Club and Palisades	Mixed use: 288 multi-family units 12.56 acres 9 light industrial buildings (177,822 s.f.) 12.25 acres
3	Cesar Chavez School Expansion (DPR11-006)	West side of Paseo Grande south of West Sixth Street	93,684 s.f. middle school addition to existing elementary school
4	Knowleton Communities (TTM 33135)	South of Skyline Drive, south of Foothill Parkway, west of Lincoln	63 single family lots 60 acres
5	Knowleton Communities (PM 36250, PP09-004)	Southwest corner of Ontario and Buena Vista	2 lots for two commercial buildings totaling 18,400 s.f.
6	Rancho De Paseo Valencia (TTM 34760, Annex 110, SPA08-005 EIR)	South and west of Malaga Street, south of Upper Drive, west of Main Street	34 single family estate lots 64 acres
7	DJJ Development (TTM 32386)	Southerly terminus of Main Street, south of Fletcher Drive	49 single family lots 75 acres
8	City of Corona Successor Agency/West Coast Development (TTM 34488, PP06-009)	Southeast corner of Harrington Street and Lincoln Avenue	194 multi-family units 7.3 acres
9	Corona North Main, LLC Phase II (PP12-005)	West side of North Main Street at Blaine Street	Mixed Use Development 453 multi-family units 72,100 s.f. commercial 15 acres
10	Pecuniary Capital, LLC (TTM 35851, CUP10-017)	North of Corona Avenue, west of I-15 Freeway	60 townhome units (multi-family) 3.5 acres
11	Mulligan-Allen & Associates (PM 35661, PP08-001)	Southeast corner of Collett and Promenade Avenue in northeast Corona	442 multi-family units 17.2 acres
12	Sherborn, LLC (PM 33959)	South of Magnolia Avenue, west of Sherborn Street	29 industrial lots 76 acres
13	Nova Homes (TTM 36533)	Laurel Canyon, northeast of Old Temescal	103 single family lots 61 acres
14	Cornerstone Enterprises (PM 36311, PP10-001, CUP10-003, 004; 005)	West of I-15, north of Foothill Parkway/El Cerrito Road	Commercial center: Restaurant total 17,200 Retail in-line 24,000 Service station 3,000 Hotel 119 rooms, 38670 s.f. 9.8 acres

Table 3-1 (Continued)

Related Projects List

Related Project No.	Project Name	Location	Description
15	Tri-Pointe Homes (TTM 36355, CUP14-001)	North of Foothill Parkway, west of I-15	146 Single Family Condos 21.7 acres
16	Gateway Business Park Crossings (PM 29503R, PP08-008)	East of I-15; north of Cajalco Road at Tom Barnes Way	44 commercial and industrial lots; 216,400 s.f. 28 acres
17	SE Corporation Lakeshore Plaza (PM 34890, PP06-006)	West side of I-15, east of Temescal Canyon	Four lots for three office buildings (one constructed), two remain at 289,613 s.f.
18	Meridian Dos Lagos, LP (PM 34851, PP06-011)	East of Temescal Canyon, Planning Area 6 of Dos Lagos	7 lot condo map with 7 office buildings totaling 35,931 s.f. 3.6 acres
19	Fu Bang Group (PM 33151, PP04-018)	Southwest corner of Temescal Canyon and Blue Springs	92 live-work units
20	Rexco Development (PP13-006)	East side of Temescal Canyon Road at Cabot Drive	354 Multi-Family units 20.39 acres
21	Rexco Development	North side of Sampson Avenue, East of Anselmo	Three Industrial Buildings – 420,457 s.f.
22	Arrantine Hills Specific Plan (SP09-001)	West Side of I-15, South of Eagle Glen Parkway	Master Planned Community: 1,170 residential units 129.2 acres Commercial 38 acres Mixed Use Commercial/ Residential 21.1 acres – 451 units Commercial/industrial – 18.6 acres
23	North Main Street District	Southwest corner of N. Main Street and River Road	Condominiums 404 DU
24	Berzansky/PB Development	East side of E. Grand Boulevard north of 3rd Street	Medical Office Buildings 39,200 SF
25	Westliving	East of California, 500 feet south of Taber	2-story, 92,245 s.f. (112 units) assisted living/memory care
26	Vulcan Materials	Sherborn Street	Existing surface mine; expansion by 100 acres; extension of permit
27	Sanre Corporation	California Avenue (off Carbide)	36,658 s.f. industrial, 3 acres
28	Trammell Crow	1451 Magnolia, south of Sixth Street	3 industrial buildings, 531,904 s.f.; 26.34 acres
29	Griffco Land LLC	Blue Springs Drive & Temescal Canyon Road	125 Multi-Family units on 5.23 acres
30	Citrus Circle Apartments	Buena Vista & 91 Freeway	42 affordable units
31	Houman/Patel	Southeast corner of Main and Eighth Streets	17,400 s.f. 2-story office building
32	ASTA/Strata	Northwest corner of Main Street and Parkridge Avenue	45 townhomes on 3.8 acres

Sources: City of Corona., 2014.

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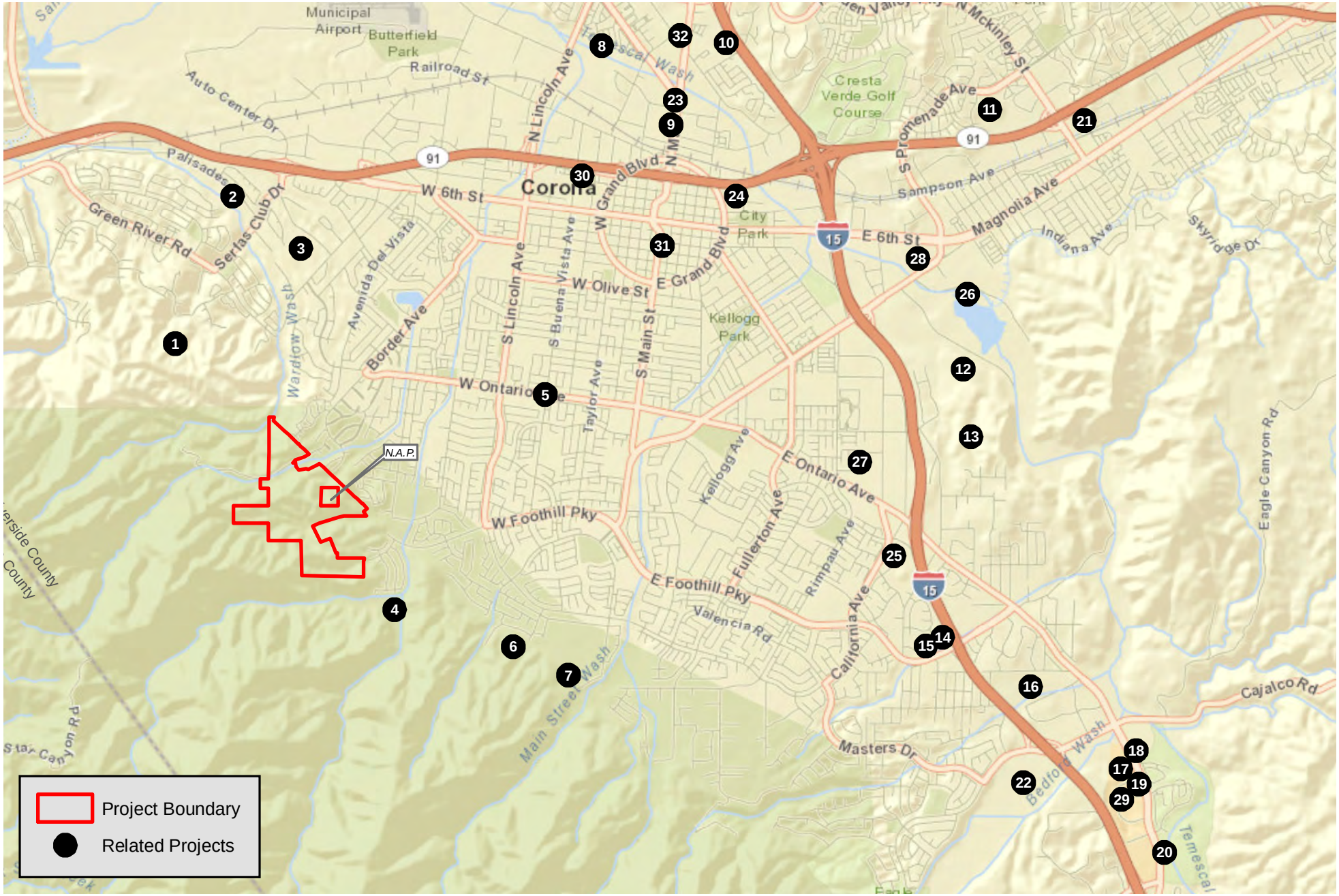

PCR

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Related Projects Map

Skyline Heights Project

Source: ESRI Street Map, 2009; PCR Services Corporation, 2015.

FIGURE

3-1

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4.0 Environmental Impact Analysis

4. ENVIRONMENTAL IMPACT ANALYSIS
A. AESTHETICS

INTRODUCTION

This section addresses potential impacts that could result from the proposed project with regard to visual quality, views, shade/shadow, and light and glare. The analysis presented in this section is based on a review of applicable plans and regulations, including the City of Corona General Plan, and visual simulations prepared by BMLA Landscape Architecture, as well as site reconnaissance and analysis conducted by PCR staff.

1. ENVIRONMENTAL SETTING

a. Existing Conditions

(1) Regional Setting

The proposed project is located in unincorporated Riverside County along the southwestern boundary of the City of Corona. The regional setting is comprised of a mix of natural and highly developed landscapes. Corona is located at the base and just east of the Chino Hills and Santa Ana Mountains that provide a geological border and separate Corona from the greater Orange County metropolitan area, to the west. The Santa Ana Mountains are largely within the Cleveland National Forest, which borders Corona's southwestern edge. The San Gabriel Mountains, within the Angeles National Forest, and San Bernardino Mountains, within the San Bernardino National Forest, provide a geological border to the north and separate the region from the Mojave Desert to the north. Cities in the region are interconnected along Interstates (I)10, 15, and 215 and State Routes (SR) 60, 71, 91, and 210 and often lack gaps of open space land or distinct separation between different cities such as Pomona, Rancho Cucamonga, Fontana, Riverside, Upland, San Bernardino, and Redlands. These cities do not have a distinct edge and blend together by the continuation of extensive development. South of SR-91 and between I-15 and I-215, the region is still developed, but not as densely as areas north of SR-91, and wider open areas of open space exist between developed areas.

Open space areas generally exist in the form of the surrounding hills and mountains, national forests, drainage ways, and local parks. Water features in the region include the Santa Ana River; Chino, Mill, and Cucamonga Creeks; Temescal Wash; Lake Mathews; and the Prado Flood Control Basin. Views within the region vary from being limited to the foreground by development, infrastructure, and vegetation to having more open views and vistas from elevated roadways and hillsides and over undeveloped open space lands.

Within Corona, prominent scenic vistas include views of the Prado Basin from Sierra del Oro that encompass the basin on the south and canyon areas on the west; views of the Santa Ana Mountains from the I-15/SR-91 Freeway interchange; southern view of the foothills from major north-south streets south of Ontario Avenue; views from the higher elevations south of Ontario Avenue, which encompass panoramic views to the north

and San Gabriel Mountains; and Grand Boulevard, including the distinct circle of palm trees visible from a variety of locations.[1]

(2) Local Setting

The project site is located within an undeveloped hillside area within the City of Corona sphere of influence in unincorporated Riverside County. The site is in the foothills of the Santa Ana Mountains and is located to the south/southwest of the Foothill Parkway Westerly Extension. The project site is generally vacant. The site has steep topography with very dense chaparral punctuated by sporadic stands of scrub oak covering most of the slopes. Elevations over the site range from approximately 945 feet to 1,730 feet above mean sea level (AMSL).

More specifically, the site consists of two areas that are separated by Mabey Canyon. The area to the north of Mabey Canyon is in an almost natural state and characterized by steep topography with steep-sided northeast trending ridges. The area has V-shaped canyons and narrow, spine-like ridges. There are three canyons within this portion of the site that drain northwesterly into Wardlow Canyon and into Mabey Canyon to the south. There is currently limited vehicular access to the area on unimproved roads from Mabey Canyon Road and Mangular Avenue. A single-family home is located to the north of the project site, but within the larger annexation area surrounding the site, with access provided via Green River Road. Miscellaneous vacated buildings, used in conjunction with a former horse stable enterprise, are located adjacent to and east of the existing residence. The portion of the site that is located south of Mabey Canyon is also characterized by steep topography with northwest trending ridges and V-shaped canyons.

The site and the surrounding area generally reflect a suburban, rural residential, and sloping native hillside landscape. The surrounding areas to the north and east of the site are developed with single-family residences. Skyline Drive, a graded forest service access road to the south of the project site, provides recreational access to the Cleveland National Forest, which is located to the south and west of the site along with large privately owned parcels. Skyline Drive provides recreational hiking and mountain biking opportunities to residents on a local and regional level. **Figure 4.A-1** and **Figure 4.A-2**, *Existing Site Photos*, below, illustrate existing views of and across the project site from surrounding locations. As shown in Figures 4.A-1 and 4.A-2, the project site is generally undeveloped and characterized by varied topography with steep slopes and native vegetation, though a limited number of structures and related improvements (e.g., roads, water tanks, drainage infrastructure, etc.) are present on the property. Views of scenic resources to the north and south, including the San Gabriel, San Bernardino, and Santa Ana Mountains, are available from the higher elevations throughout the project site, and from nearby public trails, including the Skyline Drive Trail located immediately off-site to the south. Although some disturbance has occurred on the project site, the majority of the site is comprised of native vegetation and in the context of the surrounding open space and forest areas to the south and west, the visual quality of the site is considered good. Chase Drive from Mangular Avenue to State Street, is designated as a City Scenic Highway in the City's General Plan. Existing views from Chase Drive looking westward are of the Santa Ana Mountains. Although direct views of the project site from Chase Drive are generally limited and obscured by existing topography, vegetation, and urban development, some clear views of ridgelines within the southern portion of the project site are visible along the roadway to the southwest.

[1] *City of Corona, Corona General Plan, Adopted March 2004.*

Photograph 1: View of the southern portion of the project site toward the northeast from the Skyline Drive Trail.

Photograph 2: View across the project site towards the north from the Skyline Drive Trail.

Photograph 3: View of the central portion of the project site towards the west-southwest from Clearview Circle.

Photograph 4: View of the northern portion of the project site towards the west-southwest from Condor Circle.

PCR

Existing Site Photographs

Skyline Heights Project
Source: PCR Services Corporation, 2015.

FIGURE
4.A-1

Photograph 5: View of the northern portion of the project site towards the west-southwest from Mabey Canyon Detention Basin.

Photograph 6: View of the central portion of the project site towards the west from Mabey Canyon.

Photograph 7: View of the central portion of the project site towards the southwest from Mabey Canyon.

Photograph 8: View of the central portion of the project site towards the northeast from Mabey Canyon.

PCR

Existing Site Photographs

Skyline Heights Project
Source: PCR Services Corporation, 2015.

FIGURE
4.A-2

The Foothill Parkway Westerly Extension would be completed prior to the initiation of construction of the proposed project. The westerly extension would be a four-lane roadway from its existing terminus south of the site approximately 600 feet west of Skyline Drive to Green River Road. At Skyline Drive, the roadway would veer to the west into the unincorporated area of Riverside County and continue in an east/west direction along the City/County boundary. The alignment would then curve to the north and connect to Green River Road in the vicinity of Paseo Grande. The Foothill Parkway Westerly Extension would be completed prior to implementation of the proposed project and therefore is considered in the Existing Conditions discussion.

(a) Existing Viewer Groups, Viewer Responses, and Views

(i) Residents

As discussed earlier, existing residential development is located to the north and east of the site. The nearby residents are the primary viewers that have direct and extended views of the project site, and are likely to have moderately high sensitivity to visual changes at the project site due to extended viewing times and a higher sense of ownership of views combined with familiarity with a landscape. Some direct long-distance views of the project site are available from Chase Drive (as noted above) and surrounding neighborhoods to the south, and views of the project site interior are available from neighborhoods to the north and south of Mabey Canyon. However, based on the existing topography of the area, and the relative elevations of existing development relative to the project site, direct views of the property from surrounding residential areas are generally limited from adjacent neighborhoods, as shown in Figures 4.A-1 and 4.A-2 above.

(ii) Automobile Roadway Users

Upon completion of the Foothill Parkway Westerly Extension, views from roads and highways by automobile users would be of moderate duration because while drivers may have some time to take in their surroundings, they are generally more focused on the surrounding traffic, road signs, and their immediate surroundings within the automobile. The passing developed landscape becomes familiar to these viewers and their attention is typically not focused on the passing views. Therefore, automobile roadway users generally have low visual sensitivity to their surroundings.

(iii) Recreationists

Recreationists in the project area include people going to Cleveland National Forest, including those accessing the forest area via the Skyline Drive Trail. In addition, upon completion of the Foothill Parkway Westerly Extension, recreationists could include cyclists, pedestrians, runners, and joggers. Recreationists using national forests and local roadways and sidewalks are more likely to regard the natural and built surroundings as a holistic visual experience. However, they are likely to have high visual sensitivity due to the undeveloped nature of the project area.

(3) Light and Glare

The project site is undeveloped; therefore, it does not contribute to the existing ambient light and glare in the vicinity. Artificial light sources occur from existing residences to the north and east of the site, and include interior and exterior lighting for security/safety, architectural highlighting, and landscape lighting. The Cleveland National Forest is located south and west of the site and as such there are no sources of light or glare. The Foothill Parkway Westerly Extension is planned and approximately 21.38 acres on the eastern

portion of the project site would be used as right-of-way for the construction of the Foothill Parkway Westerly Extension. The Foothill Parkway Westerly Extension is anticipated to be completed by 2016, prior to the commencement of construction of the proposed project. As a result of the Foothill Parkway Westerly Extension, automobile headlights, streetlights and stoplights along the Westerly Extension would contribute to the overall future ambient lighting levels in the vicinity.

b. Regulatory Framework

(1) State

(a) California Department of Transportation

The California Department of Transportation (Caltrans) defines a scenic highway as any freeway, highway, road, or other public right-of-way, that traverses an area of exceptional scenic quality. Suitability for designation as a State Scenic Highway is based on vividness, intactness, and unity. According to Caltrans, I-15 and SR-91 are eligible for designation as State Scenic Highways, but are not officially designated.[2] There are no officially designated State Scenic Highways in the vicinity of the proposed project.

(2) Local

(a) City of Corona General Plan

The Community Design Chapter of the City of Corona General Plan provides guidance for the design character of Corona's public streetscapes, entries, and activity places. It expands upon and complements the design and development guidelines defined for the City's residential neighborhoods and commercial, industrial, and mixed-use districts by the Land Use Element. In addition, the City's General Plan Environmental Resources Element contains a Visual Resources component. The Visual Resources component identifies and contains goals and policies to preserve significant hillsides, valleylands, floodplains, and other aesthetic view corridors, or viewsheds.

As shown in Figure 4.4-2 (Scenic Highways) of the General Plan Technical Background Report, City-designated scenic highways include:

- Grand Boulevard, which provides views of the City's historic core, particularly the large estates established on the irregularly shaped parcels along the edge of the circle, as well as associated landscaping and mature street vegetation;
- Main Street, from Third Street to the southern terminus, which also provides views of the historic core of the City, as well as views of the Santa Ana Mountains to the west and south, and the low foothills of the San Bernardino Mountains to the east;
- Ontario Avenue, from Mangular Avenue to State Street, which provides views of the Santa Ana Mountains to the west and the low foothills of the San Bernardino Mountains to the east;
- Chase Drive, from Mangular Avenue to State Street, which also provides views of the Santa Ana Mountains to the west and the low foothills of the San Bernardino Mountains to the east; and

[2] *Caltrans, California Scenic Highway Program. http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm Accessed May 6, 2013.*

- Magnolia Avenue, from Garretson and Ontario Avenues to Rimpau Avenue, which also provides views of the Santa Ana Mountains to the southwest, as well as long-distance views of the San Bernardino Mountain foothills to the east.

The City-designated scenic highways identified above are not in the vicinity of the proposed project site. However, Chase Drive and Mangular Avenue are located approximately ¼ mile to the east of the site.

With regard to scenic views, the wide-open vistas in the City of Corona are associated with natural features that dominate visual image of the City. Significant vistas include the Prado Basin views from Sierra del Oro, the Santa Ana Mountains from the I-15/SR-91 Freeway interchange; the southern view of the foothills from major north-south streets south of Ontario Avenue; the views from the higher elevations south of Ontario Avenue; and Grand Boulevard. The Visual Resources component identifies Eagle Glen, which is located on the east side of the City, as providing one of the best views. The General Plan identifies Palisades Drive/Green River Road south of the Highway 71/SR-91 interchange as another scenic road in the City.

Consistency of the proposed project with applicable General Plan goals and policies related to aesthetics and visual resources is discussed below in Table 4.A-1.

(b) Corona Municipal Code – Title 17

The intent of Title 17, Zoning, of the City of Corona Municipal Code (CMC) is to protect public health, safety and the general welfare of residents and visitors in the City. Several sections of the CMC, Title 17, are applicable to the project including Chapter 17.59, Hillside District, and Chapter 17.70, Landscaping.

Chapter 17.59 applies since the project site is located within the area shown on Figure 4.5-1 (Slope Analysis) of the General Plan Technical Background Report as having greater than 25 percent slopes. The Hillside District chapter provides development regulations to preserve significant visual resources from potential loss or disruption. The chapter contains the following policies:

(A) Encourage development clustering which contributes to the provision of view corridors;

(B) Encourage development design that reflects the distinct environmental and topographical characteristics of the land;

(C) Encourage the clustering of development on the most gently sloping portions of the site;

(D) Encourage innovative architectural, landscaping, circulation and site design;

(E) Discourage mass grading of large pads and excessive terracing except where soils stability dictates grading and recompaction for public safety;

(F) Provide for safe circulation of vehicular and pedestrian traffic to and within hillside areas and to provide adequate access for emergency vehicles necessary to serve hillside areas; and

(G) Encourage design and building practices to assure maximum safety from wildfire hazard.

CMC Chapter 17.70, Landscaping, provides minimum landscaping requirements and regulations regarding the location and heights of walls, fences and hedges. Landscape requirements include the installation of water efficient landscaping and irrigation systems.

CMC Section 17.84.070 requires that all areas of exterior lighting shall be designed to direct light downward with minimal spillover onto adjacent residences, sensitive land uses and open space.

2. ENVIRONMENTAL IMPACTS

a. Methodology

Since evaluating visual impacts is inherently subjective, federal and professional standards of visual assessment methodology have been used to determine potential impacts on aesthetic values of the project area. Identifying the project area's visual resources and conditions involved the three following steps:

1. Objective identification of the visual features (visual resources) of the landscape;
2. Assessment of the character and quality of those resources relative to overall regional visual character; and
3. Determination of the importance to people, or sensitivity, of views of visual resources in the landscape;

The aesthetic value of an area is a measure of its visual character and quality, combined with the viewer response to the area.[3] Scenic quality can best be described as the overall impression that an individual viewer retains after driving through, walking through, or flying over an area.[4] Viewer response is a combination of viewer exposure and viewer sensitivity. Viewer exposure is a function of the number of viewers, number of views seen, distance of the viewers, and viewing duration. Viewer sensitivity relates to the extent of the public's concern for a particular viewshed. These terms and criteria are described in detail below.

(1) Visual Character

Natural and artificial landscape features contribute to the visual character of an area or view. Visual character is influenced by geologic, hydrologic, botanical, wildlife, recreational, and urban features. Urban features include those associated with development, including roads, utilities, structures, earthworks, and the results of other human activities. The perception of visual character can vary significantly seasonally, even hourly, as weather, light, shadow, and elements that compose the viewshed change. The basic components used to describe visual character for most visual assessments are the elements of form, line,

[3] *Federal Highway Administration. 1988. Visual Impact Assessment for Highway Projects. (FHWA-HI-88-054.) US Department of Transportation,* 1988.

[4] *U.S. Bureau of Land Management. 1980. Visual Resource Management Program(Stock No. 024-001-00116-6.) Washington, DC: U.S. Government Printing Office.*

color, and texture of the landscape features.[5,6] The appearance of the landscape is described in terms of the dominance of each of these components.

(2) Visual Quality

Visual quality is evaluated using the approach to visual analysis adopted by Federal Highway Administration employing the concepts of vividness, intactness, and unity which are described below.[7] [8]

- Vividness is the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns.
- Intactness is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, and in natural settings.
- Unity is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the landscape.

Visual quality is evaluated based on the relative degree of vividness, intactness, and unity, as modified by its visual sensitivity. High-quality views are highly vivid, relatively intact, and exhibit a high degree of visual unity. Low-quality views lack vividness, are not visually intact, and possess a low degree of visual unity.

(3) Visual Exposure and Sensitivity

The measure of the quality of a view is tempered by the overall sensitivity of the viewer. Viewer sensitivity or concern is based on the visibility of resources in the landscape, proximity of viewers to the visual resource, elevation of viewers relative to the visual resource, frequency and duration of views, number of viewers, and type and expectations of individuals and viewer groups.

The importance of a view is related in part to the position of the viewer to the resource; therefore, visibility and visual dominance of landscape elements depend on their placement within the viewshed. A viewshed is defined as all of the surface area visible from a particular location (e.g., an overlook) or sequence of locations (e.g., a roadway or trail).[9] To identify the importance of views of a resource, a viewshed is broken into distance zones of foreground, middle ground, and background. Generally, the closer a resource is to the viewer, the more dominant it is and the greater its importance to the viewer. Although distance zones in a viewshed may vary between different geographic region or types of terrain, the standard foreground zone is 0.25 to 0.5 miles from the viewer, the middle ground zone from the foreground zone to 3 to 5 miles from the

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5 *U.S.D.A. Forest Service. 1995. Landscape Aesthetics: A Handbook for Scenery Management. (Agriculture Handbook Number 701).*

6 *Federal Highway Administration. 1988. Visual Impact Assessment for Highway Projects. (FHWA-HI-88-054.) US Department of Transportation, 1988.*

7 *Federal Highway Administration. 1988. Visual Impact Assessment for Highway Projects. (FHWA-HI-88-054.) US Department of Transportation, 1988.*

8 *Jones, G. R., J. Jones, B. A. Gray, B. Parker, J. C. Coe, J. B. Burnham, and N. M. Geitner. 1975. A Method for the Quantification of Aesthetic Values for Environmental Decision Making. Nuclear Technology 25(4): 682–713.*

9 *Federal Highway Administration. 1988.* V*isual Impact Assessment for Highway Projects. (FHWA-HI-88-054.) US Department of Transportation, 1988.*

viewer, and the background zone from the middle-ground to infinity.[10] Visual sensitivity depends on the number and type of viewers and the frequency and duration of views. Visual sensitivity is also modified by viewer activity, awareness, and visual expectations in relation to the number of viewers and viewing duration. For example, visual sensitivity is generally higher for views seen by people who are driving for pleasure, people engaging in recreational activities such as hiking, biking or camping, and homeowners. Sensitivity tends to be lower for views seen by people driving to and from work or as part of their work.[11,12,13] Commuters and non-recreational travelers have generally fleeting views and tend to focus on commute traffic, not on surrounding scenery; therefore, they are generally considered to have low visual sensitivity. Residential viewers typically have extended viewing periods and are concerned about changes in the views from their homes; therefore, they are generally considered to have high visual sensitivity. Viewers using recreation trails and areas, scenic highways, and scenic overlooks are usually assessed as having high visual sensitivity.

Judgments of visual quality and viewer response must be made based in a regional frame of reference.[14] The same landform or visual resource appearing in different geographic areas could have a different degree of visual quality and sensitivity in each setting. For example, a small hill may be a significant visual element on a flat landscape but have very little significance in mountainous terrain.

(4) Visual Effects of the Proposed Project

Using the concepts and terminology, described above and criteria for determining significance, described below, analysis of the visual effects of the project are based on:

- Photographic documentation of key views of and from the project site, including adjacent residential subdivisions and and roadways;
- Evaluation of regional visual context;
- Review of project visual simulations;
- Review of conceptual landscape plans; and
- Review of the project in regard to compliance with state and local ordinances and regulations and professional standards pertaining to visual quality.

The focus of this visual analysis is on the potential for the proposed project to adversely affect views from publicly accessible vantage points (i.e., views from public roads, trails, towns, parks, or bridges instead of from private viewing locations). Publicly accessible locations in the community from which residents would view the project area are considered to be of importance in the analysis. Although the analysis of view

[10] *Jones, G. R., J. Jones, B. A. Gray, B. Parker, J. C. Coe, J. B. Burnham, and N. M. Geitner. 1975. A Method for the Quantification of Aesthetic Values for Environmental Decision making. Nuclear Technology 25(4):* 682–713.

[11] *U.S.D.A. Forest Service. 1995. Landscape Aesthetics: A Handbook for Scenery Management.* (Agriculture Handbook Number 701).

[12] *Federal Highway Administration. 1988. Visual Impact Assessment for Highway Projects. (FHWA-HI-88-054.) US Department of Transportation, 1988.*

[13] *U.S. Soil Conservation Service. 1978. Procedure to Establish Priorities in Landscape Architecture (Technical Release No. 65). Washington, DC.*

[14] *U.S. Soil Conservation Service. 1978. Procedure to Establish Priorities in Landscape Architecture (Technical Release No. 65). Washington, DC.*

impacts is focused on publicly available views, private views of nearby residents are also considered for informational purposes.

Visual simulations prepared by BMLA are used in this analysis. The photo simulations identify four key view points and provide a photograph showing the existing views from that location and then the view that would exist after project implementation. These photo simulations are provided as figures in this section. The key view points were selected in consultation with City staff.

(5) Light and Glare

Artificial light impacts are typically associated with light that occurs during the evening and nighttime hours, and may include streetlights, illuminated signage, vehicle headlights, and other point sources. Uses such as residences and hotels are considered light-sensitive since they are typically occupied by persons who have an expectation of privacy during evening hours and who are subject to disturbance by bright light sources. The analysis of lighting impacts focuses on whether the project would cause or substantially increase lighting effects on light-sensitive uses.

Glare is primarily a daytime occurrence caused by the reflection of sunlight or artificial light from highly polished surfaces, such as window glass or reflective materials, and, to a lesser degree, from broad expanses of light-colored surfaces. Daytime glare generation is common in urban areas and is typically associated with mid-to high-rise buildings with exterior façades largely or entirely comprised of highly reflective glass or mirror-like materials from which the sun can reflect, particularly following sunrise and prior to sunset. Glare generation is typically related to sun angles, although glare resulting from reflected sunlight can occur regularly at certain times of the year. Glare can also be produced during evening and nighttime hours by artificial light directed toward a light sensitive land use. The analysis of glare focuses on whether glare effects would interfere with off-site activities.

(6) Shade and Shadow

Sensitive land uses in the area subject to shading by this project are the adjacent residential uses. Increased shading on sensitive areas would be considered significant if shading would be increased by more than 3 hours between 9:00 A.M. and 3:00 P.M. during the period of October through April, or for more than 4 hours between 9:00 A.M. and 5:00 P.M. during the period of April through October. The analysis of shade/shadow evaluated if shading would be significant at winter solstice (around December 21), the day with the shortest daylight period and longest shadows (i.e., the "worst case scenario"). The analysis was conducted by reviewing aerial photography of the project site and the proposed plans for both the project and the Foothill Parkway Westerly Extension.

(7) Consistency with Regulatory Framework

The evaluation of aesthetic resources compares the project to the standards and policies set forth in the City's General Plan. It should be noted that an inconsistency with a particular goal or policy is only considered a significant impact only if it (a) is a mandatory goal or policy; and (2) results in physical impacts on the environment.

b. Thresholds of Significance

Appendix G of the *CEQA Guidelines* and the City's Initial Study Checklist provide thresholds of significance to determine whether a project would have a significant environmental impact regarding aesthetics. Based on the size and scope of the Project and the potential for aesthetics impacts, the thresholds identified below are included for evaluation in this EIR.

Threshold 1: Have a substantial adverse effect on a scenic vista (refer to Impact Statement 4.A-1);

Threshold 2: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway (refer to Impact Statement 4.A-2);

Threshold 3: Substantially degrade the existing visual character or quality of the site and its surroundings (refer to Impact Statement 4.A-3);

Threshold 4: Create a new source of substantial light or glare that would adversely affect day or nighttime public views (refer to Impact Statement 4.A-4);

Threshold 5: Shade shadow-sensitive uses more than three consecutive hours between the hours of 9:00 A.M. and 3:00 P.M. during the period of October through April, or for more than 4 hours between 9:00 A.M. and 5:00 P.M. during the period of April through October (refer to Impact Statement 4.A-5); and

Threshold 6: Conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan and municipal code) adopted for the purpose of avoiding or mitigating an aesthetic effect (refer to Impact Statement 4.A-6).

In determining the significance of aesthetics and visual resources impacts identified in the above thresholds, this analysis relies on professional standards, which are utilized as a tool to gauge the severity of aesthetics-related effects. For example, Threshold 1 above indicates that a significant impact would result if a project results in a substantial adverse effect on a scenic vista, but in order to identify what a "substantial adverse effect" is, one must employ established professional standards. Professional standards result from professional and direct expertise gained by professionals working on visual analyses and consulting with other experienced staff, sub-consultants, and clients regarding visual effects, including knowledge gained from public input on a broad range of projects. The effects listed represent collective knowledge that is professionally agreed upon and represents common, general public concerns. According to professional standards, and in light of the significance thresholds presented above, a project may be considered to have significant aesthetic impacts if it would significantly:

- Conflict with local guidelines or goals related to visual quality;
- Alter the existing natural viewsheds, including changes in natural terrain;
- Alter the existing visual quality of the region or eliminate visual resources;
- Increase light and glare in the project vicinity;

- Result in backscatter light into the nighttime sky;
- Result in a reduction of sunlight or introduction of shadows in community areas;
- Obstruct or permanently reduce visually important features; or
- Result in long-term (that is, persisting for 2 years or more) adverse visual changes or contrasts to the existing landscape as viewed from areas with high visual sensitivity.

c. Project Design Features

The 292 single-family residences would be developed on lots that are a minimum of 7,200 gross square feet consistent with the proposed zoning. The lots would be generally clustered on the site with 45 lots located to the north of Mabey Canyon and 247 lots located to the south of Mabey Canyon.

Open space would be provided within the project site in the form of landscaped slopes, landscaped and native open space areas, and landscaped detention basins. Figures 2-8 and 2-9 of this EIR provide a conceptual landscape plan, which illustrates proposed landscaping for slopes, open space areas, and detention basins. Plantings on commonly-owned (i.e., under Homeowners' Association [HOA] ownership) and private slopes would be chosen from "Defensible Space Landscaping Plant Palette for Fuel Modification in Riverside County" guidelines and all trees and shrubs would be California Department of Water Resources "Water Use Classifications of Landscape Species" (WUCOLS) low water use. Trees would be 15 gallons for each 400 square feet of slope. Shrubs would be two shrubs for each 64 square feet of slope: 60 percent would be one gallon and 40 percent would be five gallon. Detention basin areas would be planted with trees and shrubs to screen views of the basin at the perimeter and the basin floor would be hydroseeded with an appropriate native mix to be determined. Along street frontages, 24-inch boxed trees would be planted at a rate of one per lot or at 35 feet on center.

Irrigation would consist of point source drip or in-line drip irrigation. Overhead spray irrigation would not be permitted. Groundcovers would consist of three inches of "gorilla hair" mulch that would be spread evenly over all slope areas to keep soil moist and reduce the need for daily watering.

Figure 2-10 in Chapter 2, Project Description, of this EIR provides a conceptual open space plan that illustrates a typical layout for common slopes and open space areas. Where views are available, the view corridor would be retained and an overlook area with seating would be provided. Open space would combine plant and tree species and provide for turf areas to enhance use and access. However, through the City's design review process on the landscape plans, the turf areas may be subject to removal depending on the adoption of current ordinances pertaining to water conservation. Common open space recreation areas would be planted with WUCOLS low-water plants, as shown in Figures 2-8 and 2-9. Areas containing native open space would not be altered from existing conditions.

Landscaping on private property would be consistent with City of Corona standards. One 15-gallon tree or larger is required for each 400 square feet of slope. No less than 50 percent of the trees would be evergreens. Two shrubs would be required for each 64 feet of slope area. For groundcovers, rooted cuttings shall be planted at 12 inches on center minimum and 24 inches on center maximum, depending on the variety of groundcover. Smaller trees and shrubs would be planted at the top of the slope and larger trees and shrubs are to be planted further downslope to preserve views and lines of sight. Trees would be planted near the property line to further frame the view.

Lighting on the site would be typical of residential developments. Light sources would be in the form of residential lighting on the houses and security lighting in the yards and garages. In addition, street-lights would be installed on the new roadways within the subdivision. All lighting would be installed consistent with the City's Municipal Code that requires that all lighting shall be designed to direct light downward with minimal spillover onto adjacent residences, sensitive land uses, and open space.

d. Analysis of Project Impacts

(1) Views/Scenic Vistas

Threshold	Would the project have a substantial adverse effect on a scenic vista?

Impact 4.A-1 *Construction and operation of the proposed project would permanently alter the viewshed at the project site and views of scenic resources in the project area. Therefore, the project would result in a significant and unavoidable impact relative to views and scenic vistas.*

(a) Short-term Construction Impacts

Construction of the proposed project would occur in three phases. Construction of the proposed residential subdivision would create temporary changes in views of and across the project site. Construction activities would introduce considerable heavy equipment and associated vehicles, including dozers, graders, scrapers, and trucks, as well as safety signage for construction areas into the viewshed of residences located to the north and east of the site. Construction activities and staging areas would be temporarily visually disruptive for all viewer groups, including adjacent residents, travelers along the Foothill Parkway (with the completion of the Foothill Parkway Westerly Extension), and recreationists visiting and using the Cleveland National Forest as well as people using the roadway for cycling, walking or jogging.

While construction would be temporary in nature, impacts to scenic vistas would be significant because of the location of the site in the foothills of the Santa Ana Mountains and the associated viewsheds from adjacent residences and the Cleveland National Forest trails, including the Skyline Drive Trail. The site is located west of Chase Avenue, which is a designated scenic highway, and views to the Santa Ana Mountains from Chase Avenue would be altered during the construction of the project. Based on the significance thresholds provided above, construction of the project would result in a significant impact to visual resources since it would: (1) alter the existing natural viewshed, including changes in natural terrain; (2) alter the existing visual quality of the region or eliminate visual resources (e.g., natural topography and vegetation on the project site); (3) obstruct or permanently reduce visually important features (e.g., on-site natural terrain; and (4) result in long-term adverse visual changes or contrasts to the existing landscape as viewed from areas with high visual sensitivity (e.g., designated scenic roadways such as Chase Avenue and publicly accessible trails such as the Skyline Drive Trail). As such, although temporary, project-related grading and construction activities would result in a significant and unavoidable impact to views and scenic vistas.

(b) Operation

Implementation of the project would disturb the native vegetation, introduce ornamental and native vegetation, and substantially alter the existing topography of the project site. While the project would permanently alter the foreground views of the foothills of the Santa Ana Mountains, the background views to

the Santa Ana Mountains would remain following project implementation. Upon completion, however, existing views of undeveloped land would be replaced with views of single-family residences. As shown below in **Figure 4.A-3**, *Visual Simulation #1*, the proposed project would be visible from the Foothill

Parkway Westerly Extension looking south from Mabey Canyon. The future residences would be located at a higher elevation and thus would be visible on the hillside. The residences would be clustered and would be at different elevations and would step up the hillside. As designed, the residences would appear to step up the hillside, which would help to reduce the visual presence of the new homes from this vantage point. As shown in **Figure 4.A-4**, *Visual Simulation #2*, the foothills would screen the proposed subdivision from view within the residential subdivision located to the east of the site. As shown in **Figure 4.A-5**, *Visual Simulation #3*, the project would not substantially alter the background views of the foothills, but mid-distance views to the interior of the project site would be altered by project-related structures and landscaping. Nonetheless, the residences that would be developed would be located at a substantial distance from the roadway. As shown in **Figure 4.A-6**, *Visual Simulation #4*, the project would substantially alter the views of the foothills. The roadway that would provide access to the residences as well as the residences would be visibly prominent in foreground and mid-distance views.

Final grading plans would be reviewed by the City Public Works Department and the areas and heights of cut and fill would be minimized to the extent technically achievable, ensuring that slope and bottoms are rounded and facilitate a smooth and seamless transition where natural and built slopes intersect. Disturbed areas would be replanted, while hillside and canyon slopes would be planted to soften the impact of grading, structures, retaining walls, and proposed streets within the subdivision. However, due to the permanent alterations that would occur with the grading of the site to develop the 292 residences, the visual impacts to the foothills of the Santa Ana Mountains would remain significant and unavoidable for the same reasons discussed above relative to construction impacts.

(2) Scenic Resources

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

Impact 4.A-2 *Although the proposed project would alter the foothills of the Santa Ana Mountains, long-distance views of the mountains from Chase Avenue would remain. There are no trees, rock outcroppings, or historic buildings designated in the area that would be affected by the project. Nonetheless, due to the substantial modification of on-site topography and introduction of urban uses into an existing undeveloped area, impacts to scenic resources are considered significant and unavoidable.*

Chase Drive provides western views toward the Santa Ana Mountains. While the project would result in grading within the foothills of the mountains and the development of 292 single-family residences, the project would not affect trees, rock outcroppings or historic buildings since none currently exist on site. Further, the residences would be clustered and would be developed on lots of at least 7,200 square feet, and the project would preserve approximately 96 acres of natural open space within the 270.9-acre project site.

With regard to scenic highways, Chase Drive provides western views toward the Santa Ana Mountains. The future Foothill Parkway Westerly Extension, which would include a new roundabout intersection at Chase

Drive and Mangular Avenue, would alter westward foreground and mid-distance views. The project would further alter the views from Chase Avenue, which is a designated City Scenic Highway, but the background views to the Santa Ana Mountains would remain. However, because of the alteration of the foothills that would result from the grading, development of the roadways, and the development of the proposed residences, the project would result in a significant and unavoidable impact.

(3) Aesthetics/Visual Character

Threshold	Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

Impact 4.A-3 *Implementation of the proposed project would alter the topography of the foothills of the Santa Ana Mountain. In addition, the existing views would be altered with the development of 292 single-family residences. While the project would incorporate project design features to minimize impacts, such as the clustering of residences, the project would alter the visual character or quality of the site and its surroundings. Therefore, the project would result in a significant and unavoidable impact to the visual character and quality of the site.*

The project site would be zoned R-1-7.2 (single-family residential), which would require a minimum lot size of 7,200 square feet. The development of the residential subdivision would be constructed in three phases and would be completed by 2020. As indicated above, the Foothill Parkway Westerly Extension would be completed prior to the initiation of construction of the proposed project. During construction and the implementation of the project, the site would transition from a rugged natural setting to that of a bare hillside under development. The removal of vegetation would result in a noticeable contrast between the existing residential neighborhoods to the north and east and the Cleveland National Forest to the west and south. Mass grading of the project site would be completed in a single phase. Once the mass grading phase has been completed, newly manufactured hillsides would be replanted with a mixture of tree and shrub species in an effort to blend in with the surrounding foothill setting. Although the appearance of an unvegetated project under construction would be temporary in nature, impacts would be considered substantial, and therefore, significant and unavoidable.

As shown in Figure 2-6 of this Draft EIR, the four U.S. Fish and Wildlife Services (USFWS) parcels within the annexation area and the open space parcel at the south edge of the annexation area would be maintained as permanent open space. This would allow permanent access to Skyline Drive and trails within the Cleveland National Forest. The residential subdivision would result in a clustering of residences within the project site. The project would result in the development of an approximately 271-acre subdivision, with approximately 96 acres of which would be preserved as natural open space , which would help concentrate the development and reduce the appearance of a sprawling new residential subdivision. Additional open space would also be provided within the project site (Tentative Tract 36544) in the form of landscaped slopes, landscaped and native open space areas, and landscaped detention basins. Where views are available from the USFWS or open space parcels, the view corridor would be retained and an overlook area with seating would be provided. Open space would combine plant and tree species and provide for turf areas to enhance use and access. The manufactured slopes would be revegetated with a mixture of plant species that would be similar to those present in surrounding developments, thereby reducing the visual presence of the new subdivision. The subdivision layout and revegetation/landscaping plan would help to blend the project in with the existing surrounding are and neighborhoods in the long term.

PCR

Visual Simulation #1

Skyline Heights Project
Source: PCR Services Corporation, 2015.

FIGURE
4.A-3

PCR

Visual Simulation #2

Skyline Heights Project
Source: PCR Services Corporation, 2015.

FIGURE
4.A-4

THIS SHEET
VIEW C

PCR

Visual Simulation #3

Skyline Heights Project
Source: PCR Services Corporation, 2015.

FIGURE
4.A-5

THIS SHEET
VIEW D

PCR

Visual Simulation #4

Skyline Heights Project
Source: PCR Services Corporation, 2015.

FIGURE
4.A-6

Overall, the proposed development would replace the views of the existing undeveloped foothills with views of a residential subdivision and associated graded slopes, structures, and landscaping. While the project would grade the slopes so as to appear natural and the project would include extensive landscaping, the change in the natural environmental would be considered a significant change to the existing visual character and quality of the site and its surroundings. Therefore, the project would result in a significant and unavoidable impact relative to the visual character and quality of the site.

(4) Light and Glare

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

Impact 4.A-4 *Implementation of the proposed project would not create substantial light or glare which would adversely affect views in the area. Therefore, the project would result in less than significant impacts with regard to light and glare.*

Currently, there are no significant sources of light or glare existing from within the project site. Existing sources of light and glare within the project area include exterior lighting from the residential uses to the north and east of the site. Ambient nighttime lighting in the project vicinity is characteristic of those within residential areas.

The project would introduce new sources of light as a result of the development of 292 residences and associated infrastructure. Light sources would be in the form of residential lighting on the houses, security lighting in the yards and garages, and vehicle lights from project-related traffic. It is anticipated that the exterior surfaces of the proposed residential uses would be finished with a combination of architectural coatings (e.g., stucco) and other materials (e.g., brick, wood, or tile) similar to other existing residential uses in the City. At night, lighting of the internal space of the residences and movement of vehicles with headlights on the new streets would create additional sources of light in the project area. Light from residential interiors would result from the operation of indoor lighting and appliances. Light coming from these interior sources typically are small enough (e.g., light from a lamp or light from a television) and easily contained (e.g., closing of drapes and curtains or switching off lights) that any such residential lighting would not exceed the intensity necessary to significantly affect adjacent uses. Light from vehicle movement within the subdivision would be partially blocked by buffer walls and vegetation located between the project site and adjacent uses. Nighttime lighting impacts from the proposed residential uses to the areas north and east of the site would not occur because of distance and intervening topography.

With regard to street lighting on the new roadways, the City of Corona has established standards for the design, placement, and operation of proposed public improvements such as lighting in its Municipal Code. The City's Municipal Code states that all lighting shall be designed to direct light downward with minimal spillover onto adjacent residences, sensitive land uses, and open space. The code requires that new development include light buffering and other related light shielding measures that are uniformly applied to all development in the City. As such, adherence to these measures would be required and enforceable through the review and approval (or non-approval) of the project plans, and would reduce any potential impacts from street lighting.

The site is vacant and does not currently represent a source of glare to the surrounding environment. The introduction of homes, and therefore reflective surfaces such as windows, cars, and rooftop materials, may

result in new sources of glare. However, given the distance from other residences, the intervening topography, and similar residential uses within the project vicinity, these potential new sources of glare would not be substantial and would therefore, be less than significant.

(5) Shade/Shadow

Threshold	Would the project shade shadow-sensitive uses more than three consecutive hours between the hours of 9:00 A.M. and 3:00 P.M. during the period of October through April, or for more than 4 hours between 9:00 A.M. and 5:00 P.M. during the period of April through October?

Impact 4 A-5 *Implementation of the proposed project would not result in measurable increases in off-site shading effects at nearby shade-sensitive uses. Therefore, shade/shadow impacts from the project would be less than significant.*

The project would result in the development of 292 single-family residences within a hillside subdivision in the foothills of the Santa Ana Mountains on the western edges of the City. The site is located adjacent to the Cleveland National Forest. The proposed residences would comply with the applicable development standards, such as setbacks and height, which are established to provide light and air to all of the residences. Given the proposed maximum building heights of the proposed residential structures, the distance to the nearest off-site shade-sensitive uses (i.e., residential uses to the east and northeast) and presence of steep intervening topography, the project is not expected to result in shade/shadow impacts on adjacent buildings. In addition, given the orientation of the lots and proposed structural heights (i.e., two-story maximum), it is not anticipated that the residences within the subdivision would impact other residences within the subdivision. Therefore, impacts relative to shade/shadow would be less than significant.

(6) Consistency With Regulatory Framework

Threshold	Would the project conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan and municipal code) adopted for the purpose of avoiding or mitigating an aesthetic effect?

Impact 4.A-6 *Implementation of the proposed project would not conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the General Plan, Specific Plan and Municipal Code) adopted for the purpose of avoiding or mitigating aesthetic impacts. This impact is considered less than significant.*

(a) Corona General Plan

The City of Corona General Plan includes various goals and policies within the Community Development – Community Design and Environmental Resources - Visual Resources Elements that relate to aesthetics, visual quality, and scenic resources. An analysis of the proposed project's consistency with each of the applicable goals and policies within the Corona General Plan is presented below in **Table 4.A-1**, *General Plan Consistency Analysis*. As indicated in Table 4.A-1, despite the substantial alteration of the project site from vacant land to a residential subdivision, the proposed project would be consistent with the applicable goals and policies of the General Plan with respect to aesthetics, views, and design. As such, impacts in this regard would be less than significant.

Table 4.A-1

General Plan Consistency Analysis

Goal/Policy	Project Consistency Statement
Community Development – Community Design	
Goal 2.5 – A city of well-designed residential neighborhoods, commercial districts and corridors, industrial districts, and civic places that are uniquely identifiable in their building form, public places, and landscapes contributing to a high quality of life for residents and positive image for visitors to the City.	**Consistent.** The proposed project would result in a hillside subdivision. While the project would alter the existing land, the residences would be generally clustered within the site and would be sited so as to conform with the topography. In addition, the project would preserve approximately 96 acres of the 270.9-acre project site as ungraded open space in its natural state. Furthermore, landscaping would be planted within common areas, detention basins, private property and along street frontages. Landscaping on commonly-owned and private slopes would be chosen from "Defensible Space Landscaping Plant Palette for Fuel Modification in Riverside County" guidelines and all trees and shrubs would be California Department of Water Resources "Water Use Classifications of Landscape Species" (WUCOLS) low water use. Landscaping would be compatible with the native landscaping on the site. The subdivision layout and revegetation/landscaping plan would all help the proposed project blend in with the existing surrounding neighborhoods in the long term. Based on the foregoing facts, the project would contribute to the high quality of life for residents and would contribute to the positive image for visitors to the City. Therefore, the project would not conflict with this goal.
Environmental Resources - Visual Resources	
Goal 10.22 Develop and implement land use controls that preserve significant visual resources from potential loss or disruption.	**Not Applicable.** This goal is directed towards the City. However, the project would comply with applicable land use controls, including development standards and design guidelines, which prescribe maximum building heights, setbacks, and landscaping, among other requirements, that minimize adverse visual effects of development.
Policy 10.22.1 - Create unobstructed view corridors or viewsheds of the San Bernardino, Santa Ana and San Gabriel Mountains, the Chino and La Sierra Hills, and other significant natural features from public spaces such as parks, termination of streets and community trails, community centers, and school properties, where feasible, as part of the design of development projects.	**Consistent.** While the proposed project would modify the visual character of the project site and alter the viewshed in the project area, particularly from public trails such as the Skyline Drive Trail, long-distance views of scenic resources such as the San Bernardino, Santa Ana, and San Gabriel Mountains, as well as the Chino and La Sierra Hills would not be substantially affected. As such, despite a significant impact related to alteration of the project site, the proposed project would be consistent with this policy.
Policy 10.22.2 - Require that project applicants identify and map all slopes greater than 15 percent on parcels within the City's hillside areas, referred to as the "Hillside Management District," in increments of 5 percent (e.g.,	**Consistent.** The site is located in a hillside area within the foothills of the Santa Ana Mountains. More specifically, the site is located in an area that is mapped on Figure 4.5-1 in the City's General Plan Technical

Table 4.A-1 (Continued)

General Plan Consistency Analysis

<table>
<tr><th>Goal/Policy</th><th>Project Consistency Statement</th></tr>
<tr><td>15 percent, 20 percent, 25 percent, and so on). Lands within this District shall be subject to administrative review to assure that development is located and designed to reflect its distinct environmental and topographic characteristics consistent with the policies of this Plan, under the provisions of a Hillside Development Ordinance.</td><td>Background Report as having slopes greater than 25 percent. Further, the Project's Slope Analysis Maps determine the slopes on-site do exceed 25 percent grade.</td></tr>
<tr><td>Policy 10.22.3 – Require that development in hillside areas with greater than 25 percent slope be clustered on the most gently sloping portions of the site, to the extent feasible, according to the following density limitations of the underlying Land Use Plan designations.
<table>
<tr><th>Maximum Percentage of Site to be Graded</th><th>Maximum Percent of Allowable Density</th></tr>
<tr><td>40-44.9%</td><td>100%</td></tr>
<tr><td>45-49.9%</td><td>90%</td></tr>
<tr><td>50-54.9%</td><td>80%</td></tr>
<tr><td>55-59.9%</td><td>70%</td></tr>
<tr><td>60-64.9%</td><td>60%</td></tr>
<tr><td>65-69.9%</td><td>50%</td></tr>
<tr><td>70-74.9%</td><td>40%</td></tr>
<tr><td>75-79.9%</td><td>30%</td></tr>
<tr><td>80-84.9%</td><td>20%</td></tr>
<tr><td>85+%</td><td>10%</td></tr>
</table></td><td>Consistent. The proposed project would result in a hillside subdivision. While the project would alter the existing land, the residences would be generally clustered within the site and would be sited so as to conform with the topography.</td></tr>
<tr><td>Policy 10.22.4 – Require that projects be designed and sited to maintain the natural topographic, physiographic, and aesthetic viewshed characteristics of those features, utilizing the following conditions:
• Minimize the area and height of cuts and fills, to the extent technically achievable ensuring that slope tops and bottoms are rounded and facilitate a smooth and seamless transition where natural and built slopes intersect.
• Configure development sites to mimic predevelopment natural topography by clustering sites and individual units and avoiding extensive fragmentation of steep slopes, "stair stepping" and varying terraces of structures, and/or other design practices.</td><td>Consistent. The project would be developed in a hillside area within the foothills of the Santa Ana Mountains. The site has steep terrain and has elevations ranging from 945 feet to 1,730 feet AMSL. The 292 residences would be generally clustered in the central portion of the site and the project would preserve visually significant slope banks and ridgelines in their natural state as natural open space areas to the extent feasible. The project would minimize the effects of grading by preserving clusters of natural open space and having manufactures slopes adjoin natural areas to help maintain the natural character of the hillsides. Retaining walls would be developed to follow the topography and would be designed with material and colors that blend in with the surrounding landscape. The manufactured slopes would be landscaped to provide buffer zones and visual interest. Drought tolerate species would be planted in</td></tr>
</table>

Table 4.A-1 (Continued)

General Plan Consistency Analysis

Goal/Policy	Project Consistency Statement
• Minimize the size of flat development pads in site grading to that necessary to accommodate the building footprint and a reasonable amount of useable outdoor space, as well as to assure structural and site stability. • Encourage building architectural design styles, forms and shapes, materials, and building siting to complement, rather than visually dominate their landscape setting. • Minimize the height of retaining walls and design with smooth flowing forms that follow topography and with material colors and textures that blend in with the surrounding landscape. • Plant hillside and canyon slopes with drought-tolerant species to soften the visual impact of land grading retaining walls, structures, and roads. • Restore disrupted areas of vegetation, wildlife habitat, natural watercourses and drainage swales, and other important viewshed features. Vegetation should be arranged in informal masses to create a textured slope that is characteristic to a natural chaparral mountain slope terrain.	open space areas and on slopes to soften the visual impact of grading, retaining walls, structures, and roads. Although the proposed project has been determined to result in significant and unavoidable impacts to aesthetics and visual resources, the project's design complies with the intent and requirements of this policy, and therefore the project is determined to be consistent.
Policy 10.23.2 – Regulate new development through provisions that require an analysis of impacts of development on the quality of the City's designated highways and corridors.	**Consistent.** This policy is directed towards the City as relates to the evaluation of impacts of development projects on designated scenic highways and corridors. Nonetheless, an analysis of impacts to the City's designated highways and corridors has been provided above under Impact 4.A-2 above.

Source: PCR Services Corporation, 2014

3. CUMULATIVE IMPACTS

Proposed project construction and operation were determined to result in less than significant impacts with respect to light and glare, and shade and shadow. However, the project would result in significant and unavoidable impacts to scenic vistas, and the visual character and quality of the project site and surroundings. Chapter 3, *Basis for Cumulative Analysis*, of this Draft EIR provides a list of 32 projects that are planned or are under construction in the surrounding area. Of these, four are located in the hillsides, with Related Project No. 1 located north of the site and Related Project Nos. 4, 6, and 7 located south of the site. These have the greatest potential to result in cumulative impacts with regard to aesthetics, views, light/glare, and shade/shadow.

The cumulative effect on scenic vistas from the proposed project would be potentially significant as scenic vistas would be substantially affected from viewpoints surrounding the project site and adjacent roads and trails (including the designated scenic roadway, Chase Avenue, and the Skyline Drive Trail). Although the development of the proposed project would alter views of the canyon area, it would not substantially obstruct views of surrounding mountain ranges from current vantage points near the proposed site. Scenic vistas would, however, be substantially affected by the transformation of the project site from vacant land to a graded, residential subdivision, as seen from viewpoints along roadways, trails, and other publicly accessible areas. Compliance with the City's Municipal Code and General Plan standards would minimize the visual impacts on scenic vistas in the southwest portion of the City, but such cumulative effects would be considered significant.

The proposed project, in conjunction with the three hillside projects to the south of the site, represent a continuation of the residential development in this area to the southwest of the City. These projects each contribute to a gradual change in visual character with the conversion of undeveloped or agricultural property to residential uses. Although this change has been anticipated in the City's General Plan, the project, in conjunction with related projects, would contribute to the cumulative development of the hillsides and the change from natural land to suburban subdivisions. Therefore, the project would contribute to a significant and unavoidable cumulative degradation in visual quality.

With regard to light and glare, cumulatively, more lighting would be introduced into the area by proposed, existing, and future development. As with past and currently proposed development, cumulative lighting-and glare-related impacts would be reduced through the adherence to applicable City standards. Therefore, the project would not contribute to a cumulatively significant lighting impact and cumulative light and glare impacts would be less than significant. With regard to shade/shadow, the related projects are located a minimum of approximately ½-mile from the project site and therefore, would not contribute to cumulative shade/shadow impacts.

4. MITIGATION MEASURES

All feasible mitigation – including clustering and compliance with state and local development codes – have been incorporated into the project. There are no additional mitigation measures available that could reduce the significance of impacts to the scenic vistas, or the visual character and quality of the site.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts related to scenic resources, light and glare, and shade/shadow would be less than significant. However, given the substantial landform alteration of the project site required to implement the proposed project, impacts related to views/scenic vistas, visual resources, and visual character would be significant and unavoidable, as no mitigation measures are available to reduce the significance of these impacts. However, the graded slopes will be revegetated and will fill in over time to blend more with the scenic landscape.

4. ENVIRONMENTAL IMPACT ANALYSIS
B. AIR QUALITY

INTRODUCTION

This section of the EIR addresses the project's potential to result in air quality-related impacts during construction and operation of the project. Relevant regulations and existing conditions are described as well as the potential for the project to conflict with or obstruct implementation of the applicable air quality plan. Air quality technical data utilized to prepare this section was obtained from the *Air Quality and Greenhouse Gas Report, Skyline Heights Project* (Air Quality and Greenhouse Gas Report), prepared by Michael Brandman Associates, dated May 2014, which is included in Appendix C of this Draft EIR.

1. ENVIRONMENTAL SETTING

a. Existing Conditions

(1) Regional Air Quality

The project site is located within the South Coast Air Basin (Basin), which is shown in **Figure 4.B-1**, *Boundaries of the South Coast Air Quality Management District and Federal Planning Areas*. The Basin is an area covering approximately 6,745 square miles and bounded by the Pacific Ocean to the west and south and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area in Riverside County. The terrain and geographical location determine the distinctive climate of the Basin, which is a coastal plain with connecting broad valleys and low hills.

The Southern California region lies in a semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the Basin is a function of the area's natural physical characteristics (weather and topography) as well as human-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and dispersion of pollutants throughout the Basin, making it an area of high pollution potential.

Data from the Western Regional Climate Center were used to characterize project vicinity climate conditions. According to the data, the average temperatures recorded in the City of Corona typically ranges from the middle 50s to the high 70s.[1] Furthermore, the majority of the annual rainfall in the area occurs between November and April. The average annual precipitation in Corona is 12.56 inches.

The nearest wind monitoring station to the project site is located in Norco, CA. This wind monitoring station was used to characterize project area wind conditions. Wind patterns in the project vicinity display a nearly

[1] *Western Regional Climate Center, 2013.*

unidirectional flow, primarily from the west, with an average speed of 4.54 miles per hour and calm wind conditions are present 8.7 percent of the time.[2]

The greatest air pollution impacts in the Basin occur from June through September and are generally attributed to large amounts of pollutant emissions, light winds, and shallow vertical atmospheric mixing. These conditions frequently reduce pollutant dispersion, thus causing elevated air pollution levels. Pollutant concentrations in the Basin vary with location, season, and time of day. Ozone concentrations, for example, tend to be lower along the coast, higher in the near inland valleys, and lower in the far inland areas of the Basin and adjacent desert.

Air quality within the basin is regulated by South Coast Air Quality Management District (SCAQMD), which has jurisdiction over an area of approximately 10,743 square miles, including all of Orange County; Los Angeles County, except for the Antelope Valley; the non-desert portion of western San Bernardino County; and the western and Coachella Valley portions of Riverside County. The Basin is a sub-region of the SCAQMD jurisdiction. Although air quality in this area has improved, the Basin requires continued diligence to meet air quality standards.

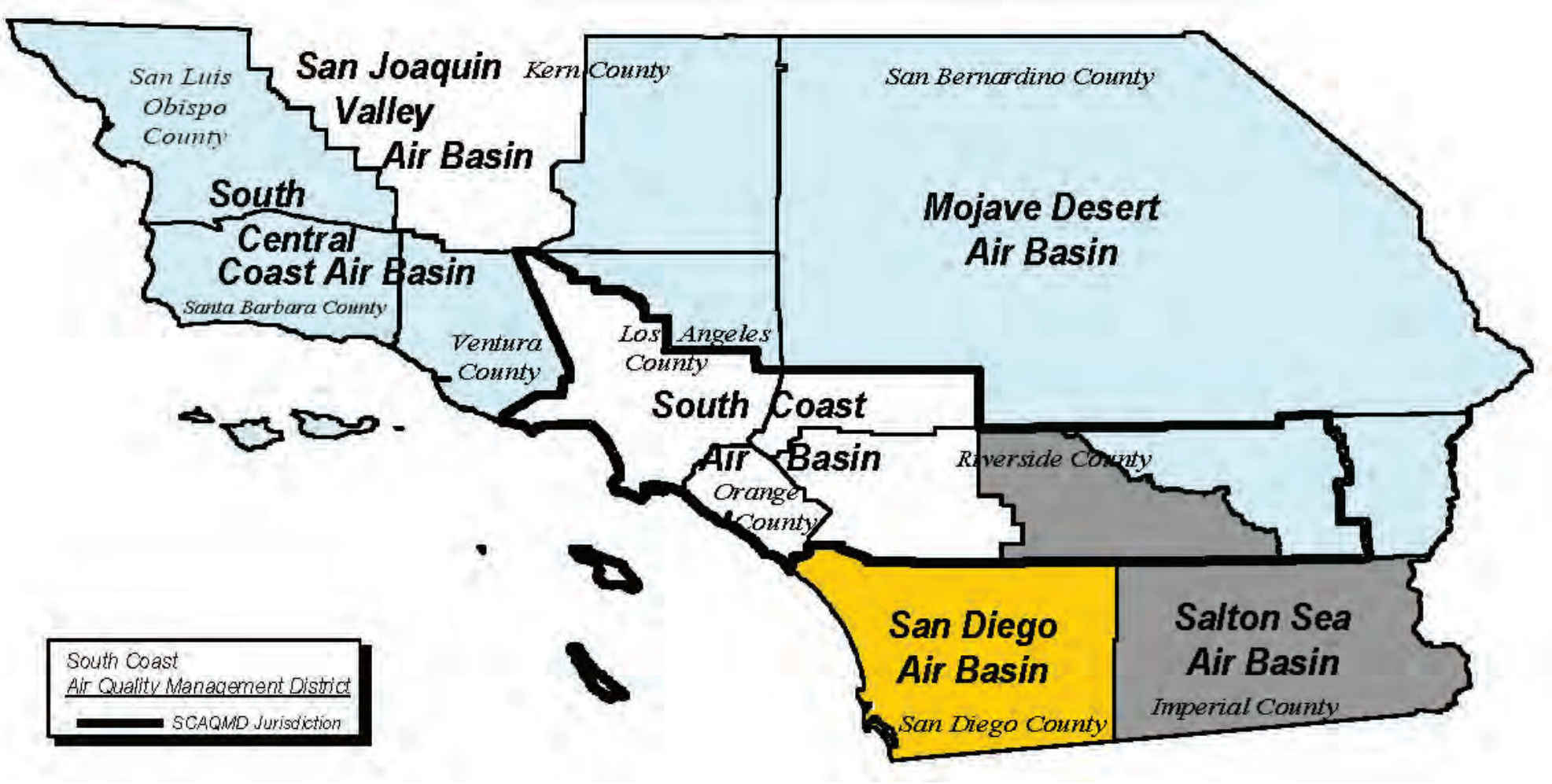
The SCAQMD has completed the Multiple Air Toxics Exposure Study III (MATES III), an ambient air monitoring and evaluation study that was conducted in the Basin.[3] MATES III, which was a follow-up to previous air toxics studies in the Basin, is part of the Environmental Justice Initiative of the SCAQMD Governing Board.

Over the past 30 years, substantial progress has been made to reduce air pollution levels in Southern California. For example, compared with previous studies of air toxics in the Basin, MATES III found a decreasing risk for air toxics exposure, with the population-weighted risk down by 17% from the analysis in MATES II. However, although there has been improvement in air quality as it pertains to air toxics, the risks are still unacceptable (e.g., air pollution levels are higher near sources of emissions such as ports and transportation corridors). Diesel particulate continues to dominate the risk from air toxics, and the portion of air toxic risk attributable to diesel exhaust is increasing compared with the MATES II study. The highest risks are found near the port, central Los Angeles, and transportation corridors. The results from the MATES III study underscore the need for a continued focus on reducing toxic emissions, particularly from diesel engines, to reduce air toxics exposure.

The MATES III study concluded that the average carcinogenic risk throughout the Basin, attributed to toxic air contaminants (TACs), is 1,194 in one million based on the average at fixed monitoring sites. Mobile sources (e.g., cars, trucks, trains, ships, and aircraft) represent the greatest contributors. Approximately 83.6 percent of all risk is attributed to diesel particulate matter (DPM) emissions.

[2] *South Coast Air Quality Management District, SCAQMD Meteorological Data for Dispersion Model Application, http://www.aqmd.gov/home/library/air-quality-data-studies/meteorological-data. Accessed October 2014.*

[3] *South Coast Air Quality Management District, Final Report, Multiple Air Toxics Exposure Study, MATES-III, (2008).*



PCR

N

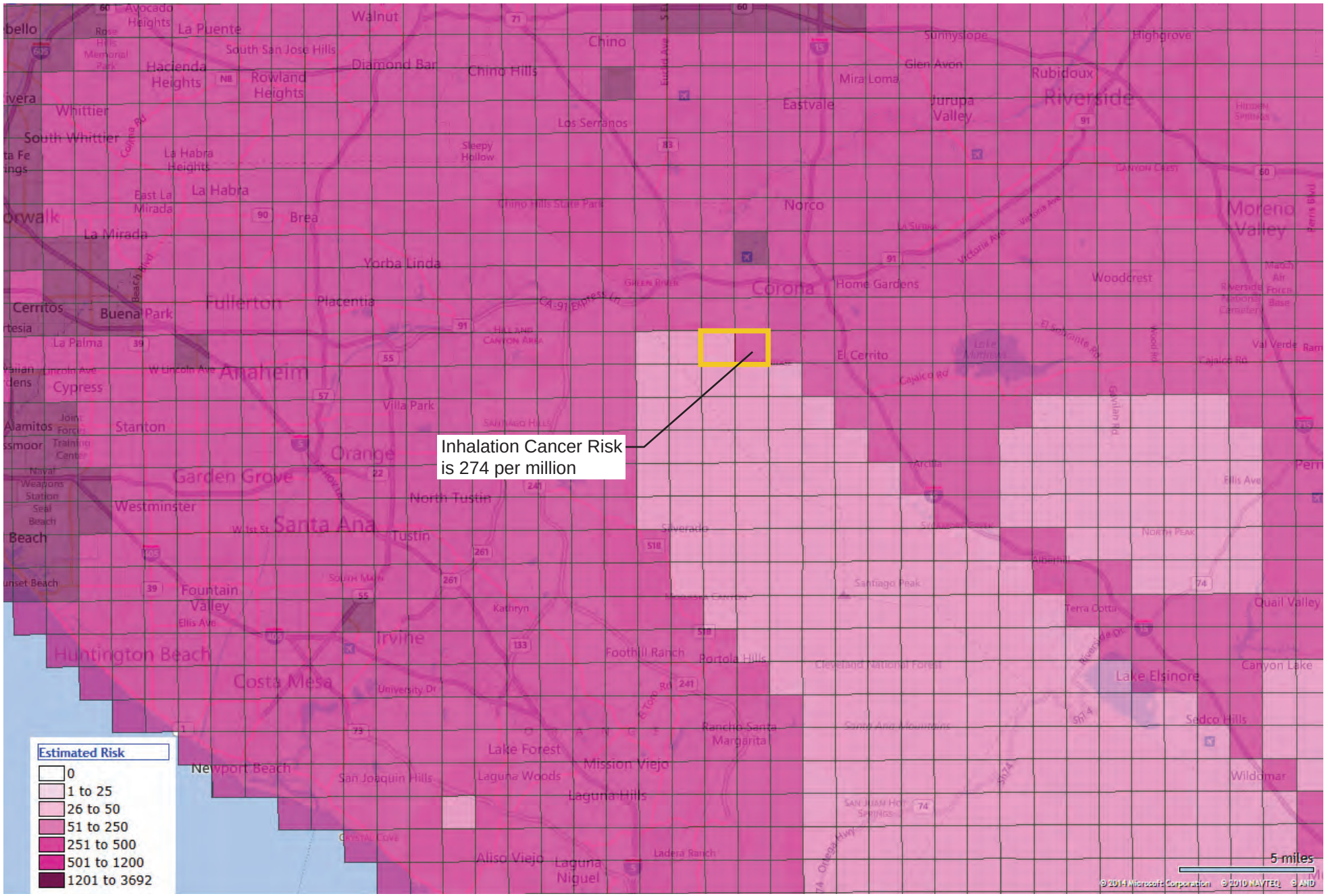
Boundaries of the South Coast Air Quality Management District and Federal Planning Areas

Skyline Heights Project

Source: South Coast Air Quality Management District, 2014.

FIGURE

4.B-1



PCR

N

0 5 Miles

Background Inhalation Cancer Risk for Project Site Area

Skyline Heights Project

Source: SCAQMD MATES III Carcinogenic Risk Interactive Map. http://www3.aqmd.gov/webappl/matesiii/ Accessed October 2014.

FIGURE

4.B-2

(2) Local Air Quality

(a) Criteria Pollutants

The SCAQMD, which has divided the Basin into air monitoring areas, maintains a network of air quality monitoring stations throughout the Basin. The project site is located in the Corona/Norco Area (i.e., Source Receptor Area [SRA] Number 22). The nearest monitoring station is in the City of Norco, though not all pollutants are measured at this station (only particulate matter less than or equal to 10 micrometers in diameter [PM_{10}] is monitored). As such, data for the other criteria pollutants were collected from the next monitoring station in closest proximity to the project site. The monitoring data are summarized in **Table 4.B-1**, *Air Quality Monitoring Summary*. The data shows that during the past three years, the project area has exceeded the ozone, PM_{10}, and fine particulate matter less than or equal to 2.5 micrometers in diameter ($PM_{2.5}$) standards.

(b) Toxic Air Contaminants

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. As part of MATES III, the SCAQMD prepared maps that show regional trends in estimated outdoor inhalation cancer risk from TAC emissions, as part of an ongoing effort to provide insight into relative risks. The maps represent the estimated number of potential cancers per million people associated with a lifetime of breathing air toxics (24 hours per day outdoors for 70 years). The project spans across two 2-kilometer (1.24-mile) grids as shown in **Figure 4.B-2**, *Background Inhalation Cancer Risk for Project Site Area*. As shown, the potential cancers per million people for these grid spaces are estimated at 230 and 329 per million. Generally, the risk from air toxics is lower near the coastline and increases inland, with higher risks concentrated near large diesel sources (e.g., freeways, airports, and ports). Areas with lower intensity development and fewer freeways also have relatively lower risks.

The California Almanac of Emissions and Air Quality presents the relevant concentration and cancer risk data for the ten TACs that pose the most substantial health risk in California based on available data. These TACs are as follows: acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, paradichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and DPM. Several of these TACs (acetaldehyde, benzene, 1,3-butadiene, formaldehyde, and DPM) are emitted by fossil fuel combustion such as gasoline- and diesel-fueled vehicles.

Asbestos is also listed as a TAC by CARB and as a Hazardous Air Pollutant by the USEPA. Asbestos occurs naturally in surface deposits of several types of rock formations. Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (serpentinite) and often contains chrysotile asbestos. In addition, another form of asbestos, tremolite, can be found associated with ultramafic rock, particularly near faults. Crushing or breaking these rocks, through construction or other means, can release asbestoform fibers into the air. Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining.

Table 4.B-1

Air Quality Monitoring Summary

Air Pollutant	Averaging Time	Item	Year 2010	2011	2012
Ozone (O_3)[1]	1 Hour	Max 1 Hour (ppm)	0.121	0.126	0.124
		Days > State Standard (0.09 ppm)	22	32	31
	8 Hour	Max 8 Hour (ppm)	0.094	0.104	0.103
		Days > State Standard (0.07 ppm)	59	63	72
		Days > National Standard (0.075 ppm)	38	36	47
Nitrogen Dioxide (NO_2)	Annual[3]	Annual Average (ppm)	0.017	ID	ID
	1 Hour[2]	98th Percentile (ppm)	0.057	0.057	0.055
	1 Hour[3]	Max 1 Hour (ppm)	0.061	0.057	0.060
		Days > State Standard (0.18 ppm)	0	0	0
Carbon Monoxide (CO)	1 Hour[2]	Max 1 Hour (ppm)	3	ND	1.6
		Days > State Standard (20 ppm)	0	0	0
		Days > National Standard (20 ppm)	0	0	0
	8 Hour[3]	Max 8 Hour (ppm)[6]	1.73	1.49	1.46
		Days > State Standard (20 ppm)	0	0	0
		Days > National Standard (20 ppm)	0	0	0
Sulfur Dioxide (SO_2)	Annual[4]	Annual Average (ppm)	0.001	0.000	ID
	24 Hour[4]	Max 24 Hour (ppm)	0.005	0.001	0.001
		Days > State Standard (0.04 ppm)	0	0	0
	1 Hour[2]	Max 1 Hour (ppm)	0.02	0.05	0.05
		Days > State Standard (0.25 ppm)	0	0	0
		Days > National Standard (0.075 ppm)	0	0	0
Respirable Particulate Matter (PM_{10})[5]	Annual	Annual Average (µg/m³)	27.2	27.6	26.6
	24 Hour	Max 24 Hour (µg/m³)	50.0	60.0	52.0
		Measured Days > State Standard (50 µg/m³)	0	2	1
		Measured Days > National Standard (150 µg/m³)	0	0	0
Fine Particulate Matter ($PM_{2.5}$)[3]	Annual	Annual Average (µg/m³)[7]	11.0	11.7	ID
	24 Hour	Max 24 Hour (µg/m³)[7]	43.7	51.6	30.2
		Measured Days > National Standard (35 µg/m³)	2	2	0

Notes and Abbreviations: > = exceed ppm = parts per million µg/m³ = microgram per cubic meter ID = Insufficient Data

[1] From the Mira Loma Van Buren monitoring station.
[2] From the SCAQMD monitoring station No. 4144.
[3] From the Riverside-Magnolia monitoring station.
[4] From the Riverside-Rubidoux monitoring station.
[5] From the SCAQMD monitoring station 4155.
[6] State statistic.
[7] National statistic.

Source: Michael Brandman Associates, Air Quality and Greenhouse Gas Report, Skyline Heights Project, May2014.

The risk of disease is dependent upon the intensity and duration of exposure. When inhaled, asbestos fibers may remain in the lungs and with time may be linked to such diseases as asbestosis, lung cancer, and mesothelioma. There are no known likely areas of naturally occurring asbestos in the project area.[4]

(3) Sensitive Receptors

Those who are sensitive to air pollution include children, the elderly, and persons with pre-existing respiratory or cardiovascular illness. In general, sensitive receptors are considered to be locations that houses or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Specifically, the SCAQMD considers elderly care facilities, daycare facilities, schools, parks, residential areas, hospitals, and rehabilitation facilities as sensitive receptor locations. The nearest sensitive receptors to the project are existing residences to the north and east. To the southeast of the project site is a single-family residential community that is currently graded and under construction (TTM 31955).

b. Regulatory Framework

(1) Federal

The U.S. Environmental Protection Agency (USEPA) is responsible for regulating and enforcing national and interstate air pollution issues and policies pursuant to the Clean Air Act (CAA). The CAA was enacted in 1963 and amended numerous times in subsequent years (1967, 1970, 1977, and 1990). The CAA establishes the National Ambient Air Quality Standards (NAAQS) and specifies future dates for achieving compliance. The CAA also mandates that states submit and implement a State Implementation Plan (SIP) for local areas not meeting those standards. All SIPs must be approved by the Federal Environmental Protection Agency (EPA) as containing sufficient measures to timely attain NAAQS and meet other requirements. SIPs must contain air pollution measures in adopted, "regulatory" form within one year after approval by EPA. Upon approval by EPA, SIP requirements can be enforced against regulated sources by EPA and by any citizen.[5] Among the numerous other CAA requirements are: a mandate that the region achieve a three percent annual reduction in emissions of ozone precursors (VOC and NOx); a requirement that new sources over 10 tons per year of VOC or NOx, and modifications to such sources, achieve lowest achievable emission rate and offset their emission increases by equal reductions elsewhere in the region and transportation control measures to reduce vehicle trips.[6] The plans must include pollution control measures that demonstrate how the standards will be met. Because the City of Corona is within the Basin, it is in an area that has been designated as a nonattainment area for certain pollutants that are regulated under the CAA.

The 1990 amendments to the CAA identify specific emission-reduction goals for areas not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or meet interim milestones. The sections of the

[4] *U.S. Geological Survey. 2011. Van Gosen, B.S., and Clinkenbeard, J.P. California Geological Survey Map Sheet 59. Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California. Open-File Report 2011-1188, http://pubs.usgs.gov/of/2011/1188/. Accessed August 23, 2012.*

[5] *South Coast Air Quality Management District. Authority – Federal Air Quality Law. "State Implementation Plans". Available at: http://www.aqmd.gov/home/about/authority. Accessed July 2015.*

[6] *Ibid.*

CAA that would affect development of the proposed project the most are Title I (Nonattainment Provisions) and Title II (Mobile-Source Provisions).

Title I provisions were established with the goal of attaining the NAAQS for criteria pollutants. **Table 4.B-2**, *Descriptions of Air Pollutants*, shows the NAAQS currently in effect for each criteria pollutant. The NAAQS were amended in July 1997 to include an 8-hour standard for O_3 and adopt a standard for $PM_{2.5}$. The Basin (Riverside County portion) fails to meet national standards for O_3 and $PM_{2.5}$ and therefore is considered a federal nonattainment area for these pollutants. **Table 4.B-3**, *South Coast Air Basin Attainment Status*, lists each criteria pollutant and its related attainment status.

Table 4.B-2

Descriptions of Air Pollutants

Air Pollutant	Averaging Time	CAAQS	NAAQS [a]	Most Relevant Health Effects from Pollutant Exposure
Ozone (O_3)	1 Hour	0.09 ppm	—	Irritate respiratory system; reduce lung function; breathing pattern changes; reduction of breathing capacity; inflame and damage cells that line the lungs; make lungs more susceptible to infection; aggravate asthma; aggravate other chronic lung diseases; cause permanent lung damage; some immunological changes; increased mortality risk; vegetation and property damage.
	8 Hours	0.070 ppm	0.075 ppm	
Nitrogen Dioxide (NO_2) [b]	1 Hour	0.18 ppm	0.100 ppm	Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; contribution to atmospheric discoloration; increased visits to hospital for respiratory illnesses.
	Annual	0.030 ppm	0.053 ppm	
Carbon Monoxide (CO)	1 Hour	20 ppm	35 ppm	Ranges depending on exposure: slight headaches; nausea; aggravation of angina pectoris (chest pain) and other aspects of coronary heart disease; decreased exercise tolerance in persons with peripheral vascular disease and lung disease; impairment of central nervous system functions; possible increased risk to fetuses; death.
	8 Hours	9.0 ppm	9 ppm	
Sulfur Dioxide (SO_2) [c]	1 Hour	0.25 ppm	0.075 ppm	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient sulfur dioxide levels. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.
	3 Hour	—	0.5 ppm	
	24 Hours	0.04 ppm	0.14 ppm (for certain areas)	
	Annual	—	0.030 ppm (for certain areas)	

Table 4.B-2 (Continued)

Descriptions of Air Pollutants

Air Pollutant	Averaging Time	CAAQS	NAAQS [a]	Most Relevant Health Effects from Pollutant Exposure
Respirable Particulate Matter (PM_{10})	24 Hours	50 µg/m^3[c]	150 µg/m^3	- Short-term exposure (hours/days): irritation of the eyes, nose, throat; coughing; phlegm; chest tightness; shortness of breath; aggravate existing lung disease, causing asthma attacks and acute bronchitis; those with heart disease can suffer heart attacks and arrhythmias. - Long-term exposure: reduced lung function; chronic bronchitis; changes in lung morphology; death.
	Annual	20 µg/m^3	—	
Fine Particulate Matter ($PM_{2.5}$) [d]	24 Hours	—	35 µg/m^3	
	Annual	12 µg/m^3	12.0 µg/m^3	
Visibility Reducing Particles	8 Hour	See note below [e]		
Sulfates	24 Hours	25 µg/m^3	—	(a) Decrease in ventilator function; (b) aggravation of asthmatic symptoms; (c) aggravation of cardiopulmonary disease; (d) vegetation damage; (e) degradation of visibility; (f) property damage.
Lead (Pb) [f]	30-Day Average	1.5 µg/m^3	—	Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. It can cause impairment of blood formation and nerve conduction, behavior disorders, mental retardation, neurological impairment, learning deficiencies, and low IQs.
	Calendar Quarter	—	1.5 µg/m^3	
	Rolling 3-Month Average	—	0.15 µg/m^3	
Hydrogen Sulfide	1 Hour	0.03 ppm	—	High levels of hydrogen sulfide can cause immediate respiratory arrest. It can irritate the eyes and respiratory tract and cause headache, nausea, vomiting, and cough. Long exposure can cause pulmonary edema.
Vinyl Chloride [f]	24 Hours	0.01 ppm	—	Short-term exposure to high levels of vinyl chloride in the air causes central nervous system effects, such as dizziness, drowsiness, and headaches. Epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of a rare cancer, liver angiosarcoma, and have suggested a relationship between exposure and lung and brain cancers.
Volatile Organic Compounds (VOC)	There are no State or federal ambient air quality standards for VOCs because they are not classified as criteria pollutants. However, VOCs are ozone precursors.			Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations because of interference with oxygen uptake. In general, concentrations of VOCs are suspected to cause eye, nose, and throat irritation; headaches; loss of coordination; nausea; and damage to the liver, the kidneys, and the central nervous system. Many VOCs have been classified as toxic air contaminants.

Table 4.B-2 (Continued)

Descriptions of Air Pollutants

Air Pollutant	Averaging Time	CAAQS	NAAQS [a]	Most Relevant Health Effects from Pollutant Exposure
Benzene	There are no State or federal ambient air quality standards for benzene because it is not classified as a criteria pollutant. However, benzene is a TAC.			Short-term (acute) exposure of high doses from inhalation of benzene may cause dizziness, drowsiness, headaches, eye irritation, skin irritation, and respiratory tract irritation, and at higher levels, loss of consciousness can occur. Long-term (chronic) occupational exposure of high doses has caused blood disorders, leukemia, and lymphatic cancer.
Diesel Particulate Matter (DPM)	There are no State or federal ambient air quality standards for DPM because it is not classified as a criteria pollutant. However, DPM is a TAC.			Some short-term (acute) effects of diesel PM exposure include eye, nose, throat, and lung irritation, coughs, headaches, lightheadedness, and nausea. Studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. Human studies on the carcinogenicity of diesel PM demonstrate an increased risk of lung cancer, although the increased risk cannot be clearly attributed to diesel exhaust exposure.

Notes and Abbreviations:

ppm = parts per million *$\mu g/m^3$ = micrograms per cubic meter* *Annual = Annual Arithmetic Mean*

[a] *Federal standard refers to the primary national ambient air quality standard, or the levels of air quality necessary, with an adequate margin of safety to protect the public health. All standards listed are primary standards except for 3 Hour SO2, which is a secondary standard. A secondary standard is the level of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.*

[b] *To attain the 1-hour nitrogen dioxide 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 parts per billion (0.100 ppm).*

[c] *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 not 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 nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.*

[d] *On December 14, 2012, the USEPA revised the $PM_{2.5}$ 1-hour standard to 12.0 $\mu g/m^3$ and retained the 24-hour standard of 35 $\mu g/m^3$.*

[e] *Visibility reducing particles: In 1989, 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.*

[f] *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.*

Source: Michael Brandman Associates, Air Quality and Greenhouse Gas Report, Skyline Heights Project, May 2014

Several pollutants listed in Table 4.B-2 and Table 4.B-3 are not addressed in this analysis. Analysis of lead is not included in this report because the project is not anticipated to emit lead. Visibility-reducing particles are not explicitly addressed in this analysis because particulate matter is addressed. The project is not expected to generate or be exposed to vinyl chloride because proposed project uses do not utilize the chemical processes that create this pollutant and there are no such uses in the project vicinity. The proposed

Table 4.B-3

South Coast Air Basin Attainment Status

Pollutants	Federal Designation	State Designation
O_3	Nonattainment	Nonattainment
NO_2	Attainment/Maintenance	Attainment
CO	Attainment	Attainment
SO_2	Attainment	Attainment
PM_{10}	Attainment/Maintenance	Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
Pb (Los Angeles County)	Nonattainment	Nonattainment
Pb (other parts of the Basin, including the project area)	Attainment	Attainment

Source: Michael Brandman Associates, Air Quality and Greenhouse Gas Report, Skyline Heights Project, May 2014; California Air Resources Board, Area Designations Maps/State and National, August 2014. The most recent updates from CARB indicate that the South Coast Air Basin is in attainment for the state standards for NO_2.

project is not expected to cause exposure to hydrogen sulfide because it would not generate hydrogen sulfide in any substantial quantity.

(2) State

(a) California Clean Air Act

The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the state to achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practical date. The CAAQS incorporate additional standards for most of the criteria pollutants and set standards for other pollutants recognized by the state. In general, the California standards are more health protective than the corresponding NAAQS. California has also set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. The Basin is in compliance with the California standards for sulfates, hydrogen sulfide, visibility-reducing particles, and vinyl chloride. Table 4.B-2 details the current NAAQS and CAAQS, and Table 4.B-3 provides the Basin's attainment status with respect to federal and state standards.

(b) CARB Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 horsepower and Greater

Effective February 19, 2011, each fleet shall comply with weighted reduced particulate matter emission fleet averages by compliance dates listed in the regulation. The measure also requires owners to ensure the average particulate matter emission level for their fleet does not fall out of compliance due to changes in the fleet.

(c) CARB Regulation for In-Use Off-Road Diesel Vehicles

On July 26, 2007, the CARB adopted a regulation to reduce DPM and NO_X emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. The regulation limits idling to no more than five consecutive minutes, requires reporting and

labeling, and requires disclosure of the regulation upon vehicle sale. CARB is enforcing that part of the rule with fines up to $10,000 per day for each vehicle in violation. Performance requirements of the rule are based on a fleet's average NO_X emissions, which can be met by replacing older vehicles with newer, cleaner vehicles or by applying exhaust retrofits. The regulation was amended in 2010 to delay the original timeline of the performance requirements making the first compliance deadline January 1, 2014 for large fleets (over 5,000 combined horsepower), 2017 for medium fleets (2,501-5,000 combined horsepower), and 2019 for small fleets (2,500 combined horsepower or less). The compliance schedule requires that equipment turn overs or retrofits be fully implemented by 2023 in all equipment in large and medium fleets and by 2028 in small fleets.

(d) CARB Airborne Toxic Control Measure

In July 2001, CARB approved an Air Toxic Control Measure for construction, grading, quarrying and surface mining operations to minimize emissions of naturally occurring asbestos. The regulation requires application of best management practices to control fugitive dust in areas known to have naturally occurring asbestos and requires notification to the local air district prior to commencement of ground-disturbing activities. The measure establishes specific testing, notification and engineering controls prior to grading, quarrying or surface mining in construction zones where naturally occurring asbestos is located on projects of any size. There are additional notification and engineering controls at work sites larger than one acre in size. These projects require the submittal of a "Dust Mitigation Plan" and approval by the air district prior to the start of a project.

(e) California Air Resources Board Air Quality and Land Use Handbook

The CARB published the *Air Quality and Land Use Handbook* in April 2005 to serve as a general guide for considering impacts to sensitive receptors from facilities that emit TAC emissions. The recommendations provided therein are voluntary and do not constitute a requirement or mandate for either land use agencies or local air districts. The goal of the guidance document is to protect sensitive receptors, such as children, the elderly, acutely ill, and chronically ill persons, from exposure to TAC emissions. Some examples of CARB's siting recommendations include the following: (1) avoid siting sensitive receptors within 500 feet of a freeway, urban road with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day; (2) avoid siting sensitive receptors within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units per day, or where transport refrigeration unit operations exceed 300 hours per week); and (3) avoid siting sensitive receptors within 300 feet of any dry cleaning operation using perchloroethylene and within 500 feet of operations with two or more machines.

(3) Regional

(a) South Coast Air Quality Management District

The agency for air pollution control for the Basin is the SCAQMD. The SCAQMD is responsible for controlling emissions primarily from stationary sources. The SCAQMD maintains air quality monitoring stations throughout the basin. The SCAQMD is also responsible for developing, updating, and implementing the Air Quality Management Plan (AQMP) for the basin, in coordination with the Southern California Association of Governments (SCAG). The SCAQMD also has roles under CEQA.

(i) Air Quality Management Plan

The SCAQMD has adopted a series of AQMPs to meet the CAAQS and NAAQS. These plans require, among other emissions-reducing activities, control technology for existing sources, control programs for area sources and indirect sources, a SCAQMD permitting system to ensure no net increase in emissions from any new or modified (i.e., previously permitted) emission sources, and transportation control measures.

The 2012 AQMP was adopted December 7, 2012.[7] The purpose of the 2012 AQMP for the Basin is to set forth a comprehensive and integrated program that will lead the Basin into compliance with the federal 24-hour $PM_{2.5}$ air quality standard, and to provide an update of the Basin's projections in meeting the federal 8-hour ozone standards. Specifically, the AQMP serves as the official SIP submittal for the federal 2006 24-hour $PM_{2.5}$ standard, for which the USEPA had established a due date of December 14, 2012. In addition, the AQMP will update specific elements of the previously approved 8-hour ozone SIP: (1) an updated emissions inventory and, (2) new control measures and commitments for emissions reductions to help fulfill the Section 182(e)(5) portion of the 8-hour ozone SIP.

The 2012 AQMP proposes Basin-wide $PM_{2.5}$ measures that will be implemented by the 2014 attainment date, episodic control measures to achieve air quality improvements (would only apply during high $PM_{2.5}$ days), Section 182(e)(5) implementation measures (to maintain progress towards meeting the 2023 8-hour ozone national standard), and transportation control measures. Most of the control measures focus on incentives, outreach, and education. Proposed PM2.5 reduction measures in the 2012 AQMP include the following:

- Further NO_X reductions from RECLAIM;
- Further reductions from residential wood burning devices;
- Further reductions from open burning;
- Emission reductions from under-fired charbroilers;
- Further ammonia reductions from livestock waste;
- Backstop measures for indirect sources of emissions from ports and port-related sources; and
- Further criteria pollutant reductions from education, outreach and incentives.

There are multiple VOC and NO_X reductions in the 2012 AQMP to attempt to reduce ozone formation, including further VOC reductions from architectural coatings, miscellaneous coatings, adhesives, solvents, lubricants, mold release products, consumer products.

The 2012 also contains proposed mobile source implementation measures for the deployment of zero- and near-zero emission on-road heavy-duty vehicles, locomotives, and cargo handling equipment. There are measures for the deployment of cleaner commercial harborcraft, cleaner ocean-going marine vessels, cleaner off-road equipment, and cleaner aircraft engines. The 2012 AQMP proposes the following mobile source implementation measures:

[7] *South Coast Air Quality Management District, 2012 Air Quality Management Plan, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-aqmp-carb-epa-sip-submittal. Accessed December 11, 2012.*

- On-road mobile sources:
  - Accelerated penetration of partial zero-emission and zero-emission vehicles and light-heavy and medium-heavy duty vehicles through funding assistance for purchasing the vehicles.
  - Accelerated retirement of older light-, medium-, and heavy-duty vehicles through funding incentives.
  - Further emission reductions from heavy-duty vehicles serving near-dock railyards through a proposed control measure that calls for a requirement that any cargo container moved between the Ports of Los Angeles and Long Beach to the nearby railyards by with zero-emission technologies.
- Off-road mobile sources:
  - Extension of the SOON provision for construction/industrial equipment, which provides funding to repower or replace older Tier 0 and Tier 1 equipment.
  - Further emission reductions from freight and passenger locomotives calls for an accelerated use of Tier 4 locomotives in the Basin.

The 2012 AQMP also relies upon the SCAG regional transportation strategy, which is in its adopted 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and 2011 Federal Transportation Improvement Program, which contains the following sections:

1. Linking regional transportation planning to air quality planning: making sure that the RTP supports the goals and objectives of the AQMP/SIP.

2. Regional transportation strategy and transportation control measures: the RTP/SCS contains improvements to the regional multimodal transportation system including the following: active transportation (non-motorized transportation – biking and walking); transportation demand management; transportation system management; transit; passenger and high-speed rail; goods movement; aviation and airport ground access; highways; arterials; and operations and maintenance.

3. Reasonably available control measure analysis.

(ii) Rules and Regulations

The SCAQMD adopts rules and regulations to implement portions of the AQMP. Several of these rules may apply to construction or operation of the project. The rules and regulations that apply to this project include, but are not limited to the following:

Regulation IV – Prohibitions: This regulation sets forth the restrictions for visible emissions, odor nuisance, fugitive dust, various air emissions, fuel contaminants, start-up/shutdown exemptions and breakdown events. The following is a list of rules which may apply to the Project:

- **Rule 402 – Nuisance:** This rule states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort,

repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

- **Rule 403 – Fugitive Dust:** This rule requires projects to prevent, reduce or mitigate fugitive dust emissions from a site. Rule 403 restricts visible fugitive dust to the project property line, restricts the net PM_{10} emissions to less than 50 micrograms per cubic meter ($\mu g/m^3$) and restricts the tracking out of bulk materials onto public roads. Additionally, projects must utilize one or more of the best available control measures (identified in the tables within the rule). Rule 403 measures may include but are not limited to the following:

  - Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
  - Water active sites at least three times daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.)
  - Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 0.6 meters (2 feet) of freeboard (vertical space between the top of the load and top of the trailer) in accordance with the requirements of California Vehicle Code section 23114.
  - Reduce traffic speeds on all unpaved roads to 15 miles per hour (mph) or less.
  - Suspension of all grading activities when wind speeds (including instantaneous wind gusts) exceed 25 mph.
  - Bumper strips or similar best management practices shall be provided where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site each trip.
  - Replanting disturbed areas as soon as practical.
  - During all construction activities, construction contractors shall sweep onsite and offsite streets if silt is carried to adjacent public thoroughfares, to reduce the amount of particulate matter on public streets. All sweepers shall be compliant with SCAQMD Rule 1186.1, Less Polluting Sweepers.

- **Rule 445 – Wood Burning Devices:** This rule prohibits permanently installed wood burning devices into any new development. A wood burning device means any fireplace, wood burning heater, or pellet-fueled wood heater, or any similarly enclosed, permanently installed, indoor or outdoor device burning any solid fuel for aesthetic or space-heating purposes, which has a heat input of less than one million British thermal units per hour.

Regulation XI – Source Specific Standards: Regulation XI sets emissions standards for different specific sources. The following is a list of rules which may apply to the Project:

- **Rule 1108 – Cutback Asphalt:** This rule governs the sale, use, and manufacturing of asphalt and limits the VOC content in asphalt used in the South Coast Air Basin. This rule would regulate the VOC content of asphalt used during construction. Therefore, all asphalt used during construction of the project must comply with SCAQMD Rule 1108.

- **Rule 1113 – Architectural Coatings:** This rule governs the sale, use, and manufacturing of architectural coating and limits the VOC content in paints and paint solvents. This rule regulates the VOC content of paints available during construction. Therefore, all paints and solvents used during construction and operation of the project must comply with SCAQMD Rule 1113.
- **Rule 1143 – Consumer Paint Thinners and Multi-Purpose Solvents:** This rule governs the manufacture, sale, and use of paint thinners and solvents used in thinning of coating materials, cleaning of coating application equipment, and other solvent cleaning operations by limiting their VOC content. This rule regulates the VOC content of solvents used during construction. Solvents used during the construction phase must comply with this rule.
- **Rule 1415 – Reduction of Refrigerant Emissions from Stationary Air Conditioning Systems:** The SCAQMD originally adopted Rule 1415 to reduce ozone-depleting refrigerant emissions from stationary, non-residential air conditioning (comfort cooling) and refrigeration systems with full charge capacity of greater than 50 pounds, and using Class I and Class II refrigerants. Recently, the SCAQMD amended Rule 1415 to include high-global warming potential refrigerants. Further, the rule now applies only to air conditioning systems with full charge capacity of greater than 50 pounds of refrigerant.
- **Rule 1415.1 – Reduction of Refrigerant Emissions from Stationary Refrigeration Systems:** The purpose of this rule is to control emissions of high-global warming potential refrigerants used in stationary, nonresidential refrigeration systems. With the adoption of Rule 1415.1, refrigeration systems with full charge capacity of greater than 50 pounds of high-global warming potential refrigerants are now regulated solely under the new rule. Such systems are typically used in supermarkets, cold storage warehouses, food processing plants, and process cooling operations. Rule 1415.1 is equivalent in every aspect to the Refrigerant Management Program, a statewide regulation adopted by CARB to reduce emissions of high-global warming potential gases from stationary refrigeration systems.
- **Rule 2202 – On-Road Motor Vehicle Mitigation Options:** The purpose of this rule is to provide employers with a menu of options to reduce mobile source emissions generated from employee commutes, to comply with federal and state Clean Air Act requirements, Health & Safety Code Section 40458, and Section 182(d)(1)(B) of the federal Clean Air Act. It applies to any employer who employs 250 or more employees on a full or part-time basis at a worksite for a consecutive six-month period calculated as a monthly average.

(iii) California Environmental Quality Act

The SCAQMD has two roles under CEQA:

1. Lead Agency: responsible for preparing environmental analyses for its own projects (adoption of rules, regulations, or plans) or permit projects filed with the SCAQMD where the SCAQMD has primary approval authority over the project.

2. Commenting Agency: the SCAQMD reviews and comments on air quality analyses prepared by other public agencies (such as the proposed project).

The SCAQMD also provides guidance and thresholds for CEQA air quality analyses. The SCAQMD published the *CEQA Air Quality Handbook* (November 1993, with section updates provided on the SCAQMD website) to help local governments analyze and mitigate project-specific air quality impacts. This handbook provides

standards, methodologies, and procedures for conducting air quality analyses for CEQA documents prepared within SCAQMD's jurisdiction. In addition, SCAQMD has published two additional guidance documents—*Localized Significance Threshold Methodology for CEQA Evaluations* (June 2008) and *Particulate Matter (PM) 2.5 Significance Thresholds and Calculation Methodology* (October 2006). These provide guidance for evaluating localized effects from mass emissions during construction. Both were used in the preparation of this analysis.

(b) Southern California Association of Governments

The SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties. It addresses regional issues related to transportation, the economy, community development, and the environment. SCAG is the federally designated metropolitan planning organization (MPO) for the majority of the Southern California region and the largest MPO in the nation. As part of its air quality planning, SCAG has prepared the Regional Comprehensive Plan and Guide (RCPG) for the region, which includes Growth Management and Regional Mobility chapters. These chapters provide the basis for the land use and transportation components of the AQMP and are used in the preparation of air quality forecasts and the consistency analysis included in the AQMP.

(4) Local

The City of Corona General Plan includes policies related to air quality. The following policies are applicable to the proposed project:

Goal 10.18 – Improve air quality conditions within the Corona Planning Area by controlling point sources, reducing vehicle trips, and striving to achieve attainment of ozone, nitrogen dioxide, carbon monoxide, and sulfate standards as enforced by the South Coast Air Quality Management District.

- **Policy 10.18.3** – Incorporate the provisions of the South Coast Air Quality Management District Management Plans as conditions of approval for all new development and re-development projects.

Goal 10.20 – Reduce criteria air pollutant emissions through more efficient land use planning and construction practices.

- **Policy 10.20.4** – Continue to create local employment opportunities by maintaining an adequate supply of designated commercial and industrial land supply, in accordance with the Land Use Element.

- **Policy 10.20.8** – Reduce particulate emission from paved and unpaved roads, parking lots, and road and building construction, as required by the South Coast Air Quality Management District. Methods include but are not limited to:

  - Maintaining construction equipment engines in good condition and in proper tune per manufacturer's specification for the duration of construction

  - Turning off construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, when not in use for more than five minutes

- Encourage contractors to utilize alternative fuel construction equipment (i.e., compressed natural gas, liquid petroleum gas, and unleaded gasoline) and low-emission diesel construction equipment to the extent that the equipment is readily available and cost effective
- Using the electricity infrastructure surrounding construction sites rather than electrical generators powered by internal combustion engines to the extent feasible
- Implement dust control measures consistent with South Coast Air Quality Management District Rule 403 – Fugitive Dust during the construction phases of new project development
- Apply water and/or approved nontoxic chemical soil stabilizers according to manufacturer's specifications to all inactive construction areas (previously graded areas that have been inactive for 10 or more days).
- Replacing ground cover in disturbed areas as quickly as possible
- Enclosing, covering, watering twice daily, or applying approved chemical soil binders to exposed piles with 5 percent or greater silt content
- Watering active grading sites at least twice daily
- Suspending all excavating and grading operations when wind speed (as instantaneous gusts) exceed 25 miles per hour over a 30-minute period.
- Covering or maintaining at least two feet of freeboard (i.e., minimum vertical distance between top of the load and the top of the trailer), in accordance with Section 23114 of the California Vehicle Code, in all trucks hauling dirt, sand, soil, or other loose materials
- Sweeping streets adjacent to construction sites at the end of the day
- Installing wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip
- Applying water three times daily or chemical soil stabilizers according to manufacturers' specifications to all unpaved parking or staging areas or unpaved road surfaces
- Posting and enforcing traffic speed limits of 15 miles per hour or less on all unpaved roads

Goal 10.21 – Reduce air quality degradation through energy conservation.

- **Policy 10.21.1** – Reduce the amount of energy consumed by commercial and residential uses, as recommended by the Southern California Air Quality Management District.
- **Policy 10.21.2** – Continue to require the use and installation of energy conservation features in all new construction projects and wherever feasible, retrofitting in existing and re-development projects.

2. ENVIRONMENTAL IMPACTS

a. Methodology

(1) Construction

Air pollutant emissions can be estimated by using emission factors and a level of activity. Emission factors are the emission rate of a pollutant given the activity over time; for example, grams of NO_X per horsepower hour. CARB has published emission factors for on-road mobile vehicles/trucks in the EMFAC mobile source emissions model and emission factors for off-road equipment and vehicles in the OFFROAD emissions model.

The California Emissions Estimator Model (CalEEMod) was developed in cooperation with the SCAQMD and other air districts throughout the state. CalEEMod is designed as a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas emissions associated with construction and operation from a variety of land uses.

The CalEEMod model was used to compile the mass daily emissions (i.e., criteria pollutants) estimates for construction. Emission factors are often updated and there is a normal lag time between the development of new emission factors and the integration of the new emissions factors into the appropriate models. The version of CalEEMod used for the purposes of this analysis (CalEEMod Version 2013.2.2) was integrated with emissions factors from OFFROAD2011 and EMFAC2011. The OFFROAD2011 update incorporates a reduction in the load factors by 33 percent compared with the previous version, OFFROAD2007, which equates to a decrease in off-road construction related emissions.[8] The reduction in emissions from the changes in load factors was assumed in this assessment.

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from on-site and off-site activities. On-site emissions principally consist of exhaust emissions from the activity levels of heavy-duty construction equipment, motor vehicle operation, and fugitive dust (mainly PM_{10}) from disturbed soil. Off-site emissions are caused by motor vehicle exhaust from delivery vehicles, worker traffic, and road dust (PM_{10} and $PM_{2.5}$).

The project site would be mass graded together as one phase. Construction would result in approximately 144.17 total acres disturbed including maintained open space and other spaces.[9] The grading operation entails cut and fill from the existing grades to the proposed ultimate roadway and pad grades within the project development. The anticipated maximum cut and fill depths are 160 feet and 145 feet, respectively. The estimated earthwork volume to be moved is approximately 5,000,000 cubic yards. The site is designed to balance the cut and fill within the project site with no import or export of material. The construction phase durations are currently unknown. Therefore, the CalEEMod default equipment and phase durations were used for the purposes of a conservative CEQA analysis. The default durations for each construction phase from the CalEEMod model is shown in **Table 4.B-4**, *Construction Duration*.

[8] *California Air Resources Board, Summary of Off-Road Emissions Inventory Update, http://www.arb.ca.gov/regact/2010/offroadlsi10/offroadappd.pdf. Accessed August 31, 2012.*

[9] *KWC Engineers. Skyline Heights – Tentative Tract Map No. 36544. 2014.*

Table 4.B-4

Construction Duration

Phase	Duration (working days)
Site Preparation [a]	120
Grading [a]	310
Paving [b]	75
Building Construction [b]	1,110
Architectural Coating [b]	75

[a] *Site Preparation and Grading duration based on mass grading of 144.17 acres.*
[b] *Paving, building construction, and architectural coatings based on development of 292 residential dwelling units on 67.46 acres.*

Source: CalEEMod and Michael Brandman Associates, 2014.

CalEEMod defaults were used for the construction equipment fleet. Construction equipment during the site preparation and grading phase include dozers, tractors, excavators, graders, and scrapers. Equipment during the paving phase includes pavers, paving equipment, and rollers. Equipment during the building construction phase includes cranes, forklifts, generator sets, tractors, and welders. Equipment during the architectural coating phase includes air compressors. The activity for construction equipment is based on the horsepower and load factors of the equipment. In general, the horsepower is the power of an engine – the greater the horsepower, the greater the power. The load factor is the average power of a given piece of equipment while in operation compared with its maximum rated horsepower. A load factor of 1.0 indicates that a piece of equipment continually operates at its maximum operating capacity. In reality, load factors are less than 1.0 and generally range from 0.20 to 0.74 for equipment for the project.

SCAQMD Rule 403 requires fugitive dust generating activities follow best available control measures to reduce emissions of fugitive dust. These measures are accounted for in CalEEMod as "mitigation" because the model categorizes the measures as "mitigation," even though implementation of the dust control measures would be required as part of construction of project. The best available control measures include but are not limited to the application of water, replacing ground cover in disturbed areas when unused for more than 10 days, and limiting vehicle speed on unpaved roads to 15 miles per hour or less.

(2) Localized Analysis

To facilitate the localized assessment process, the SCAQMD provides a series of look-up tables in the *Final Localized Significance Threshold Methodology* that contain localized significance thresholds for each Source Receptor Area within the basin.[10] If on-site construction emissions exceed the localized significance thresholds, then the project would be considered to have a significant air quality impact. The current look-up tables are estimated by the SCAQMD based on air quality data from the years 2006 through 2008.

[10] *South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, Appendix C, Revised October 21, 2009, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds. Accessed May 7, 2012.*

The localized significance thresholds appropriate to the project area were obtained from the look-up tables in the SCAQMD *Final Localized Significance Threshold Methodology* for a 5-acre project in Source Receptor Area 22. In addition to the dependence on geographic location within the SCAQMD (e.g., the Source Receptor Area), the localized thresholds also depend on the distance to the impacted receptor from the source of emissions. The distance to the nearest sensitive receptor is approximately 75 feet (23 meters) from the boundary of the project.

The SCAQMD has published a "Fact Sheet for Applying CalEEMod to Localized Significance Thresholds."[11] CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily disturbance activity possible for each piece of equipment. In order to compare CalEEMod reported emissions against the localized significance threshold lookup tables, the CEQA document should contain in its project design features or its mitigation measures the following parameters:

1. The off-road equipment list (including type of equipment, horsepower, and hours of operation) assumed for the day of construction activity with maximum emissions.

2. The maximum number of acres disturbed on the peak day.

3. Any emission control devices added onto off-road equipment.

4. Specific dust suppression techniques used on the day of construction activity with maximum emissions.

During grading activities, fugitive dust can be generated from the movement of dirt on the project site. CalEEMod estimates dust from dozers moving dirt around, dust from graders or scrapers leveling the land, and loading or unloading dirt into haul trucks. Each of those activities is calculated differently in CalEEMod based on the number of acres traversed by the grading equipment. Only some pieces of equipment generate fugitive dust in CalEEMod. The CalEEMod manual identifies various equipment and the acreage disturbed in an 8-hour day:

- Crawler tractors, graders, and rubber tired dozers: 0.5 acres per 8-hour day; and
- Scrapers: 1 acre per 8-hour day.

Therefore, the following acres are the quantity disturbed per day, per phase, according to the acreage disturbed quantities listed above:

- Site Preparation = 3.5 acres/day; and
- Mass Grading = 4 acres/day.

[11] *South Coast Air Quality Management District, Fact Sheet for Applying CalEEMod to Localized Significance Thresholds, http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf?sfvrsn=2. Accessed March 21, 2012.*

(3) Operation

The CalEEMod model was also used to compile the mass daily emissions (i.e., criteria pollutants) estimates from mobile and area sources, such as on-site consumer products, architectural coatings, landscaping equipment, etc., that would occur during long-term project operations.

Motor vehicle emissions refer to exhaust and road dust emissions from the automobiles that would travel to and from the project site. The emissions were estimated using the trip generation rate (9.52 daily trips per dwelling unit per day) from the Traffic Impact Analysis Report prepared by Linscott Law & Greenspan. Area-source emissions, such as landscaping equipment, use of consumer products, and coatings were compiled using CalEEMod default assumptions.

b. Thresholds of Significance

CEQA allows for the significance criteria established by the local lead agency or applicable air quality management district to be used to assess the impacts of a project on air quality. The SCAQMD has established criteria for determining significance for criteria pollutant, air toxics, and odor emissions

(1) CEQA Guidelines – Appendix G (Air Quality)

When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the project:

Threshold 1: Conflict with or obstruct implementation of the applicable air quality plan? (refer to Impact Statement 4.B-1);

Threshold 2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation? (refer to Impact Statement 4.B-2);

Threshold 3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing of emissions which exceed quantitative thresholds for ozone precursors)? (refer to Impact Statement 4.B-3);

Threshold 4: Expose sensitive receptors to substantial pollutant concentrations? (refer to Impact Statement 4.B-4); and/or

Threshold 5: Create objectionable odors that would affect a substantial number of people? (refer to Impact Statement 4.B-5).

Threshold 6: Conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan and municipal code) adopted for the purpose of avoiding or mitigating an environmental effect? (refer to Impact Statement 4.B-6).

(2) Criteria Pollutant Emissions

Appendix G, Section III, of the Environmental Checklist Form in the State CEQA Guidelines states that, where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make determinations regarding air quality impacts. Because of SCAQMD's regulatory role in the Basin, the significance thresholds and analysis methodologies outlined in its *CEQA Air Quality Handbook, Localized Significance Threshold Methodology for CEQA Evaluations, and Particulate Matter (PM) 2.5 Significance Thresholds and Calculation Methodology* guidance documents were used in evaluating project impacts. Specifically, the SCAQMD construction and operational emissions thresholds identified in **Table 4.B-5**, *SCAQMD Emissions Thresholds (lbs/day)*, were used for this assessment.

Table 4.B-5

SCAQMD Emissions Thresholds (lbs/day)

	Regional Emissions Thresholds		Localized Emission Thresholds [a]	
Pollutant	Construction	Operation	Construction (5 acre)	Operation (5 acre)
Volatile Organic Compounds (VOC)	75	55	N/A	N/A
Nitrogen Oxides (NO_X)	100	55	270	270
Carbon Monoxide (CO)	550	550	1,700	1,700
Sulfur Dioxide (SO_2)	150	150	N/A	N/A
Respirable Particulate Matter (PM_{10})	150	150	12	3
Fine Particulate Matter ($PM_{2.5}$)	55	55	8	2
Lead (Pb) [b]	3	3	N/A	N/A

[a] *Localized thresholds derived from SCAQMD Localized Significance Threshold tables are based on the project location (SRA 22, Norco/Corona) and the distance to the nearest sensitive receptor for a 5-acre site.*

[b] *The project would have no lead emissions sources during the construction or operations period. As such, lead emissions are not evaluated in this analysis.*

Sources: South Coast Air Quality Management District, CEQA Air Quality Handbook, 1993 (as amended); South Coast Air Quality Management District, Localized Significance Threshold Methodology for CEQA Evaluations; and Particulate Matter (PM) 2.5 Significance Thresholds and Calculation Methodology, (2003, revised 2008).

The regional emissions thresholds are based on the daily emissions for the regulated pollutants. The localized significance thresholds appropriate to the project area were obtained from the look-up tables in the SCAQMD *Final Localized Significance Threshold Methodology* for a 5-acre project in Source Receptor Area 22. While the project site area is larger than 5 acres, the use of the 5-acre thresholds provides for a conservative analysis as the thresholds are directly related to the acreage.[12]

[12] *SCAQMD Emissions Thresholds were obtained from the SCAQMD look-up tables for a 5-acre project. SCAQMD has provided the "Fact Sheet for Applying CalEEMod to Localized Significance Thresholds." The Fact Sheet provides guidance to allow use of the LSTs for larger projects, similar to the proposed project. Therefore, the use of the SCAQMD look-up tables is consistent with SCAQMD's Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. The Fact Sheet is available at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf?sfvrsn=2*

(3) Toxic Air Contaminants

The proposed project would have a significant impact with regard to TACs if:

- On-site stationary sources or construction equipment emit carcinogenic or toxic air contaminants that individually or cumulatively exceed the maximum individual cancer risk of ten in one million or an acute or chronic hazard index of 1.0.[13]
- Hazardous materials associated with on-site stationary sources result in an accidental release of air toxic emissions or acutely hazardous materials posing a threat to public health and safety.
- The project would be occupied primarily by sensitive individuals within a quarter mile of any existing facility that emits air toxic contaminants which could result in a health risk for pollutants identified in District Rule 1401.[14]

(4) Carbon Monoxide Hotspots

Impacts would be significant should project-related traffic volumes cause an exceedance of the California 1-hour or 8-hour CO standards of 20 or 9.0 parts per million, respectively, at any sensitive receptor location.

(5) Odors

Impacts would be significant if the proposed project were to generate objectionable odors affecting a substantial number of people at any sensitive receptor location.

c. Project Design Features

The Project would implement project design features that would reduce the potential for air pollutant emissions due to Project construction and operations. The project design features would include, but are not limited to compliance with the California Green Building Standards, as discussed below.

California Green Building Standards. On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011. The Code is a comprehensive and uniform regulatory code for all residential, commercial and school buildings.

The California Green Building Standards Code does not prevent a local jurisdiction from adopting a more stringent code as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided they provide a minimum 50-percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard which buildings need to meet in order to be certified for occupancy. Enforcement is generally through the local building official.

[13] *South Coast Air Quality Management District, Risk Assessment Procedures for Rules 1401 and 212, November 1998.*

[14] *South Coast Air Quality Management District, CEQA Air Quality Handbook, Chapter 6 (Determining the Air Quality Significance of a Project), (1993).*

The California Green Building Standards Code (code section in parentheses) requires:

- Short-term bicycle parking. If a commercial project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack (5.106.4.1).
- Long-term bicycle parking. For buildings with over 10 tenant-occupants, provide secure bicycle parking for 5 percent of tenant-occupied motorized vehicle parking capacity, with a minimum of one space (5.106.4.2).
- Designated parking. Provide designated parking in commercial projects for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.6.2 (5.106.5.2).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling.
- Construction waste. A minimum 50-percent diversion of construction and demolition waste from landfills, increasing voluntarily to 65 and 75 percent for new homes and 80-percent for commercial projects. All (100 percent) of trees, stumps, rocks and associated vegetation and soils resulting from land clearing shall be reused or recycled.
- Wastewater reduction. Each building shall reduce the generation of wastewater by one of the following methods:
  1. The installation of water-conserving fixtures or
  2. Using nonpotable water systems (5.303.4).
- Water use savings. 20-percent mandatory reduction in indoor water use with voluntary goal standards for 30, 35 and 40-percent reductions.
- Water meters. Separate water meters for buildings in excess of 50,000 square feet or buildings projected to consume more than 1,000 gallons per day.
- Irrigation efficiency. Moisture-sensing irrigation systems for larger landscaped areas.
- Materials pollution control. Low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring and particleboard.
- Building commissioning. Mandatory inspections of energy systems (i.e. heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies.

d. Analysis of Project Impacts

(1) Air Quality Plan Conflicts

Threshold 1	Would the project conflict with or obstruct implementation of the applicable air quality plan?

Impact 4.B-1 *Project implementation would not conflict or obstruct implementation of the SCAQMD AQMP. Thus, the project would result in a less than significant impact.*

According to the 1993 SCAQMD Handbook, there are two key indicators of consistency with the AQMP as described below. The first indicator is applicable to the project and provides the basis for which to assess the project's significance. The second indicator is not applicable to the project and not used in this assessment, but is shown below for informational purposes.

1. Whether the project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP. Project applicability: applicable and assessed below.

2. As stated in the SCAQMD 1993 CEQA Air Quality Handbook, a project would conflict with the AQMP if it will exceed the assumptions in the AQMP in 2010 or increments based on the year of project build-out and phase. The Handbook indicates that key assumptions to use in this analysis are population number and location and a regional housing needs assessment. The parcel-based land use and growth assumptions and inputs used in the Regional Transportation Model run by the SCAG that generated the mobile inventory used by the SCAQMD for AQMP are not available. Therefore, this indicator is not applicable. Project applicability: not applicable.

Considering the recommended criteria in the SCAQMD's 1993 Handbook, this analysis utilizes the following criteria to address this potential impact:

- Step 1: Project's contribution to air quality violations (SCAQMD's first indictor)
- Step 2: Assumptions in AQMP (SCAQMD's second indictor)
- Step 3: Compliance with applicable emission control measures in the AQMPs

Step 1 – Project's Contribution to Air Quality Violations: According to the SCAQMD, the project is consistent with the AQMP if the project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.[15]

As is discussed later under Impact 4.B-2, the project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. If a project's emissions exceed the SCAQMD regional thresholds for VOC, NO_X, PM_{10}, or $PM_{2.5}$, it follows that the emissions could cumulatively contribute to an exceedance of a pollutant for which the basin is in nonattainment (ozone, PM_{10}, and $PM_{2.5}$) at a monitoring station in the basin. An exceedance of a nonattainment pollutant at a monitoring station would not be consistent with the goals of the AQMP, which is to achieve attainment of pollutants. As is discussed under Impact 4.B-2, the project would not exceed the regional significance threshold for any nonattainment pollutant or ozone precursors. Therefore, the project would is consistent with the SCAQMD regional thresholds and is consistent with the AQMP. The project meets this criterion.

Step 2 – Assumptions in AQMP: According to Chapter 12 of the SCAQMD *CEQA Air Quality Handbook*, the purpose of the consistency finding is to determine whether a project is inconsistent with the assumptions

[15] *South Coast Air Quality Management District, CEQA Air Quality Handbook, (1993), 12-3.*

and objectives of the regional air quality plans, and thus whether it would interfere with the region's ability to comply with federal and State air quality standards. If a project is inconsistent, local governments need to consider project modifications or inclusion of mitigation to eliminate the inconsistency. Consistency with the AQMP implies that a project is consistent with the goals, objectives, and assumptions in the respective plan to achieve the national and State air quality standards. To assess the environmental impacts of new or renovated developments accurately, environmental pollution and population growth are projected for future scenarios.

Projects that are deemed consistent with the general plan are generally found to be consistent with the AQMP. Since the project's intended land use is not consistent with the existing non-operational land use, implementation of the project would require amendments to the City's zoning designations for the project site. However, the project's proposed single-family residential uses are consistent with the current Rural Residential zoning designation for the project site under the Riverside County Zoning Code, which allows for single-family residential development, though at a lower overall density. In addition, as discussed in Section 4.I, *Land Use and Planning*, of this Draft EIR, the proposed project would be consistent with the applicable goals and policies of the City's General Plan. Further, as discussed in Section 4.K, *Population, Housing and Employment*, the population and housing growth resulting from the proposed project would be well within the SCAG growth projections for the City, Western Riverside County subregion, and Southern California region. As such, the proposed project would be consistent with the adopted SCAQMD AQMP according to this criterion.

Step 3 – Control Measures: This step involves assessing the project's compliance with the control measures in the AQMP. The 2012 AQMP was adopted on December 7, 2012. The purpose of the 2012 AQMP for the Basin is to set forth a comprehensive and integrated program that will lead the Basin into compliance with the federal 24-hour $PM_{2.5}$ air quality standard, and to provide an update of the Basin's projections in meeting the federal 8-hour ozone standards. The project would comply with applicable rules and regulations enacted as part of the AQMP.

Summary: In summary, the project would comply with applicable rules and regulations and would not impede attainment of the ambient air quality standards because the project's emissions would be less than the SCAQMD's regional significance thresholds. The project would result in a less than significant impact.

(2) Violation of Air Quality Standards

Threshold 2	Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Impact 4.B-2 *The project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. The project would generate construction and operational emissions that would not exceed the regional significance thresholds. Therefore, construction and operation of the project would result in less than significant impacts.*

(a) Construction

Construction of the project has the potential to result in air quality impacts from the generation emissions through the use of heavy-duty construction equipment and vehicle trips from construction workers as they

travel to and from the project site. In addition, fugitive dust emissions would result from site work related to demolition, grading, and cut-and-fill operations. The specific methodology for describing construction-related emission sources is contained within the "Methodology" sub-section above. The CalEEMod model output and worksheets for calculating regional construction-related daily emissions are provided in Appendix A of the Air Quality and Greenhouse Gas Report (refer to Appendix C of this Draft EIR).

As provided in **Table 4.B-6**, *Construction Air Pollutant Emissions,* estimated construction-related daily emissions would not exceed SCAQMD regional emission thresholds. Therefore, the short-term construction emissions are considered to have less than significant regional impact.

Table 4.B-6

Construction Air Pollutant Emissions

	Emissions (pounds per day)					
Source	**VOC**	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Site Preparation	5.34	56.98	43.77	0.04	1.18	6.77
Grading	6.89	79.15	52.10	0.06	7.24	4.97
Paving	2.15	22.45	15.67	0.02	1.43	1.21
Building Construction	3.68	29.19	26.02	0.05	3.20	2.09
Architectural Coatings	54.90	1.59	2.59	0.01	0.33	0.16
Maximum Daily Emissions [a]	**54.90**	**79.15**	**52.10**	**0.06**	**7.24**	**6.77**
Significance Threshold	75	100	550	150	150	55
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**

[a] *The maximum daily emissions refer to the maximum emissions that would occur in one day; it was assumed that the grading activities do not occur at the same time as the other construction activities; therefore, their emissions are not summed.*

Source: Michael Brandman Associates, Air Quality and Greenhouse Gas Report, Skyline Heights Project, May 2014

(b) Operation

Regional air pollutant emissions associated with project operations would be generated by the on-site consumption of electricity and natural gas, on-site use of solvents and consumer products that release VOC emissions, as well as the operation of on-road vehicles traveling to and from the site. Data provided in the traffic report were used to calculate each of these operational emissions categories. The CalEEMod model output and worksheets for calculating regional operational daily emissions are provided in Appendix A of the Air Quality and Greenhouse Gas Report (refer to Appendix C of this Draft EIR). As shown in **Table 4.B-7**, *Operational Emissions (Summer),* regional emissions resulting from operation of the project would not exceed regional SCAQMD thresholds and are considered less than significant.

(3) Cumulatively Considerable Pollutant Increase

Threshold 3	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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Table 4.B-7

Operational Emissions (Summer)

Source	Emissions (pounds per day)					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Area	12.70	0.28	24.09	0.00	0.46	0.46
Energy	0.23	1.97	0.84	0.01	0.16	0.16
Mobile	8.43	23.08	91.35	0.31	21.69	6.08
Maximum Daily Emissions [a]	**21.36**	**25.33**	**116.28**	**0.33**	**22.31**	**6.70**
Significance Threshold	55	55	550	150	150	55
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**

[a] *The maximum daily emissions refer to the maximum emissions that would occur in one day.*

Source: Michael Brandman Associates, Air Quality and Greenhouse Gas Report, Skyline Heights Project, May 2014

Impact 4.B-3 The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). The regional significance analysis for construction and operational emissions demonstrates that emissions would be below the regional significance thresholds. Therefore, the project would not contribute to a cumulative impact according to this criterion and impacts would be less than significant.

The SCAQMD's approach for assessing cumulative impacts is based on the AQMP forecasts of attainment of ambient air quality standards made in accordance with the requirements of the federal and state Clean Air Acts. As discussed earlier, the project would be consistent with the AQMP, which is intended to bring the Basin into attainment for all criteria pollutants.[16] To result in a less than significant impact, the following criteria must be true:

1. Regional analysis: emissions of nonattainment pollutants must be below the regional significance thresholds. This is an approach recommended by the SCAQMD in its comment letters.

2. Summary of projections: the project must be consistent with current air quality attainment plans including control measures and regulations. This is an approach consistent with Section 15130(b) of the CEQA guidelines.

3. Cumulative health impacts: the project must result in less than significant cumulative health effects from the nonattainment pollutants. This approach correlates the significance of the

[16] *The State CEQA Guidelines Section 15064(h)(3) states "A lead agency may determine that a project's increment-al contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program which provides specific requirements that will avoid or substantially lessen the cumulative problem (e.g., water quality control plan, air quality plan, integrated waste management plan) within the geographic area in which the project is located. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency."*

regional analysis with health effects, consistent with the court decision, Bakersfield Citizens for Local Control v. City of Bakersfield (2004) 124 Cal.App.4th 1184, 1219-20.

Step 1 – Regional Analysis: If an area is in nonattainment for a criteria pollutant, then the background concentration of that pollutant has historically exceeded the ambient air quality standard. It follows that if a project exceeds the regional threshold for that nonattainment pollutant, then it would result in a cumulatively considerable net increase of that pollutant and result in a significant cumulative impact. The Riverside County portion of the Basin is in nonattainment for ozone, PM_{10} (CAAQS only), and $PM_{2.5}$. Therefore, if the project exceeds the regional thresholds for PM_{10} or $PM_{2.5}$, then it would contribute to a cumulatively considerable impact for those pollutants. If the project exceeds the regional threshold for NO_X or VOC, then it follows that the project would contribute to a cumulatively considerable impact for ozone. Regional emissions include those generated from all onsite and offsite activities. Regional significance thresholds have been established by the SCAQMD because emissions from projects in the Basin can potentially contribute to the existing emission burden and possibly affect the attainment and maintenance of ambient air quality standards. Projects within the Basin region with regional emissions in excess of any of the thresholds presented in Table 4.B-6 (for construction) and Table 4.B-7 (for operation) would be considered to have a significant regional air quality impact.

Construction Regional Emissions: Table 4.B-6 summarizes construction-related emissions (without mitigation). The information shown in Table 4.B-6 indicates that the SCAQMD regional emission thresholds would not be exceeded. Therefore, the short-term construction emissions are considered to have a less than significant regional impact.

Operational Regional Emissions: Operational emissions from emission sources generated both onsite and offsite as derived from CalEEMod are shown in Table 4.B-7 for the summer season. As shown in Table 4.B-7, the project's emissions would not exceed the SCAQMD's regional thresholds and are considered less than significant. The regional significance analysis of construction and operational emissions demonstrates that emissions are below the SCAQMD regional significance thresholds. Therefore, the project does not contribute to a cumulative impact according to this criterion.

Step 2 – Plan Approach: Section 15130(b) of the CEQA Guidelines states the following:

> *The following elements are necessary to an adequate discussion of significant cumulative impacts: 1) Either: (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact.*

In accordance with CEQA Guidelines Section 15130(b), this analysis of cumulative impacts is based on a summary of projections analysis. This analysis considers the current CEQA Guidelines, which includes the recent amendments approved by the Natural Resources Agency and effective on March 18, 2010. This analysis is based on the 2003 and 2007 AQMPs. The South Coast Air Basin is in nonattainment for ozone, PM_{10}, and $PM_{2.5}$, which means that concentrations of those pollutants currently exceed the ambient air quality standards for those pollutants. When concentrations of ozone, PM_{10}, and $PM_{2.5}$ exceed the ambient air quality standard, then those sensitive to air pollution (i.e., children, elderly, sick) could experience health

effects such as decrease of pulmonary function and localized lung edema in humans and animals, increased mortality risk, and risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans.

Under the amended CEQA Guidelines, cumulative impacts may be analyzed using other plans that evaluate relevant cumulative effects. The AQMPs describe and evaluate the future projected emissions sources in the Basin and sets forth a strategy to meet both state and federal Clean Air Act planning requirements and federal ambient air quality standards. Therefore, the AQMPs are relevant plans for a CEQA cumulative impacts analysis. The 2003 AQMP updates the attainment demonstration for the federal standards for ozone and PM_{10}; replaces the 1997 attainment demonstration for the federal CO standard and provides a basis for a maintenance plan for CO for the future; and updates the maintenance plan for the federal nitrogen dioxide standard that the Basin has met since 1992. The 2007 AQMP focuses on ozone and $PM_{2.5}$. The AQMP also incorporates significant new scientific data, emission inventories, ambient measurements, control strategies, and air quality modeling.

The geographic scope for cumulative criteria pollution from air quality impacts is the Basin, because that is the area in which the air pollutants generated by the sources within the Basin circulate and are often trapped. The SCAQMD is required to prepare and maintain an AQMP and a SIP to document the strategies and measures to be undertaken to reach attainment of ambient air quality standards (please see discussion regarding State Implementation Plans [SIPs] under Regulatory Framework above). While the SCAQMD does not have direct authority over land use decisions, it is recognized that changes in land use and circulation planning are necessary to maintain clean air. The SCAQMD evaluated the entire Basin when it developed the AQMP.

In accordance with CEQA Guidelines Section 15064(h)(3), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously approved plan or mitigation program. As identified in Impact 4.B-1, the project would comply with the control measures in the AQMP and the applicable SCAQMD rules and regulations. In addition, the project's emissions would be less than the SCAQMD's CEQA significance thresholds and the analysis contained in Impact 4.B-1 demonstrates that the project is consistent with the most recent AQMP and SIP without mitigation. Therefore, the project would result in a less than significant impact according to this criterion.

Step 3 – Cumulative Health Impacts: The Riverside County portion of the Basin is in nonattainment for ozone, PM_{10}, and $PM_{2.5}$, which means that the background levels of those pollutants are at times higher than the ambient air quality standards. The air quality standards were set to protect public health, including the health of sensitive individuals (such as the elderly, children, and the sick). Therefore, when the concentration of those pollutants exceeds the standard, it is likely that some sensitive individuals in the population would experience health effects that were described in Table 4.B-2. However, the health effects are a factor of the dose-response curve. Concentration of the pollutant in the air (dose), the length of time exposed, and the response of the individual are factors involved in the severity and nature of health impacts. If a significant health impact results from project emissions, it does not mean that 100 percent of the population would experience health effects. The regional analysis of construction and operational emissions indicates that the project would not exceed the SCAQMD regional significance thresholds. Therefore, construction and operation of the project would not result in a cumulatively considerable net increase of any criteria pollutant

for which the project region is nonattainment and would not result in cumulative health impacts associated with these pollutants.

(4) Exposure to Substantial Pollutant Concentrations

Threshold 4	Would the project expose sensitive receptors to substantial pollutant concentrations?

Impact 4.B-4 *Implementation of the project would not expose sensitive receptors to substantial pollutant concentrations during operational or construction activities. Construction and operation of the project would not result in emissions that exceed the localized significance thresholds. The project would not cause or contribute to the formation of CO hotspots. Construction and operation of the project would not expose sensitive receptors to substantial sources of TAC emissions. Therefore, construction and operation of the project would be less than significant.*

The project would contribute to short-term localized air pollutant emissions during construction and long-term localized air pollutant emissions during operations. A discussion of the project's potential localized construction- and operations-period air quality impacts is provided below.

(a) Local Construction Impacts

(i) Construction LSTs

The SCAQMD has developed a set of mass emissions rate look-up tables that can be used to evaluate localized impacts that may result from construction-period emissions. If the on-site emissions from proposed construction activities are below the Localized Significance Threshold (LST) emissions levels found in the LST mass rate look-up tables for the project site's SRA, then project emissions would not have the potential to cause a significant localized air quality impact.

As discussed previously, mass daily emissions during construction were compiled using the CalEEMod emissions inventory model. However, only on-site construction emissions were considered for purposes of comparison with the LST mass rate look-up tables (consistent with SCAQMD LST guidelines, off-site delivery/haul truck activity and employee trips were not considered in the evaluation of localized impacts). A conservative estimate of the project's construction-period on-site mass emissions is presented in **Table 4.B-8**, *Localized Significance Analysis (Construction).* As provided in Table 4.B-8, construction of the project would not exceed the SCAQMD LSTs. Therefore, the short-term localized emissions would be considered to have a less than significant localized impact.

(ii) Toxic Air Contaminants

The greatest potential for TAC emissions would be related to DPM associated with heavy equipment operations during site grading activities. Construction equipment would emit DPM, which is a carcinogen. However, construction would result in short-term emissions of DPM. Determination of risk from DPM is considered over a 70-year exposure time. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk based on a 70-year lifetime of exposure. Given the temporary and short-term construction schedule, the project would not result in a long-term (i.e., 70 years) substantial source of TAC emissions. The project would comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than 5 minutes

Table 4.B-8

Localized Significance Analysis (Construction)

Activity	Onsite Emissions (pounds per day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Site Preparation	56.89	42.63	0.98	6.71
Grading	79.05	50.84	7.02	4.91
Paving	22.39	14.82	1.26	1.16
Building Construction	26.41	18.13	1.78	1.67
Architectural Coating	1.53	1.82	0.09	0.09
Maximum Daily Emissions [a]	**79.05**	**50.84**	**7.02**	**6.71**
Localized Significance Threshold	**270**	**1,700**	**12**	**8**
Exceed Threshold?	**No**	**No**	**No**	**No**

[a] *Each of the above activities does not occur at the same time; therefore, the maximum daily emissions represent the maximum emissions that would occur in one day.*

Source: Michael Brandman Associates, Air Quality and Greenhouse Gas Report, Skyline Heights Project, May 2014

at a location and the CARB In-Use Off-Road Diesel Vehicle Regulation. Compliance with these standards would reduce emissions of TACs during construction. Based on the temporary and short-term construction schedule and required regulatory compliance, construction impacts would be less than significant

(b) Local Operational Impacts

(i) Operational LSTs

The SCAQMD has developed a set of mass emissions rate look-up tables that can be used to evaluate localized impacts that may result from operational-period emissions. If the on-site emissions from proposed operational activities are below the LST emissions levels found in the LST mass rate look-up tables for the project site's SRA, then project emissions would not have the potential to cause a significant localized air quality impact.

As discussed previously, mass daily emissions during operations were compiled using the CalEEMod emissions inventory model. However, only on-site operational emissions were considered for purposes of comparison with the LST mass rate look-up tables (consistent with SCAQMD LST guidelines, off-site mobile source emissions were not considered in the evaluation of localized impacts). A conservative estimate of the project's operational-period on-site mass emissions is presented in **Table 4.B-9**, *Localized Significance Analysis (Operational).* As provided in Table 4.B-9, project would not exceed the SCAQMD LSTs during operations. Therefore, the localized emissions would be considered to have a less than significant localized impact.

(ii) CO Hotspot

A CO hot spot analysis is the appropriate tool to determine if project emissions of CO during operation would exceed ambient air quality standards. The primary source of air pollutant emissions during operation are from off-site motor vehicles traveling on the roads surrounding the project. The CO hot spot analysis

Table 4.B-9

Localized Significance Analysis (Operational)

Activity	Onsite Emissions (pounds per day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Area	0.28	24.09	0.46	0.46
Energy	1.97	0.84	0.16	0.16
Maximum Daily Emissions [a]	**2.25**	**24.93**	**0.62**	**0.62**
Localized Significance Threshold	**270**	**1,700**	**3**	**2**
Exceed Threshold?	**No**	**No**	**No**	**No**

[a] *The Maximum Daily Emissions accounts for the sum of on-site area and energy source emissions, and excludes off-site mobile source emissions.*

Source: Michael Brandman Associates, Air Quality and Greenhouse Gas Report, Skyline Heights Project, May 2014; PCR Services Corporation, 2014

conducted for the project demonstrated that emissions of CO during operation would not result in an exceedance of the most stringent ambient air quality standards for CO after incorporation of transportation mitigation measures (see Section 4.M, Transportation, in this Draft EIR). Therefore, impacts would be less than significant.

(iii) Toxic Air Contaminants

The CARB Air Quality and Land Use Handbook contains recommendations that will "help keep California's children and other vulnerable populations out of harm's way with respect to nearby sources of air pollution,"[17] including recommendations for distances between sensitive receptors and certain land uses. These recommendations are assessed as follows.

- Heavily traveled roads: CARB recommends avoiding new 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. Epidemiological studies indicate that the distance from the roadway and truck traffic densities were key factors in the correlation of health effects, particularly in children. The project does not include the construction or operation of a heavily traveled road. The project site is also not within 500 feet of a freeway or other heavily traveled road. According to the *Noise Impact Analysis* conducted for the project, a maximum traffic volume of 27,500 average daily trips (ADT) would occur on Green River Road between Serfas Club Drive and Paseo Grande under future year 2035 with project conditions,[18] which is well below the volume for a heavily traveled road as defined by CARB. Furthermore, State Route 91 is over 1.5 miles to the north and Interstate 15 is over 3.5 miles to the east of the project site boundary.

[17] *California Air Resources Board, Air Quality and Land Use Handbook, (2005) ES-1.*

[18] *First Carbon Solutions|Michael Brandman Associates, Noise Impact Analysis, Skyline Heights Project, City of Corona, California, Table 6, April 2014.*

- Distribution centers: CARB also recommends avoiding siting new sensitive land uses within 1,000 feet of a distribution center. The project would not result in a new distribution center. The project would also not be located within 1,000 feet of a distribution center. Uses within 1,000 feet of the project site include primarily residential, school, and commercial uses.
- Fueling stations: CARB recommends avoiding new sensitive land uses within 300 feet of a large fueling station (a facility with a throughput of 3.6 million gallons per year or greater). A 50- foot separation is recommended for typical gas dispensing facilities. The project does not include any fueling stations. The project would also not be located within 300 feet of a gas dispensing facility. The nearest gas dispensing facility is located to the north of the project site near State Route 91.
- Dry cleaning operations: CARB recommends avoiding siting new sensitive land uses within 300 feet of any dry cleaning operation that uses perchloroethylene. For operations with two or more machines, CARB recommends a buffer of 500 feet. For operations with three or more machines, CARB recommends consultation with the local air district. The project would not result in a new dry cleaning operation. The project would also not be located within 500 feet of a dry cleaning operation that uses perchloroethylene. Based on a search of local dry cleaners in the project area, one dry cleaner is located in close proximity to the project site (Mr. Dry Clean located at 2621 Green River Road). According to facility permitting records from the SCAQMD's Facility Information Detail (FIND) database, the dry cleaner is not permitted to use equipment containing carcinogenic TACs listed in SCAQMD Rule 1401, Table 1, as amended on March 4, 2005, which includes perchloroethylene.[19]

Based on the above analysis, the project would meet the CARB recommendations for distances between sensitive receptors and substantial sources of air pollution. Therefore, the project would result in a less than significant impact to sensitive receptors from project operation.

(5) Odors

Threshold 5	Would the project create objectionable odors affecting a substantial number of people?

Impact 4.B-5 *The project would not create objectionable odors affecting a substantial number of people. Therefore, odors associated with project construction and operation would be less than significant.*

According to the SCAQMD CEQA Air Quality Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting areas, refineries, landfills, dairies, and fiberglass molding facilities. The project does not include any uses identified by SCAQMD as being associated with odors and therefore would not produce objectionable odors

Construction of the project would result in emissions of DPM and VOCs, which may be objectionable to some people. However, the project would comply with the CARB anti-idling regulation that limits idling to 5 minutes at any location and with SCAQMD rules that regulate the VOC content of architectural coatings. Furthermore, emissions would disperse rapidly from the project site and therefore should not reach an

[19] *South Coast Air Quality Management District, Facility Information Detail (FIND), Facility ID 86193, http://www3.aqmd.gov/webappl/fim/prog/search.aspx. Accessed October 2014.*

objectionable level for a substantial number of people. Therefore, the project would be expected to result in substantial odorous emissions and impacts would be less than significant.

(6) Consistency with Regulatory Framework

Threshold 6	Would the project conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan and municipal code) adopted for the purpose of avoiding or mitigating an environmental effect?

Impact 4.B-6 Implementation of the proposed project would not conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the General Plan and Municipal Code). This impact is considered less than significant.

Table 4.B-10, *General Plan Consistency Analysis*, provides an analysis of the project's consistency with the applicable goals and policies contained in Chapter 5, *Environmental Resources*, of the City's General Plan relative to air quality. As discussed in Table 4.B-10, the project would be consistent with the applicable General Plan goals and policies. Furthermore, as discussed above under Impact 4.B-1, the proposed project would not conflict with the applicable AQMP. As such, impacts related to consistency with applicable plans and regulations would be considered less than significant.

3. CUMULATIVE IMPACTS

The SCAQMD's approach for assessing cumulative impacts is based on the AQMP forecasts of attainment of ambient air quality standards made in accordance with the requirements of the federal and state Clean Air Acts. Therefore, the area of analysis for cumulative impacts on air quality is the entire Basin. As previously discussed, the project would be consistent with the AQMP, which is intended to bring the Basin into attainment for all criteria pollutants.[20]

The mass regional emissions calculated for the project and presented earlier in this analysis would not exceed the applicable SCAQMD daily significance thresholds, which are designed to assist the region in attaining the applicable state and national ambient air quality standards. The project would comply with SCAQMD's Rule 403 (fugitive dust control) during construction as well as all other adopted AQMP emissions control measures. As such, the project's contribution to cumulative impacts would be less than significant.

[20] *State CEQA Guidelines Section 15064(h)(3) states "A lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program (including, but not limited to, water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, plans or regulations for the reduction of greenhouse gas emissions) which provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. When relying on a plan or program, the lead agency should explain how the particular requirements in the plan or program ensure that the project's incremental contribution to the cumulative effect is not cumulatively considerable. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding that the project complies with the specified plan or mitigation program addressing the cumulative problem, an EIR must be prepared for the project."*

4. MITIGATION MEASURES

Construction and operation of the project would result in less-than-significant air quality impacts. As such, no mitigation measures are required.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts related to air quality would be less than significant.

Table 4.B-10

General Plan Consistency Analysis

Goals and Policies	Consistency
Environmental Resources - Air Quality	
Goal 10.18 – Improve air quality conditions within the Corona Planning Area by controlling point sources, reducing vehicle trips, and striving to achieve attainment of ozone, nitrogen dioxide, carbon monoxide, and sulfate standards as enforced by the South Coast Air Quality Management District.	**Consistent**. A full analysis of construction and operational impacts related to air quality and greenhouse gas emissions was prepared for the proposed project, as provided in the *Air Quality and Greenhouse Gas Report, Skyline Heights Project*, prepared by Michael Brandman Associates, dated May 2014 (provided under separate cover). As indicated in the analysis of air quality impacts, the project would not conflict with applicable air quality plans, would comply with applicable CARB and SCAQMD rules and regulations, and would result in less than significant air quality impacts. The project would not conflict with measures to reduce on- and off-road construction emissions from heavy-duty diesel trucks and equipment, comply with anti-idling provisions for heavy-duty trucks, implement fugitive dust control measures in accordance with SCAQMD Rule 403, and comply with building energy efficiency standards including the California Green Building Standards (see Section 4.F, Greenhouse Gas Emissions). The project would also minimize air pollution by using of low-pollutant emitting interior finish materials for paints, carpet, vinyl flooring and particleboard, as required by the California Green Building Standards Code.
Policy 10.18.3 – Incorporate the provisions of the South Coast Air Quality Management District Management Plans as conditions of approval for all new development and re-development projects.	**Consistent**. See discussion under Goal 10.18 above. In addition, the project would comply with applicable and required SCAQMD rules and regulations to minimize construction and operational emissions.
Goal 10.20 – Reduce criteria air pollutant emissions through more efficient land use planning and construction practices.	**Consistent**. See discussion under Goal 10.18 above. In addition, the project would increase the City housing stock and mix of housing while being adequately supported by transportation and utility infrastructure (see Section 4.N, Utilities and Service Systems, of this EIR) and public services (see Section 4.L, Public Services of this EIR). The project would also be consistent with the City's land use goals and policies to develop low-density residential neighborhoods in areas on the City's southern periphery that preserve the rural and open space character of their setting (see Section 4.I, Land Use and Planning, of this EIR). The project would also minimize air pollution by using of low-pollutant emitting interior finish materials for paints, carpet, vinyl flooring and particleboard, as required by the California Green Building Standards Code.
Policy 10.20.4 – Continue to create local employment opportunities by maintaining an adequate supply of designated commercial and industrial land supply, in accordance with the Land Use Element.	**Not Applicable**. The project is not a commercial or industrial development. The project would neither hinder nor conflict with implementation of this policy.

Table 4.B-10 (Continued)

General Plan Consistency Analysis

Goals and Policies	Consistency
Policy 10.20.8 – Reduce particulate emission from paved and unpaved roads, parking lots, and road and building construction, as required by the South Coast Air Quality Management District. Methods include but are not limited to • Maintaining construction equipment engines in good condition and in proper tune per manufacturer's specification for the duration of construction • Turning off construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, when not in use for more than five minutes • Encourage contractors to utilize alternative fuel construction equipment (i.e., compressed natural gas, liquid petroleum gas, and unleaded gasoline) and low-emission diesel construction equipment to the extent that the equipment is readily available and cost effective • Using the electricity infrastructure surrounding construction sites rather than electrical generators powered by internal combustion engines to the extent feasible • Implement dust control measures consistent with South Coast Air Quality Management District Rule 403 – Fugitive Dust during the construction phases of new project development • Apply water and/or approved nontoxic chemical soil stabilizers according to manufacturer's specifications to all inactive construction areas (previously graded areas that have been inactive for 10 or more days). • Replacing ground cover in disturbed areas as quickly as possible	**Consistent**. The proposed project would comply with applicable SCAQMD rules and regulations related to particulate emissions. Additionally, project-related emissions would not exceed the established regional and localized significance thresholds for particulate matter. The project would implement measures to reduce on- and off-road construction emissions from heavy-duty diesel trucks and equipment by complying with anti-idling provisions for heavy-duty trucks, implementing fugitive dust control measures in accordance with SCAQMD Rule 403. Fugitive dust control measure consistent with Rule 403 include watering and/or use of soil stabilizers for disturbed areas and unpaved roads, the use of covers or sufficient freeboard space for haul trucks, replacing ground cover as soon as practicable, reducing vehicle speeds on unpaved roads to 15 miles per hour or less, and using clean paved roads where practicable. Implementation of these measure would minimize particulate emissions from paved and unpaved roads, parking lots, and road and building construction.

Table 4.B-17 (Continued)

General Plan Consistency Analysis

Goals and Policies	Consistency
• Enclosing, covering, watering twice daily, or applying approved chemical soil binders to exposed piles with 5 percent or greater silt content • Watering active grading sites at least twice daily • Suspending all excavating and grading operations when wind speed (as instantaneous gusts) exceed 25 miles per hour over a 30-minute period. • Covering or maintaining at least two feet of freeboard (i.e., minimum vertical distance between top of the load and the top of the trailer), in accordance with Section 23114 of the California Vehicle Code, in all trucks hauling dirt, sand, soil, or other loose materials • Sweeping streets adjacent to construction sites at the end of the day • Installing wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip • Applying water three times daily or chemical soil stabilizers according to manufacturers' specifications to all unpaved parking or staging areas or unpaved road surfaces • Posting and enforcing traffic speed limits of 15 miles per hour or less on all unpaved roads	
Goal 10.21 – Reduce air quality degradation through energy conservation.	**Consistent**. See discussion under Goal 10.18 above. In addition, the project would incorporate energy saving measures consistent with the California Green Building Standards Code. The project would reduce energy related to water use by installing water-conserving fixtures that would achieve at least a 20-percent reduction in indoor water use and moisture-sensing or other equivalent "smart" irrigation systems for larger landscaped areas. Common open space recreation areas would be planted with low-water plants that meet the California Department of Water Resources "Water Use Classifications of Landscape Species" (WUCOLS) low water use designation.

Table 4.B-10 (Continued)

General Plan Consistency Analysis

Goals and Policies	Consistency
Policy 10.21.1 – Reduce the amount of energy consumed by commercial and residential uses, as recommended by the Southern California Air Quality Management District.	**Consistent**. See discussion under Goal 10.18 and Goal 10.21 above.
Policy 10.21.2 – Continue to require the use and installation of energy conservation features in all new construction projects and wherever feasible, retrofitting in existing and re-development projects.	**Consistent**. See discussion under Goal 10.18 and Goal 10.21 above.

Source: City of Corona General Plan; PCR Services Corporation, 2014

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4. ENVIRONMENTAL IMPACT ANALYSIS
C. BIOLOGICAL RESOURCES

INTRODUCTION

This section describes existing biological resources that occur or have the potential to occur on the project site or in the site vicinity. In addition, a description of applicable regulations is provided. The analysis evaluates the potential impacts to biological resources that could occur in association with implementation of the proposed project. The analysis in this section is based on reports prepared by Gonzales Environmental Consulting, LLC (GEC) and L&L Environmental, Inc. (L&L), which are provided in Appendix D of this Draft EIR and listed below:

- *Habitat Assessment & Rare Plant Survey for Special Status Plants* (Sensitive Plant Report), August 1, 2013 (Revised April 23, 2014), prepared by GEC (GEC 2014a).
- *Habitat Assessment & Focused Surveys for Burrowing Owl* (Burrowing Owl Report), August 1, 2013 (Revised April 23, 2014), prepared by GEC (GEC 2014b).
- *Habitat Assessment & Focused Surveys for Coastal California Gnatcatcher* (California Gnatcatcher Report), August 1, 2013 (Revised April 23, 2014), prepared by GEC (GEC 2014c).
- *Habitat Assessment & Focused Surveys for Least Bell's Vireo* (Least Bell's Vireo Report), August 1, 2013 (Revised April 23, 2014), prepared by GEC (GEC 2014 d).
- *Jurisdictional Delineation*, August 1, 2013 (Revised April 23, 2014) prepared by GEC (GEC 2014e). This report was updated by L&L (see below).
- *Habitat Assessment Including the Results of a Focused Burrowing Owl Survey and MSHCP Consistency Analysis* (MSHCP Consistency Analysis Report), August 1, 2013 (Revised April 23, 2014), prepared by GEC (GEC 2014f).
- *Determination of Biologically Equivalent or Superior Preservation,* August 1, 2013 (Revised April 23, 2014), prepared by GEC (GEC 2014g). This report was updated by L&L (see below).
- *A Biological Resources Assessment* (BRA Report), March 2015, prepared by L&L (L&L 2015a).
- *Jurisdictional Delineation* (Jurisdictional Delineation Report), March 2015, prepared by L&L (L&L 2015b).
- Determination of Biologically Equivalent or Superior Preservation of Riparian/Riverine Habitat (DBESP Report), March 2015, prepared by L&L (L&L 2015c).

1. ENVIRONMENTAL SETTING

a. Existing Conditions

The project site is located within the City of Corona sphere of influence in unincorporated Western Riverside County and is proposed to be annexed to the City during the entitlement process. The project site is comprised of 270.9 acres of vacant land ("project site") situated in the hills to the southwest of the City of

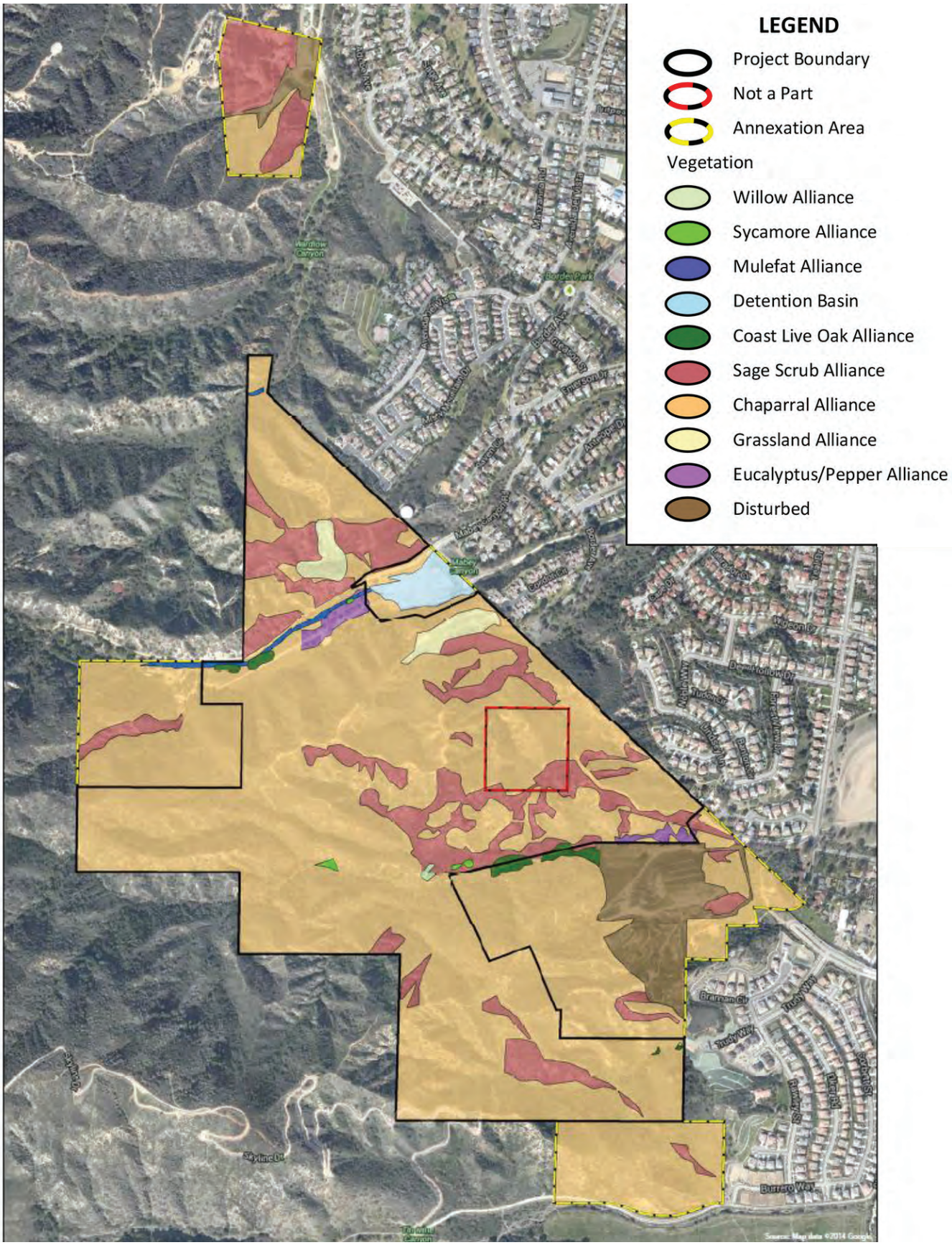
Corona, adjacent to the future alignment of the Foothill Parkway Westerly Extension. Within the project site boundary is an undeveloped 10-acre parcel which is considered "Not a Part" (NAP) and is owned by the U.S. Forest Service. An additional 33-acres within the project site boundary will be graded by the Foothill Parkway project and the impacts have been considered in the Foothill Parkway documents; as such they are also excluded (i.e., NAP) from this analysis. Several properties, not part of the project described in this analysis, are part of the general plan amendment/annexation and as part of the process the City requested that technical reports address additional properties within the annexation boundary. While surveys of these areas occurred as a result of the general plan amendment/annexation study, no impacts are planned to these areas at this time and no impacts to these properties have been considered in this analysis. If development of these properties is planned in the future, additional studies and permits will be required. The 270.9-acre project site is located south of Wardlow Canyon Wash, west of the paved portion of Mabey Canyon Drive, west of Mangular Avenue, and north of the dirt road portion of Chase Drive. The Skyline Heights project is generally bounded to the north and east by single-family residences and on the south and west by the Cleveland National Forest and large privately owned parcels. The project site is an in-holding within the National Forest Service boundary. The project site consists of disturbed and undisturbed native habitat in the eastern foothills of the Santa Ana Mountains, in addition to ornamental areas dominated by non-native species. The site is characterized by relatively gentle to moderately sloping terrain in addition to steep topography. Several canyons and ravines are present that convey natural drainage across the project site. Portions of the project site have been disturbed by anthropogenic disturbances (e.g., fire roads, illegal access, and adjacent land uses). Elevations of the project site range between approximately 955 above mean sea level in the northernmost point of the site within Wardlow Canyon Wash, to 1,700 above mean sea level at the western most boundary.

There are several existing canyons and ravines that run across the project site. Three of the canyons are designated USGS blue line streams. Wardlow Wash (Feature 7) and Mabey Canyon Wash (Feature 6) are two of those blue lined streams and are located in the northern portion of the project site. The other blue line stream is un-named (referred to in this report as Feature 3, previously referred to as F-1 by GEC) and is located in the central portion of the project site. Another feature, referred to in this report as Feature 1 (previously referred to as D-2 by GEC), is a jurisdictional drainage in the southern portion of the project site. Several other smaller non-jurisdictional tributaries also occur on-site.

The project site is within the Western Riverside Multiple Species Habitat Conservation Plan (WRC MSHCP), within Temescal Canyon Area Plan of the WRC MSHCP, as well as designated an MSHCP Burrowing Owl Survey Area.

(1) Vegetation Communities

The project site consists of several vegetation communities, characterized as Chaparral Alliance, Coast Live Oak Woodland Alliance, Eucalyptus/Pepper Alliance, Grassland Alliance, Mulefat Alliance, Sage Scrub Alliance, Sycamore Alliance, and Willow Alliance. The annexation area does not support Grassland Alliance, Sycamore Alliance, or Willow Alliance communities, but also supports a detention basin Mulefat Alliance, Sage Scrub Alliances, Chaparral Alliances, Eucalyptus/Pepper Alliance and disturbed, as shown in **Figure 4.C-1**, *Habitat Map Including Annexation Area*. Vegetation community mapping and classification is according to the California Native Plant Society (CNPS) Manual of California Vegetation (Sawyer, Keeler-Wolf and Evens 2009), California Natural Diversity Database (CNDDB) Natural Communities (CDFW 2013) and the CNPS Vegetation Alliances of Western Riverside County, California (Klein and Evens 2006). Acreages are



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N

Habitat Map Including Annexation Area

Skyline Heights Project
Source: L & L Environmental, Inc., 2015.

FIGURE
4.C-1

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summarized in **Table 4.C-1**, *Vegetation Communities*, below. A description of all these vegetation communities is provided below.

Table 4.C-1

Vegetation Communities

Habitat	Existing Acreages in the Survey Area	Existing Acreages in the Annexation Area
Riparian and Woodland Habitats		
Coast Live Oak Alliance	1.17	1.27
Mulefat Alliance	1.14	0.46
Sycamore Alliance	0.37	0
Willow Alliance	0.21	0
Subtotal	***2.89***	***1.73***
Upland Habitats		
Chaparral Alliance	218.05	94.10
Grassland Alliance	5.54	0
Sage Scrub Alliance	41.59	16.79
Subtotal	***265.18***	***110.89***
Unvegetated/Altered Areas		
Detention Basin	0	4.46
Disturbed	0	23.44
Eucalyptus/Pepper Alliance	2.82	0.18
Subtotal	***2.82***	***28.08***
Total Acreage	**270.89**	**140.70**

Source: PCR Services Corporation, 2015

Riparian and Woodland Habitat

Woodlands are dominated by woody trees and tall scrub species forming a continuous canopy with an understory consisting of low shrubs and/or a variable grassy ground layer. Riparian areas include those transitional areas adjacent to rivers, streams, estuaries, lakes, and depressional wetlands that characteristically have a high water table and are subject to periodic flooding and influence from adjacent water bodies. The woodland plant communities observed in the study area include *Quercus agrifolia* Alliance (Coast Live Oak Woodland) and *Platanus racemosa* Alliance (California sycamore woodlands [also considered a riparian community). The riparian plant communities observed in the survey area include: *Baccharis salicifolia* Alliance (Mulefat Scrub), *Salix lasiolepis* Alliance (Arroyo Willow thickets), and *Platanus racemosa* Alliance (California sycamore woodlands [considered both a woodland and riparian community). Drainage features on the project site supporting riparian species include Features 1 (unnamed), 3 (unnamed), 6 (Mabey Canyon Wash), and 7 (Wardlow Wash); Features 2, 4 and 5 support upland habitats (see section (3) below for a description of the drainage features). The observed riparian and woodland habitats are described below.

(a) *Quercus agrifolia* Alliance (Coast Live Oak () Woodland) 71.060.02

Coast live oak occurs as the dominant tree in the canopy. Poison oak is the dominant shrub in the understory. This Alliance occurs in the valley between the steep hills in the survey area (drainage Features F-1, F-3 and Mabel Canyon [F-6]). Quercus agrifolia is growing along and contributing to the riparian corridor as an intermittent canopy with a sparse ecotonal understory of riparian and Coastal Sage Scrub plant species: poison oak (*Toxicodendron diversilobum*), California Fuchsia (*Epilobum canum*), Douglas' Nightshade (*Solanum douglasii*), an California buckwheat (*Eriogonum fasciculatum*). This community is very limited in the survey area.

(b) Platanus racemosa Alliance (California Sycamore Woodland) 61.310.00

In the survey area, this riparian community is composed primarily of sycamore (*Platanus racemosa*) and California sagebrush (*Artemisia californica*). This plant alliance has a global and state ranking of G3S3 (Global and State Vulnerable (rare; typically having 21 to 100 occurrences, or 3,001 to 10,000 individuals). The community is very limited in the survey area, existing only in three small areas in drainage Feature F-3 and Mabey Canyon Wash (F-6).

(c) *Salix lasiolepis* Alliance (Arroyo Willow thickets) 61.201.01

In the survey area this riparian community is composed primarily of arroyo willow (Salix lasiolepis). This plant alliance has a global and state ranking of G4 S4 (Global and State Vulnerable (Apparently secure (uncommon but not rare, but with some cause for long-term concern; typically having 101 or more occurrences, or 10,001 or more individuals). This community is very limited in the survey area, existing only in limited areas of drainage Feature F-3.

(d) *Baccharis salicifolia* Alliance (Mulefat thickets) 63.510.00

In the survey area this riparian community is strongly dominated by mulefat (*Baccharis salicifolia*). The plant alliance has a global and state ranking of G5 S4 (Global Vulnerable (Secure (common, widespread, abundant, and lacking major threats or long-term concerns) and State Vulnerable (Apparently secure (uncommon but not rare, but with some cause for long-term concern; typically having 101 or more occurrences, or 10,001 or more individuals). This community is very limited in the survey area, existing only in a narrow band along Mabey Canyon Wash (F-6) and Wardlow Canyon Wash (D-7) and occurs sporadically in drainage Feature F-3 but was not mapped because it occurs in areas of less than 0.1 acres.

Upland Habitats

Chaparral Alliances

Chaparral is a type of shrubland that is dominated by evergreen shrubs with small, thick, leathery, dark green, sclerophyllous leaves. The shrubs are relatively tall, dense and adapted to periodic wildfires and drought. Many typical Coastal Sage Scrub species also grow intermixed as associates with chaparral species. Chaparral typically occurs on moderate to steep south-facing slopes with dry, rocky, shallow soils, becoming more abundant with higher elevations where temperatures are lower and moisture is higher. The chaparral vegetation communities observed in the survey area include *Adenostoma fasciculatum* Alliance (Chamise Chaparral) and *Adenostoma fasciculatum-Eriogonum fasciculatum* Alliance (Chamise-Buckwheat-Chaparral), as described below.

(e) *Adenostoma fasciculatum* Alliance (Chamise Chaparral) 37.101.00

Adenostoma fasciculatum Alliance is dominated by the evergreen shrub, *Adenostoma fasciculatum* (Chamise), This Alliance forms an intermittent to continuous canopy less than three meters tall, growing over a sparse herbaceous layer, especially in older stands. *Adenostoma fasciculatum* is usually associated with all slope aspects, but is commonly found on the drier south- and west-facing slopes and ridges, growing in very shallow soils (mafic-derived). To be classified as *Adenostoma fasciculatum* Alliance, the stand must have at least 60% cover by *A. fasciculatum* (Sawyer, Keeler-Wolf and Evens 2009).

The shrub canopy associate species observed as important contributors to *Adenostoma fasciculatum* Alliance include: thickleaf Yerba Santa (*Eriodictyon crassifolium*), California buckwheat, Our Lord's Candle (*Hesperoyucca whipplei*), toyon (Heteromeles arbutifolia), deerweed (*Acmispon glaber*), laurel sumac (*Malosma laurina*), and sugarbush (*Rhus ovata*). Several understory herbs listed below for Sage Scrub are expected as associates in Chaparral plant communities in the survey area.

(f) *Adenostoma fasciculatum-Eriogonum fasciculatum* Alliance (Chamise-Buckwheat-Chaparral) 37.101.14

The *Adenostoma fasciculatum-Eriogonum fasciculatum* Alliance (Chamise-Buckwheat-Chaparral) 37.101.14 is also found in the survey area. In this community both species are consistently present in an open to intermittent shrub overstory, where *Adenostoma fasciculatum* is dominant or codominant with *Eriogonum fasciculatum*. Other species (e.g., *Salvia mellifera*, *Arctostaphylos glauca*, *Encelia farinosa* and *Rhus ovata*) often intermix in the shrub layer at low cover (Klein and Evens 2006).

Grassland Alliances

(g) *Bromus* Semi-natural Stands (California Annual Grassland) 42.026.00

California Annual Grassland consists of low herbaceous vegetation that is dominated by introduced annual grasses and is often associated with several native wildflower species, as well as introduced forbs. California Annual Grassland is typically dominated by annual grasses of various genera that are primarily of Mediterranean origin, including: *Avena* spp. (wild oats), *Bromus* spp. (bromes), and *Hordeum* spp. (barleys).

Species composition varies among stands, as the associate species may consist of several native herbs (or wildflowers). These wildflowers are important contributors to the ground layer, while emergent trees and shrubs may be present. Grasslands composed primarily of non-native species bromes (*Bromus* spp.), short-podded mustard (*Hirschfeldia incana*), filaree (*Erodium* spp.), Russian thistle (*Salsola tragus*), doveweed (*Croton setigerus*), and deerweed occur throughout the survey area. Showy annuals and perennials observed include: common fiddleneck (*Amsinckia intermedia*), small-flowered fiddleneck (*Amsinckia menziesii*), cryptantha (*Cryptantha intermedia*), and Fremont's star lily (*Toxicoscordion fremontii*). No sensitive native grassland alliances were observed in the survey area. Native grasses were sparsely intermixed with dominate non-native species. Grasslands observed on site are dominated by non-native grass species: slender wild Oat (*Avena barbata*), common wild oats (*Avena fatua*), ripgut grass (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and foxtail chess (*Bromus madritensis* ssp. *rubens*).

California Annual Grassland also typically includes scattered nonnative forbs. Although California Annual Grassland is predominated by introduced annual grass species, this plant community has a significant

component of native herbs and may provide some functional habitat for many wildlife species. Only when annual grassland is significantly influenced by invasive species (generally a result of a significant disturbance) is the plant community classified as Ruderal Grassland.

Sage Scrub Alliances

Sage Scrub is a shrubland dominated by facultative drought-deciduous, low growing, soft-leaved, and grayish-green (malacophyllus) shrubs and subshrubs. The plants typically exhibit a patchy distribution, often in close associated with chaparral habitats. The sage scrub alliances observed in the survey area include *Eriogonum fasciculatum* Alliance (California Buckwheat Scrub), *Salvia leucophylla* Alliance (Purple Sage Scrub), *Salvia apiana* Alliance (White Sage Scrub), and *Salvia mellifera* Alliance (Black Sage Scrub),, as described below. These communities generally occur on rolling hills at lower elevations in the survey area and outside the scour area of drainage Feature F-3. It then transitions into chaparral where hills become steep. Sage Scrub intermixes with chaparral throughout the survey area.

(h) *Eriogonum fasciculatum* Alliance (California Buckwheat Scrub) 32.040.00

Eriogonum fasciculatum Alliance (California Buckwheat Scrub) is dominated by *Eriogonum fasciculatum* var. *fasciculatum*, which is a perennial shrub. One patch of *Eriogonum fasciculatum* Alliance, along the ridge top adjacent to a dirt road, is a monotypic stand of *Eriogonum fasciculatum* var. *fasciculatum*. This particular patch of *Eriogonum fasciculatum* Alliance most likely originated following construction of the fire road in the area. Some associate species to this plant community include Our Lord's Candle and ripgut grass.

(i) *Salvia leucophylla* Alliance (Purple Sage Scrub) 32.090.00

Salvia leucophylla Alliance (Purple Sage Scrub) is dominated by purple sage (*Salvia leucophylla*). This Alliance was observed as an important component of Sage Scrub within the survey area. Several associate native species contribute to the canopy of *Salvia leucophylla* Alliance onsite, including: California sagebrush, coyote bush (*Baccharis pilularis*), California bush sunflower (*Encelia californica*), California Buckwheat, slender wild oat, and black sage (*Salvia mellifera*).

(j) *Salvia apiana* Alliance (White Sage Scrub) 32.030.00

Salvia apiana Alliance (White Sage Scrub) is dominated by white sage (*Salvia apiana*), This Alliance exists when *Salvia apiana* is the sole, dominant, or important shrub growing with California sagebush in the canopy. Important shrub canopy contributors observed in the survey area include California sagebush and laurel sumac. Other herbaceous associate species observed growing below the low shrub canopy include slender wild oat, and short-pod mustard.

(k) *Salvia mellifera* Alliance (California brittle bush scrub) 32.020.00

In the *Salvia mellifera* Alliance, *Salvia mellifera* is usually the dominant shrub in the overstory. *Eriogonum fasciculatum* is consistently present, usually as a sub-dominant shrub. A variety of other coastal sage and chaparral species frequently intermix in the shrub layer as sub-dominants. This Alliance was observed as an important component of Sage Scrub within the survey area. Several associate native species contribute to the canopy of *Salvia mellifera* Alliance in the survey area, including: California sagebush, California bush sunflower, California buckwheat, slender wild oat, and purple sage.

Unvegetated/Altered

(l) *Eucalyptus* Semi-natural stands (Eucalyptus groves) 79.100.00

Non-native landscape eucalyptus species (*Eucalyptus* spp.) are located immediately adjacent to drainage Feature F-3 and Mabey Canyon Wash (F-6). In the survey area, this community is integrated with *Schinus* spp. Semi-natural Stands (see below).

(m) *Schinus* spp. Semi-natural Stands (Pepper tree) 79.200.00

Non-native landscape pepper tree species (*Schinus* spp.) are located immediately adjacent to drainage Feature F-3 and Mabey Canyon Wash (F-6). In the survey area, this community is an intergrade with *Eucalyptus* Semi-natural Stands (see above).

(n) Riverine Habitat (streambed channels)

A streambed channel, either unvegetated or vegetated with upland species, generally qualifies as MSHCP riverine habitat. A channel is defined as a conduit that periodically or continuously contains moving water, or that forms a connecting link between two bodies of water. An intermittent subsystem of the riverine system exists where the channel contains nontidal flowing water for only part of the year. When flows are absent, surface water may be absent or water may remain in isolated pools.

Riverine habitat occurs in a narrow band along the drainage features in the survey area where riparian habitats are absent. The riverine habitat onsite is largely unvegetated and contains recent fluvially deposited sediments.

(o) Road/Disturbed

Disturbed describes land or habitat that has been negatively altered, either by human activities (for building and road development purposes) or by natural causes (fires). As a result, this altered land is generally initially bare ground until either development occurs or natural succession begins. Habitat succession is a slow process of reestablishing original plant communities, but successional habitats are readily invaded by ruderal grass and forb species. Disturbed areas in the survey area are primarily existing dirt roads. Limited vegetation occurs in this land cover type and the species that are present tend to be weedy and invasive including species such as *Centaurea melitensis, Sisymbrium irio*, and *Hirschfeldia incana*.

(p) Ornamental

Ornamental vegetation occurs around Mabey Canyon Wash (F-6) near where an abandoned air strip is located, and along drainage Feature F-3 near Mangular Avenue. This vegetation type includes landscaped areas with planted species such as eucalyptus, pepper and pine trees (*Pinus* spp.).

(2) Sensitive Biological Resources

The following discussion describes the plant communities within the project site and plant and wildlife species present, or potentially present, that have been afforded special recognition by Federal, State, or local resource conservation agencies and organizations.

(a) Sensitive Plant Communities

The project site supports three plant communities which are considered California Natural Diversity Database (CNDDB) high inventory priority communities and are considered sensitive due to their decline in the region and/or their ability to support sensitive species. These include *Platanus racemosa* Alliance (California Sycamore Woodlands [CNDDB Code 61.310.00]), Salix lasiolepis Alliance (Arroyo willow thickets [CNDDB Code 61.201.01]), and Salvia apiana Alliance (White Sage Scrub [32.030.00]).

(b) Sensitive Plant Species

A list of sensitive plant species was created based on published literature and literature readily available on the internet, CNDDB records searches (for USGS Alberhill, Black Star Canyon, Corona North, Corona South, El Toro, Lake Mathews, Prado Dam, Riverside West and Santiago Peak 7.5' minute topographic quadrangles [Rarefind 5 2013]), state and federal species lists, and habitat field surveys. The list of plants assessed for the project site includes 58 species of which eight (8) are listed as threatened, endangered, proposed, or candidates for listing as endangered or threatened, and 50 as sensitive species.

None of the eight (8) species listed as threatened, endangered, proposed, or candidates for these listings were observed in the survey area during multiple years of general surveys and a focused plant survey conducted in 2013. Following completion of the focused plant survey three (3) of these species were determined to have a low potential of occurrence in the survey area based on the presence of appropriate habitat although none were observed, including Braunton's milk-vetch (*Astragalus brauntonii*), San Diego ambrosia (*Ambrosia pumila*), and thread-leaved brodiaea (*Brodiaea filifolia*). San Diego ambrosia, and thread-leaved Brodiaea are covered species under the WRC MSHCP in areas outside the survey overlays for these species; the project is not within these survey overlays, specifically the Narrow Endemic Species and Criteria Area plant species survey overlays respectively. Braunton's milkvetch is not a WRC MSHCP covered species. The remaining five (5) species were determined to have no potential of being present on the project site based on the lack or absence of appropriate habitat. Of the 50 sensitive plant species, one (1) was observed during the biological field surveys, Coulter's matilija poppy (*Romneya coulteri*), and six (6) others were determined to have a potential to occur in the survey area based on the presence of suitable habitat, species range, and proximity to known occurrences. These species are: Catalina mariposa lily (*Calochortus catalinae* [high potential]), Fish's milkwort (*Polygala cornuta* var. *fishiae* [moderate potential]), intermediate mariposa lily (*Calochortus weedii* var. *intermedius* [high potential]), intermediate monardella (*Monardella hypoleuca* ssp. *intermedia* [moderate potential]), white rabbit tobacco (*Pseudognaphalium leucocephalum* [moderate potential]), and chaparral nolina (*Nolina cismontane* [low potential]). None of these species were observed during field surveys conducted by GEC or L&L, although intermediate mariposa lily was reported from the northern project site in the CNDDB and in the August 2008 Foothill Parkway Westerly Extension DEIR (RBF Consulting 2008), and chaparral nolina was also recorded in the CNDDB as occurring within the northern end of the survey area. A total of 303 individuals of intermediate mariposa lily were observed in 30 locations during surveys conducted by BonTerra Consulting in May 2008; this species was not relocated in 2013 or observed elsewhere on the project site, although 2013 was considered a low rainfall year. Intermediate mariposa lily is a covered species (Covered Species Adequately Conserved) under the WRC MSHCP.

Coulter's matilija poppy is a CDFW S4 (Apparently secure in California, but with some concern) and CNPS List 4.2 (watch list). This species is conditionally covered species under the WRC MSHCP and will be considered to be a when Covered Species Adequately Conserved the species-specific conservation objectives

have been met.[1] The distinctive perennial plant is found in sage scrub and chaparral. Blooming period is March-July. Fourteen populations of this species, with numerous subpopulations, were identified in 2008 and again in 2013 in the survey area. Results of the surveys in 2008 found 526 individuals. In 2013, only 236 plants were relocated. No new populations were identified. The 2008 survey year was considered a low-normal rainfall year, while 2013 was considered a low rainfall year. The types of microhabitats found for this species have sandy to coarse sandy substrates. The distribution of the plants was found in the high flow level of the active Feature 3, unnamed drainage, and on the fire (dirt) road in the middle of the survey area **Figure 4.C-2**, *Coulter's Matilija Poppy*.

A detailed discussion of each special status plant species, its status, habitat requirements, and the potential to occur within the project site are presented in the Sensitive Plant Report and the BRA Report (GEC 2014a and L&L 2015a).

(c) Sensitive Wildlife Species

A list of special status wildlife species was created based on published literature and literature readily available on the internet, CNDDB records searches (for USGS Alberhill, Black Star Canyon, Corona North, Corona South, El Toro, Lake Mathews, Prado Dam, Riverside West and Santiago Peak 7.5' minute topographic quadrangles [Rarefind 5 - 2013]), state and federal species lists, and habitat field surveys. The list of wildlife assessed for the project site includes 113 species of which 24 are listed as threatened, endangered, proposed, or candidates for listing as endangered or threatened, 72 as sensitive, and one (1) as a U.S. Forest Service sensitive species.

None of the 24 species listed as threatened, endangered, proposed, or candidates for these listings were observed in the survey area. Two of these species, coastal California gnatcatcher (*Polioptila californica californica*) and golden eagle (*Aquila chrysaetos*), have potentially suitable habitat in the survey area and were determined to have a moderate potential of occurring within the survey area. Focused surveys for the coastal California gnatcatcher were conducted in 2013 by GEC and the species was not observed. Based on these surveys it was determined coastal California gnatcatcher does not currently occupy the survey area. The survey area does provide potentially suitable foraging habitat for the golden eagle. Both the coastal California gnatcatcher and the golden eagle are classified as Covered Species Adequately Conserved in the WRC MSHCP. Due to the presence of riparian habitat and the MSHCP Riparian/Riverine requirements (MSHCP Section 6.1.2), the least Bell's vireo (*Vireo bellii pusillus*) was also analyzed in detail. The survey area is not located within critical habitat for least Bell's vireo, and the vegetation does not appear to provide suitable territorial or breeding habitat for this species based on the diversity and density of the foliage. Focused surveys were conducted and no least Bell's vireo was observed in the survey area; it is unlikely the species would be expected in the survey area or in immediate adjacent areas. The survey area does not support suitable habitat for Stephens' kangaroo rat and the area is not within the SKR HCP.

Of the 72 sensitive species, five were observed during the biological surveys: northern red-diamond rattlesnake (*Crotalus ruber*), Cooper's hawk (*Accipiter cooperii*), California horned lark (*Eremophila alpestris*

[1] *As outlined in Table 9-3 of the WRC MSHCP, the Species Specific Conservation Objective for Coulter's matilija poppy is as follows: "In order for this species to become a Covered Species Adequately Conserved, the following conservation must be demonstrated: Within the MSHCP Conservation Area, confirm 30 localities (locality in this sense is not smaller than one quarter section).".*

actia), Lawrence's goldfinch (*Spinus lawrencei*), and the San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). Seventeen (17) other sensitive wildlife species were determined to have a high or moderate potential to occur in the survey area based on the presence of suitable habitat, species range and proximity to known occurrences. These species are; California silvery legless lizard (*Anniella pulchra pulchra*), orange-throated whiptail (*Aspidoscelis hyperythra*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), rosy boa (*Charina trivirgata*), San Bernardino/San Diego ringneck snake (*Diadophis punctatus* ssp. *modestus* and *similis*), California mountain kingsnake (*Lampropeltis zonata pulchra*) San Diego population, coast horned lizard (*Phrynosoma blainvillii*), Coronado island skink (*Plestiodon skiltonianus interparietalis*), coast patch-nosed snake (*Salvadora hexalepis virgultea*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), burrowing owl (*Athene cunicularia* [see below]), black-chinned sparrow (*Spizella atrogularis*), pallid bat (*Antrozous pallidus*), Dulzura pocket mouse (*Chaetodipus californicus femoralis*), hoary bat (*Lasiurus cinereus*), San Diego desert woodrat (*Neotoma lepida intermedia*) and monarch butterfly (*Danaus plexippus*). Of these species the WRC MSHCP considers the following species "Covered Species Adequately Conserved": orange throated whiptail, coastal whiptail, northern red-diamond rattlesnake, coast horned lizard, California horned lark, Cooper's hawk, southern California rufous-crowned sparrow, San Diego desert woodrat and San Diego black-tailed jackrabbit. The California mountain kingsnake (San Diego population) will be considered "Adequately Conserved" once a Memorandum of Understanding is executed with the USFS that addresses management for this species on Forest Service Land. An additional one (1) species listed only by the U.S. Forest Service as sensitive, namely fringed myotis (*Myotis thysanodes*), was considered to have a low potential to occur within the study area.

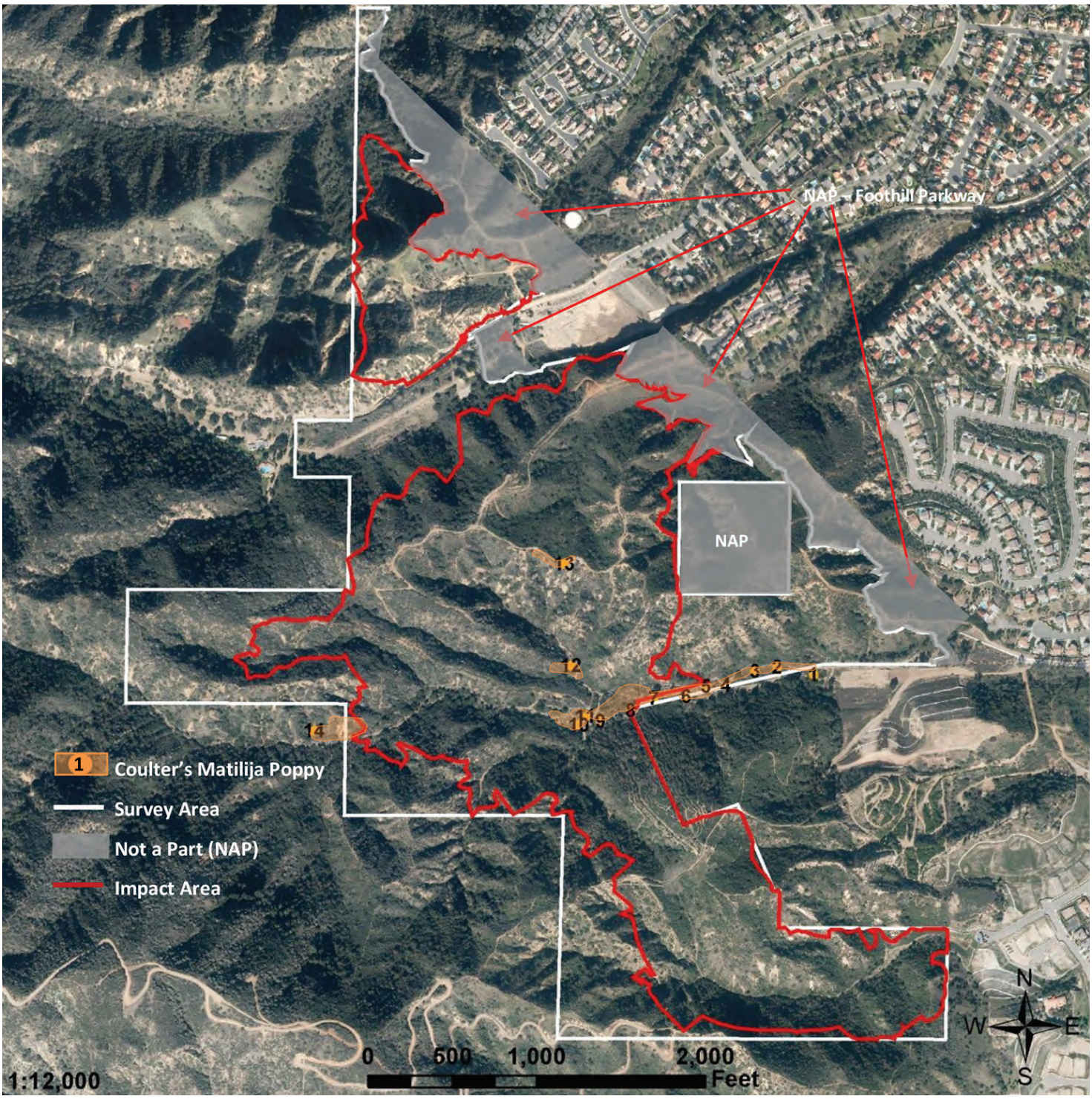
Focused surveys were conducted for burrowing owl, one of the 17 sensitive wildlife species listed above, based on the presence of suitable habitat and burrows. However no signs of burrowing owls were observed at the burrows or adjacent to them, and no individuals of burrowing owl were located; thus this species does not currently occupy the study area.

A detailed discussion of each special status wildlife species, its status, habitat requirements, and the potential to occur within the project site are presented in the BRA Report (L&L 2015a) which is an updated to the MSHCP Consistency Analysis Report (GEC 2014f). The results of focused species surveys for burrowing owl, coastal California gnatcatcher, and least Bell's vireo are detailed in the Burrowing Owl Report, California Gnatcatcher Report, and Least Bell's Vireo Report (GEC 2014b, 2014c, and 2014d).

(3) Jurisdictional Features

The project site supports seven (7) main jurisdictional features (referred to as Features 1 through 7) with 56 tributaries, for a total of 63 features. Three of the main features are USGS mapped blue line streams, including Feature 3 (an un-named blue line stream), Feature 6 (Mabey Canyon Wash), and Feature 7 (Wardlow Wash) (**Figure 4.C-3**, *Jurisdictional Feature Map*). The features are all ephemeral in nature since water flow is not permanent or present seasonally for long periods.

A jurisdictional delineation was conducted by GEC (GEC 2014e) and updated by L&L, as detailed in the Jurisdictional Delineation (L&L 2015b). Based on the updated L&L delineation, the project site supports 2.16 acres of federal non-wetland jurisdictional area ("waters of the U.S.") and 10.2 acres of state jurisdictional streambeds. Since the state jurisdictional streambeds incorporate riparian habitat these areas were also determined to meet the definition of MSHCP Riparian/Riverine Areas. Therefore, a total of 10.2 acres of



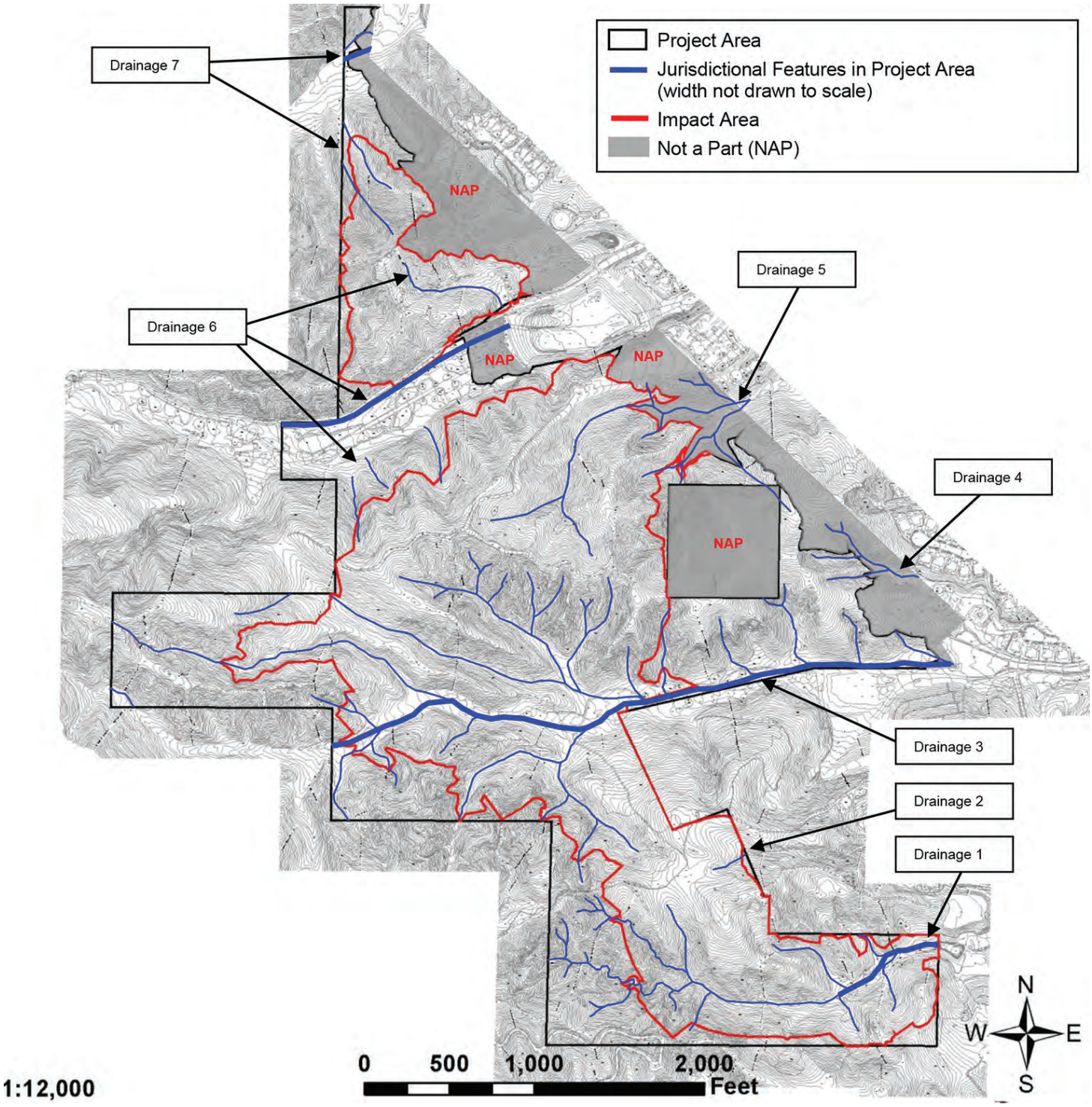
PCR

N

Coulter's Matilija Poppy

Skyline Heights Project
Source: L & L Environmental, Inc., 2015.

FIGURE
4.C-2



PCR

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Jurisdictional Feature Map

Skyline Heights Project
Source: L & L Environmental, Inc., 2015.

FIGURE
4.C-3

MSHCP Section 6.1.2 Riparian/Riverine Areas were mapped within the project site. No wetlands were found within the project site.

(4) Wildlife Movement

Larger, relatively undisturbed areas of land play an increasingly critical role in connecting fragmented populations of plant and wildlife species. The basic framework of corridor analysis consists of identifying areas of habitat that are suitable to support regional wildlife movement. Habitat suitability depends upon the needs of a given species. It can be approximated by analyzing habitat characteristics, such as current vegetation, topography (e.g., aspect, slope, elevation), distance to water, and climatic variables (e.g., average temperature, precipitation). Because different wildlife species vary in their sensitivity to human disturbance, habitat suitability is constrained by disturbance variables, such as distance to roads, distance to towns, and traffic volumes. Generally, coverage of known distribution of a species (e.g., from sightings, radio-telemetry locations, hunter-kill and road-kill sites) is also developed. Finally, a probability contour is developed from the convergence of these coverages to indicate the likelihood of a given area being suitable for a given species. Where this probable habitat connects areas of known population centers, it is often termed a corridor. Species that utilize corridors may take several days to several generations to pass through a corridor. Passage species include large herbivores and medium to large carnivores that need corridors to allow individuals to pass directly between two areas. For these species, corridors facilitate juvenile dispersal, seasonal migration, and home range connectivity.

The project site is bordered by urban development to the north and east, and bordered by open space to the south and west. The project site is immediately north and east of MSHCP Core B (Cleveland National Forest). The project site is not within any linkages identified by South Coast Missing Linkages (South Coast Wildlands 2008); however, the project site occurs along the foothills of the Santa Ana Mountains which was identified as the Corona-Temecula Foothills linkage in the South Coast Wildland's 2001 Missing Linkages report (Penrod *et al.* 2001). The primary impediments to movement identified were gaps in habitat cover along the foothills of the Santa Ana Mountains due to urban development. The project site's ability to facilitate wildlife movement was evaluated in relation to whether it provides links to seasonal foraging grounds or affects the exchange of genetic information between disjunct subpopulations. Portions of the project site are utilized for local movement by resident wildlife, primarily birds. Biological surveys of the project site did not detect bedding areas, or caves that could be used as dens for smaller and larger mammals. However, burrows and wildlife trails utilized by cottontails, ground squirrels, and coyotes were detected. In addition, human disturbances, such as runners, hikers with loose dogs, and mountain bikers, were observed on every survey occasion. Cats were also observed on each visit.

The project site includes native habitat that supports a variety of wildlife species and likely contributes generally to the Corona-Temecula Foothills linkage. However, it does not constitute a wildlife corridor (i.e., a piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another), as movement on a regional scale is not confined within a specific corridor within this area. Rather, it is comprised of open space at the interface with urban development and is contiguous to a large expanse of open space within Core B and the Cleveland National Forest. Thus, wildlife currently move freely throughout the project site and surrounding areas via existing travel routes,[2]

[2] *A landscape feature (such as a ridgeline, drainage, canyon, or riparian strip) within a larger natural habitat area that is frequently used by wildlife to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites). The travel route*

(Footnote continued on next page)

such as drainages, ridgelines, and existing dirt roads. It should be noted that Wardlow Wash, which crosses the northernmost tip of the project site, was identified by BonTerra Consulting as a regional wildlife corridor that facilitates movement between the Cleveland National Forest and Prado Basin, as referenced by the Foothill Parkway Westerly Extension DEIR (RBF Consulting 2008). However, Wardlow Wash is relatively constrained by development on either side, road crossings at three locations (Paseo Grande, Serfas Club Drive, and Palisades Drive), and State Route 91 is a significant barrier to wildlife movement. A recognized connection between the Santa Ana Mountains and Chino Hills area is farther to the west via Coal Canyon (Penrod *et al.* 2001; Beier and Low 1992). The WRC MSHCP also proposes a connection between Existing Core A (Prado Basin/Santa Ana River) with Existing Core B (Cleveland National Forest) via Constrained Linkages 1 and 2, which are also farther to the west (but east of Coal Canyon). The project site also currently provides for movement on a smaller, local scale for species that live within the project site.

b. Regulatory Framework

(1) Federal

(a) Endangered Species Act

The federal Endangered Species Act (ESA) protects plants and wildlife that are listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS). ESA Section 9 prohibits the taking of endangered wildlife, where taking is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land, as well as removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law. Under ESA Section 7, agencies are required to consult with the USFWS or NMFS if their actions, including permit approvals or funding, could adversely affect an endangered species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS or NMFS may issue an incidental take statement allowing take of the species that is incidental to another authorized activity, provided the action will not jeopardize the continued existence of the species. In cases where the federal agency determines its action may affect, but would be unlikely to adversely affect, a federally listed species, the agency informally consults with the USFWS and/or NMFS. This informal consultation typically involves incorporating measures intended to ensure effects would not be adverse. Concurrence from the USFWS and/or NMFS concludes the informal process. Without such concurrence, the federal agency formally consults to ensure full compliance with the ESA.

(b) Clean Water Act

The federal Water Pollution Control Act Amendments of 1972 (33 United States Code [USC] 1251–1376), as amended by the Water Quality Act of 1987, and better known as the federal Clean Water Act (CWA), is the major federal legislation governing water quality. The purpose of the federal CWA is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Discharges into waters of the United States are regulated under CWA Section 404. Waters of the United States include: 1) all navigable waters (including all waters subject to the ebb and flow of the tide); 2) all interstate waters and wetlands; 3)

is generally preferred because it provides the least amount of topographic resistance in moving from one area to another; it contains adequate food, water, and/or cover while moving between habitat areas, and provides a relatively direct link between target habitat areas.

all other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, or natural ponds; 4) all impoundments of waters mentioned above; 5) all tributaries to waters mentioned above; 6) the territorial seas; and 7) all wetlands adjacent to waters mentioned above. Important applicable sections of the CWA are discussed below:

- Section 303 requires states to develop water quality standards for inland surface and ocean waters and submit to the U.S. Environmental Protection Agency (EPA) for approval. Under Section 303(d), the state is required to list waters that do not meet water quality standards and to develop action plans, called Total Maximum Daily Loads (TMDLs), to improve water quality.
- Section 304 provides for water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for any federal permit that proposes an activity that may result in a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the CWA. Certification is provided by the respective Regional Water Quality Control Board (RWQCB). A Section 401 permit from the Santa Ana RWQCB would be required for the proposed project if a Section 404 permit were required.
- Section 402 establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredge or fill material) into waters of the United States. The NPDES program is administered by the RWQCB. Conformance with Section 402 is typically addressed in conjunction with water quality certification under Section 401.
- Section 404 provides for issuance of dredge/fill permits by the United States Army Corps of Engineers (USACE; also referred to as ACoE in the supporting documents for the project). Permits typically include conditions to minimize impacts on water quality. Common conditions include: 1) USACE review and approval of sediment quality analysis before dredging, 2) a detailed pre- and post-construction monitoring plan that includes disposal site monitoring, and 3) requiring compensation for loss of waters of the United States. The areas of the project site that occur below mean higher high water (MHHW) would be subject to regulation under Section 404.

(c) Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits take of nearly all native birds. Under the MBTA, take means to kill, directly harm, or destroy individuals, eggs, or nests, or to otherwise cause failure of an ongoing nesting effort.

(2) State

(a) California Endangered Species Act

The California Endangered Species Act (CESA) authorizes the California Fish and Game Commission (Commission) to designate endangered, threatened, and rare species and to regulate the taking of these species (California Fish and Game Code [FGC] Sections 2050–2098). The CESA defines endangered species as those whose continued existence in California is jeopardized. State-listed threatened species are those not presently facing extinction, but that may become endangered in the foreseeable future. FGC Section 2080 prohibits the taking of state-listed plants and animals. The California Department of Fish and Wildlife (CDFW, formerly the Department of Fish and Game [CDFG] prior to January 1, 2013) also designates fully protected or protected species as those that may not be taken or possessed without a permit from the Commission and/or CDFW. Species designated as fully protected or protected may or may not be listed as

endangered or threatened. When a species is both state- and federally listed, an expedited request for consistency with the USFWS biological opinion may be issued through a request for Section 2080.1 consistency determination.

(b) California Fish and Game Code

The California Fish and Game Code (FGC) is implemented by the Commission, as authorized by Article IV, Section 20, of the Constitution of the State of California. FGC Sections 3503, 3503.5, 3505, 3800, and 3801.6 protect all native birds, birds of prey, and nongame birds, including their eggs and nests, that are not already listed as fully protected and that occur naturally within the state. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (e.g., hawks, owls, eagles, and falcons), including their nests or eggs. The CDFW is the state agency that manages native fish, wildlife, plant species, and natural communities for their ecological value and their benefits to people.

Sections 1600-1616 of the FGC code allows the CDFW to issue Streambed Alteration Agreements for projects that will adversely affect wildlife habitat associated with any river, stream, or lake edges. Pursuant to this code CDFW asserts jurisdiction over the channel bed and banks, extending to the drip line of associated riparian vegetation if present.

(3) Regional

(a) Western Riverside County Multiple Species Habitat Conservation Plan

The continued loss of habitat to new development and the cumbersome process of environmental review and habitat mitigation on a project-by-project basis led to adoption of the Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP) by Riverside County in 2003. The WRC MSHCP area encompasses an area stretching from the San Jacinto Mountains to the Orange County border. The WRC MSHCP is a multijurisdictional effort that provides a regional conservation solution to species and habitat issues that have historically threatened to stall infrastructure and land use development. The WRC MSHCP's underlying goal is to protect multiple species by preserving a variety of habitat and providing linkages between different habitat areas and other undeveloped lands that would ensure long-term survival of 146 species of plants and animals. As long as adherence to the policies and requirements of the WRC MSHCP is maintained, participants in the WRC MSHCP, which include the County of Riverside and fourteen cities in western Riverside County (including the City of Corona), are allowed to authorize "incidental take" of plant and wildlife species of concern.

(b) Stephens' Kangaroo Rat Long-Term Habitat Conservation Plan (SKR HCP)

The USFWS issued a permit to the Riverside County Habitat Conservation Agency on May 3, 1996 to incidentally take the Stephens' kangaroo rat (Dipodomys stephensi). This permit was not superseded by the WRC MSHCP; it is a separate HCP, specific to Stephen's kangaroo rat. The 30-year Stephens' Kangaroo Rat Habitat Conservation Plan (SKR HCP) is designed to acquire and permanently conserve, maintain, and fund the conservation, preservation, restoration, and enhancement of Stephens' kangaroo rat occupied habitat. The SKR HCP covers approximately 534,000 acres within the member jurisdictions (including the City of Corona), and includes an estimated 30,000 acres of occupied Stephens' kangaroo rat habitat. The SKR HCP is within the WRC MSHCP. The SKR HCP requires members to preserve and manage 15,000 acres of occupied Stephens' kangaroo rat habitat in seven Core Reserves encompassing over 41,000 acres. Currently 12,460 acres of occupied habitat exist within the Core Reserves. The WRC MSHCP considers the Stephens' kangaroo

rat as a Covered Species Adequately Conserved and affords protection to this species outside the boundaries of the SKR HCP.

(4) Local

(a) Corona General Plan

Chapter 5, Environmental Resources, of the City of Corona's General Plan addresses several natural elements of the environment, including hydrological resources; biological resources; agricultural and mineral resources; air quality; and visual resources. The Environmental Resources Element provides an inventory of natural resources and a series of policies and programs deemed necessary by the City to use and protect those resources in a substantial manner. An analysis of project consistency with the applicable goals and policies of the Environmental Resources Element relating to biological resources is provided in the Analysis of Project Impacts subsection, below (see Threshold 5).

(b) Corona Municipal Code

Section 17.70.070, *Landscaping*, of the Corona Municipal Code (CMC) addresses landscape requirements, including the use of water efficient landscaping. In addition, Chapter 12.22 of the CMC includes the Community Forestry Program, which describes requirements regarding the planning, planting, maintenance, alteration, and removal of all trees, shrubs, and landscape materials on public property. The CMC recognizes the benefits of landscaping, which include abatement of air and noise effects, reduction of soil erosion, and enhancement of the visual environment. The City of Corona Department of Water and Power implements the requirements of planting, maintenance, alteration, and removal of landscaping on public property.

2. ENVIRONMENTAL IMPACTS

a. Methodology

A Sensitive Plant Report, Burrowing Owl Report, California Gnatcatcher Report, Least Bell's Vireo Report, Jurisdictional Delineation Report, MSHCP Consistency Analysis Report, and DBESP Report were prepared by GEC for the project (GEC 2014a through 2014g). A BRA Report, an updated Jurisdictional Delineation, and an updated DBESP of Riparian/Riverine Habitat were prepared by L&L (L&L 2015a through 2015c). The technical reports are contained in Appendix D of this Draft EIR. The methodology for the preparation of these reports included a literature review to evaluate the environmental setting and identify special-status species with potential to occur on site. The review included use of the California Natural Diversity Database (CNDDB [CDFW 2013) and the CNPS Inventory of Rare and Endangered Plants (CNPS 2013) for the USGS Alberhill, Black Star Canyon, Corona North, Corona South, El Toro, Lake Mathews, Prado Dam, Riverside West and Santiago Peak 7.5' minute topographic quadrangles (USGS).

A series of biological surveys were conducted on the project site in 2005, 2006, 2008, and 2013. Aerial photography and digital vegetation maps were reviewed to determine potential community types within the project site. Preliminary ground-truthing surveys concurred with digital vegetation maps, and additional surveys were performed to accurately define the community types and boundaries. General wetland assessments of the project site were conducted in 2006, 2008, and 2013, which included general mapping of habitat(s) that may be subject to jurisdiction of the USACE pursuant to Section 404 of the CWA, CDFW pursuant to Sections 1600-1612 of the California Fish and Game Code, and WRC MSHCP Section 6.1.2. An updated delineation was conducted in 2015. General reconnaissance and habitat assessment surveys were

completed to determine habitat suitability for listed species and special status plant, wildlife, and aquatic species. Sensitive plant surveys of the project site were conducted in 2005, 2006, 2008, and 2013. Focused species-specific surveys were conducted for burrowing owl, coastal California gnatcatcher, and least Bell's vireo in 2013.

b. Thresholds of Significance

Appendix G of the *CEQA Guidelines* (the Initial Study Environmental Checklist form) and the City's Initial Study Checklist include questions relating to biological resources that are utilized as the thresholds of significance in this section (Thresholds 1-6). Accordingly, the proposed project may create a significant environmental impact if it would result in one or more of the following:

Threshold 1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service (refer to Impact Statement 4.C-1);

Threshold 2: 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 (refer to Impact Statement 4.C-2);

Threshold 3: 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 (refer to Impact Statement 4.C-3);

Threshold 4: 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 (refer to Impact Statement 4.C-4);

Threshold 5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (refer to Impact Statement 4.C-5); or

Threshold 6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (refer to Impact Statement 4.C-6).

c. Project Design Features

Project Design Features (PDFs) have been incorporated as part of the project to address potential indirect effects as result of the urban/wildlands interface, as required by the WRC MSHCP (see also Impact 4.C-6, section (5), of this section). These PDFs include the following:

PDF BIO-1, Drainage – The project incorporates project streets, open channels and natural drainage courses as well as a comprehensive system of underground storm drains to handle storm

runoff from the project site. Storm water from the project site and off-site areas will be directed to storm drains. The design and operation of the drainage channel shall be adequate to preclude discharge of water into open space areas that are of lower quality or higher quality than current conditions. The proposed development shall incorporate measures, including measures required through the NPDES requirements, to ensure that the quantity and quality of runoff discharged to the open space 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 open space areas. Stormwater systems shall be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant materials, or other elements that might degrade or harm biological resources or ecosystem processes within open space areas. This will 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.

PDF BIO-2, Toxics – The proposed project is designed to utilize natural drainage patterns for the flow of surface water. Water Quality Best Management Practices (BMPs) include education, storm drain stenciling, and street sweeping in compliance with the City of Corona's requirements. The earthen channel shall be signed to filter potential toxics in the storm water prior to its discharge into open space areas. These BMPs will be implemented as part of the storm water pollution prevention measures for the project, in accordance with all appropriate NPDES requirements. The project would result in the additional use of hazardous materials in limited quantities associated with normal residential use such as cleaning products, solvents, herbicides, and insecticides. However, compliance with regulations will reduce the potential risk of hazardous material exposure to a level that is less than significant. An information pamphlet has been prepared for each homeowner regarding the use of toxics.

PDF BIO-3, Lighting – Outdoor lighting of residences will be designed so that all direct beams would be confined to dwelling sites. Project lighting will not intrude into the open space conservation areas. Street lighting, parking lot lighting, and other project-related illumination sources will be positioned, directed, and shielded so as to avoid "light spill" into the conserved areas. The proposed project will avoid any night lighting adjacent to the open space areas. Night lighting will not be used during the course of construction unless absolutely necessary. If necessary, the lights will be directed and shielded to minimize lighting of the surrounding habitat. The level of off-site lighting and lighting fixtures would comply with the applicable requirements and policies of the City of Corona.

PDF BIO-4, Noise – The proposed project incorporates landscape elements including trees, shrubs, and groundcover, which will assist in noise reduction on the project site. In addition, a noise analysis prepared for the project found that no proposed on-site or surrounding sensitive land uses would experience long-term noise levels in excess of 65 dBA during the daytime hours under build-out of the proposed project. This daytime noise level would not result in exterior nighttime levels greater than 45 dBA. Therefore, no noise created on the project site would exceed residential noise standards.

PDF BIO-5, Invasives – Exotic Vegetation Control – Design guidelines for the project will provide the homeowners with a list of native landscaping materials permitted within the project site. These materials have been selected for their contribution to the project theme,

adaptability to local climatic and soil conditions, and for their compatibility with the unique natural environment in the project site. The WRC MSHCP has identified exotic invasive plants that should be areas avoided adjacent to the MSHCP Conservation Area in Table 6-2, Section 6.1.4 of the WRC MSHCP; none of these plants will be utilized for the proposed project and their use by future homeowners will be prohibited.

PDF BIO-6, Barriers – The proposed project will include theme walls along project perimeter streets adjacent to public streets, and will include walls and fencing located where public view and/or important interfaces are of concern. The proposed project will incorporate special edge treatments designed to separate development areas from open space areas. These areas of native landscaping and fencing will serve to minimize unauthorized public access, domestic animals predation, and illegal trespass and dumping. Exclusion fencing will be permanently placed where development abuts avoided and adjacent open space areas. The exclusion fence will be a minimum of eight feet in height and will be installed and maintained for the purposed of controlling human and pet access (cats and dogs) into the open space area and be in compliance with WRC MSHCP requirements. The fencing will be permanent and will be maintained in perpetuity. Approval of the fencing design will be required by the City of Corona prior to project initiation.

PDF BIO-7, Access – Access points between native habitats and the project development will be posted with signage requesting residents to stay on the trails and not to disturb habitat. Yard fencing with no back gate will reduce access to native habitats adjacent to the project.

PDF BIO-8, Pets – Uncontrolled pets, feral dogs and cats can predate on native wildlife species. Appropriate signage will be posted requesting residents leash their pets. Homeowner Educational pamphlets will be used to inform them of the potential impacts by uncontrolled pets on native habitats and to request residents be good stewards of the land and prevent or limit their domestic cats from being allowed to openly hunt in the avoidance area.

PDF BIO-9, Grading/Land Development – All manufactured slopes associated with site development will be within the project site and there will be no impact to the MSHCP Conservation Area. All manufactured slopes that abut the natural open space will be retained as open space buffer zones. All manufactured slopes and areas disturbed by construction of these slopes will be revegetated with appropriate non-invasive buffer species during project construction.

It is anticipated that these PDFs will be incorporated in the project conditions of approval. No other PDFs have been identified for the project specifically related to biological resources. However, as also indicated in Section 2, *Project Description*, of this Draft EIR, open space would be provided within the project site in the form of landscaped slopes, landscaped and native open space areas, and landscaped detention basins.

d. Analysis of Project Impacts

(1) Sensitive Species

Threshold 1:	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Impact 4.C-1 *The project site has been reported in CNDDB to support intermediate mariposa lily (in 30 locations) and chaparral Nolina (within a small portion of the project site), and was observed to support Coulter's matilija poppy. Since the intermediate mariposa lily and chaparral nolina species were not relocated during surveys conducted by GEC, no significant impacts to these species are anticipated. Nevertheless, intermediate mariposa lily is a covered species under the WRC MSHCP and payment of the MSHCP Development Fee would reduce impacts to less than significant. Chaparral nolina is not covered under the WRC MSHCP but was only recorded within a small portion of the project site; the record in CNDDB occurs over a large area outside of the project site. As such, any impacts would be considered adverse but not significant and would not require mitigation. Coulter's matilija poppy is conditionally covered under the WRC MSHCP and the project would impact approximately 40 percent of the identified population. Impacts would be considered adverse but not significant due to the large distribution and number of locations of this species. Furthermore, mitigation measures proposed for the project would also benefit avoided populations of Coulter's matilija poppy by minimizing direct and indirect impacts, including Mitigation Measures BIO-1, BIO-4, and BIO-5, in addition to Project Design Features PDF BIO-1 through PDF BIO-9 to address edge effects pursuant to WRC MSHCP requirements for urban/wildlands interface. These measures would also reduce potential impacts to unobserved or new growth of sensitive species identified as having a moderate or high potential of occurring in the survey area. Focused surveys conducted for burrowing owl and least Bell's vireo were negative. Mitigation Measures BIO-2 and BIO-3 are proposed to ensure no future impacts will occur to migratory and nesting birds and burrowing owl, respectively, prior to construction. With the implementation of the proposed mitigation measures, which would provide protection to the special-status species if they are found on the project site, impacts would be reduced to a less than significant level. Mitigation measures are also proposed to address indirect impacts.*

(a) Sensitive Plant Species

Implementation of the proposed project would result in the direct removal of numerous common plant species, both native and non-native, within the project site. A list of plant species observed within the project site is included in Appendix A of the BRA Report (included in Appendix D in this Draft EIR). Common plant species present within the project site occur in large numbers throughout the region and their removal does not meet the significance thresholds defined above. Therefore, impacts to common plant species would be considered a less than significant impact and no mitigation is required.

As indicated in the Environmental Setting section, above, Coulter's matilija poppy was observed within the project site. Coulter's matilija poppy is a CNPS Rank 4.2 species (Rank 4: Plants of limited distribution – Watch list; 0.2: Fairly endangered in California [20-80% occurrences threatened]). Approximately 526 plants were recorded in 2008 and 236 plants were recorded in 2013. Coulter's matilija poppy is a

conditionally covered species under the WRC MSHCP; this species will be considered to be a Covered Species Adequately Conserved when the species-specific conservation objectives have been met. Due to the large distribution and number of locations of this species, impacts would be considered adverse but not significant. Impacts are proposed to approximately 40 percent of the identified population (between 95 and 211 individuals based on the 2013 versus 2008 observations of 236 and 526 individuals, respectively); the remaining approximate 60 percent would be avoided within 117.39 acres of natural habitat. Mitigation Measures proposed for the project would avoid impacts to avoided Coulter's matilija poppy plants, including Mitigation Measures BIO-1, BIO-4, and BIO-5. BIO-1 would require flagging or fencing of impact and avoidance areas prior to clearing to prevent encroachment into avoided areas, periodic monitoring by a qualified biologist during clearing of habitat as determined appropriate, and implementation of Best Management Practices (BMPs) to prevent impacts to avoided biological resources. Mitigation Measures BIO-4 and BIO-5 would require measures to minimize the introduction of invasive species. In addition, Mitigation Measure BIO-12 requires mitigation for impacts to Riparian/Riverine Areas, and could include planting of species such as Coulter's matilija poppy if appropriate and/or feasible. Also PDFs are proposed to include measures to minimize effects from the urban/wildlands interface including human and pet encroachment and invasive species pursuant to the WRC MSHCP requirements. These mitigation measures and PDFs would also minimize potential impacts to unobserved or new growth of sensitive species identified as having a moderate or high potential of occurring in the survey area, but not previously observed.

Intermediate mariposa lily was reported from the northern project site in the August 2008 Foothill Parkway Westerly Extension DEIR. Intermediate mariposa lily is a CNPS Rank 1B.2 species (Rank 1: Rare, threatened, or endangered throughout their range; 0.2: Fairly endangered in California [20-80% occurrences threatened]). A total of 303 individuals were observed in 30 locations during surveys conducted by BonTerra Consulting in May 2008; these locations are proposed for impacts although the species was not relocated during the 2013 survey. As this species was not observed during current surveys, the impacts are unknown but can be estimated at less than 100 individuals. Intermediate mariposa lily is a covered species under the WRC MSHCP. Thus, payment of the MSHCP Development Fee would reduce impacts to less than significant.

Chaparral nolina is not a covered species under the WRC MSHCP. This species was recorded in CNDDB as occurring over a large area that crossed only a small portion of the project area. As this species was not observed or previously detailed on the project site the impacts are unknown and cannot be clearly quantified. However, based on the large distribution of the recorded population and the small portion of the project site included in the CNDDB occurrence, impacts from the project would be considered adverse but not significant and no mitigation is required.

Of the remaining four species with potential to occur in the survey area, Catalina mariposa lily, Fish's milkwort, intermediate monardella, and white rabbit tobacco, only Fish's milkwort is a covered species under the WRC MSHCP Fish's milkwort will be considered a "Covered Species Adequately Conserved" once preservation levels within the Conservation Areas are met. However, as the species were not observed over several years, if impacts occur they are expected to be limited. Impacts to these species are considered less than significant and no mitigation is required.

The remainder of those sensitive plant species that were documented as occurring within the region are not expected to occur within the project site due to the lack of suitable habitat, the project site being outside of the known distribution or elevation range for the species, or due to negative results of multiple years of

focused surveys. Therefore, no impacts would occur to these sensitive plant species with implementation of the proposed project, and no mitigation is required.

(b) Sensitive Wildlife Species

As indicated in the Environmental Setting section, above, the majority of the wildlife species that were observed during surveys on-site are considered common to the region. Five (5) sensitive species were observed within the survey area, including northern red-diamond rattlesnake, Cooper's hawk, California horned lark, Lawrence's goldfinch, and San Diego black-tailed jackrabbit. All these species with the exception of Lawrence's goldfinch, are Covered Species Adequately Conserved in the WRC MSHCP. Payment of the MSHCP Development Fee would reduce impacts of WRC MSHCP covered species to less than significant. For species not covered under the WRC MSHCP, the project was designed to avoid 117.39 acres of natural habitat which will limit potential impacts to sensitive species in the survey area. In addition, Mitigation Measure BIO-2 requires avoiding clearing and grubbing of habitat during the birds nesting season, which will reduce impacts to less than significant if bird species present at the time of construction.

No threatened or endangered species were recorded or observed in the survey area, although four (4) species were considered including golden eagle, coastal California gnatcatcher, least Bell's vireo, and the Stephens' kangaroo rat. The golden eagle was considered to have a potential to occur for foraging only, but was not observed during any of the general or focused surveys conducted within the survey area. Focused surveys for coastal California gnatcatcher and least Bell's vireo were also negative. For Stephens' kangaroo rat it was determined no suitable habitat occurs within the survey area, and the site is not within the SKR HCP. None of these species have been previously recorded on the project site. With the exception of the least Bell's vireo which is conditionally covered (requiring "Additional Survey Needs", the remaining three species are Covered Species Adequately Conserved in the WRC MSHCP. Payment of the MSHCP Development Fee would reduce impacts of WRC MSHCP covered species to less than significant. For species not covered under the WRC MSHCP, the project was designed to avoid 117.39 acres of natural habitat which will limit potential impacts to sensitive species in the survey area. In addition, Mitigation Measure BIO-2 requires avoiding clearing and grubbing of habitat during the nesting season, which will reduce impacts to less than significant if bird species are present at the time of construction.

Seventeen (17) other sensitive wildlife species were determined to have a high or moderate potential to occur in the survey area based on the presence of suitable habitat, species range and proximity to known occurrences. Of these, five species are Covered Species Adequately Conserved in the WRC MSHCP, including orange throated whiptail, coastal whiptail, coast horned lizard, southern California rufous-crowned sparrow, and San Diego desert woodrat. The California mountain kingsnake (San Diego population) will be considered "Adequately Conserved" once a Memorandum of Understanding is executed with the USFS that addresses management for this species on Forest Service Land. Payment of the MSHCP Development Fee would reduce impacts of WRC MSHCP covered species to less than significant.

The burrowing owl is a species that requires "Additional Survey Needs" pursuant to the WRC MSHCP in mapped areas identified as the survey area overlays. The project site is located within the required survey area and focused surveys were conducted. No burrowing owl or sign of burrowing owl were observed in the survey area. Although the site is currently not occupied, this species is migratory and has the potential to occupy the site in the future. Mitigation Measure BIO-3 requires a pre-construction survey for burrowing

owls to prevent impacts to this species, and mitigation should owls be observed pursuant to CDFW guidelines (CDFW, 2012). With this mitigation measure impacts are considered less than significant.

The remaining ten (10) species are not covered under the WRC MSHCP, including the California silvery legless lizard, rosy boa, San Bernardino/San Diego ringneck snake, California mountain kingsnake, Coronado island skink, coast patch-nosed snake, black-chinned sparrow, pallid bat, Dulzura pocket mouse, hoary bat, and monarch butterfly.

Direct Impacts: Each of the sensitive species discussed above that are known to occur or have a high to moderate potential to occur in the habitat on or immediately adjacent to the proposed impact area, have a potential to be directly impacted during construction of the project if they are present at the time of construction. The noise, activity, and presence of humans on the worksite will likely discourage many species of wildlife from the site during working hours, depending on the mobility of the species. More mobile species will move away from active construction zones into adjacent habitats. Wildlife may take refuge around the equipment in off hours and, if present, could be injured or killed by construction vehicles or passenger vehicles when vehicles are first started/moved, when species are moving through the construction zones, or when hiding within the impact area.

The larger mammal and bat species are not expected to be directly impacted and were considered to have a low potential of impacts, based on their high mobility levels and lack of roosting habitat observed. It is possible, though, that potential roosting or denning habitat does occur in the project impact area or that burrows went unobserved. In addition, the possibility cannot be completely eliminated that these species could be hit by construction vehicles or trapped in a roost/den location. Take of these species is possible; however, the wide territories of these species, vast open habitat in the area, no existing access restrictions around the project area preventing escape, and the nocturnal habits of some species reduce the potential for impacts.

Avian species have a low-moderate potential of being directly impacted based on their mobility and the relatively slow moving construction equipment, but if active nests are present within the project area, eggs and juveniles have a high potential of being impacted.

Small mammal and reptile species have a higher potential to be impacted by construction activities. Small mammals and reptiles can be very mobile, but often hide or rest in subsurface burrows or in debris piles and could be impacted during clearing, grubbing, dirt moving or construction. During construction the noise, activity, and presence of humans on the worksite will likely discourage mammals from the site during working hours, but these species may take refuge around the equipment or in subsurface burrows and debris piles in off hours.

Sensitive reptile and small mammal species that have moderate or high potential for occurring within the habitat in the survey area are considered to have a moderate potential of being directly impacted.

Mitigation Measures have been incorporated to minimize direct impacts to sensitive wildlife species. Mitigation Measure BIO-1: flagging or fencing the impact area to prevent unintended impacts, biological monitoring, and BMPs to avoid inadvertent impacts to avoided biological resources. BMPs include placing refuse in covered containers and removing daily so as to reduce the potential for attracting wildlife to an

unsafe construction zone where they may be trapped or injured. This will also reduce opportunistic predatory wildlife such as crows, ravens, coyotes, dogs etc.; Mitigation Measure BIO-2: avoiding clearing and grubbing between January 1 and September 1 or conducting a nesting bird clearance will reduce the impacts to nesting birds, eggs or dependent juveniles during construction, although intended to minimize impacts to nesting birds avoidance of this period (if possible) would also reduce impacts to other breeding species; Mitigation Measure BIO-3: preconstruction survey for burrowing owls and mitigation, if observed.

The species that are not 'Adequately Conserved' under the WRC MSHCP, California silvery legless lizard, rosy boa, San Bernardino/San Diego ringneck snake, Coronado island skink, coast patch-nosed snake, black-chinned sparrow, pallid bat, Dulzura pocket mouse, hoary bat and monarch butterfly are considered sensitive by the CDFW and/or USFS and are being monitored for changes in their level of rarity. At this time impacts to these species are generally not regulated and with the mitigation measures outlined, impacts are considered to be less than significant.

Indirect Effects: Habitat fragmentation will consist of the loss of 153.5 acres of native habitats and isolation of native habitats to the east of the project from the larger Core B habitat area. The Project will incorporate barriers to prevent both common and sensitive wildlife species from entering the residential development and increasing their potential for impact by humans, vehicles, pets or other urban hazards. The barriers would also prevent human and pet encroachment and the potential for direct impacts by those means. These preventative measures, while incorporated for the safety of the wildlife and adjacent habitat, also restricts wildlife movement and adds to habitat fragmentation.

Amphibian, reptile, avian, mammal and insect species may experience indirect impacts from construction including, increases in noise, chemical emissions, and vibration impacts resulting in avoidance and abandonment of the area. Movement of species could concentrate populations, increase competition for resources in adjacent habitats and leave displaced individuals vulnerable to predation. Those species that may use the project area for foraging will still have access to large expanses of relatively undisturbed habitat in the project vicinity, including the Cleveland National Forest lands to the west. Due to the remote location and open area emissions should disperse.

Although the species will be displaced and may alter behavior, Mitigation Measure BIO-2 which recommends clearing and grubbing be conducted outside the nesting bird season, or, if work cannot be avoided, nesting bird surveys be conducted prior to impacts, will prevent impacts to eggs and juveniles. If avoidance is possible it will also reduce impacts to all wildlife during typical reproduction periods. With the presence of substantial habitat of equal quality nearby, the project vicinity can provide sufficient foraging and nesting habitat. In addition, the WRC MSHCP considers the development throughout the County and balances development with conservation of the highest quality and largest possible areas of native habitats. The WRC MSHCP does not identify the survey area as a Conservation Area.

Increases in invasive plant species could affect the diet of small herbivorous mammal species by displacing their primary food sources and out-compete native vegetation that may be needed by specific wildlife species (i.e. host plants). A potential increase in invasive species would likely occur along the perimeter of the impact area, where newly exposed soils could provide fertile ground. Invasive species that may occur along the current roadway and within the impact area could disperse seed to newly turned soil. Large areas of undisturbed vegetation occur in the project vicinity and would be available food sources for these species.

Mitigation Measures BIO-4 and BIO-5 are incorporated to minimize increases in invasive vegetation; measures to avoid invasive vegetation impacts are also proposed as PDFs in compliance with WRC MSHCP requirements.

After completion of construction, noise levels adjacent to the site will be increased over current conditions at those locations, but are not expected to exceed residential noise standards. In addition, barriers are proposed between residential development and conservation areas, which will reduce the amount of noise, chemical emissions and fugitive dust from the development crossing into or affecting wildlife in the conservation areas after completion of construction.

(2) Riparian Habitat

Threshold 2:	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?

Impact 4.C-2 *Implementation of the proposed project would result in significant impacts to four riparian habitat alliances and a sensitive natural sage scrub community. However, implementation of the prescribed mitigation measure would reduce potentially significant impacts to a less than significant level.*

Impacts to plant communities are summarized in **Table 4.C-2**, *Direct Impacts to Vegetation Communities*, below. The project site supports five (5) plant communities that are considered sensitive natural communities by the CNDDB and/or protected pursuant to the WRC MSHCP. These include the four (4) riparian vegetation alliances, and one of the sage scrub alliances. Specifically, all four riparian vegetation alliances totaling 2.89 acres (including Coast Live Oak Alliance, Mulefat Alliance, Sycamore Alliance, and Willow Alliance) meet the WRC MSHCP definition or Riparian/Riverine Areas and require compensatory mitigation for impacts. Three (3) communities are considered sensitive (high priority for inventory) by CNDDB, including 0.37 acre of Sycamore Alliance (*Platanus racemosa* [California sycamore woodlands] Alliance), 0.21 acre of Willow Alliance (*Salix lasiolepis* [Arroyo willow thickets] Alliance), and one of the four Sage Scrub Alliances, specifically *Salvia apiana* (White sage scrub) Alliance.

Impacts will occur to 0.72-acre of riparian habitat that meets the definition of MSHCP Riparian/Riverine Areas (25 percent of the total 2.89 acres); the majority of impacts will occur to the Sycamore and Willow Alliances (0.32 acre and 0.21 acre, respectively) that are also considered of high priority for inventory by CNDDB. Although impacts will occur to the Sage Scrub Alliance, the specific acreage to the CNDDB sensitive *Salvia apiana* Alliance is unknown. However, since the project site is not within any MSHCP Criteria Cells requiring conservation of habitats, impacts to this vegetation community is considered covered under the WRC MSHCP. The impacts to all vegetation communities within the survey area are depicted on **Figure 4.C-4**, *Habitat Impacts*.

Implementation of Mitigation Measure BIO-12 would compensate for impacts to riparian habitats and reduce impacts to a less than significant level. This mitigation is also intended to satisfy compensatory requirements for regulatory permitting outlined in Mitigation Measures BIO-6 through BIO-9. Since impacts

Table 4.C-2

Direct Impacts to Vegetation Communities

Habitat	Existing in the Survey Area (acres)	Avoided (acres)	Project impacts (acres)
Riparian and Woodland Habitats			
Coast Live Oak Alliance[a]	1.17	1.07	0.1
Mulefat Alliance[a]	1.14	1.05	0.09
Sycamore Alliance[a,b]	0.37	0.05	0.32
Willow Alliance[a, b]	0.21	0	0.21
Subtotal	***2.89***	***2.17***	***0.72***
Upland Habitats			
Chaparral Alliance	218.05	93.66	124.39
Grassland Alliance	5.54	2.12	3.42
Sage Scrub Alliance [b,c]	41.59	16.62	24.97
Subtotal	***265.18***	***112.40***	***152.78***
Unvegetated/Altered Areas			
Detention Basin	0	0	0
Disturbed	0	0	0
Eucalyptus/Pepper Alliance	2.82	2.82	0
Subtotal	***2.82***	***2.82***	***0***
Total Acreage	**270.89**	**117.39**	**153.5**

[a] *These habitats are protected pursuant to Section 6.1.2 of the WRC MSHCP based on meeting the definition of Riparian/Riverine Areas.*

[b] *These habitats are considered high priority for inventory (sensitive) by CNDDB.*

[c] *Sage Scrub Alliance is comprised of four alliances including Eriogonum fasciculatum Alliance, Salvia leucophylla Alliance, Salvia apiana Alliance, and Salvia mellifera Alliance; only the Salvia apiana Alliance is considered sensitive (high priority for inventory) by CNDDB.*

Source: PCR Services Corporation, 2015

to the CNDDB sensitive *Salvia apiana* Alliance is considered covered under the WRC MSHCP, payment of the MSHCP mitigation fee would reduce impacts to this community to a less than significant level.

Indirect impacts to avoided plant communities could also occur through dust generated during construction, a potential increase in non-native species, and human and pet encroachment. With implementation of Mitigation Measures BIO-4 and BIO-5, and PDFs intended to address edge effects from the development, potential indirect impacts would be reduced to a less than significant level.

(3) Wetlands

Threshold 3:	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Impact 4.C-3 As the project site does not contain any federally protected wetlands, no significant impacts to wetlands would occur. However, the project site supports jurisdictional waters of the U.S. and riparian scrub and streambed. Thus, compliance with applicable regulatory requirements and implementation of the prescribed mitigation measures would reduce potentially significant impacts in these regards to a less than significant level.

The project site does not contain any federally protected wetlands as defined by Section 404 of the CWA. Therefore, no significant impacts to federally protected wetlands would occur as a result of project implementation.

The project site supports 10.2 acres of state jurisdictional streambed, of which 2.16 acres is federal non-wetland jurisdictional area ("waters of the U.S."). The proposed project will impact 6.17 acre of state jurisdictional streambed, of which 1.57 acres (19,851 linear feet) is federal jurisdictional drainages, as outlined in **Table 4.C-3**, *Impacts to State Streambeds and Federal Drainage Features*. Impacts to federal drainage features are depicted on **Figure 4.C-5**, *ACoE Feature Impacts*, and impacts to state streambeds are depicted on **Figure 4.C-6**, *CDFW Feature Impacts*. The majority of impacts will occur to Feature 3 (F-3; an unnamed blue line stream).

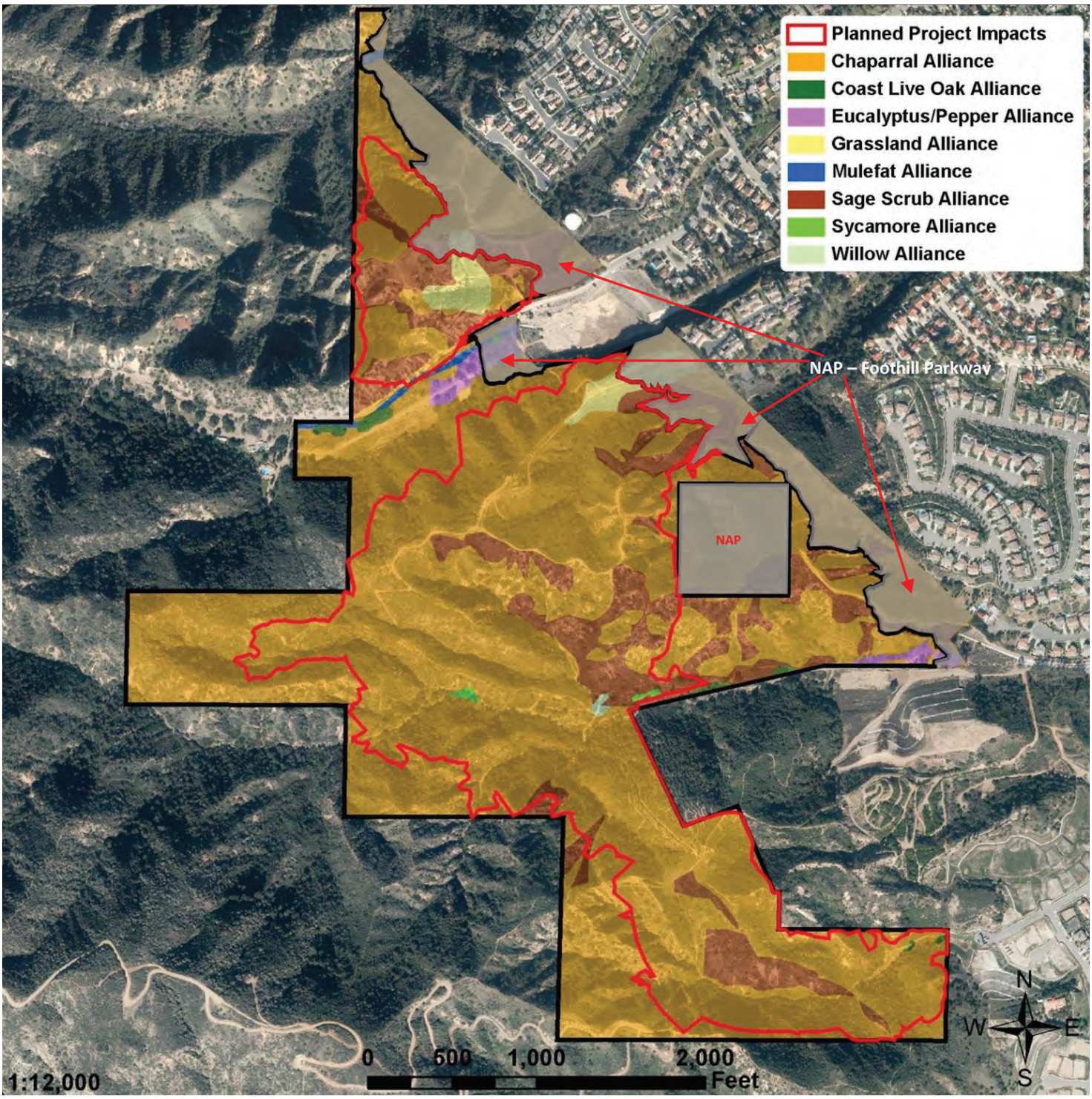
Table 4.C-3

Impacts to State Streambeds and Federal Drainage Features

Feature	Impacts to State Streambeds			Impacts to Federal Features		
(including tributaries)	Sq. ft.	Acres	Length	Sq. ft.	Acres	Length
F-1	42,594	0.98	6,052	38252	0.88	5232
F-2	191	0.004	191	56	0.001	70
F-3	219,064	5.03	13,776	28,825	0.66	13,232
F-4	0	0	0	0	0	0
F-5	3298	0.08	1986	1427	0.03	1317
F-6	3694	0.08	244	0	0	0
F-7	0	0	0	0	0	0
Totals	**268,841**	**6.17ac**	**22,249**	**68,560**	**1.57 ac**	**19,851**

Source: PCR Services Corporation, 2015

Impacts to jurisdictional features are considered potentially significant. Implementation of Mitigation Measures BIO-6 through BIO-9 would reduce impacts to a less than significant level. Mitigation Measures BIO-6 through BIO-8 outline requirements to obtain regulatory permits prior to the issuance of a grading permit. Specifically, the project Applicant would be required to obtain regulatory permits including a CWA Section 404 permit, a CWA Section 401 Water Quality Certification, and/or a California Fish and Game Code Section 1602 Streambed Alteration Agreement for impacts to jurisdictional features regulated by the USACE, RWQCB, and/or CDFW. Mitigation Measures BIO-1 and BIO-9 outline BMPs to avoid indirect impacts to avoided jurisdictional features.



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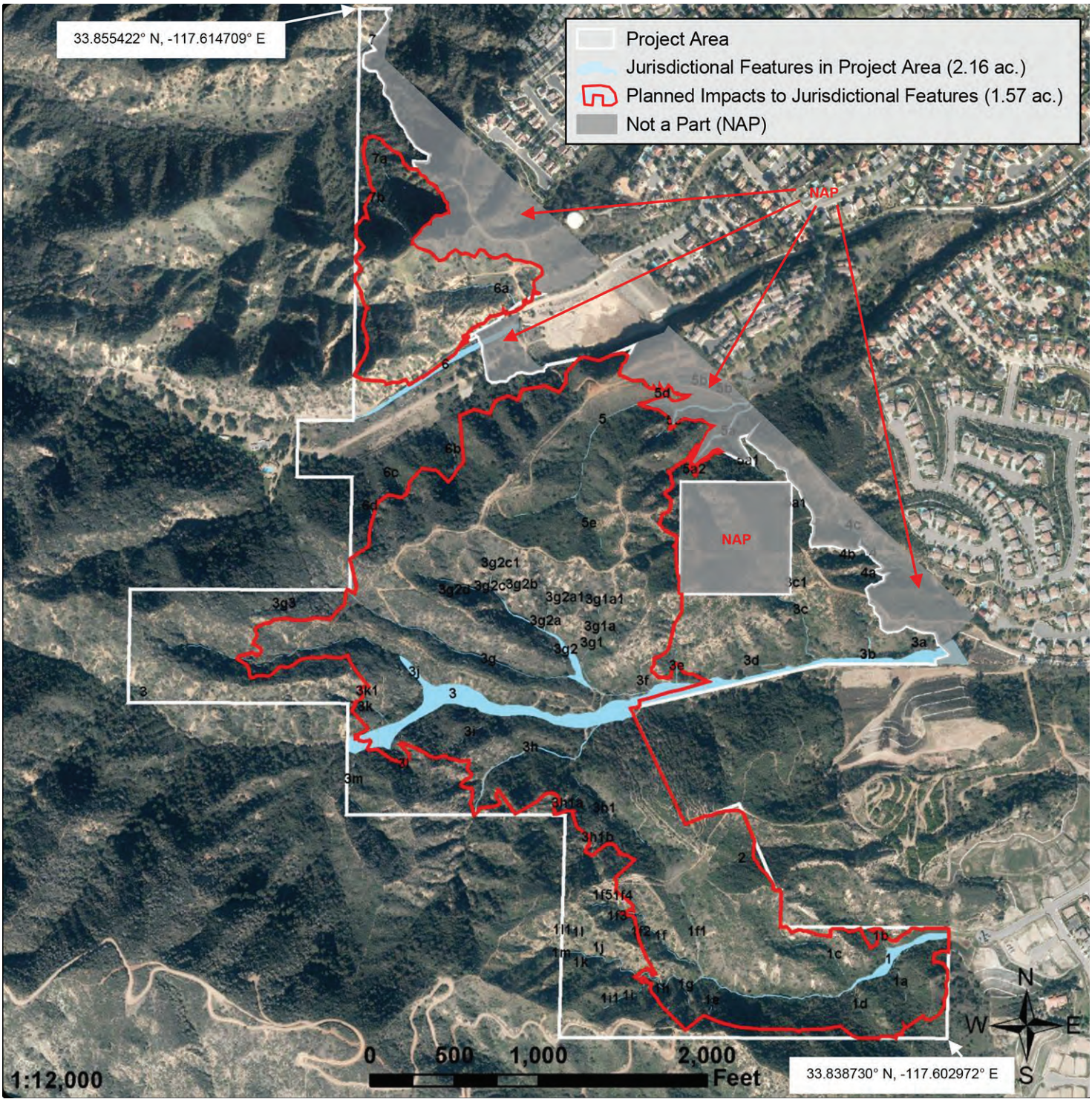
N

Habitat Impacts

Skyline Heights Project
Source: L & L Environmental, Inc., 2015.

FIGURE
4.C-4



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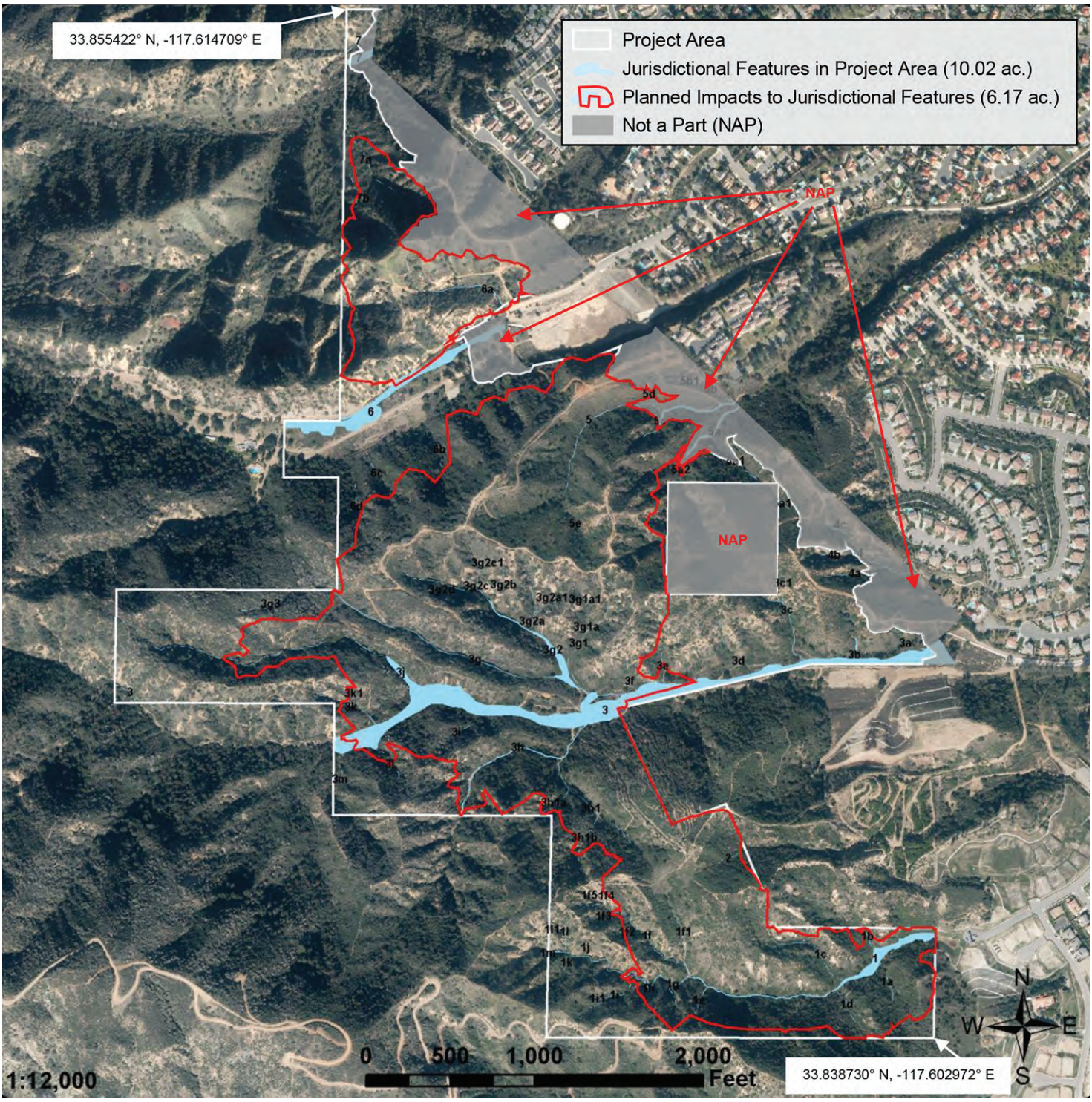
ACoE Feature Impacts

Skyline Heights Project
Source: L & L Environmental, Inc., 2015.

FIGURE
4.C-5



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CDFW Feature Impacts

Skyline Heights Project
Source: L & L Environmental, Inc., 2015.

FIGURE
4.C-6

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(4) Wildlife Movement and Migratory Species

Threshold 4:	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?

Impact 4.C-4 *The site contains vegetation suitable for nesting birds. Therefore, the project may result in significant impacts on nesting bird species that are protected under the California Fish and Game Code and the MBTA if removal, clearing, and/or grubbing were to occur during the general avian nesting season (January 1 to September 1). However, implementation of Mitigation Measure BIO-4 would reduce impacts to a less than significant level. Impacts to regional wildlife movement are less than significant and no mitigation is required.*

(a) Wildlife Movement

The project site does not contain any movement corridors for native resident migratory fish or wildlife species beyond local movement. Wildlife currently move freely throughout the project site and surrounding areas, and upon build-out of the proposed project, are anticipated continue to use open space areas adjacent to the project site to the west and south. Thus, potential impacts to regional movement are considered less than significant and mitigation is not required. It should be noted that Wardlow Wash, which crosses the northernmost tip of the project site, was identified by BonTerra Consulting as a regional wildlife corridor that facilitates movement between the Cleveland National Forest and Prado Basin, as referenced by the Foothill Parkway Westerly Extension DEIR (RBF Consulting 2008). However, Wardlow Wash is relatively constrained by development on either side, road crossings at three locations (Paseo Grande, Serfas Club Drive, and Palisades Drive), and State Route 91 is a significant barrier to wildlife movement. Regardless, Wardlow Wash will be avoided and the proposed project would not inhibit wildlife movement along the drainage; thus, impacts to regional wildlife movement are less than significant and no mitigation is required.

(b) Migratory Species

The project site contains vegetation suitable for nesting raptors and songbirds, and variety of bird species were observed during biological surveys (as listed in Appendix A of the BRA Report, which is included as Appendix D of this Draft EIR). Therefore, the proposed project may result in significant impacts on nesting bird species that are protected under the California Fish and Game Code and the MBTA if removal, clearing, and/or grubbing were to occur during the general avian nesting season (January 1 to September 1). Removal, clearing, and/or grubbing of vegetation should be avoided during the general avian nesting season (January 1 to September 1). Any impacts to nesting birds are potentially significant. If removal, clearing, and/or grubbing of vegetation must take place during the nesting season, implementation of Mitigation Measure BIO-2 would reduce these potentially significant impacts to a less than significant level. The mitigation measure would require a nesting bird survey to determine if any nests exist. If nests are found, an exclusion buffer would be established to provide protection to the nesting birds, as determined appropriate by the biologist. A qualified biologist would monitor to determine when nesting activities cease or all young have fledged at which time construction could continue in that area.

(5) Consistency With Regulatory Framework

Threshold 5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Impact 4.C-5 The project is substantially consistent with City policies or ordinances protecting biological resources. Therefore, no significant impact would occur.

The project would not result in the removal of any street trees, which are regulated under the CMC. Chapter 12.22 of the CMC includes the Community Forestry Program, which describes requirements regarding the planning, planting, maintenance, alteration, and removal of all trees, shrubs, and landscape materials on public property. Thus, the proposed project would not conflict with this tree ordinance. Therefore, impacts are not significant and no mitigation is required.

Table 4.C-4 *General Plan Consistency Analysis*, below, provides an analysis of the project relative to applicable goals and policies regarding biological resources in the Environmental Resources Element of the General Plan. As shown in Table 4.C-3, the project is consistent with the goals and policies including a

Table 4.C-4

General Plan Consistency Analysis

Goals and Policies	Consistency
Environmental Resources - Biological Resources	
Goal 10.6 - Protect, enhance, and sustain significant plant and wildlife species and habitat, which exist in Corona and its Planning Area for the long term benefit of the natural environment, and Corona residents and visitors.	**Consistent**. Technical biological reports were prepared for the project by Gonzales Environmental Consulting, LLC (GEC 2014a through 2014g), and updated by L&L Environmental, Inc. (L&L 2015a through 2015c), An analysis of special-status plant and wildlife species and sensitive habitats is provided in the BRA report (L&L 2015a) and in this EIR, and appropriate mitigation is proposed to offset any potentially significant impacts.
Policy 10.6.2: Preserve the species and habitats listed in Tables 4.2-1 and 4.2-2 of the Technical Background Report and those that may be considered by the City of Corona in the future.	**Consistent**. A review of CNDDB and CNPS databases was conducted for species with potential to occur within the vicinity and an analysis of special-status plant and wildlife species and sensitive habitats is provided in the BRA Report (L&L 2015a) and in this EIR. Appropriate mitigation is proposed to offset any potentially significant impacts, including impacts to riparian habitats. The mitigation will result in a no-net-loss of habitat and, in some cases, a net gain of habitat which will be preserved.
Policy 10.6.3: Acquire and maintain the most current technical information available regarding the status, location, and condition of significant and sensitive biological species and habitats as well as assessments of potential for impacts on those resources and how such resources should be appropriately protected, conditions sustained, and impacts mitigated from nearby development.	**Consistent**. Technical biological reports were prepared for the project by Gonzales Environmental Consulting, LLC (2014a through 2014g), and updated by L&L Environmental, Inc. (L&L 2015a through 2015c). A review of CNDDB and CNPS databases was conducted for species with potential to occur within the vicinity and an analysis of special-status plant and wildlife species and sensitive habitats is provided in the BRA Report (L&L 2015a) and in this EIR. Appropriate mitigation is proposed to offset any potentially significant impacts.

Table 4.C-4 (Continued)

General Plan Consistency Analysis

Goals and Policies	Consistency
Policy 10.6.4: Participate and enroll in the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) to conserve biological diversity through protection of natural communities.	**Consistent**. The project site is located within the WRC MSHCP. The project site is located within the Burrowing Owl Survey Area and focused surveys were conducted for this species; however, no burrowing owls were found on-site. The project site is located outside the Stephens' kangaroo rat mitigation fee area. The Applicant would pay the required MSHCP development mitigation fee. Impacts to riparian/riverine resources will be mitigated as proposed in the DBESP Report (L&L 2015c). In addition, project design features have been incorporated to address potential indirect effects as result of the urban/wildlands interface and it is anticipated they will be incorporated within the project conditions of approval.
Goal 10.7 – Ensure that biological resources are not impacted during or as a result of construction and development activity.	**Consistent.** A full analysis of impacts on biological resources is provided in the MSHCP Consistency Analysis Report (GEC 2014f), the update prepared by L&L Environmental, Inc. (L&L 2015a) and in this EIR. Recommended mitigation measures would require mitigation for sensitive plant species and communities, biological monitoring during construction, and pre-construction nesting bird surveys, which would reduce the potential impacts to a less than significant level.
Policy 10.7.1: Require that construction activities be conducted in a manner to minimize adverse impacts on natural resources through the use of Best Management Practices, as established and updated by the City of Corona.	**Consistent**. BMPs will be implemented as part of the storm water pollution prevention measures for the project, in accordance with all appropriate National Pollutant Discharge Elimination System (NPDES) requirements.
Policy 10.7.2 – Where applications for development are being proposed in undeveloped areas of the City and the SOI areas, or in areas that an Initial Study has determined there is potential for significant adverse impacts to biological resources, an Environmental Impact Report (EIR) or a Mitigated Negative Declaration (MND) shall be undertaken by the proponent. As part of these studies, the proponent shall also submit a biological resources technical report with the following qualifications: a) The report must be prepared by a qualified professional who addresses the proposed project's impact on federally and State-listed and candidate plants and animals; California Department of Fish and Game (CDFG)[3] Special Animals; natural communities of high inventory priority with the California Natural Diversity Database (CNDDB); and any other special interest species or	**Consistent**. Technical biological reports were prepared for the project by Gonzales Environmental Consulting, LLC (GEC 2014a through 2014g) and updated by L&L Environmental, Inc. (L&L 2015a through 2015c). An analysis of special-status plant and wildlife species and sensitive habitats is provided in the BRA Report (L&L 2015a) and in this EIR, and appropriate mitigation is proposed to offset any potentially significant impacts.

[3] *It should be noted that California Department of Fish and Game changed its name to California Department of Fish and Wildlife as of January 1, 2013.*

Table 4.C-4 (Continued)

General Plan Consistency Analysis

Goals and Policies	Consistency
communities identified in the General Plan Technical Background Report, or those hereafter named by federal or State trustee agencies. b) If appropriate habitat for any listed species occurs on the site, a qualified biologist shall conduct focused surveys according to USFWS and/or CDFG protocol. c) A qualified botanist shall conduct a focused rare plant survey during the appropriate time of year following USFWS and/or CDFG protocol. d) If any listed species would potentially be impacted by the proposed project, consultation with USFWS and/or CDFG would be required to identify mitigation measures to avoid, minimize, or compensate for impacts. These mitigation measures would be included in the report. e) The report shall also define a program for monitoring and evaluating the effectiveness of the specified mitigation measures.	
Goal 10.9 – Protect natural and biological resources within riparian corridors and wetlands.	**Consistent**. The project site does not contain any wetlands. Appropriate mitigation is proposed to offset any potentially significant impacts to resources within riparian corridors (Mitigation Measures BIO-6 through BIO-9 and BIO-12).
Policy 10.9.1: Review proposed developments in riparian and wetland habitats to evaluate their conformance with the following policies and standards: • Full consideration of the nature of existing biological resources present and all reasonable measures that shall be taken to avoid significant impacts, including retention of sufficient natural open space and undeveloped buffer zones. • Development shall be designed and sited to preserve watercourses, riparian habitat, vernal pools, and wetlands in their natural condition, unless these actions result in an infeasible project. • Where riparian corridors are retained, they shall be protected by an adequate buffer with a minimum 100 foot protection zone from the edge of the tree, shrub, or herb canopy. • Development shall incorporate habitat linkages (wildlife corridors) to adjacent open spaces, where appropriate. • Development shall incorporate fences, walls, vegetative cover, or other measures to adequately buffer habitat areas, linkages, or corridors from the built environment.	**Consistent**. The proposed project avoids impacts to jurisdictional drainage features to the maximum extent practicable and was designed to avoid 117.39 acres of natural habitat. However, the proposed project will impact 6.17 acres of state jurisdictional streambed and riparian habitat, of which 1.57 acres (19,851 linear feet) is federal jurisdictional drainage features. Appropriate mitigation is proposed to offset any potentially significant impacts to riparian resources (Mitigation Measures BIO-6 through BIO-9 and BIO-12). In addition, project design features have been incorporated to address potential indirect effects as result of the urban/wildlands interface, and it is anticipated they will be incorporated within the project conditions of approval. The project is providing protection zone buffers between the development and the vegetation canopy in the avoided drainage features.

Table 4.C-4 (Continued)

General Plan Consistency Analysis

Goals and Policies	Consistency
• Roads and utilities shall be located and designed such that conflicts with biological resources, habitat areas, linkages, or corridors are avoided. • Development shall utilize appropriate open space or conservation easements in order to protect sensitive species or their habitats. • Development shall mitigate unavoidable adverse impacts to waters of the United States, wetlands, and riparian habitat by replacement on an in-kind basis (i.e., riparian habitat is to be replaced by riparian habitat of the same type). Replacement shall be based on a ratio determined by the California State Fish and Game Department and/or the Army Corps of Engineers in order to account for the potentially diminished habitat value of replacement habitat. Such replacement shall occur on the original development site, whenever possible. Alternatively, replacement can be effected, subject to State and Federal regulatory approval, by creation or restoration of replacement habitats elsewhere, preferably within Corona's Planning Area. Replacement habitats are to be protected in perpetuity through acquisition, an appropriate conservation easement, or dedication.	
Policy 10.9.2: Prohibit development and grading that alters the biological integrity of riparian corridors, unless no feasible alternative exists or the damaged habitat is replaced with habitat of equivalent value. Development that is permitted with riparian corridors shall be based on field evidence and interpretation of physical and biological data that shall include the following: • The nature and extent of the vegetation, or in the case of disturbed sites, the potential vegetation • Topography • Hydrology	**Consistent**. The proposed project avoids impacts to jurisdictional drainage features to the maximum extent practicable. However, the proposed project will impact 6.17 acres of state jurisdictional streambed and riparian habitat, of which 1.57 acres (19,851 linear feet) is federal jurisdictional drainage features. Appropriate mitigation is proposed to offset any potentially significant impacts to riparian resources (Mitigation Measures BIO-6 through BIO-9 and BIO-12).
Policy 10.10.4 – Maintain and conserve superior examples of native trees, natural vegetation, stands of established trees, and other features for ecosystem, aesthetic, and water conservation purposes.	**Consistent**. The proposed project avoids impacts to jurisdictional drainage features to the maximum extent practicable, and was designed to avoid 117.39 acres of natural habitat. Furthermore, appropriate mitigation is proposed to offset any potentially significant impacts to sensitive biological resources.
Policy 10.10.5 – Conserve the oak tree resources in the	**Consistent**. The project site supports 1.17 acres of Coast

Table 4.C-4 (Continued)

General Plan Consistency Analysis

Goals and Policies	Consistency
City and SOI areas.	Live Oak Alliance. These proposed project is within the County of Riverside but is proposed for annexation into the City of Corona; thus, impacts to oaks are analyzed under the City's regulations (although the County of Riverside also regulates oak trees within the Oak Tree Management Guidelines). The proposed project will impact only 0 .1 acre of the total 1.17 acres on the project site. Mitigation for oak trees is proposed to replace trees at a minimum 1:1 ratio within landscaped areas (Mitigation Measure BIO-10). Oak tree mitigation may also be incorporated into mitigation proposed for riparian habitat, as outlined in Mitigation Measure BIO-12.

Source: City of Corona General Plan, ICF International, and PCR Services Corporation.

mitigation measure to compensate for impacts to oak trees (Mitigation Measure BIO-10). As such, impacts would be less than significant.

In summary and based on the above discussion, the proposed project would not conflict with any local policies or ordinance protecting biological resources, including a tree preservation policy or ordinance.

(6) Habitat Conservation Plans and Natural Community Conservation Plans

Threshold 6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Impact 4.C-6 The project site supports riparian/riverine habitat that will be mitigated as proposed in the DBESP Report; therefore, impacts would be less than significant. Additionally, the Applicant would pay the required MSHCP development mitigation fee.

The project site is located within the Temescal Canyon Area Plan of the WRC MSHCP and would comply with the WRC MSHCP. The project site is not within a Criteria Cell, nor is it within the Narrow Endemic Plant Species, Criteria Area Species, Amphibian Species, or Mammal Species Survey Areas. The project is also not located within a MSHCP designated Core or Linkage and will not impact overall Reserve Assembly goals, although the project does adjoin PQP (public quasi-public) and would isolate a 10-acre PQP parcel. None of the identified Planning Species for the Temescal Canyon Area Plan have been located within the survey area. The project site is located within the Burrowing Owl Survey Area and focused surveys were conducted for this species; however, no burrowing owls were found on-site. The project site is located outside the Stephens' kangaroo rat mitigation fee area and the SKR HCP. The Applicant would pay the required MSHCP development mitigation fee. Project compliance with the WRC MSHCP is outlined below.

(a) Cores and Linkages

The project is not within any MSHCP designated Core or Linkage areas but is located adjacent to a large expanse of open space within Core B to the east and the Cleveland National Forest. As such, the project has the potential to minimally affect Core B, although in most areas the Core is separated from the proposed impact area by undeveloped land and topographic changes. Furthermore, wildlife currently moves freely throughout the project site and surrounding areas via existing travel routes such as drainages, ridgelines, and existing dirt roads. It should be noted that the main drainages for Feature 6 (Mabey Canyon Wash) and Feature 7 (Wardlow Wash) are mostly (Feature 6) or entirely (Feature 7) being avoided. Wardlow Wash was identified by BonTerra Consulting as a regional wildlife corridor that facilitates movement between the Cleveland National Forest and Prado Basin, as referenced by the Foothill Parkway Westerly Extension DEIR (RBF Consulting 2008).

(b) Public Quasi-Public (PQP) Lands

The proposed Project is outside of public quasi-public (PQP) lands. The survey area adjoins PQP properties to the north, west and south. With the implementation of the project a single 10 acre PQP parcel is surrounded by the survey area and is bordered to the west, north and east by the proposed development and the Foothill Parkway. Although not all of the land surrounding the 10 acre parcel is proposed for development, this parcel and adjacent habitat avoided by the proposed Project will be isolated from the larger MSHCP Core B area to the west by the proposed Project.

The MSHCP (Section 3.2.1) requires that if an MSHCP permittee alters PQP land in such a way that it no longer contributes to the reserve assembly, the permittee will replace the land at a ratio no less than 1:1 and the replacement must be biologically equivalent or superior. Ten acres of habitat adjacent to Forest Service land will be avoided as compensation for the isolation of the 10 acre PQP parcel, as shown in **Figure 4.C-7**, *Compensation Parcel*, and will be deed restricted to prevent future impacts.

The existing PQP parcel is 10 acres in the foothills east of the proposed project and would remain. The parcel supports two jurisdictional features and approximately 10 acres of dry scrub habitat; 9 acres of chaparral Alliance and 1 acre of sage scrub Alliance. The parcel is crossed on the east side by a dirt access road and is a part of the general area being used for recreational purposes. The site is on the edge of development, approximately 525 feet from agricultural development to the southeast, 650 feet from medium density residential development to the east and is immediately adjacent to the proposed Foothill Parkway impact area. The parcel is a part of the general area being used for recreational purposes.

The 10 acre parcel proposed for compensation is in the far west portion of the survey area, very close to the isolated parcel; in the same area of the Santa Ana foothills. The compensation parcel supports 10 acres of chaparral Alliance and two jurisdictional features. There are no access roads on the property. The proposed development is adjacent to the compensation parcel, but only a narrow east/west band of the development comes close to the parcel. Another seven acres of natural land contiguous (or adjacent) to the ten acre compensation parcel will be avoided by the development, and will remain undeveloped. The proposed parcel is immediately adjacent to PQP land, MSHCP Core B, and would add to the total acreage of contiguous land within the Core. Proposed mitigation measures will increase the size of natural land associated with Core B of the MSHCP Conservation Areas and will provide a larger area to be utilized by a wide variety of species for dispersal, seasonal migration and home range connectivity. These includes Mitigation Measure BIO-11, preserving a 10 acre block of natural land adjacent to the Forest Service land and Core B, and

Mitigation Measure BIO-12, preserving avoided resources within the survey area to the extent feasible in open space areas placed within a deed restriction or other appropriate legal mechanism to prevent future development,. There would be no loss to the overall acreage or quality of PQP lands; the existing PQP lands would remain in addition to the compensation parcel.

(c) Burrowing Owl Survey Area

Focused surveys were conducted for burrowing owl in May, June and July 2013 and this species was not observed on-site. However, based on the presence of suitable habitat and in compliance with the WRC MSHCP, a 30-day pre-construction survey for burrowing owl will be conducted prior to earth disturbance (i.e., construction), as outlined in Mitigation Measure BIO-3. Measures are also proposed should burrowing owl be observed during the pre-construction survey. With the implementation this mitigation measure, impacts to burrowing owls would be reduced to a less than significant level.

(d) Riparian/Riverine

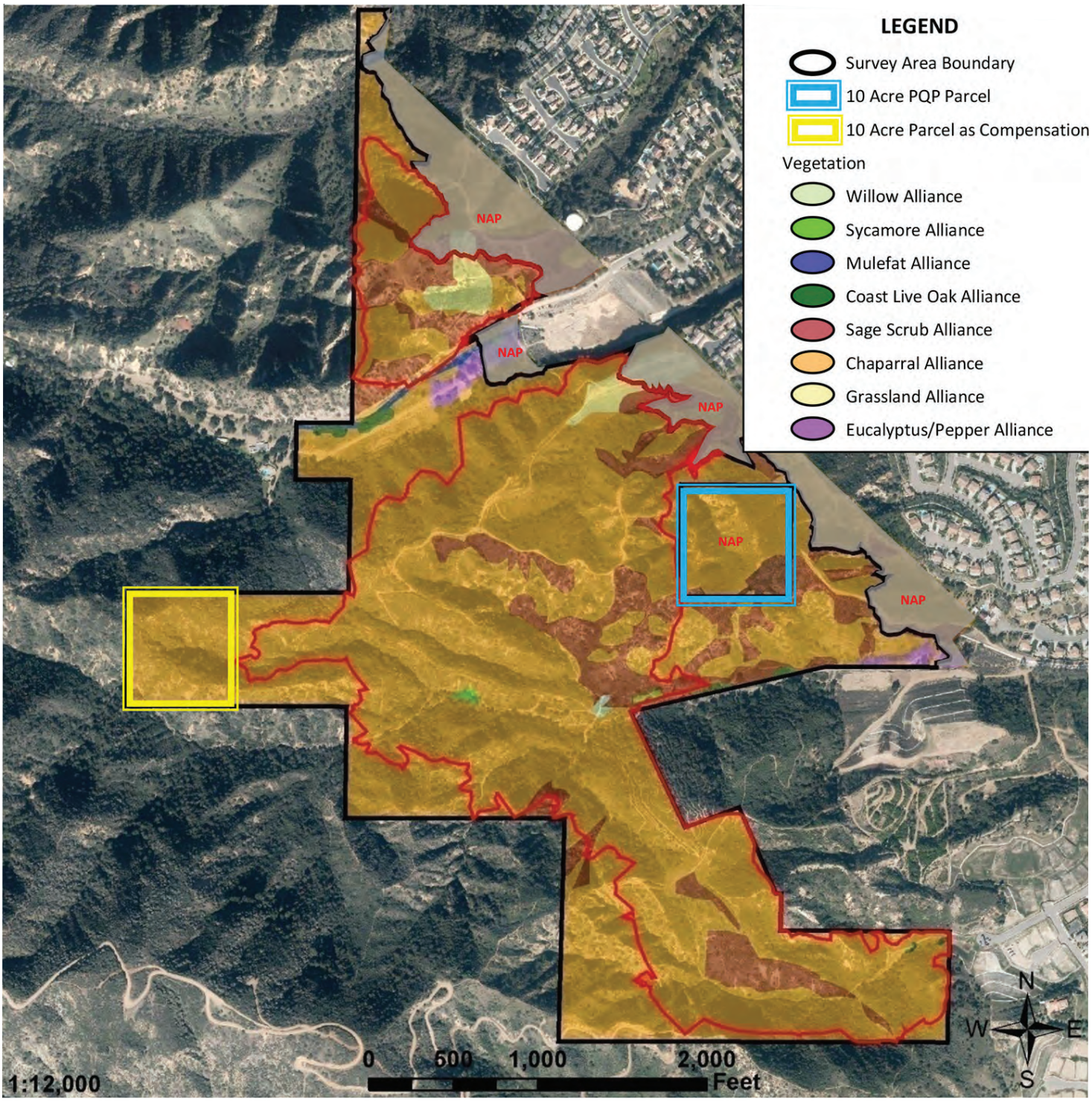
All of the habitat and drainages beds identified as state jurisdictional areas were also identified as Riparian/Riverine as defined by Section 6.1.2 of the WRC MSHCP. As such, the project site supports 10.2 acres of state jurisdictional and Riparian/Riverine Areas, of which 6.17 acres are proposed for impacts including Sycamore Alliance (0.32 acre), Mulefat Alliance (0.09 acre), Willow Alliance (0.21 acre), Oak Alliance (0.1 acre) and streambeds with upland habitat (5.45 acres). An impacts map is provided as **Figure 4.C-8**, *MSHCP Riparian/Riverine Impacts*. Impacts are also summarized in **Table 4.C-5**, *Impacts and Avoidance of Riparian/Riverine Areas* and **Table 4.C-6**, *Impacts and Avoidance of Riparian Habitat*. Impacts to riparian/riverine resources are potentially significant. However, as required under Section 6.1.2 of the WRC MSHCP, impacts will be mitigated at a biologically equivalent or superior level as proposed in the DBESP Report to ensure that functions and values of the riparian/riverine resources are not lost, as detailed in Mitigation Measure BIO-12. The DBESP Report is provided in Appendix D of this Draft EIR (L&L 2015c). Therefore, the proposed project would not conflict with the provisions of the WRC MSHCP, and impacts would be reduced to less than significant.

Table 4.C-5

Impacts and Avoidance of Riparian/Riverine Areas

MSHCP 6.1.2 Features	On-site	Avoided (acres)	Project Impacts (acres)	Percent Avoided	Percent Impacted
Upland or Unvegetated Riverine Features	7.31	1.86	5.45	25%	75%
Riparian Vegetated Features	2.89	2.17	0.72	75%	25%
TOTAL	**10.2**	**4.03**	**6.17**	**100%**	**100%**

Source: PCR Services Corporation, 2015



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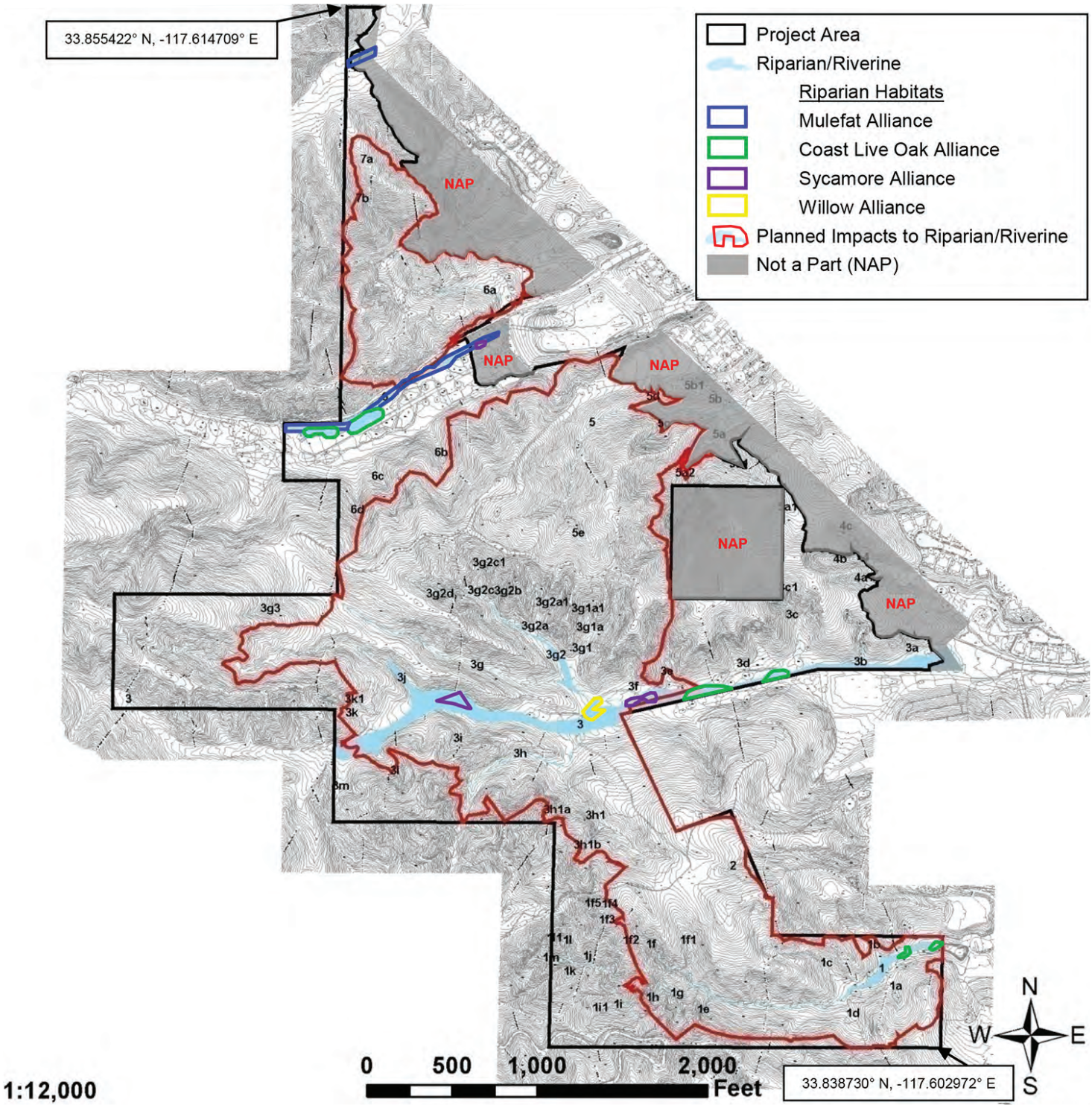
Compensation Parcel

Skyline Heights Project
Source: L & L Environmental, Inc., 2015.

FIGURE
4.C-7



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MSHCP Riparian/Riverine Impacts

Skyline Heights Project
Source: L & L Environmental, Inc., 2015.

FIGURE
4.C-8

Table 4.C-6

Impacts and Avoidance of Riparian Habitat

Riparian Habitat	On-site	Avoided (acres)	Project Impacts (acres)	Percent Avoided	Percent Impacted
Mulefat Alliance	1.14	1.05	0.09	92	8
Coast Live Oak Alliance	1.17	1.07	0.10	91	9
Sycamore Alliance	0.37	0.05	0.32	13.5	86.5
Willow Alliance	0.21	0	0.21	0	100
TOTAL	**2.89**	**2.17**	**0.72**		

Source: PCR Services Corporation, 2015

(e) Urban/Wildlands Interface

The guidelines presented in WRC MSHCP Section 6.1.4, *Guidelines Pertaining to the Urban/Wildlands Interface* are intended to address indirect effects associated with locating development in proximity to the MSHCP Conservation Area. Development located in proximity to the MSHCP Conservation Area may result in edge effects that will adversely affect biological resources within the Conservation Area. Indirect impacts are considered to be those impacts associated with the project that involve the effects of alteration of the existing habitat and an increase in human population within the study area. These impacts are commonly referred to as "edge effects" and may result in changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to the study area. Indirect impacts include the effects of increases in ambient levels of sensory stimuli (e.g., noise and light), unnatural predators (e.g., domestic cats and other non-native animals), competitors (e.g., exotic plants and non-native animals), and trampling and unauthorized recreational use due to the increase in human population. Other permanent indirect effects may occur that are related to water quality and storm water management, including trash/debris, toxic materials, and dust.

Indirect effects resulting from the proposed project may occur within the MSHCP Conservation Area if the PDF BIO-1 through PDF BIO-9, discussed above under Project Design Features, are not implemented. Therefore, to minimize indirect effects at the urban/wildlands interface, the following measures shall be incorporated into the PDFs to ensure consistency with WRC MSHCP Section 6.1.4, *Guidelines Pertaining to the Urban/Wildlands Interface*.

3. CUMULATIVE IMPACTS

The geographic area for cumulative analysis regarding biological resources is the WRC MSHCP area, within which is the City of Corona General Plan. The project would not result in significant impacts to biological resources, including endangered or threatened species, plant communities, habitat fragmentation and wildlife movement, local policies and ordinances, or habitat conservation plans, based on the lack of impacts to these resources or the proposed mitigation measures to mitigate impacts. Cumulative development in the greater region has been considered and impacts minimized and mitigated for under the WRC MSHCP. By meeting the MSHCP requirements the project's contribution to the regional impact would not be

cumulatively considerable. Future projects in the vicinity would also be subject to MSHCP requirements and mitigation, although additional development in the project vicinity is expected to be limited due to its proximity to widespread natural open space on National Forest lands and the WRC MSHCP Core B. Therefore, since the project is in compliance with the WRC MSHCP, will participate in the WRC MSHCP including payment of mitigation fees, and proposes addition mitigation measures, the project would not contribute to significant cumulative impacts to biological resources.

4. MITIGATION MEASURES

Based on the analysis above, the proposed project could result in a potentially significant impact with regard to special-status plant and wildlife species, sensitive plant communities, jurisdictional features, nesting birds, and MSHCP riparian/riverine resources. Therefore, the following mitigation measures are recommended:

Vegetation and Sensitive Species

Vegetation and General Wildlife

Mitigation Measure BIO-1: The Project impact areas and avoidance areas shall be flagged or fenced prior to grubbing of any vegetation or jurisdictional drainage features to prevent incursion into unsurveyed or avoided areas. Qualified biological monitor(s) shall conduct periodic monitoring during construction as deemed appropriate, to ensure the flagging or fencing remains intact and no incursions into avoided areas occurs, and to flush any wildlife within the project impact footprint away from work areas. The following BMPs shall be adopted prior to and during construction to ensure biological resources within open space areas surrounding the proposed project will not be adversely affected:

- The project impact footprint shall be surveyed, staked, and flagged and/or fenced (e.g., with flagging tape, snow fencing or silt fencing) by a surveyor and the boundary shall be confirmed by a qualified biological monitor. The construction site manager shall ensure that the fencing is maintained for the duration of construction and that any required repairs are completed in a timely manner.
- Maintenance activities shall not commence until 0700 hours and shall be completed before dusk each day to the extent feasible.
- If any wildlife is encountered during maintenance activities, the wildlife shall be allowed to leave the work area unharmed and shall be flushed or herded in a safe direction away from the work area(s).
- Any open trenches shall be covered at the end of each work day in a manner to prevent the entrapment of wildlife, or adequately ramped to provide an animal escape.
- If night-time maintenance is required, lighting shall be directed away from native vegetation and should be limited to the minimum amount necessary to complete the maintenance activities.
- Staging or storage areas shall occur outside of any drainages. Storage of potentially hazardous materials, including but not limited to fuel, paint, stains, pesticides, herbicides, solvents, and oils shall not be permitted within 50 feet of any habitat area

to be retained by the project. During construction, disposal of such material shall occur in a controlled area that is physically separated from potential storm water runoff.

- Any equipment or vehicles driven and/or operated within or adjacent to ponded or flowing water within any drainages shall be checked and maintained daily, to prevent leaks of materials that, if introduced to water, could be harmful to aquatic species.
- All vehicles and equipment shall be maintained in proper working condition to minimize fugitive emissions and accidental spills from motor oil, hydraulic fluid, grease, or other fluids or hazardous materials. Maintenance and refueling of construction equipment shall be limited to areas specified as appropriate by the project biologist. All fuel or hazardous waste leaks, spills, or releases shall be stopped or repaired immediately and cleaned up at the time of occurrence. All spill material removed shall be disposed of at an appropriate off-site landfill. Maintenance vehicles shall carry appropriate equipment and materials to isolate and remediate leaks or spills, such as a spill containment kit.
- Stationary equipment such as motors, pumps, or generators, located within or adjacent to ponded or flowing water within drainages shall be positioned over drip pans.
- No equipment maintenance shall be done within or adjacent to ponded or flowing water within drainages where petroleum products or other pollutants from the equipment may enter into the water.
- No waste, cement, concrete, asphalt, paint, oil, or any other substances used during maintenance activities which could be hazardous to aquatic life, or other organic or earthen material, shall be allowed to contaminate the soil and/or enter into or be placed where it may be washed by rainfall or runoff into ponded or flowing water within any drainages. Any of these materials placed where they may affect ponded or flowing water shall be removed immediately upon observation. When operations are completed, any excess non-native materials shall be removed from the work area.
- All litter and pollutions laws shall be followed. All refuse created or brought on site by personnel or contractors shall be placed in covered containers, removed from the site daily, and disposed of properly.
- All exposed/disturbed areas shall be stabilized to the greatest extent possible using appropriate, industry standard erosion control measures.
- No maintenance activities shall occur during active precipitation. If any precipitation is forecasted, the work area shall be secured at least one day prior so no materials enter or wash into any drainages.
- Field crews shall maintain the speed limit on posted roads and limit vehicle/truck speeds on unpaved surfaces to 15 miles per hour

Sensitive Wildlife

Mitigation Measure BIO-2: To prevent impacts to sensitive, migratory and nesting birds, including raptors, clearing or other work in native habitats shall be avoided during the critical nesting period of January 1 – September 1. If work cannot be avoided during this timeframe, a nesting bird survey will be conducted within three days prior to clearing and/or grading, by a qualified biologist. If present, a nesting bird plan will be developed and implemented to include appropriate measures to mitigate the potential impacts, such

as maintaining a buffer area until fledging has occurred as determined appropriate by the biologist. Active bird nests should be mapped utilizing a hand-held global positioning system (GPS) (getting as close as possible without disturbing the nest) and a buffer will be flagged around the nest (typically 300' for most species, 500' buffer for raptor nests, as determined appropriate by the biologist). Construction should not be permitted within the buffer areas while the nest continues to be active (eggs, chicks, etc.). Once fledging has occurred no further avoidance is required.

Mitigation Measure BIO-3: A pre-construction burrowing owl clearance survey shall be conducted no more than 30 days before earth disturbance (construction) by an experienced burrowing owl biologist. The surveys will be conducted as close to the actual construction initiation date as possible.

If burrowing owls are determined present following the pre-construction survey, occupied burrows shall be avoided to the greatest extent feasible, following the guidelines in the CDFW's Staff Report on Burrowing Owl Mitigation (March 7, 2012) including, but not limited to, avoiding occupied burrows during the nesting and non-breeding seasons, implementing a worker awareness program, biological monitoring, establishing avoidance buffers, and flagging burrows for avoidance with visible markers. If occupied burrows cannot be avoided, acceptable methods may be used to exclude burrowing owl either temporarily or permanently, pursuant to a Burrowing Owl Exclusion Plan that shall be prepared and approved by CDFW. The Burrowing Owl Exclusion Plan shall be prepared in accordance with the guidelines in the Staff Report on Burrowing Owl Mitigation.

Invasive Vegetation Control (see also proposed PDFs outlined in Impact 4.C-6, section (5))

Mitigation Measure BIO-4: All heavy equipment shall be washed, particularly the wheels and under carriage, prior to entering the project site from other construction sites to prevent the spread of weedy species.

Mitigation Measure BIO-5: Staging areas shall be placed in areas that have been previously disturbed or have degraded habitat within the project footprint, but do not show an infestation of non-native species. Staging areas will be maintained in a weed/noxious weed-free condition.

Jurisdictional Drainage Features

Mitigation Measure BIO-6: To mitigate for the loss of 1.57 acres of non-wetland federal jurisdictional drainage features ("waters of the U.S. [WoUS]) due to project construction, the project Applicant shall enter into an agreement with the U.S. Army Corps of Engineers (via issuance and implementation of a Nationwide permit or Individual permit) to replace affected WoUS at a ratio specified by the U.S. Army Corps of Engineers at no less than a 1:1 basis, through off-site acquisition and preservation, participation in an approved mitigation bank, and/or on- or off-site creation, enhancement or reestablishment of WoUS or a combination of these options. The exact ratio shall be based on U.S. Army Corps of Engineers mitigation guidelines pursuant to their approval. Preparation of a Habitat Mitigation and Monitoring Plan (HMMP) outlining the details of the mitigation

shall be required for on-site mitigation or off-site mitigation on lands other than those pre-approved by the U.S. Army Corps of Engineers.

Mitigation Measure BIO-7: To mitigate for the loss of 1.57 acres of non-wetland federal jurisdictional drainage features ("waters of the U.S. [WoUS]) due to project construction, the project Applicant shall enter into an agreement with the California Regional Water Quality Control Board (via issuance and implementation of a Clean Water Act Section 401 Certification) to replace affected WoUS at no less than a 1:1 basis, as specified by the California Regional Water Quality Control Board, through a combination of off-site acquisition and preservation, participation in an approved mitigation bank, and/or on- or off-site creation, enhancement or reestablishment of WoUS. The exact ratio shall be based on a functions and values assessment pursuant to their approval. Preparation of a Habitat Mitigation and Monitoring Plan (HMMP) outlining the details of the mitigation shall be required for on-site mitigation or off-site mitigation on lands other than those pre-approved by the U.S. Army Corps of Engineers.

Mitigation Measure BIO-8: To mitigate for the loss of 6.17 acres of streambed and riparian vegetation due to project construction, the project Applicant shall enter into an agreement with the California Department of Fish and Wildlife (via issuance and implementation of a Streambed Alteration Agreement, Section 1600) to replace affected streambed at no less than a 1:1 basis, as specified by the California Department of Fish and Wildlife, through a combination of off-site acquisition and preservation, participation in an approved mitigation bank, and/or on- or off-site creation, enhancement or reestablishment of the streambed. The exact ratio shall be based on a functions and values assessment pursuant to their approval. Preparation of a Habitat Mitigation and Monitoring Plan (HMMP) outlining the details of the mitigation shall be required for on-site mitigation or off-site mitigation on lands other than those pre-approved by the U.S. Army Corps of Engineers.

Mitigation Measure BIO-9: The project proponent shall employ all standard best management practices (BMPs) to prevent discharges from entering avoided waters of the U.S. and streambed with associated riparian vegetation during construction. BMPs, such as the following, shall be enforced (see also BIO-1):

- the use of erosion control or sedimentation prevention methods, such as fiber rolls, sand bags, rice mats, straw wattles or similar measures, where appropriate;
- the proper use and disposal of oil, gasoline, diesel fuel, antifreeze and other toxic substances.

City of Corona General Plan Oak Tree Avoidance

Mitigation Measure BIO-10: Oak trees impacted by the project shall be replaced at no less than a 1:1 ratio in the landscape areas, as approved by the City of Corona.

Western Riverside County Multiple Species Habitat Conservation Plan

Mitigation Measure BIO-11: The ten (10) acres of natural habitat identified as a compensation parcel adjacent to Forest Service land shall be preserved in perpetuity pursuant to a deed restriction or other appropriate legal mechanism to prevent future development.

Mitigation Measure BIO-12: Mitigation shall be provided for the 6.17 acre of Riparian/Riverine impacts at no less than a 1:1 basis, as determined through consultation with the City of Corona and wildlife agencies based on their approval of the Determination of Biologically Equivalent or Superior Preservation report that provides a functions and values analysis pursuant to the requirements of the Western Riverside County Multiple Species Habitat Conservation Plan. The project Applicant proposes mitigation at a ratio of 2:1 for riparian habitat and 1:1 for riverine habitat in the form of off-site mitigation with the Riverside-Corona Resource Conservation District (RCRCD). In the event mitigation with the RCRCD is not finalized for any reason, equal or greater value mitigation shall be provided in the form of one or more of the following: off-site acquisition and preservation, participation in an approved mitigation bank, on-site or off-site creation, enhancement or reestablishment. If off-site mitigation is incorporated, the preferred choice shall be to find mitigation within or adjacent to the Santa Ana Watershed and in or adjacent to Corona if possible. In addition, avoided resources within the open space areas shall be preserved to the extent feasible pursuant to a deed restriction or other appropriate legal mechanism to prevent future development.

If on-site mitigation is proposed as an alternative mitigation, a Habitat Mitigation and Monitoring Plan (HHMP) will be developed and provided for review and approval by the local and regulatory agencies and shall include, at minimum, the following:

- Quantitative success criteria (vegetation cover and species richness);
- Recommendations for soil preparation;
- A plant palette to include native species occurring on the project site, such as coast live oak and Coulter's matilija poppy if feasible;
- Planting methods;
- Irrigation and maintenance requirements; and
- A long-term mitigation maintenance and monitoring plan with remedial measures.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of the above Project Design Features and mitigation measures, impacts associated with biological resources would be reduced to a less than significant level.

4. ENVIRONMENTAL IMPACT ANALYSIS
D. CULTURAL RESOURCES

INTRODUCTION

The purpose of this section is to evaluate potential impacts on cultural resources including historical, archaeological, and paleontological resources that could occur with implementation of the project. The additional 150.3-acre area beyond the 270.9-acre area to be developed as part of the project, but within the overall 394.8-acre annexation area, would not be physically impacted as a result of project implementation. As such, this analysis focuses on the 270.9-acre development footprint area within the project site that would be physically impacted by the project.

The analysis of cultural resources presented in this section is derived from technical reports prepared by LSA Associates, Inc. including: *Supplementary Cultural Resources Assessment for the Skyline Heights Project (TTM 36544) in the City of Corona, Riverside County, California* (dated April 22, 2014); *Supplementary Paleontological Research for Expanded Study Area of the Skyline Heights Project (TTM 36544) in the City of Corona, Riverside County* (dated April 22, 2014); and *Update to Paleontological Resources Report for the Skyline Heights Project (TTM 36544) in the City of Corona, Riverside County, California* (dated May 9, 2013). These technical reports are provided for reference in Appendix E of this Draft EIR.

1. ENVIRONMENTAL SETTING

a. Existing Conditions

(1) Cultural Setting

(a) Native American Ethnographic Setting[1]

The project area lies on the edge of the traditional cultural territory of the Gabrielino/Tongva and Luiseño groups, but may also have been occupied by the Cahuilla as a result of population shifts over time. These tribes all belong to a cultural group that speaks a language of the Takic branch of the Shoshonean family, part of the larger Uto-Aztecan language stock.

Among the inland Cahuilla and the Luiseño, subsistence was based on hunting, collecting, and harvesting. Clans were apt to own land in valley, foothill, and mountain areas, providing them with the resources of many different ecological niches. Individual lineages or families owned specific resource areas within the clan territory. Most inland Luiseño clans also owned fishing and gathering sites on the coast, also part of Luiseño territory. Although any given village had access to a wide array of necessary resources, flourishing systems of trade and exchange gave them access to the resources of their neighboring villages and of distant peoples.

[1] *Final Corona Regional Medical Center Expansion Project Archaeological and Paleontological Resources Report, prepared by ICF International, April 2013.*

Gabrielino/Tongva subsistence was based on a composite hunting and gathering strategy that included large and small land animals, sea mammals, river and ocean fish, and a variety of vegetal resources. Acorns were a major food staple, but the roots, leaves, seeds, and fruit of many other plants also were used. Generally, Gabrielino settlements were created at the intersection of several ecozones. The majority of the population drifted as families to temporary hillside or coastal camps throughout the year, returning to the central location on ritual occasions or when resources were low and it was necessary to live on stored foods.

Gabrielino/Tongva territory included the watersheds of the San Gabriel, Santa Ana, and Los Angeles Rivers; portions of the Santa Monica and Santa Ana Mountains; the Los Angeles Basin; the coast from Aliso Creek to Topanga Creek; and San Clemente, San Nicolas, and Santa Catalina Islands. The Gabrielino/Tongva had a rich and varied material culture. Technological and artistic items included shells set in asphaltum, carvings, paintings, an extensive steatite industry, baskets, and a wide range of stone, shell, and bone objects that were both utilitarian and decorative.

The Gabrielino/Tongva inhabited some 50 to 100 permanent villages in fertile lowlands along streams and rivers and in sheltered areas along the coast at the time of European contact. Larger permanent villages most likely had populations that averaged 50 to 200 persons. Sedentary villages also had smaller satellite villages at varying distances; these remained connected to the larger villages through economic, religious, and social ties. The Native American village nearest the project site was at Temescal Hot Springs, while the largest Native American village near the project was that of Hurumpa, located on the southern edge of what is now the City of Riverside.

(b) Prehistoric Cultural Setting[2]

Occupation of the region appears to have begun approximately 9,000 years before present (BP), based on excavations at sites near Lake Elsinore and in Diamond Valley Lake. Reports produced as a result of recent large-scale excavations at Diamond Valley Lake provide extensive detail of the prehistory of the inland region.

The chronology developed for the Diamond Valley Lake Project, based on radiocarbon dates and projectile point typology, is similar to that of Warren in the early phases of prehistory. The Diamond Valley Lake chronology begins with the Paleo Indian period dating from 12,000 to 9,500 BP. The Early Archaic (9,500–7,000 BP), Middle Archaic (7,000–4,000 BP), and Late Archaic 4,000–1,500 BP) Periods correlate with Warren's chronology, which is the latter part of the Lake Mojave, the Pinto, and the Gypsum Periods. In most aspects, the Diamond Valley Lake sites appear to exhibit the same composition and changes over time as desert sites further inland.

During the latter centuries of prehistory in the Diamond Valley Lake area, local populations were increasingly affected by coastal influences. The Saratoga Springs Period (1,500–750 BP) begins with the development of bow and arrow technology, perhaps derived from the inland deserts. The lifeways of this period were abruptly interrupted by the Medieval Warm, a dramatic climatic shift that began around 1,060 BP. Inland areas were largely abandoned, except where populations could concentrate around dependable

[2] *Final Corona Regional Medical Center Expansion Project Archaeological and Paleontological Resources Report, prepared by ICF International, April 2013.*

water sources. The Medieval Warm ended about 575 BP, and population returned to the area during the Late Prehistoric Period (700–410 BP). The Protohistoric Period (410–180 BP) was the final period of prehistoric occupation at Diamond Valley Lake. This period was marked by the development of ceramics and Cottonwood arrow points, and the arrival of Europeans along the coast of California.

(c) Historic Cultural Setting

Historical resources are buildings, structures, sites, places, or objects which are listed in or eligible for listing in the National Register of Historic Places, California Register of Historical Resources or a local register of historical resources. *CEQA Guidelines,* § 15064.5**.** Architectural, engineering, or landscape resources from the historic period such as buildings, roads, bridges, aqueducts, or agricultural properties that are determined to be historically significant or significant in architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the determination is supported by substantial evidence in light of the whole record.

Mission Period. European settlement of California began with the founding of Mission San Diego de Alcala in 1769. The first known European exploration in Riverside County was in 1772 by a party led by Captain Pedro Fages. Four years later, Juan Bautista de Anza crossed the area en-route to Mission San Gabriel. The founding of Mission San Gabriel in 1771, San Juan Capistrano in 1776, and San Luis Rey in 1798 had a profound effect on local Native American populations. The mission fathers of Mission San Gabriel and Mission San Luis Rey gradually began colonizing the interior valleys in what is now Riverside County. During this period, Native American groups became increasingly sedentary and learned Spanish. They provided the labor force for the mission and ranchos.

Mexican California. Mexico, including California, won independence from Spain in 1821. A decree of secularization followed in 1834. By 1846, much of the land in the region had been converted from Church-owned properties to privately held ranchos. In 1846, Governor Pio Pico issued lands including the project area to Bernardo Yorba as part of the La Sierra Rancho Land Grant.

American Period. The acquisition of California by the United States at the end of the Mexican-American War in 1848, and the discovery of gold in 1850, brought many Euro-Americans into California and promoted further cultural changes. The state developed rapidly, being admitted to statehood in 1850. However, the great influx of population was primarily limited to central California, in San Francisco and the Gold Rush region of the Sierra Nevadas. Southern California grew very slowly during this time. The process of surveying and mapping the area began in 1852, when Henry Washington and a small party of surveyors ascended the San Bernardino Mountains and established the San Bernardino Base and Meridian.

(d) Archaeological Records Search and Field Assessment Results

Archaeology is the recovery and study of material evidence of human life and culture of past ages. Over time, this material evidence becomes buried, fragmented or scattered or otherwise hidden from view. It is not always evident from a field survey if archaeological resources exist within a given area. Thus, the possible presence of archaeological materials must often be determined based upon secondary indicators, including the presence of geographic, vegetative, and rock features which are known or thought to be associated with

early human life and culture, as well as knowledge of events or material evidence in the surrounding area. Archaeological resources may include both prehistoric remains and remains dating to the historical period. Prehistoric (or Native American) archaeological resources are physical properties resulting from human activities that predate written records and are generally identified as isolated finds or sites. Prehistoric resources can include village sites, temporary camps, lithic (stone tool) scatters, rock art, roasting pits/hearths, milling features, rock features, and burials. Historic archaeological resources can include refuse heaps, bottle dumps, ceramic scatters, privies, foundations, and burials and are generally associated in California with the Spanish Mission Period to the mid-20th century of the American Period.

(i) Cultural Resource Records Search

A records search for the project area and a one-mile radius around it was conducted at the Eastern Information Center (EIC) of the California Historical Resources Information System, located at the University of California, Riverside. The EIC houses the pertinent archaeological site and survey information necessary to determine whether previously recorded cultural resources exist within the study area boundaries. The objectives of this archival research was (1) to establish the status and extent of previously recorded sites, surveys, and excavations within the project area, and (2) to note what types of sites might be expected to occur within the project area based on the existing data from archaeological sites within one mile of the project area. The search included a review of cultural resources studies and sites on file at the EIC and a review of the most up-to-date listings in the National Register of Historic Places (National Register), the California Register of Historical Resources (California Register), the California Inventory of Historic Resources, the California Historical Landmarks (CHL), the California Points of Historical Interest (CPHI), and the Historic Property Data File (HPD). In addition, historic USGS 7.5-minute, 15-minute, and 30-minute topographic quadrangle maps and General Land Office (GLO) plat maps were reviewed.

Results of the records search indicated that numerous cultural resource studies have been conducted within a one-mile radius of the project site. Eight of these studies include portions of the project area. One historic period site was previously recorded within the project area; known as Sky Ranch (33-16976); this site in Mabey Canyon consists of a small masonry shed, a metal water tank, concrete residence and aircraft hangar foundations, arroyo stone walls and bridge, and other remnant landscaping. The bridge was evaluated as eligible for the California Register as a separate property.

Eight additional cultural resources have been documented within one mile of the project site, five of which are prehistoric archaeological sites and three of which are historic-period built resources. There are no properties listed in the National Register, the California Register, the CHL, or the CPHI within a one-mile radius of the project area. In addition, no properties listed in the Historic Properties Directory match the location of the project area.

Site research confirmed documentation of historic-period mining activity within the project area. Eight adjacent mining claims were filed in 1917 by Leo Kroonen of Corona: Big 4, Black Chief, Dutch Republic, Keno, Kroonen, Little Canyon, Victor, and White Clay. However, there is indication of only minimal mining activities within the northwest portion of these claims (likely the Big 4, Little Canyon, and Victor claims) into the 1920s, and the volume of production was not large. This is consistent with the lack of discernible excavations conclusively attributable to historic period mining operations within the project area (see Field Assessment results below).

(ii) Cultural Field Assessment

On April 10 and May 8, 2013, LSA archaeologists Riordan Goodwin and Gini Austerman conducted a reconnaissance survey of all accessible areas of the 270.9 acres that are planned for development. Due to the thick vegetation and steep topography, the surveyed areas were limited to ridge tops, accessible canyon bottoms, and road cuts.

Overall, ground visibility was poor, averaging approximately 10 percent due to obstruction from vegetation over the majority of the project surface. Mabey Canyon has been severely disturbed by agricultural activities, the development of Sky Ranch, the debris basin and associated channelization and flow-control structures of the creek in Mabey Canyon. Some of the ridge-tops have been graded for fire roads and several (recent) geological test borings.

The historic period Sky Ranch site (33-16976) was resurveyed and conditions are generally consistent with previous site record assessments. However, an unusual erosion control structure composed of an alignment of 30+ 1940s–1950s cars buried on their sides was noted on the south side of Mabey Canyon Road adjacent to the site boundary. Since its origin and date of deposition could not be determined, it was not added to the site or formally documented as a historic period feature. In addition, two adjacent isolated excavations were noted approximately 120 feet north of the project area. Although these could be mining test pits, this could not be confirmed as the excavations are nearly 0.5 mile from the nearest documented mining claim, located approximately 0.2 mile west of the project boundary.

No discernible previously undocumented cultural resources were identified within the accessible portions of the project area.

In addition, the project site includes one single-family home located within the larger 394.8-acre annexation area surrounding the site, which is located to the north of the project site (Assessor's Parcel Number [APN] 102-320-010). Miscellaneous vacated buildings, used in conjunction with a former horse stable enterprise, are located within APN 102-320-009, adjacent to and east of the existing residence. Other uses within the surrounding annexation area, but not within the 270.9-acre project site include a nursery (APN 275-080-021) to the north of Browning Circle and four open space parcels owned by the U.S. Wildlife Service in the southeasterly sector of the larger annexation area. None of these structures are over 45 years of age.

(iii) Senate Bill 18 Consultation

The City of Corona contacted the Native American Heritage Commission (NAHC) to request a Sacred Lands File (SLF) search for the proposed General Plan Amendment (which includes the project area) in June 2013. The NAHC responded on June 24, 2013, indicating there are no Native American traditional cultural places (TCPs) documented within the General Plan Amendment area. The NAHC also provided a list of Native American contacts with traditional lands or cultural places located in the vicinity of the project area. The City solicited formal Senate Bill (SB) 18 consultation requests from nine individuals representing eight Native American groups (the correspondence list for the individuals/groups is attached to the *Supplementary Cultural Resources Assessment* report included in Appendix E of this EIR*)* on July 16, 2013.

At the direction of the City, LSA subsequently submitted a supplementary SLF search request to address modifications to the annexation area boundary on October 24, 2013.[3] The NAHC responded on November 7 indicating that there are Native American TCPs documented within the revised study area.

Ms. Tuba Ozdil and Ms. Anna Hoover, representatives of the Pechanga Band of Luiseño Mission Indians, provided letters to the City formally requesting SB 18 consultation, that the Pechanga be involved in the entire CEQA environmental review process including notification of public hearings and scheduled approvals, that a project-specific SLF search be conducted, and receipt of all documents pertaining to this project.[4] Ms. Hoover indicated that the Tribe's records do not show any previously recorded Native American resources on the project site. However, Ms. Hoover stated the site is within the Pechanga Tribe's traditional territory. Ms. Hoover also requested that both archaeological and Pechanga tribal monitors be present during all earthmoving activities including mass grading, brushing, grubbing and utility installation. Ms. Hoover further asserted that the Tribe considers any resources located on the project site to be Pechanga cultural resources.

Mr. Joseph Ontiveros, a representative of the Soboba Band of Luiseño Indians, also submitted letters to the City indicating that although the site it is outside the existing reservation, the project area does fall within the bounds of Soboba's Tribal Traditional Use Areas. Mr. Ontiveros' stated that the Soboba Band of Luiseño Indians requests the following:

- Government-to-government consultation in accordance with SB18.
- That the transfer of information to the Soboba Band of Luiseno Indians regarding the progress of this project should be done as soon as new developments occur.
- That the Soboba Band of Luiseno Indians continues to act as a consulting tribal entity for this project.
- That Native American monitors from the Soboba Band of Luiseno Indians Cultural Resources Department be present during any ground-disturbing proceedings including surveys and archaeological testing.
- That proper procedures be taken and requests of the tribe be honored.

(2) Paleontological Resources

Paleontology is a branch of geology that studies the life forms of the past, especially prehistoric life forms, through the study of plant and animal fossils. Paleontological resources represent a limited, non-renewable, and impact-sensitive scientific and educational resource. As defined in this section, paleontological resources are the fossilized remains or traces of multi-cellular invertebrate and vertebrate animals and multi-cellular plants, including their imprints from a previous geologic period. Fossil remains such as bones, teeth, shells, and leaves are found in the geologic deposits (rock formations) where they were originally buried. Paleontological resources include not only the actual fossil remains, but also the collecting localities, and the geologic formations containing those localities.

[3] *Annexation boundary was revised to remove two parcels, APNs 275-040-004 (7.5 acres) and 275-040-005 (20.0 acres), from the proposed annexation area, for a total area reduction of 27.5 acres.*

[4] *Ms. Tuba Ozdil's and Mr. Joseph Ontiveros' initial SB 18 correspondence is attached to the Supplementary Cultural Resources Assessment report included in Appendix E of this EIR. Ms. Hoover's and Mr. Joseph Ontiveros' correspondence is included Appendix A of this EIR within the NOP comment letters.*

(a) Geology

The Skyline Heights project is crossed by the Elsinore Fault and lies south-east of the Chino Fault (the northern branch of the Elsinore Fault). The Elsinore Fault bounds the northeast side of the Santa Ana Mountains, while the Chino Fault trends northwest and bounds the east side of the Chino (Puente) Hills. In the vicinity of the project site, the Elsinore Fault separates the Jurassic Santiago Peak Volcanics and underlying Jurassic Bedford Canyon Formation on the southwest from an upper Cretaceous through lower Tertiary sequence of sedimentary rocks that crop out southwest of the Chino Fault. The upper Cretaceous sequence includes the Baker Canyon Formation, Ladd Formation, and Williams Formation, while the lower Tertiary (Paleocene) sequence includes the Silverado Formation. Pleistocene terrace deposits are located on the larger flattened ridge tops within the project site boundaries, and overlie the deeper Tertiary and Cretaceous sequences.

(b) Paleontology

Generally, the age of the Jurassic Bedford Canyon Formation is based on abundant marine fossil ammonites, pelecypods, and brachiopods. The Cretaceous age of the marine formations is also based on the ammonites, gastropods, and pelecypods that they contain. All the Mesozoic formations, which include both Jurassic- and Cretaceous-age formations, have historically produced dinosaur and reptile fossils.

The Paleocene age of the Silverado Formation is based on oysters, pelecypods, and gastropods that it contains. The earliest record of fossil Cenozoic plants comes from the coal beds in the Corona and Alberhill area of the Elsinore Trough.

(c) Paleontology Records Search and Field Assessment Results

(i) Paleontological Resource Records Search

In 2006, Robert E. Reynolds, LSA Paleontologist and Senior Cultural Resource Manager, conducted a paleontological resources records search utilizing references available in local libraries and the LSA Riverside office library to determine in part the sensitivity for paleontological resources to occur in the project area.

Sedimentary rocks in the Santa Ana Mountains are related to oil-bearing strata in the Los Angeles Basin and, as such, have been of special interest to geologists. Early paleontological and structural studies in the area have been followed by relatively recent updates that have been more regionally specific, correlating and clarifying earlier studies and adding to the body of data by detailed mapping and limited faunal studies. The project area is covered by geologic mapping recorded on the Corona South quadrangle, eastern Puente Hills, and on the Santa Ana Sheet.

Based on the records search results, the Santa Ana Mountains contain sediments that were deposited through the middle Mesozoic and lower Cenozoic time. The following list of formations is presented in order of deposition, the oldest first, putting the depositional history on the project site into stratigraphic perspective.

- **Mesozoic Era (201 million years ago)**

- **Jurassic Period (201-145 million years ago).** Bedford Canyon Formation (**Jbm**). Limestone containing ammonites and rhynchonellid brachiopods.
- **Cretaceous Period (145-66 million years ago).**
  - Cretaceous Volcanics (**Kvem, Kvsp**). Santiago Peak Volcanics are basaltic andesite, andesite dacite, and rhyolite.
  - Cretaceous Plutonic Complex (**Kcg, Kgu, Khg, Ktgb**). Granitic and gabbroic rocks making up plutons of multiple compositions.
  - Ladd Canyon Formation (**Kl**).
  - Holz Shale Member (**Klhs**). Shale and sandstone with locally abundant molluscan megafossils.
  - Baker Canyon Conglomerate Member (**Klbc**). Conglomerate and pebble sandstones, the latter containing locally abundant mollusks indicating deposition in shallow water.
  - Williams Formation (**Kw**). Conglomerates overlying the Ladd Formation.

- **Cenozoic Era (66-0 million years ago)**[5]
  - **Tertiary Period**. Silverado Formation (**Tsi**). These earliest Tertiary (Paleocene) rocks are interfingering marine and continental sandstones, silts, conglomerates, and clays. Non-marine sediments contain clay beds with lignite seams and fresh- and brackish-water fossil invertebrates and plants; overlying marine sediments have yielded marine invertebrates.
  - **Quaternary Period (3-0 million years ago)**. Quaternary Older and Younger Alluvium (**Qvo & Qo**). Pleistocene older and younger alluvial deposits border the northern Santa Ana Mountains and represent fan and terrace deposits that generally drain into the Santa Ana River.

Locality References. Upper Cretaceous localities have been reported from within the project area. These marine formations contain six localities that have produced ammonites, gastropods, and pelecypods. It is highly likely that the marine mechanism that concentrated these shell beds also collected remains of vertebrate fossils.

The lower Paleocene Silverado Formation within the project site contains two known localities with oysters, pelecypods, and gastropods. It is likely that vertebrate fossils occur in shell bed concentrations. The 10 clay and lignite mines and prospects recorded among Wardlow, Mabey, and Tin Mine Canyons have good potential for fossil plants.

Dinosaurs and Mesozoic reptiles are reported from Jurassic and Cretaceous formations of the Santa Ana Mountains, which includes the project site, and thus such fossil-bearing formations may be located on-site. The review of available literature located the following records:

[5] *The Cenozoic Era includes the Paleogene, Neogene, and Quaternary Periods; however, the Paleogene and Neogene Periods are collectively referred to as the "Tertiary" Period, which encompasses the time period between 66 million and 3 million years before present.*

- Locality B1. A string of nine vertebrae from an elasmosaurid plesiosaur is known from the Jurassic Bedford Canyon Formation of the Santa Ana Mountains. This is the oldest marine reptile from the Peninsular Range Province and also the only Jurassic specimen from the Santa Ana Mountains.
- Locality L1. A hadrosaur maxilla with dentition associated with plesiosaur vertebrae is known from the Cretaceous Ladd Formation of the Santa Ana Mountains.
- Locality L2. A hadrosaur vertebra is known from the Cretaceous Ladd Formation of the Santa Ana Mountains.
- Locality L3. A hadrosaur tibia is known from the Cretaceous Ladd Formation of the Santa Ana Mountains.
- Locality L4. The Cretaceous Ladd Formation of the Santa Ana Mountains has produced hadrosaur foot and lower limb elements as well as vertebra.
- Locality L5. The turtle (*Basilemys*) is known from the Cretaceous Ladd Formation of the Santa Ana Mountains.
- Locality L6. The Cretaceous Ladd Formation has produced additional turtle remains from another locality in the Santa Ana Mountains.
- Locality W1. A dinosaur limb is known from the upper Cretaceous Williams Formation of the Santa Ana Mountains.

(ii) Paleontological Field Assessment

A field assessment of the project area was conducted by Dr. David Berry, Tina Tuttle, Jeff Vadala, and Jodi Dalton, on May 2, 4, 11, and 17, 2006, and identified two fossil localities. These localities are outcrop exposures with abundant invertebrate remains (shells of gastropods and pelecypods). It is highly likely that the currents that concentrated these shell beds also collected and concentrated the remains of vertebrate fossils.

- SIR0601-LSA 06-5-03-1: Mabey Canyon. Cretaceous Ladd Formation has dense gray siliceous limestone bed with abundant mollusks, coral, bryozoa, and microfossils.
- SIR0601-LSA 06-5-05-1: Chase Drive Extension (Rattlesnake Hill). Baker Canyon member of the Cretaceous Ladd Formation has a dense, blue, fine silty sandstone bed that weathers tan and contains abundant mollusks, including the gastropod Actaeonella oviformis and the pelecypods Arca sp. and Crassitella sp. This is very close to Locality 6, which produced four other genera of gastropods and pelecypods. It is highly likely that the currents that concentrated these shells also concentrated the remains of vertebrate fossils.

The Pleistocene sediments found consist of coarse, deeply-weathered fanglomerate that appears too coarse to contain fossil remains.

b. Regulatory Framework

(1) State Level

(a) Archaeological, Historical Resources

(i) California Register of Historical Resources

Per California Public Resources Code Section 5024.1(a), the California Register of Historical Resources (California Register) is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change." The criteria for eligibility for the California Register are based upon National Register of Historic Places (National Register) criteria.[6] Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register of Historic Places.[7]

To be eligible for the California Register of Historical Resources, a pre-historic or historic property must be significant at the local, state, and/or federal level under one or more of the following criteria:

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; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following resources:

- California properties listed on the National Register of Historic Places and those formally Determined Eligible for the National Register of Historic Places.
- California Registered Historical Landmarks from No. 770 onward.

[6] *California Public Resources Code § 5024.1(b).*

[7] *California Public Resources Code § 5024.1(d).*

- Those California Points of Historical Interest that have been evaluated by the California Office of Historic Preservation (OHP) and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5.[8]
- Individual historical resources.
- Historical resources contributing to historic districts.
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

(ii) California Environmental Quality Act

CEQA is the principal statute governing environmental review of discretionary projects occurring in the State. CEQA requires lead agencies to determine if a proposed project would have a significant effect on archaeological resources (PRC § 21083.2.). As defined in Section 21083.2(g) a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

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

In addition, *CEQA Guidelines* Section 15064.5 broadens the approach to CEQA by using the term "historical resource" instead of "unique archaeological resource." The *CEQA Guidelines* recognize that certain archaeological resources may also have significance. The *CEQA Guidelines* recognize that a historical resource includes: (1) a resource in the California Register of Historical Resources; (2) a resource included in a local register of historical resources, as defined in Public Resources Code Section 5020.1 (k) or identified as significant in a historical resource survey meeting the requirements of Public Resources Code Section 5024.1 (g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of the Public Resources Code and Section 15064.5 of the *CEQA Guidelines* apply. If an archaeological

[8] *Those properties identified as eligible for listing in the National Register of Historic Places, the California Register of Historical Resources, and/or a local jurisdiction register.*

site does not meet the criteria for a historical resource contained in the Guidelines, then the site is to be treated in accordance with the provisions of Public Resources Code Section 21083.2, which refer to a unique archaeological resource. The Guidelines note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (CEQA Guidelines § 15064.5(c)(4)).

(b) Senate Bill 18

SB 18 was signed into law in September 2004, and became effective on March 1, 2005. SB 18 amended California Civil Code Section 815.3 to permit California Native American tribes recognized by the Native American Heritage Commission (NAHC) to hold conservation easements on terms mutually satisfactory to the tribe and the landowner. The term "California Native American tribe" is defined as "a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC."[9]

The bill also requires that, prior to the adoption or amendment of a city or county's general plan, the city or county consult with California Native American tribes for the purpose of preserving specified places, features, and objects located within the city or county's jurisdiction. (Cal. Gov Code §65352.3) SB 18 also applies to the adoption or amendment of specific plans. This bill requires the planning agency to refer to the California Native American tribes specified by the NAHC and to provide them with opportunities for involvement. (Cal. Gov Code §65351.)

(c) California Health and Safety Code

The California Health and Safety Code Section 7050.5 states that if human remains are discovered on site, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition. If the Coroner determines that the remains are not subject to his or her authority and if the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the NAHC. This regulation is applicable to any project where ground disturbance would occur.

(d) Paleontological Resources

Paleontological resources are also afforded protection by environmental legislation set forth under CEQA. Appendix G (part V) of the *CEQA Guidelines* provides guidance relative to significant impacts on paleontological resources, stating that "a project will normally result in a significant impact on the environment if it will …disrupt or adversely affect a paleontologic resource or site or unique geologic feature, except as part of a scientific study." Section 5097.5 of the PRC specifies that any unauthorized removal of paleontological remains is a misdemeanor. Further, the California Penal Code Section 622.5 sets the penalties for damage or removal of paleontological resources.

[9] *SB18 Tribal Consultation, State of California Tribal Consultation Guidelines Supplement to General Plan Guidelines, April 15, 2005.*

(2) Local

(a) City of Corona

The Historic Resources Element of the City's General Plan includes policies regarding the conservation and management of archaeological and paleontological resources. The project's consistency with the applicable policies is discussed in the impact analysis below.

2. ENVIRONMENTAL IMPACTS

a. Methodology

(1) Historic Resources

As described above, to determine the presence of any known historic resources on the project site and within a one-mile radius of the project site, an extensive records search and pedestrian survey was conducted. The search included a review of cultural resources studies and sites on file at the EIC and a review of the most up-to-date listings in the National Register, California Register, California Inventory of Historic Resources, CHL, CPHI, and HPD. In addition, historic USGS maps were reviewed.

The survey process undertaken for purposes of this evaluation was conducted per OHP instructions, which gives a 45-year threshold for surveying properties for significance. Those properties that were of post-1969 construction (under 45 years of age) were not documented in the project survey unless they exhibited potentially "exceptional" importance.

(2) Archaeological and Paleontological Resources

LSA conducted a literature and records search of the project area at the EIC located at the University of California Riverside and to determine if archaeological resources are located within the project area. The search included a review of all available cultural resource surveys and site records within the project area and within a one-mile radius. In addition, a field survey of the project site was conducted to observe the presence of any visible archaeological resources on the site.

With regard to paleontological resources, LSA reviewed geological and paleontological literature and the geological maps of Corona and its surroundings. The geologic context was analyzed, and the paleontological sensitivity of sediments underlying the project area was evaluated based on the past finds in the region.

Impacts on cultural resources from the project were evaluated by determining whether ground disturbance activities could affect areas that could contain any resources. Impacts on paleontological resources were evaluated similar to the way in which impacts to buried archaeological resources were evaluated, that is by determining whether ground disturbance activities would affect areas that could contain any a unique paleontological resource or site or unique geologic feature.

b. Thresholds of Significance

Appendix G of the CEQA Guidelines (the Initial Study Environmental Checklist form) and the City's Initial Study Checklist include questions relating to cultural resources that are utilized as the thresholds of

significance in this section (Thresholds 1-5). Accordingly, the project may create a significant environmental impact if it would:

Threshold 1: Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 (refer to Impact Statement 4.D-1);

Threshold 2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 (refer to Impact Statement 4.D-2);

Threshold 3: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (refer to Impact Statement 4.D-3);

Threshold 4: Disturb any human remains, including those interred outside of formal cemeteries (refer to Impact Statement 4.D-4); and

Threshold 5: Conflict with an applicable plan, policy or regulation adopted for the purposes of avoiding or mitigating physical impacts associated with cultural resources (refer to Impact Statement 4.D-5).

c. Project Design Features

The project does not include any Project Design Features (PDFs) specific to cultural resources.

d. Analysis of Project Impacts

(1) Historic Resources

Threshold 1: Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.

Impact 4.D-1 *No historic resources are located on the project site. As such, there is no potential for the project to cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the CEQA Guidelines. No impact would occur in this regard.*

According to the records search, no previously recorded historical resources were identified within the project site and no new historical resources within the project site were identified during the pedestrian survey. Further, the single-family residence and nursery within the annexation area are not 45 years of age and do not otherwise meet the criteria for listing in the California Register and do not qualify as historical resources as defined in Section 15064.5 of the CEQA Guidelines. As a result, the project would not cause a substantial adverse change in the significance of a known historical resource as defined in CEQA Section 15064.5. No impact would occur in this regard.

(2) Archaeological Resources

Threshold 2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.

Impact 4.D-2 Implementation of the project would not cause a substantial adverse change in the significance of a known archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines. However, there is potential for the project to impact previously undiscovered archaeological resources during construction activities associated with the project. This potentially significant impact would be reduced to a less than significant level with implementation of the prescribed mitigation measure.

No archaeological or Native American resources were identified within the project development footprint area in prior surveys. However, several resources do exist within a one-mile radius of the site. This suggests that the project area has a low to moderate potential to encompass historical period archaeological or prehistoric archaeological resources, despite the minimal historic-period mining activity within the project area. Current project plans do not include impacts to the Sky Ranch site's (APN 275-040-015) bridge that was evaluated as eligible for the California Register. In the event project plans change to include potential impacts to the bridge, the impacts would need to be evaluated in a supplemental study.

As part of the Native American Consultation conducted for the project, letters were sent to the eight Native American Tribes provided by the NAHC in July and October 2013. The letters included a brief project description and asked that the tribes to contact the City with input regarding the presence of cultural resources in the project area. Two tribes, the Pechanga Band of Luiseño Indians and Soboba Band of Luiseño Indians (Tribes) requested further consultation and future updates in regards to the project. The Tribes requested that Native American monitors be present on-site during any ground-disturbing activities, including surveys and archaeological testing.

Despite the lack of known resources within the site, correspondence from representatives of the Pechanga and Soboba Bands of Luiseño Indians indicates the site has the potential to support previously undiscovered Native American resources. Of particular relevance, Ms. Hoover of the Pechanga Band of Luiseño Mission Indians, states that as the site includes dense vegetation, unidentified cultural resources may exist on the site. She states that the location of the site at the base of the Cleveland National Forest/Santa Ana Mountains likely contains a deep accumulation of alluvium which would have covered Luiseño habitations and villages over time. Additionally, she states that there are several drainages that flow from the mountains that would have supplied fresh water to any inhabitants in the area. Thus, the potential for impacting surface and subsurface cultural resources is high. In light of these considerations, it is concluded that unknown significant Native American cultural resources could be unearthed during project excavation activities. The project would involve surface disturbance and grading, and would require trenching for utilities. Grading and trenching as well as other construction ground-disturbing actions have the potential to disturb and destroy cultural resources. Disturbance of significant cultural resources would result in a significant adverse impact. Thus, Mitigation Measure CR-1 is prescribed in the event that unknown cultural materials are discovered during construction. Mitigation Measure CR-1 also includes provisions for Native American monitors from affected Tribes to observe all project-related grading activities, and the implementation of a Treatment Agreement between affected Tribes. With the implementation of Mitigation Measure CR-1, potentially significant impacts to unknown resources would be reduced to a less than significant level.

Further, given that the City has fulfilled its obligations for Native American Consultation pursuant to SB18 and will continue to work with the Tribes to facilitate monitoring during future site development per Mitigation Measure CR-1 to ensure proper treatment of newly discovered resources, impacts to Native American resources would be less than significant with mitigation.

(3) Paleontological Resources

Threshold 3: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Impact 4.D-3 Implementation of the project could directly impact paleontological resources during construction activities. This potentially significant impact would be reduced to a less than significant level with implementation of the prescribed mitigation measures.

The paleontological resources assessments for the project found that the fossiliferous Upper Cretaceous Ladd Canyon Formation and Upper Cretaceous Williams Formation occur on the project site. In addition, the fossiliferous Paleocene Silverado Formation occurs within the project boundaries. These three formations have potential to contain significant, nonrenewable paleontological resources. Construction for the project would include grading and excavation for the development of housing pads, access roads, sewers, drains, culverts, and utility-related infrastructure that could impact paleontological resources in these three formations. Disturbance to paleontological resources could result in a potentially significant impact. Thus, Mitigation Measures CR-2 to CR-4 have been prescribed to address this potentially significant impact. The mitigation measures require preparation of a paleontological resource impact mitigation program (PRIMP) to be implemented during construction activities for the project. The PRIMP would provide appropriate treatment measures for paleontological resources potentially impacted by the project. With implementation of these mitigation measures, potentially significant impacts to paleontological resources would be reduced to a less than significant level.

(4) Human Remains

Threshold 4: Disturb any human remains, including those interred outside of formal cemeteries.

Impact 4.D-4 In the unlikely event human remains are discovered during grading or construction activities within the project site, compliance with State law (Health and Safety Code § 7050.5) (HSC § 7050.5) would be required and would mitigate for potential impacts to human remains. Therefore, impacts related to the discovery of buried human remains would be less than significant and no mitigation is necessary.

The project site is not a formal cemetery and is not adjacent to a formal cemetery. The project site is not known to contain human remains interred outside formal cemeteries, nor is it known to be located on a burial ground or reported to have yielded human remains. In the unlikely event human remains are discovered during grading or construction activities within the project site, compliance with State law (Health and Safety Code § 7050.5) (HSC § 7050.5) would be required. These requirements are imposed on any construction activity in which human remains are detected, and include the following provisions:

- There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:
    - The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required; and
    - If the coroner determines the remains to be Native American:
        - The coroner shall contact the Native American Heritage Commission within 24 hours.
        - The NAHC shall identify the person or persons it believes to be the most likely descended from the deceased Native American.
        - The most likely descendant may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code § 5097.98 (PRC § 5097.98), or
- Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further and future subsurface disturbance pursuant to PRC § 5097.98(e).
    - The NAHC is unable to identify a most likely descendant.
    - The most likely descendant is identified by the NAHC, fails to make a recommendation within 48 hours of being granted access to the site; or
    - The landowner or his authorized representative rejects the recommendation of the descendant, and mediation by the NAHC fails to provide measures acceptable to the landowner.

Adherence to provisions of Health and Safety Code § 7050.5 is required of all development projects. Compliance with existing state law sufficiently mitigates for potential impacts to human remains. Therefore, impacts related to the discovery of buried human remains would be less than significant and no mitigation is necessary.

(5) Consistency With Regulatory Framework

Threshold 5:	Conflict with an applicable plan, policy or regulation adopted for the purposes of avoiding or mitigating physical impacts associated with cultural resources.

Impact 4.D-5 *Implementation of the project would not conflict with an applicable plan, policy or regulation adopted for the purposes of avoiding or mitigating physical impacts associated with cultural resources. This impact is considered less than significant.*

The project would comply with all applicable State and federal regulations regarding cultural resources as described above, and therefore no significant impacts regarding conflicts with such laws would result from project implementation. Furthermore, the project would not conflict with applicable policies contained in the City's General Plan regarding cultural resources, as discussed below in **Table 4.D-1**, *General Plan Consistency Analysis*. As discussed in Table 4.D-1, the project would not conflict with the applicable policies of the City's General Plan and as such impacts in this regard would be less than significant.

Table 4.D-1

General Plan Consistency Analysis

Goals and Policies	Consistency
Community Development – Historic Resources	
Goal 4.3 – Recognize the importance of archeological and paleontological resources and ensure the identification and protection of those resources within the City of Corona.	**Consistent.** No archaeological or Native American resources were identified within the project development footprint area in prior surveys. However, several resources do exist within a 1-mile radius of the site. In addition, correspondence with Tribes in the area indicate cultural resources may be located within the project boundaries. This suggests that the project area has a low to moderate potential to encompass historical period archaeological or prehistoric archaeological resources, despite the minimal historic-period mining activity within the project area. Nonetheless, significant buried cultural resources could occur within the project area and it is possible these materials could be unearthed during project excavation activities. Furthermore, the project site is located on fossiliferous formations known to have produced fossils. The project would implement mitigation measures to appropriately treat archaeological and paleontological resources should they be discovered during project construction activities.
Policy 4.3.3 – Archaeological resources found prior to or during construction shall be evaluated by a qualified archaeologist, and appropriate mitigation measures applied, pursuant to Section 21083.2 of CEQA, before the resumption of development activities. Any measures applied shall include the preparation of a report meeting professional standards, which shall be submitted to the appropriate CHRIS information center.	**Consistent.** In the event of an archaeological discovery, the project would implement Mitigation Measures CR-1. This would ensure that all earthmoving activity within and around the immediate discovery area would be diverted until a qualified archaeologist could assess the nature and significance of the find and, if necessary, develop appropriate treatment measures. Treatment measures typically include developing avoidance strategies, capping with fill material, or mitigating impacts through data recovery programs such as excavation or detailed documentation.
Policy 4.3.4 – Any project that involves earth-disturbing within previously undisturbed soils in an area determined to be archaeologically or culturally sensitive, shall require evaluation of the site by a qualified archaeologist retained by the project applicant. The applicant shall implement the recommendations of archaeologist, subject to the approval of the City Planning Department.	**Consistent.** LSA Associates, Inc. prepared project-specific archaeological and paleontological resources assessment reports, which include recommendations for the discovery, handling, and treatment of any resources encountered during site grading activities.
Policy 4.3.5 – Any project that involves earth-disturbing activities in previously undisturbed soils that have been determined to be archaeologically or culturally sensitive shall require consultation by the applicant with interested federally recognized American Indian Tribe(s) that have a traditional cultural affiliation with the project area and/or the resources affected by the project, for the purposes of determining archaeological and cultural resources impacts and creating appropriate mitigation to address such impacts.	**Consistent.** The project applicant has conducted tribal consultation in accordance with this policy, and formal government-to-government consultation with the City of Corona has also been initiated in accordance with SB18. As required by Mitigation Measure CR-1 below, tribal monitors would be present for all site grading activities.

Table 4.D-1 (Continued)

General Plan Consistency Analysis

Goals and Policies	Consistency
The applicant shall also arrange for monitoring earth-disturbing activities by interested federally recognized American Indian Tribe(s) that have a traditional cultural affiliation with the project area and/or the resources affected by the project, if requested.	
Policy 4.3.6 – Any project that involves earth-disturbing activities in soil or rock units known or reasonably suspected to be fossil-bearing shall require monitoring by a qualified paleontologist retained by the project applicant for the duration of excavation or trenching.	**Consistent.** As provided by Mitigation Measure CR-2 below, a qualified paleontological monitor would be present for all site grading activities as determined appropriate by the PRIMP.
Policy 4.3.7 – Paleontological resources found prior to or during construction shall be evaluated by a qualified paleontologist, and appropriate mitigation measures applied, pursuant to Section 21083.2 of CEQA, before the resumption of development activities. Any measures applied shall include the preparation of a report meeting professional standards, which shall be submitted to the Riverside County Museum of Natural History.	**Consistent**. Mitigation Measures CR-2 to CR-4 address potential impacts to paleontological resources. Per the prescribed mitigation measures, a qualified vertebrate paleontologist would be retained by the City or project proponent to determine areas that would require paleontological monitoring during initial ground disturbance. Collected fossils, if any, would be transported to a paleontological laboratory for processing where they would be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation. Following analysis, a report of findings with an appended itemized inventory of specimens would be prepared. The report and inventory, when submitted to the appropriate lead agency along with confirmation of the curation of recovered specimens into a public, non-profit institution with a research interest in the materials, would signify completion of the program to mitigate impacts on paleontological resources.
Policy 4.3.8 – In the event of the discovery of a burial, human bone, or suspected human bone, all excavation or grading in the vicinity of the find shall halt immediately and the area of the find shall be protected and the project applicant immediately shall notify the Riverside County Coroner of the find and comply with the provisions of the California Health and Safety Code Section 7050.5, including P.R.C. Section 5097.98, if applicable. In the event that human remains are determined to be Native American human remains the applicant shall consult with the Most Likely Descendent (MLD) to determine the appropriate treatment for the Native American human remains.	**Consistent.** Proposed grading activities would be carried out in accordance with applicable laws regarding cultural resources, including the treatment of human remains and notification of tribal organizations, as applicable.

Source: PCR Services Corporation, 2014.

3. CUMULATIVE IMPACTS

The cumulative area for cultural resources is the regional tribal areas for the traditional cultural territories of the Gabrielino/Tongva Indians, Luiseño Indians, and possibly the Cahuilla Indians. The cumulative are, also includes the City of Corona. As described above, the project would result in no impacts to historic resources; therefore, the project does not have the potential to contribute to cumulative impacts regarding historic resources. Implementation of the project would include mitigation measures to identify, recover, and/or record any cultural and/or paleontological resource that may occur within the limits of the project site. Potential impacts associated with human remains would be reduced to a less than significant level through adherence to existing State law. There are no projects that would, in combination with the project, result in any significant cumulative impacts on archaeological, or paleontological resources, or in impacts to human remains. Like the project, any other projects within the City or within the regional tribal areas would be required to adhere to similar mitigation measures that would reduce the potential for any individual or cumulative impacts. On a cumulative level, data recovered from a site, combined with data from other sites in the region, would allow for the examination and evaluation of the diversity of human activities in the region. Therefore, the project would have less than significant cumulative impacts associated with cultural resources.

4. MITIGATION MEASURES

Based on the analysis above, the project could result in a potentially significant impact to archaeological/Native American and paleontological resources. Therefore, the following mitigation measures are recommended:

Mitigation Measure CR-1: In the event that archaeological materials are discovered during construction, all earth-moving activity within and around the immediate discovery area shall be diverted until a qualified archaeologist can assess the nature and significance of the find, and, if necessary, develop appropriate treatment measures. Treatment measures typically include development of avoidance strategies, capping with fill material, or mitigation of impacts through data recovery programs such as excavation or detailed documentation. If during cultural resources monitoring the qualified archaeologist determines that the sediments being excavated are previously disturbed or unlikely to contain significant cultural materials, the qualified archaeologist can specify that monitoring be reduced or eliminated.

Native American monitors from affected Tribes shall observe all project-related grading activities, and the treatment of any recovered artifacts shall be carried out in accordance with the provisions of a Treatment Agreement between affected Tribes. The Treatment Agreement shall be executed by the consulting Tribes prior to the issuance of grading permits for each construction phase. All cultural materials that are collected during the grading monitoring program and from any previous archaeological studies or excavations on the project site shall be curated according to the current professional repository standards. The collections and associated records shall be transferred, including title, to an appropriate curation facility which meets the standards set forth in 36 CFR Part 79 for federal repositories. All sacred sites, should they be encountered within the project area, shall be avoided and preserved as the preferred mitigation.

If changes are made to the project footprint to include earth-moving activities in areas not previously studied, additional archaeological investigations shall be required.

Mitigation Measure CR-2: Prior to issuance of any grading permit, the Applicant shall retain a qualified vertebrate to develop a paleontological resource impact mitigation program (PRIMP) for excavations into the Upper Cretaceous Ladd Canyon Formation, the Upper Cretaceous Williams Formation, and Paleocene Silverado Formations. A qualified vertebrate paleontologist is defined as a paleontologist meeting the criteria established by the Society for Vertebrate Paleontology. The qualified vertebrate paleontologist shall conduct a pre-construction field assessment to locate fossils at surface exposures. The qualified vertebrate paleontologist shall supervise a paleontological monitor who shall be present at such times as required by the paleontologist during construction excavations into the fossiliferous formations mentioned above. Monitoring shall consist of visually inspecting fresh exposures of rock for larger fossil remains and, where appropriate, collecting wet or dry screened sediment samples of promising horizons for smaller fossil remains. The frequency of monitoring shall be determined by the paleontologist and shall be based on the rate of excavation and grading activities, the materials being excavated, and the depth of excavation, and if found, the abundance and type of fossils encountered. If resources are located, monitoring hours shall be increased as needed.

Mitigation Measure CR-3: If a potential fossil is found, the qualified vertebrate paleontologist or paleontological monitor shall be allowed to temporarily divert or redirect grading and excavation activities in the area of the exposed fossil, as determined appropriate by the monitor, to assess the significance of the find and, if necessary, develop appropriate treatment measures. Treatment measures may include avoidance or preservation in place, if feasible. If preservation or avoidance of the resource is not feasible, then the resource shall be removed from its location. Removal activities may consist of the relatively rapid removal of small isolated fossils from an active cut, to hand-quarrying of larger fossils over several hours, to excavations of large fossils or large numbers of smaller fossils from a bone bed over several days. These activities may include the assistance of the grading and excavation contractor's equipment to facilitate removal. Any fossils encountered and recovered shall be prepared to the point of identification and catalogued before they are donated to their final repository. Any fossils collected shall be donated to a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County, San Bernardino County Museum, the John D. Cooper Archaeological and Paleontological Curation Center at the California State University, Fullerton, or Western Science Center in Hemet, California. Accompanying notes, maps, and photographs shall also be filed at the repository.

Mitigation Measure CR-4: Prior to the release of the grading bond, the paleontologist shall prepare a report summarizing the results of the monitoring and salvaging efforts, the methodology used in these efforts, as well as a description of the fossils collected and their significance. The report shall be submitted by the Applicant to the Community Development Director or his/her designee for approval. In addition, the report shall be submitted to at least one of the repositories mentioned in Mitigation Measure CR-3 and other appropriate or concerned agencies to signify the satisfactory completion of the project and required mitigation measures.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

With compliance with applicable requirements regarding cultural resources and with the implementation of the above mitigation measures, potentially significant impacts to cultural resources would be reduced to a less than significant level.

4. ENVIRONMENTAL IMPACT ANALYSIS
E. GEOLOGY AND SOILS

INTRODUCTION

This section describes existing conditions and the regulatory framework associated with geology and soils and analyzes the potential impacts of the project regarding fault rupture, seismic hazards, ground shaking, liquefaction, soil erosion or the loss of topsoil, expansive soils, and landform/landslide in the City of Corona and in the vicinity of the site. Information in this section is based on information and findings obtained in the *Preliminary Geotechnical Investigation and Grading Plan* (herein referred to as the Geotechnical Report), for Tentative Tract Map No. 36544, prepared by Ginter and Associates, Inc. in April 2014. The Geotechnical Report is included in Appendix F of this Draft EIR.

1. ENVIRONMENTAL SETTING

a. Existing Conditions

(1) Regional Geology

The site is located on the northeastern slope the Temescal Canyon area of the Santa Ana Mountains near their boundary with Temescal Canyon (see Plate I; Elsinore-Chino Trough, of Appendix F, Geotechnical Report, of this Draft EIR). The Santa Ana Mountains are one of many northwest-trending Southern California ranges separated by broad valleys within the Peninsular Ranges Geomorphic (and structural) Province of Southern California. The province extends from the Transverse Ranges on the north to Baja California on the south.

The Santa Ana Mountains have a Jurassic and Cretaceous metamorphic and igneous core on which Cretaceous through Pliocene marine and non-marine rocks have been deposited. Along the northeast flank of the mountains, the Cretaceous and Tertiary rocks were strongly tilted and folded during later regional deformation (see Plate IV of the Geotechnical Report). Pleistocene to modern sediments derived mainly from the upper reaches of the Santa Ana Mountains locally mantle those rocks. These sediments are mainly elevated Pleistocene river terrace and alluvial fan deposits and Holocene fans on the floors of Temescal and Santa Ana Canyons and consisting of modern alluvium in incised drainages and toe-slope colluvium.

The highlands of the Peninsular Ranges are formed in an eroded granitic/metamorphic basement complex, and the lowlands consist of sediment-filled basins. Northwest trending "main" ridges and "spur" ridges with steep sides dominate the geomorphology. Low-order drainages feed three high-order drainages that extend over large areas of the northeastern Santa Ana Mountains. These high-order drainages are, from north to south, Mabey, Kroonen and Tin Mine Canyons (see Plate I in the Geotechnical Report in Appendix F of this Draft EIR). Both following and breaching the local geologic structures and lithologies, these major drainage are commonly "v"-shaped in their upper and middle reaches, where incised into bedrock and flat in their lower reaches.

The northwest-trending Peninsular Ranges blocks parallel regional continental borderland faults that extend from the Mojave Desert in the east to the Channel Islands on the west. These fault zones are typically exhibit right-lateral strike-slip with associated reverse and normal dip-slip components. The approximately 150-mile long Whittier-Elsinore Fault Zone) that parallels the northeast Santa Ana Mountains is a classic example.

(2) Site Conditions

The project site is located at the mouths of Mabey Canyon, Tin Mine, and Kroonen Canyons immediately to the east of the Cleveland National Forest. The site consists of two geographic sections separated by Mabey Canyon. To the north of Mabey Canyon, the area is in an almost natural state and characterized by steep topography with a thin soil mantle. Remnants of exploration roads associated with clay mining occurred in the Temescal Canyon area from the early 1900's are evident. However, no large-scale mining operations appear to have occurred in this area. The area to the north of Mabey Canyon generally consists of steep-sided northeast trending "main" ridges with similar steep-sided "spur" ridges on the northeastern flank of the Santa Ana Mountains. Side-slope ratios vary from 2:1 to 1:1 with local gentler and steeper sections. These configurations result in v-shaped canyons and narrow, spine-like ridges. Also in this area, three low-order canyons drain northwesterly into Wardlow Canyon and the one drains the center of this area into high-order Mabey Canyon to the south. These major drainages are v-shaped in their upper and middle reaches, where incised into bedrock, and flat in their lower reaches. The Mabey Canyon drainage flows into a large flood control basin near its mouth (see Plate I in the Geotechnical Report). The basin intercepts flow and directs flow northeast via lined channels into Temescal Canyon and eventually, the Santa Ana River system.

The area to the south of Mabey Canyon was subjected to clay prospecting and mining in the early 1900's. One successful clay prospect was the McKnight Clay Mine southeast adjacent to the area (see Plate V in the Geotechnical Report), which now serves as a tree nursery. Other poorly-preserved and undeveloped prospects and related access roads are scattered over the site. For example, an exploration trench (Pacific Soils Engineering, Inc. (PSE), 2005) encountered a small mine entrance on-site. As with the northern portion of the site, northwest trending ridges and V-shaped canyons dominate the geomorphology.

(a) Stratigraphy

Cretaceous Trabuco Formation

The highland portions of the project site are underlain by resistant Cretaceous and Paleocene sedimentary rocks that are locally mantled by older Pleistocene alluvial "terrace" deposits. The lowland surfaces support mainly Holocene alluvial channel and fan deposits (see Figures 1 through 7 in the Geotechnical Report). The Cretaceous Trabuco Formation (Kt) is mainly brown, weakly to moderately lithified cobble to boulder conglomerate, marked by occasional lenses and beds of distinctive maroon silty conglomerate that crops out in the southwest corner of the site). Clasts are mainly metamorphic, igneous and volcanic fragments that are usually more weathered than clasts within the overlying Ladd Formation. Following the regional structural grain, this formation extends from northwest to southeast south of Tin Mine Canyon. Trenches placed south of the project site (see Plate II in the Geotechnical Report) exposed distinct Trabuco "maroon beds" on the south flank of Tin Mine Canyon, thereby documenting formational continuity across Tin Mine Canyon. This contradicts previous geologic maps (Gray, 1961; Weber, 1977; Gray et al., 2002) that depict the formation "fault-truncated" north of the canyon. The Trabuco Formation grades upward into the Cretaceous Ladd

Formation. The contact between the two formations is thus arbitrary and herein taken to be the top of the uppermost Trabuco "maroon bed".[1]

Cretaceous Ladd Formation

Two formal members, the Baker Canyon Conglomerate and Holz Shale, of the Cretaceous Ladd Formation Conglomerate (Klc) crop-out northwest and south of Kroonen Canyon (see Figures 1 through 7 in the Geotechnical Report). These are were readily identifiable in trenches and, locally identifiable in outcroppings. In contrast, massive conglomerates and sandstones of undifferentiated Ladd Formation are north and east of the canyon, which may also encompass Williams Formation sandstone (see Figures 2, 4 and 5 of the Geotechnical Report). Clearly identifiable and mappable Williams Formation does crop out in the northern part of the site, northwest of Mabey Canyon.[2]

The Baker Canyon Conglomerate (Klbe) is located at and near the project site. This formation consists of thick-bedded to massive pebble and cobble conglomerate interspersed with buff to gray arkosic to lithic marine sandstone. The lower part of the formation consists mainly of distinctly bedded, volcanic and metamorphic cobble conglomerate. Distinctly inter-bedded buff conglomerate and buff to gray thick-bedded sandstone characterize the upper part of the formation exposed onsite. This unit is generally well-indurated (cemented) below a weathered halo and therefore, supports steep anti-dip and dip slopes, and is a major "ridge former". The Baker Canyon Conglomerate is conformable with, and grades into, both the underlying Trabuco Formation and the overlying Holz Shale Member of the Ladd Formation. The transition zone, based varies from about 50 to about 100-feet thick.[3]

Holz Shale (Klh), weathered shale, claystone, siltstone and silty sandstone, forms a narrow V-shaped band typified by subdued, linear topography in the western part of the project site (see Figures 4 and 6 in the Geotechnical Report). The outcrop pattern describes a regional, closed, locally overturned, southeast-plunging syncline (see Plate IV in the Geotechnical Report). This formation unit is locally fossiliferous, gray to bluish gray where fresh and gray to yellowish brown where weathered. Generally, the unit is thin-bedded and has well-developed bedding plane parting. Calcareous concretions up to three feet in diameter occur throughout the Holz Shale. Despite the presence of concretions, the unit is poorly resistant to weathering and forms subdued topography relative to the underlying Cretaceous conglomerate and the overlying Tertiary sandstone. Where observed during prior geologic investigations of the area, the Holz Shale is usually fractured (squeezed) and is replete with small-scale "flow" folds symptomatic of plastic deformation. This contrasts with the brittle behavior of the overlying and underlying Silverado Formation and Baker Conglomerate where faults, fractures and similar brittle deformation predominate. Local ridges of Baker Canyon Conglomerate and topographic lows carved in previously unidentified Holz Shale. The absence of Tertiary Silverado and the presence of "Cretaceous-against-Cretaceous" relationships suggest limited structural relief and stratigraphic separation. Accordingly, large-scale fault displacements are therefore, not necessary to explain local bedrock geometry and distribution.[4]

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1 *Ginter and Associates, Inc., Preliminary Geotechnical Investigation and Grading Plan, April 2014, page 15.*

2 *Op. Cit, page 16.*

3 *Ibid.*

4 *Op. Cit., pages 16-17.*

A large lithesome of well-indurated conglomerate of the Ladd Formation interspersed with scattered sandstone beds underlies most of the area south of Mabey Canyon and north of Kroonen Canyon. Similar to the Baker Conglomerate, except that it is typically massive with few plane partings, the geological structural pattern is not particularly well-defined. Refractive seismic lines suggest that at depth, this unit is well lithified.[5]

The local Cretaceous Williams Formation (Kw) formation comprises abundant, granitoid cobbles and boulders with local absence of stratification. The granitoid clasts differentiate this formation from the Ladd Formation that supports mainly volcanic and metamorphic cobbles. This formation underlies the northern part of the study property and possibly crops out along the ridge northwest of Kroonen Canyon.

Well-cemented fossiliferous beds of the Paleocene Silverado Formation (Tsi) are scattered throughout the on-site Silverado Formation. Non-marine and locally marine light buff, to light gray, to yellow silty sandstone, intercalated red and gray/white claystone and scattered cobble conglomerate characterize the formation. Bedding varies from thin to massive and is usually identifiable in natural and anthropic outcrops. The sandstone is moderately resistant. The limy fossiliferous beds are very resistant and the claystones are poorly resistant. Consequently, differential erosion of the red clay beds imparts steep, linear strike-parallel ridges and ravines. Hard limy beds form particularly evident spines along some ridgelines. A few to a few tens of feet thick, sedimentary clays derived from nearby clay-rich saprolites that formed on an erosion surface prior to deposition of the remainder of the Silverado Formation. These beds, which may be the lateral equivalent of the Claymont clay bed, were mined for clay at the McKnight Clay Mine and at the Kroonen Clay Prospect. One particular limy, fossiliferous bed is depicted in the Geotechnical Report (Appendix F of this Draft EIR), Figures 6 and 7 (geologic map), along with two smaller, discontinuous ones. Composed of *Ostrea, sp.* and other mollusks, this bed is traceable from the northeast property line westward to near the south-center where it is tightly folded into a synform, as attested to by V-shaped outcrop pattern. The red and limy beds are readily identifiable and often laterally continuous and are thus, excellent local and regional key beds to determine the presence or absence of bedrock faults.[6]

(b) Alluvial Deposits

Local Quaternary alluvium consists of: (1) Older (Pleistocene) alluvial fan and "terrace" deposits elevated above the modern (Holocene) drainage; and (2) Holocene alluvium occupying the floors of active channels and swales, where detritus is seasonally transported, deposited and eroded. Based on prior studies of the region, underlying alluvial deposits were inferred to be up to 200,000 to 300,000 years old. Both soil-stratigraphic and morpho-stratigraphic hierarchies are useful to assess the age of the Quaternary deposits in the Corona area. A greater than 18-foot-thick cap of older alluvium occurs as an elevated "terrace" along the south side of Mabey Canyon (the "Mabey Fanglomerate"). Trenches in the area have also exposed more than 20 feet of older alluvium (the Kroonen Deposit) near the head of a major tributary to Kroonen Canyon. The Mabey Faglomerate is more than 18 feet thick where it underlies an extensive Pleistocene terrace above Mabey Canyon (see Figure 2 in the Geotechnical Report). These deposits are typically poorly sorted, arkosic to lithic, subanglular to well-rounded sand and gravels, replete with ubiquitous cut-and-fill structures. Also common, are well-sorted, current-laminated sands and moderately sorted basal cobble and boulder beds. Regionally, this deposit occurs at elevations similar to other high elevation fanglomerates along the east

[5] *Op. Cit., page 17.*

[6] *Op. Cit, page 18.*

flank of the Santa Ana Mountains adjacent to or near the Whittier-Elsinore Fault Zone; namely, at least several tens of feet above active Temescal Canyon drainages and alluvial fans. Uplift along the Eagle Fault and associated "beheading" of the proximal parts of the fans by erosion has now both cut off these fans from their original source areas and elevated them above Temescal Canyon.[7]

Another deposit of older alluvium, overlying the Ladd Formation in depositional contact, occurs near the head of Kroonen Canyon (see Figure 4 of the Geotechnical Report). The depth to bedrock is approximately 35 feet at this location. The Kroonen deposits are mainly sand, silty sand and clayey sand. Abundant gravel typical of most regionally extensive alluvial fan deposits is absent, although occasional gravel stringers and "stone lines" are scattered throughout the section.[8]

(3) Groundwater

Perched groundwater was encountered during prior geologic investigation (borings) at 39 feet below ground surface. No groundwater was encountered during prior fault investigations. Groundwater could potentially be trapped seasonally along alluvium/bedrock contacts and bedrock fractures. Weber (1977) estimated the regional groundwater surface to be 100 ft. to 200 ft. below the existing ground surface.[9] Groundwater conditions are described in greater detail in Section 4.H, *Hydrology and Water Quality*, of this Draft EIR.

(4) Seismic Hazards

The site is located in tectonically active Southern California. **Figure 4.E-1**, *Regional Fault Map of Southern California*, shows the site in relation to regional faults. The type and magnitude of seismic hazards affecting a site are dependent on the distance to the causative fault, as well as the magnitude of the seismic event. The site is similar to most of Southern California with respect to hazards associated with earthquakes. The hazards associated with earthquakes are primary hazards (such as ground shaking and surface rupture) and secondary hazards (such as liquefaction, seismically induced settlement, landsliding, tsunamis, and seiches). The seismic hazard for the site and the surrounding Corona area is considered high based on the location of nearby active faults. Consequently, the site could experience strong ground shaking as a result of an earthquake originating on any of the nearby faults, discussed below.

(a) Earthquake Faults

Faults in California are considered active, potentially active, and inactive based on criteria developed by the California Geological Survey (CGS) for the Alquist-Priolo Earthquake Fault Zoning Program. A fault is considered active that has had surface displacement within Holocene time (approximately the last 11,000 years). A potentially active fault is a fault that has demonstrated displacement of Quaternary age deposits (last 1.6 million years). Inactive faults have no documented movement in the last 1.6 million years.

Documented surface displacements have occurred on the Whittier-Elsinore Fault Zone in the last 11,000 years (Holocene) and the zone is, thus, mapped as an active fault based on the presence of tectonic

[7] *Op. Cit., page 20.*

[8] *Op. Cit., page 21.*

[9] *Ginter and Associates, Inc., Preliminary Geotechnical Investigation and Grading Plan, April 25, 2014, page 22.*

geomorphic features such as faceted spurs, displaced drainages and linear troughs. The Whittier-Elsinore Fault Zone splays into three major strands (see Plates I and IV of the Geotechnical Report) approximately 2,000 feet to the east of the project site. The Chino Fault, which is the easternmost strand, trends north-northwest across the Santa Ana River and along the east side of the Puente Hills, northeast of the study site. The center strand is mapped as the Main Street Fault which is the northern continuation of the Elsinore Fault. The westernmost splay is the traditionally mapped Whittier Fault. Near Fresno Canyon, the Whittier Fault "bends" west-northwest across Santa Ana Canyon and then resumes a northwest trend along the west flank of the Puente Hills. The southernmost strand(s) of the Whittier Fault is also known as the Eagle Fault. The project site thus lies within a tectonic wedge formed by the branching of the Whittier-Elsinore Fault Zone into three identifiable stands. [10] The relationship of the project site to these three Alquist-Priolo Fault Zones is illustrated in **Figure 4.E-2**, *Alquist-Priolo Fault Zones in Project Area*.

The Main Street Fault appears to die out southeast of Wardlow Canyon, near Mabey Canyon and the northwest corner of the project site (see Plates I and IV of the Geotechnical Report). Two reasonably distinct scarps are particularly evident east of the project site near Mangular Avenue (see Plate III of the Geotechnical Report). Pleistocene alluvial fans that emanate from the high order canyons along the mountain front are beheaded by right lateral slip along the Main Street Fault, are now cut-off from their source canyons and are elevated above Temescal Canyon floor. The California Geological Survey (2003) maps the “main” branch of the Main Street Fault as trending into and terminating near the mesa in the northwest corner of Skyline Heights (similar to Plate I of the Geotechnical Report) with the corresponding Alquist-Priolo zone enclosing the entire mesa. However, the Alquist-Priolo trace of the Main Street Fault is overlain by un-faulted upper Pleistocene sediments and is, thus, not active at the project site.[11]

The Alquist-Priolo Zones also encompass both the Tin Mine Fault, which also encroaches onto the project site. Based on literature review, aerial photographic analyses, field mapping and logging of about 6000 lineal feet of fault trenches, the on-site part of the Tin Mine Fault is found to be overlain by un-displaced pre-Holocene deposits and is also assessed to be not active according to Alquist Priolo definition.[12]

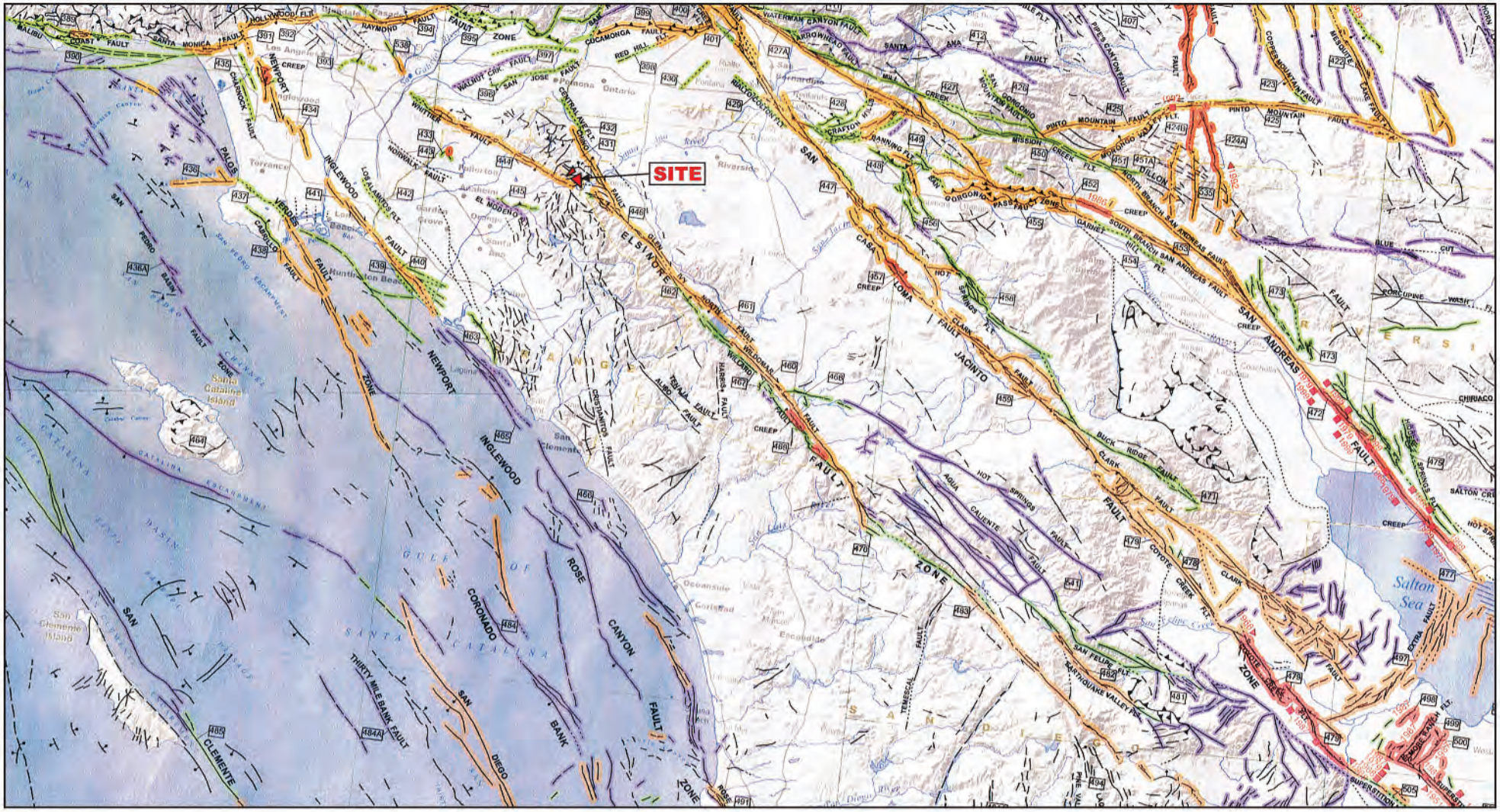
The northeast-trending Eagle Fault characteristically thrusts Jurassic and Cretaceous rocks over Cretaceous and Tertiary sediments along the northeast flank of the Santa Ana Mountains (see Plate IV of the Geotechnical Report). A similar fault was mapped to the south of Tin Mine Canyon. Most fault movement occurred in Pliocene time, the earliest displacements along the Whittier-Elsinore Fault Zone, which does not place the Eagle Fault in an Alquist-Priolo fault zone. However, local and regional stratigraphic and structural relationships suggest that the Eagle Fault has contributed to slip along the Whittier-Elsinore Fault Zone.

Prior investigators (Gray, 1961; Weber, 1977; Gray et al., 2002) have either inferred or mapped several other faults on, or near, the project site. Based on the present site-specific investigation, these faults either do not exist or are pre-Holocene in age. Evidence points to bedding parallel differential erosion of sandstone and claystone beds in the Silverado Formation as the genesis of lineaments in the Silverado Formation Specifically, the absence of Silverado Formation north of Kroonen Canyon precludes the presence of such a

[10] *California Division of Mines and Geology (CDMG),Gray 1961; CDMG 1965;Weber, 1977, Gray et al, 2002; CDMG, 1980, cited in Ginter and Associates, Inc., Preliminary Geotechnical Investigation and Grading Plan, April 2014.*

[11] *Ginter and Associates, Inc., Preliminary Geotechnical Investigation and Grading Plan, April 2014, page 30.*

[12] *Op. Cit, pages 27, 28, and 33.*



Source: Portion of C.G.S. Fault Activivty Map
from C.W. Jennings and W.A. Bryant, 2010

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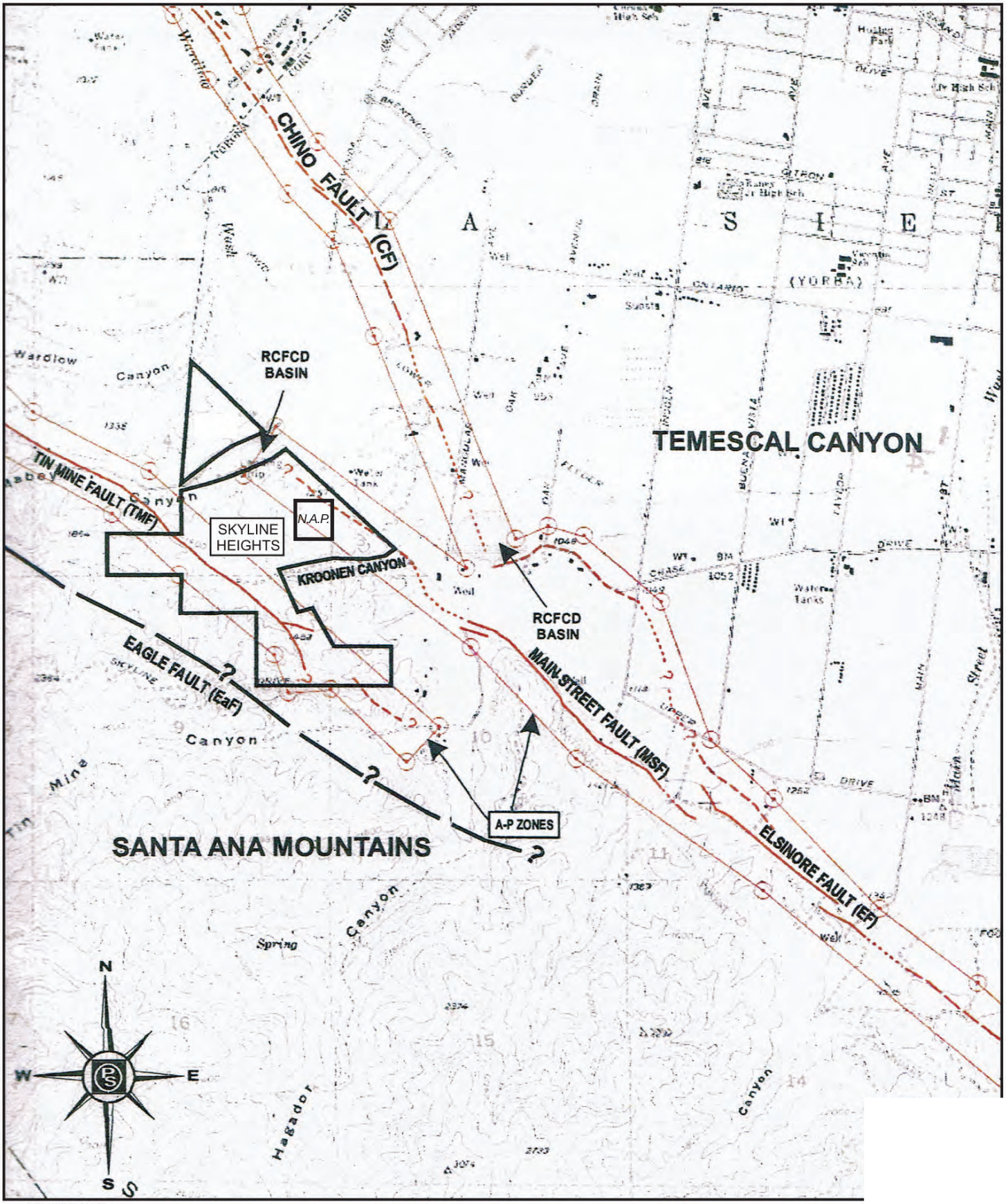
Regional Fault Map of Southern California

Skyline Heights Project
Source: Ginter & Associates, Inc., 2014.

FIGURE
4.E-1



SOURCE MAP:
CORONA SOUTH
A-P ZONE QUAD
SCALE: 1"=2200'
and PSE 11/30/07

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Alquist-Priolo Fault Zones in the Project Area

Skyline Heights Project
Source: Ginter & Associates, Inc., 2014.

FIGURE
4.E-2

fault, and trenching exposed no significant faults. The Ladd-Silverado contact and key fossiliferous and mudstone beds within the Silverado Formation are unbroken across the mapped trace of the "Whittier Fault. The trenching performed on 2005 and 2007 intersected many small faults and shears. These, however, occur near the axial (hinge) trace of the Kroonen syncline, have displacements less than about one to two feet, are carbonate-filled and healed, and in many places capped by unbroken late Pleistocene soils or weathered surfaces. Similar small faults and shears, as exposed in the trenches, occur in the hard, brittle conglomerate of the Ladd Formation north of Kroonen Canyon. Although trenching exposes the faults that have small displacements, no obvious lateral continuity occurs, the displacements are healed and do not displace late Pleistocene weathered surfaced. Further, they have no surface expression and many "die-out" upward and downward within the bedrock.[13] Recent fault investigations in the area are illustrated in **Figure 4.E-3**, *Project Site Relative to Recent Fault Investigations*.

The Cucamonga fault is located approximately 20 miles north of the site. The Cucamonga fault is part of a series of faults coincident with the southern margin of the San Gabriel Mountains known as the Transverse Ranges frontal fault system. The San Fernando fault of this system ruptured during the 1971 magnitude 6.7 San Fernando earthquake. The Sierra Madre fault, continuing west from the termination of the Cucamonga fault at San Antonio Canyon, is located 19.5 miles north-northwest of the site.

The San Bernardino segment of the San Jacinto fault zone is located approximately 25 miles northeast of the site. The San Jacinto fault zone is a system of northwest-trending faults characterized by multiple parallel strands in the northern San Bernardino Valley. These include the Lytle Creek, the Glen Helen, and the Claremont faults. More large historic earthquakes have occurred on the San Jacinto fault than any other fault in Southern California. The San Bernardino Valley segment of the San Jacinto fault may be accommodating much of the motion between the Pacific plate and the North American plate in this area. The Working Group on California Earthquake Probabilities tentatively assigned a 37 percent (+/- 17 percent) probability of a major earthquake on the San Bernardino Valley segment of the San Jacinto fault for the 30-year interval from 1994 to 2024.

The San Bernardino segment of the San Andreas fault zone is located 30 miles northeast of the site. The San Andreas fault is one of California's most prominent geological and geographic features and extends from the southeastern portion of the state northwest to the offshore area northwest of Point Arena. The San Andreas fault is characterized by youthful fault scarps, vegetational lineaments, springs, and offset drainages and has produced large historic and pre-historic earthquakes. The Working Group on California Earthquake Probabilities tentatively assigned a 28 percent (+/- 13 percent) probability to a major earthquake occurring on the San Bernardino Mountains segment of the San Andreas Fault between 1994 and 2024.

(b) Landslide and Lateral Spreading

Several relatively small, surficial onsite landslides or suspected landslides have been mapped on-site. Most are concentrated in the northern part of the site on steep slopes comprised of Ladd Formation. A moderately large landslide is mapped easterly subjacent to proposed Lots 58 through 64. However, most of the mapped limits of the feature are off-site. Nonetheless, as shown on the Tentative Map, proposed development would be affected by a slide. For instance, removal of slide debris in the process of providing adequate support of

[13] *Op. Cit, page 30.*

the planned fill in this area could prove difficult near a property line that is within the slide limits. As noted, the offsite part of the landslide might need to be investigated in light of the current development plans.

Prior geotechnical investigation of the project site encountered 12.5 feet of landslide debris. Based on field investigation, the entire slide is seemingly a composite of relatively shallow failures associated with fractured and clay-rich Silverado Formation. Currently mapped landslides are seemingly related to the presence of steep natural slopes, colluviated swales and fractured or clay-rich rock. Seepage (i.e. springs) may also contribute to local zones of instability. The generally lithified and steeply dipping bedrock is not usually amenable to deep-seated landslides.[14]

(c) Subsidence

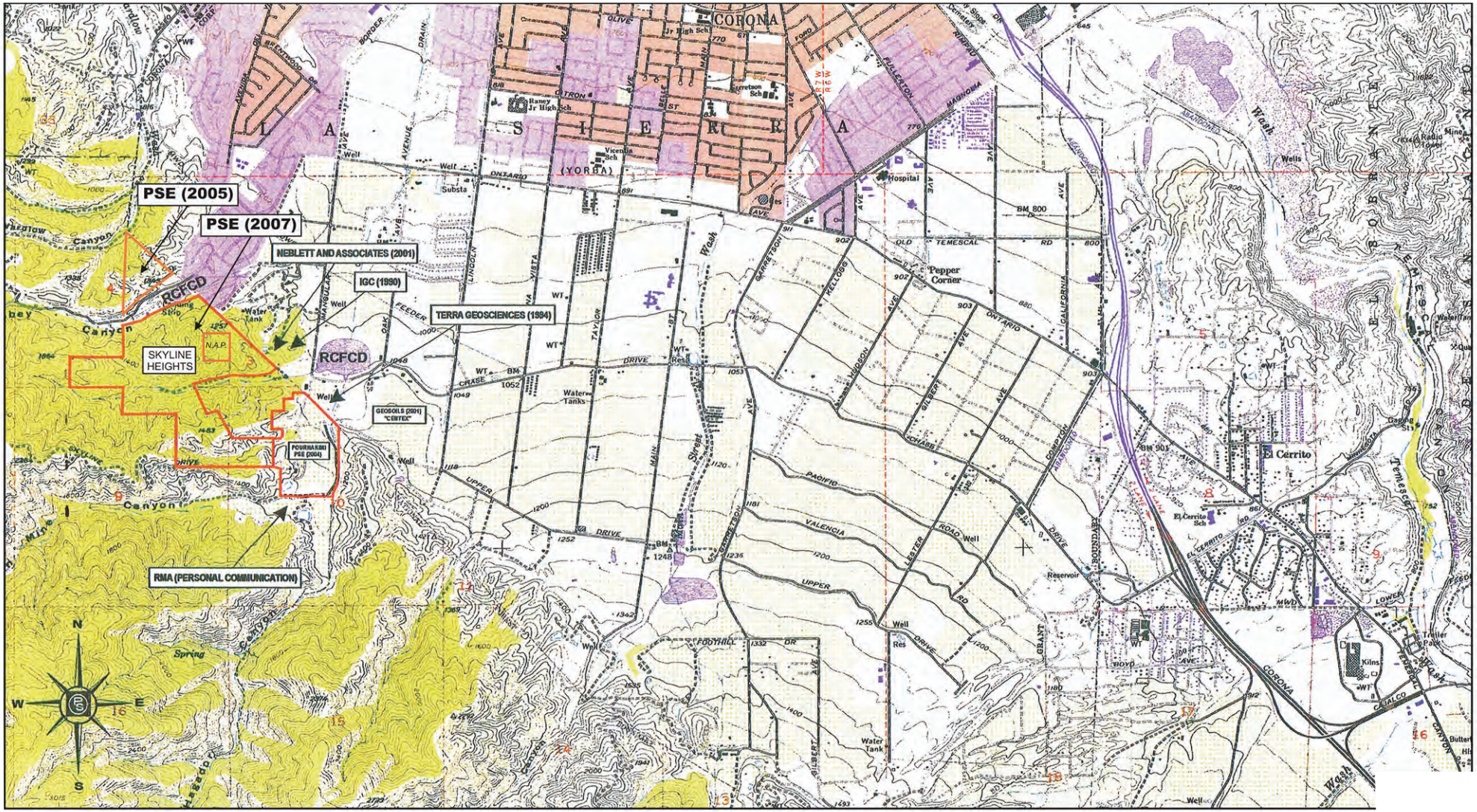
The site is located in an area identified by County of Riverside as having a potential for subsidence. However, according to the City of Corona General Plan, the area of the site exhibits no indications of significant regional subsidence. An area of documented subsidence is located in the Chino Valley, approximately 10 miles northwest of the site. Subsidence is not documented within the vicinity of the site. The potential for subsidence at the site is considered low.

(d) Liquefaction

Liquefaction is a phenomenon that predominantly occurs in saturated, cohesionless soils during relatively severe earthquake ground motions. In general, during ground motion, saturated sands tend to compact and decrease in volume and if drainage is unable to occur, an increase in pore water pressure may result. If the pore water pressure becomes equivalent to the overburden pressure, the effective stress becomes zero and consequently, the soil loses its strength and is considered to be in a liquefied state. Post-liquefaction effects at a site can manifest in several ways and may include ground deformations, loss of shear strength, lateral spread, dynamic settlement and flow failure. Liquefaction potential is greatest in loose, poorly graded sands and silty sands with mean grain size in the range of 0.1 to 0.2 millimeters. Other factors that need to be considered are groundwater, confining stresses, relative density, intensity and duration of ground shaking. It is generally accepted that soils possessing clay content (particle size <0.005 mm.) greater than 15 to 20 percent may be considered non-liquefiable (Southern California Earthquake Center, 1999 and Blake, 1986). Liquefaction requires relatively shallow groundwater and owing that on-site groundwater is greater than several hundred feet in depth, the likelihood of liquefaction at the site is remote. The Silverado and Ladd Formations, as well as un-weathered Pleistocene alluvium that underlie the site, are not considered susceptible to liquefaction. However, Holocene alluvium (Qal_{1-2}), landslide debris (Qls), topsoil and undocumented fills (Af) are potentially liquefiable, if saturated.[15] Liquefaction Zones in the area and the City of Corona, are illustrated in **Figure 4.E-4**, *Riverside County Liquefaction Zones*. As shown in Figure 4.E-4, areas of "low" potential liquefaction are located in the Mabey Canyon and Kroonen Canyon areas of the site. The remainder of the site is not identified as having any liquefaction potential.

[14] *Op. Cit, page 22.*

[15] *Op. Cit., pages 35 and 36.*



SOURCE MAP:
CORONA SOUTH
QUADRANGLE
SCALE: 1"=2200'
and PSE 11/30/07

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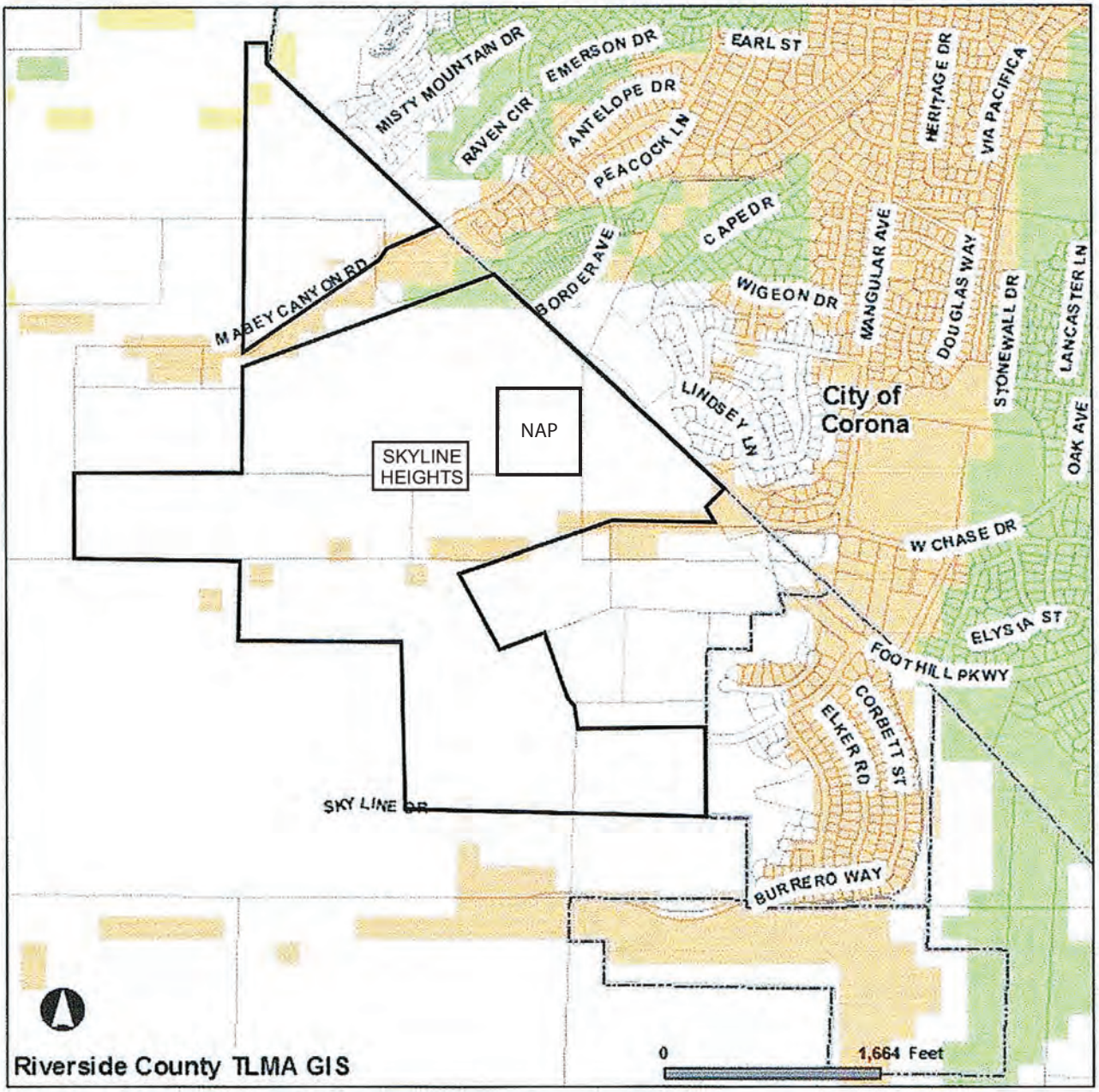
Project Site Relative to Recent Fault Investigations

Skyline Heights Project
Source: Ginter & Associates, Inc., 2014.

FIGURE
4.E-3



LIQUEFACTION

INTERSTATES	HIGHWAYS	CITY	PARCELS
Low	Moderate	Very low	

"IMPORTANT"
Maps and data are to be used for reference purposes only. Map features are approximate, and are not necessarily accurate to surveying or engineering standards. The County of Riverside makes no warranty or guarantee as to the content (the source is often third party), accuracy, timeliness, or completeness of any of the data provided, and assumes no legal responsibility for the information contained on this map. Any use of this product with respect to accuracy and precision shall be the sole responsibility of the user.

REPORT PRINTED ON...Thu Jan 05 2012 13:10:28 GMT-0800 (Pacific Standard Time)

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Riverside County Liquefaction Zones

Skyline Heights Project
Source: Ginter & Associates, Inc., 2013.

FIGURE
4.E-4

(e) Dry Sand Settlement

Dry sand settlement is a result of earthquake-induced stresses creating strains within partially saturated soils. These strains cause a rearrangement of the soil structure, decreasing the void ratio of the soil, and ultimately creating settlement. The soils that typically are susceptible to dry sand settlement are loose, poorly graded sands and silty sands with mean grain size in the range of 0.1 to 0.2 mm. Generally, soils possessing clay content (particle size <0.005mm) greater than fifteen (15) to twenty (20) percent are typically not susceptible to dry sand settlement (Martin and Lew, 1999). Other factors that must be considered are confining stresses, relative density, intensity and duration of ground shaking, previous stress history and the age of the deposits. Based on a review of the data from prior subsurface investigation, the potential is considered remote, provided the proposed design and remedial grading are accomplished as outlined herein.

(5) Soils

(a) Expansive Soils

Based on the laboratory tests performed during site investigation, it is anticipated that the majority of onsite soils would classify as "very low" to "medium" in expansion potential according to Table 18-I-B of the 1997 UBC. However, portions of the Silverado Formation could produce materials ranging from very high to critical in expansion potential.

(b) Compressible Soils

Unconsolidated sediments occupying active channels in the major canyons and low order swales are shown as Holocene alluvium (Q_{1-2} on the various geologic maps in the Geotechnical Report). These deposits vary in thickness from a few feet to more than 20 feet and are generally of low density and considered to be compressible. In addition, unmapped prisms of compressible soils likely lie at the base of onsite slopes, or occupy swales on those slopes. These accumulations stem from weathering, dislodgement and downslope transport (by either water or creep) of debris derived from local bedrock. Although colluvium (loose, unconsolidated sediment) was encountered in a few of exploratory trenches, the steep nature of most of the slopes and heavy vegetative growth prevented exploration of these soils. Colluvium is estimated to range from approximately five to 15 feet in depth.[16]

Non-engineered fill exists at the Kroonen Clay Prospect near the center of the project site. It is anticipated that artificial fill in this region locally reaches a depth ranging from five to 20 feet. Fault trenches created during the 2005 on-site geologic investigation are located primarily in areas of planned cut and were backfilled with non-engineered fill.[17]

[16] *Op. Cit., page 21.*

[17] *Op. Cit., page 22.*

b. Regulatory Framework

(1) Federal

(a) Earthquake Hazards Reduction Act

1997 U.S. Code, Title 42 – The Public Health and Welfare, Chapter 86 – Earthquake Hazards Reduction, §§ 7704 – National Earthquake Hazards Reduction Program, (Earthquake Hazards Reduction Act), was enacted in 1997 to "reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program." To accomplish this, the Act established the National Earthquake Hazards Reduction Program (NEHRP). The program was significantly amended in November 1990 by NEHRP, which refined the description of agency responsibilities, program goals, and objectives. NEHRP's mission includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improvement of building codes and land use practices; risk reduction through post-earthquake investigation and education; development and improvement of design and construction techniques; improvement of mitigation capacity; and accelerated application of research results. The NEHRP designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns it several planning, reports, and coordinating responsibilities. Programs under NEHRP inform and guide planning and building code requirements such as emergency evacuation responsibilities and seismic code standards such as those to which the Project would be required to adhere.

(b) Federal Soil Protection Act

The purpose of the Federal Soil Protection Act, published within the Federal Law Gazette on March 17, 1998, is to protect or restore the functions of the soil on a permanent sustainable basis. Protection and restoration activities include prevention of harmful soil changes, rehabilitation of the soil of contaminated sites and of water contaminated by such sites, and precautions against negative soil impacts. If impacts are made on the soil, disruptions of its natural functions and of its function as an archive of natural and cultural history would be avoided, as far as practicable. In addition, the requirements of the Federal Water Pollution Control Act, also referred to as the Clean Water Act (CWA) through the National Pollution Discharge Elimination System (NPDES) permit provide guidance for protection of geologic and soil resources.

(2) State

(a) Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (Pub. Resources Code, §§ 2621-2624) was enacted in 1972 to address the hazard of surface faulting to structures for human occupancy.[18] The primary purpose of the Alquist-Priolo Earthquake Fault Zoning Act is to prevent the construction of buildings intended for human occupancy on the surface traces of active faults. The Alquist-Priolo Earthquake Fault Zoning Act requires the State Geologist to establish regulatory zones, known as "earthquake fault zones", around the surface traces of active faults and to issue maps to assist cities and counties in planning, zoning, and building regulation functions. Local agencies must enforce the Alquist-Priolo Earthquake Fault Zoning Act in the development permit process, where applicable, and may be more restrictive than State law requires. The Act requires that, prior to approval of a project, a geologic study be conducted to define and delineate any hazards from

[18] *The Act was originally entitled the Alquist-Priolo Geologic Hazards Zone Act.*

surface rupture. A geologist registered by the State of California, within the lead agency's organization or retained by the lead agency for the project, must prepare this geologic report. A 50-foot building setback from any known trace of an active fault is required. The Alquist-Priolo Earthquake Fault Zoning Act and its regulations are presented in California Department of Conservation, California Geological Survey, Special Publications (SP) 42, Fault-rupture Hazard Zones in California.

(b) Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (Pub. Resources Code, §§ 2690-2699) addresses the effects of strong ground shaking, liquefaction, landslides, and other ground failures due to seismic events. Under the Seismic Hazards Mapping Act, the State Geologist is required to delineate "seismic hazard zones." The State Mining and Geology Board provides additional regulations and policies to assist municipalities in preparing the Safety Element of their General Plan and encourage land use management policies and regulations to reduce and mitigate those hazards to protect public health and safety. Under Public Resources Code section 2697, cities and counties shall require, prior to the approval of a project located in a seismic hazard zone, a Geotechnical Report defining and delineating any seismic hazard.

State publications supporting the requirements of the Seismic Hazards Mapping Act include the California Geological Survey SP 117, *Guidelines for Evaluating and Mitigating Seismic Hazards in California*, and SP 118, *Recommended Criteria for Delineating Seismic Hazard Zones in California*. The objectives of SP 117 are to assist in the evaluation and mitigation of earthquake-related hazards for projects within designated zones of required investigations and to promote uniform and effective statewide implementation of the evaluation and mitigation elements of the Seismic Hazards Mapping Act. SP 118 implements the requirements of the Seismic Hazards Mapping Act in the production of Probabilistic Seismic Hazard Maps for the State.

(3) Local

The California Government Code section 65300 requires general plans to include "a safety element for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides, subsidence and other geologic hazards known to the legislative body; flooding; and wildland and urban fires." As such, the City's Public Health and Safety Element (Chapter 6 of the General Plan) addresses hazards which must be considered in the physical development of the City, including seismic, geologic and erosion. An analysis of project consistency with the City's Public Health and Safety Element regarding geology and soils issues is provided in the Analysis of Project Impacts subsection, below (see Threshold 6).

With regard to soils, the Infrastructure and Public Services Element contains goals and policies regarding the assessment of stormwater runoff and the implementation of Best Management Practices (BMPs) during construction. All development projects with the City must comply with CBC Chapter 70 standards, which ensure implementation of appropriate measures during grading activities to reduce soil erosion. Title 15 of the City of Corona Municipal Code requires that all development projects to obtain a grading permit. All work requiring a grading permit is required to have an approved Erosion Control Plan. Please also see Section 4.H, *Hydrology and Water Quality*, of this Draft EIR for a detailed discussion regarding groundwater and stormwater runoff.

2. ENVIRONMENTAL IMPACTS

a. Methodology

The technical analyses supporting the impact conclusions in the following section are based on the analysis contained in the Preliminary Geotechnical Investigation and Grading Plan prepared by Ginter and Associates, Inc., on April 25, 2014. The conclusions in the report were primarily derived from the following tasks:

- Review of available geologic and geotechnical literature, reports, maps and agency information;
- Review of prior subsurface exploration consisting of trenching and borings;
- Collection of relatively undisturbed and bulk samples at selected depth intervals from the soil borings and transportation of the samples to a laboratory for testing;
- Laboratory testing of selected samples to evaluate engineering characteristics of the onsite earth materials within the exploration depths;
- Geotechnical evaluation of collected test boring and relevant engineering analyses; and
- Geologic field reconnaissance mapping to verify the aerial distribution of earth units and significance of surficial features as compiled from documents, literature and reports reviewed; and
- Recommendations for foundation design, grading and earthwork, and pavement.

Please refer to *Preliminary Geotechnical Investigation and Grading Plan*, contained in Appendix F of this Draft EIR, for a detailed discussion of the subsurface exploration, soil sampling, and laboratory tests and procedures. Data and conclusions from the analyses in the report were used to determine potential impacts from the project related to site geology and soils parameters. These impacts were compared against the Thresholds of Significance set forth below to determine the level of significance of potential impacts.

A detailed seismic hazard evaluation of the CBC Seismic Design Parameters and Peak Ground Acceleration Data was determined utilizing USGS Earthquake Ground Motion Parameters Version 5.1.0 (Revised 2/10/2011) (see the Geotechnical Report included as Appendix F of this Draft EIR). The geotechnical study also evaluated the hazards associated with earthquakes that include primary hazards such as ground-shaking and surface rupture, as well as secondary seismic hazards such as liquefaction, seismic settlement and earthquake induced landsliding.

b. Thresholds of Significance

Appendix G of the CEQA Guidelines (the Initial Study Environmental Checklist form) and the City's Initial Study Checklist include questions relating to geology and soils that are utilized as the thresholds of significance in this section (Thresholds 1-6). Accordingly, the proposed project may create a significant environmental impact if it would:

Threshold 1: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:

- Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other

substantial evidence of a known fault (Refer to Division of Mines and Geology Special Publication 42);

- Strong seismic ground shaking;
- Seismic-related ground failure, including liquefaction; or
- Landslides.

Threshold 2: Result in substantial soil erosion or the loss of topsoil.

Threshold 3: 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 4: Be located on expansive soil, as defined in Table 18 1 B of the Uniform Building Code (1994), creating substantial risks to life or property.

Threshold 5: Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

Threshold 6: Conflict with an applicable plan, policy or regulation adopted for the purposes of avoiding or mitigating physical impacts associated with geology and soils.

c. Project Design Features

There are no specific Project Design Features (PDFs) that relate to geology and soils impacts. However, the proposed project would comply with all applicable building requirements related to geology and soil conditions. Recommendations from the Geotechnical Report would be incorporated into the project, as required by Mitigation Measure GEO-1 below. Also, with regard to impacts pertaining to soil erosion or the loss of topsoil, the project would implement numerous BMPs as detailed in the Water Quality Management Plan (WQMP) for the project. The analysis below refers to Section 4.H, *Hydrology and Water Quality*, of this Draft EIR for a description of the BMPs proposed for the project.

d. Analysis of Project Impacts

(1) Earthquake Fault Rupture, Ground Shaking, Ground Failure, and Landslides

Threshold 1: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:

- Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
- Strong seismic ground shaking?
- Seismic-related ground failure, including liquefaction?
- Landslides?

Impact 4.E-1 Project implementation could expose people or structures to strong seismic ground shaking, seismic-related ground failure, landslides and other ground failure hazards. However, adherence to the design and remedial grading recommendations of the Geotechnical Report, as required by Mitigation Measures GEO-1 through GEO-23, as well as compliance with applicable regulatory requirements would reduce such impacts to a less than significant level.

Prior site-specific fault investigations of the Main Street, Tin Mine and associated faults concluded that active faults do not exist in proposed development areas. However, the age of last movement along a fault exposed in Trench T-12, in the northwest corner of the site is presently unknown owing to lack of dateable overlying sediments.[19] As such, a provisional habitable structures setback zone for the fault until has been conservatively recommended until additional investigation may be undertaken. However, the Geotechnical Report considers this a conservative interpretation because the fault has no surface expression and its length is limited based on the un-faulted strata observed in the north-central part of the project site south of Mabey Canyon. Furthermore, prior investigators also concluded that the Alquist-Priolo trace of the Main Street Fault is clearly overlain by un-faulted upper Pleistocene sediments near Mabey Canyon and is, therefore, not active in the northwest part of the site south of Mabey Canyon, which precludes the need for habitable structures setbacks in that area.[20] Nonetheless, in order to address uncertainties regarding the Main Street Fault, a minimum habitable structures setback of 50 feet on each side of the fault trace would be applied to Lots 230 through 234 of the project's Tentative Tract Map until additional fault investigations can be undertaken to determine the activity of the fault. Refer to **Figure 4.E-5**, *Fault Setback Zone*, for an illustration of the fault setback zone and potentially affected residential lots. However, upon completion of the prescribed additional investigation, lots that are not capable of meeting recommended habitable structure setback would be deemed as non-buildable. With adherence to the design and remedial grading specific recommendations of the Geotechnical Report, as required by Mitigation Measures GEO-1 through GEO-23, the potential for fault rupture affecting any on-site development would be less than significant.

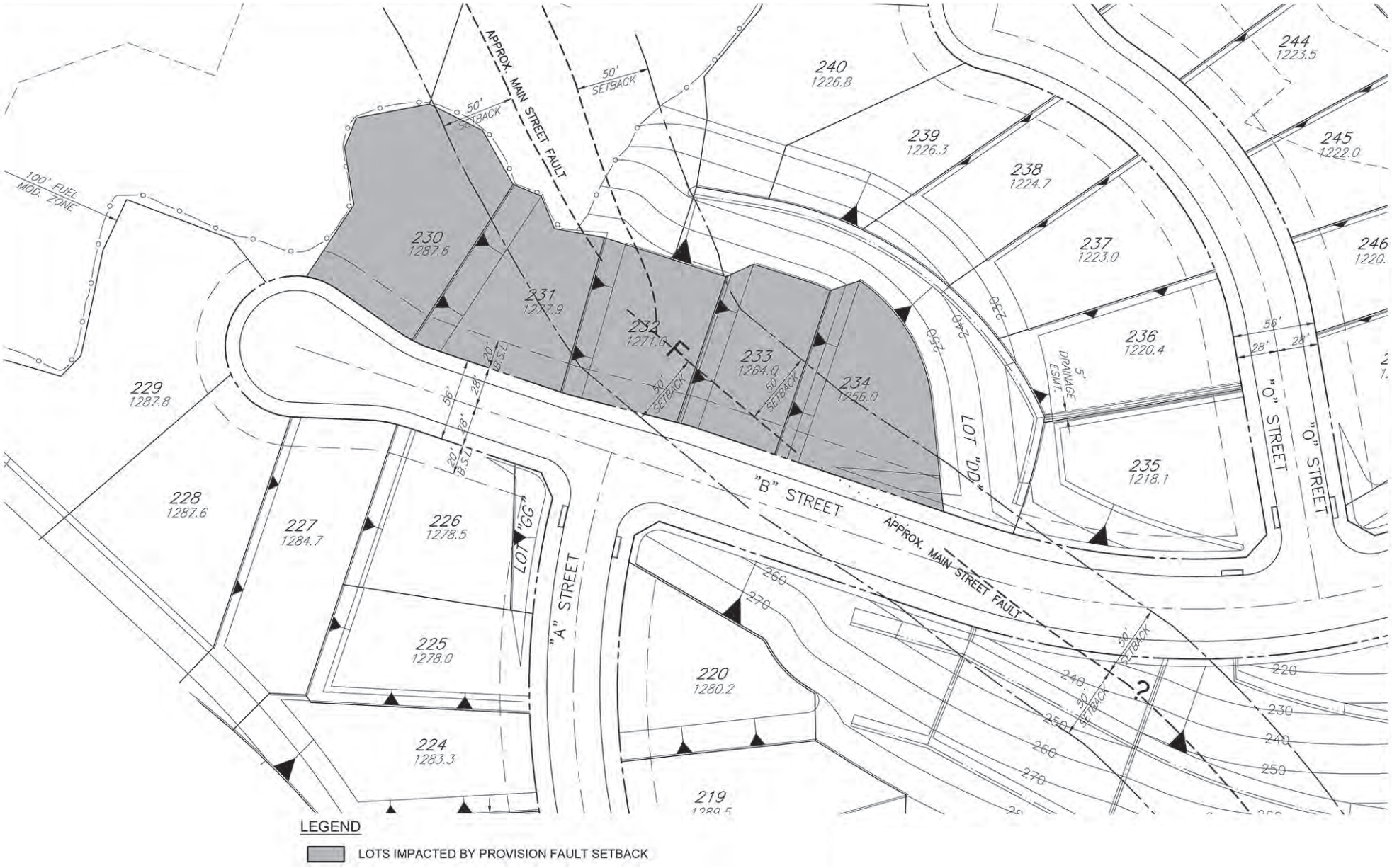
The Geotechnical Report states, however, that the potential for strong, seismically-induced ground motion is substantial due to the proximity of major active faults. According to the Geotechnical Report, horizontal ground motion representing 10 percent probability of exceedance in 50 years (475-year return period) is anticipated to be 0.6436.[21] Design parameters for this potential level of groundshaking are provided in Appendix III of the Geotechnical Report. Because of steep natural slopes and, very locally, adverse bedding angles, the potential for earthquake-induced landslides exists. However, as discussed in the Geotechnical Report, with completion of remedial grading recommended in the report, as required by Mitigation Measures GEO-1 and GEO-2 below, seismically induced landslides are not anticipated to adversely impact proposed development.[22]As further discussed in the Geotechnical Report, earthquake-induced stresses may result in dry sand settlement within partially saturated soils. These strains cause a rearrangement of the soil structure, decreasing the void ratio of the soil, and ultimately creating settlement. The soils that typically are susceptible to dry sand settlement are loose, poorly graded sands and silty sands with average grain size

[19] *Pacific Soils Engineering, Inc. (2004 and 2005) cited in Ginter & Associates, April 25, 2014, page 36.*

[20] *Pacific Soils Engineering, Inc. (2005) cited in Ginter & Associates, April 25, 2014, page 36.*

[21] *Ginter & Associates, Inc., April 25, 2014, page 34, United States Geological Survey (USGS) Seismic Design Parameters.*

[22] *Ginter & Associates, April 25, 2014, page 36.*



PCR

N

0 120 Feet

Fault Setback Zone

Skyline Heights Project

Source: KWC Engineers, 2015.

FIGURE

4.E-5

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ranging from 0.1 to 0.2 mm. Soils possessing clay content (particle size <0.005mm) greater than fifteen to twenty percent are typically not susceptible to dry sand settlement.[23] Other factors include confining stresses, relative density, intensity and duration of ground shaking, previous stress history and the age of the deposits. However, based on a review of soils data from prior subsurface investigations, the potential for dry sand settlement is considered remote, provided the proposed design and remedial grading are accomplished as outlined in the Geotechnical Report, as required by Mitigation Measures GEO-1 through GEO-15.[24]

With regard to liquefaction, limited portions of the site, including the Mabey Canyon and Kroonen Canyon areas, are located in "low" or "very low" liquefaction zones. Other areas of the site are not identified as having any liquefaction potential. According to the Geotechnical Report, perched groundwater was encountered during prior geological investigations at 39 feet below ground surface. No groundwater was encountered during the more recent fault investigations. The geotechnical also cited a prior report, which estimated the regional groundwater surface to be 100 to 200 feet below the existing ground surface.[25] In addition, the Silverado and Ladd Formations, as well as unweathered Pleistocene alluvium underlying the site, are not considered susceptible to liquefaction. However, on-site Holocene alluvium (Qal1-2), landslide debris (Qls), topsoil and undocumented fills (Af) are potentially liquefiable, if saturated. According to the Geotechnical Report, the recommended removal and replacement of those materials within the proposed development with drained, engineered fills, as required by Mitigation Measures GEO-5 and GEO-6, would reduce the susceptibility to liquefaction to a minimal level upon completion of grading.[26] Based on these conditions, the potential for soil liquefaction and/or seismic settlement is considered to be very low. Although groundwater was not encountered during prior subsurface investigation within the alluvium onsite, access was limited and certain alluvial areas within Krooner Canyon could not be investigated. If "saturated" alluvium is encountered that possesses a degree of saturation of 85 percent of more and is consistent with depth to bedrock, an additional liquefaction investigation may be required and dynamic settlement recommendations for those areas would likely change.

The project would be designed, engineered, and constructed to meet all applicable local and state seismic safety requirements and would incorporate recommendations contained in the Geotechnical Report, as required by Mitigation Measures GEO-1 through GEO-23 below. Furthermore, the City would have review and approval authority over grading and building plans to ensure compliance with all applicable standards. Given compliance with applicable requirements and recommendations of the Geotechnical Report, the project would not result in significant impacts with regard to seismic or seismic-related hazards.

(2) Soil Erosion

Threshold 2: Result in substantial soil erosion or the loss of topsoil?

Impact 4.E-2 *Project construction would require mass grading on the site and removal of fill, alluvium, and other loose materials. Best Management Practices would be implemented in accordance with an approved Erosion Control Plan. After construction, any non-paved, exposed areas would be*

[23] *Martin and Lew (1999) cited in Ginter & Associates, Inc., April 25, 2014, page 35.*

[24] *Ginter & Associates, Inc., April 25, 2014 , pages 35-36.*

[25] *Weber (1977) cited in Ginter &Associates, Inc., April 25, 2014, page 22.*

[26] *Ginter & Associates, Inc., page 35.*

landscaped. Therefore, with compliance with applicable requirements, impacts regarding soil erosion or the loss of topsoil would be less than significant.

The project would require mass grading and the removal of undocumented fill, alluvium, colluvium, and landslide debris at the site. Construction activities would be required to comply with CBC Chapter 70 standards, which would ensure implementation of appropriate measures during grading activities to reduce soil erosion. In addition, the project would be subject to regional and local regulations pertaining to construction activities. More specifically, since the project would disturb more than one acre of land, the project would be required to comply with the provisions of the General Construction Activity Stormwater Permit adopted by the State Water Resources Control Board (SWRCB), which would require the incorporation of Best Management Practices (BMPs) to limit the extent of eroded materials from the construction site. Furthermore, the project would comply with Title 15 of the City of Corona Municipal Code, which requires that an Erosion Control Plan be approved prior to issuance of a grading permit.

After construction, exposed areas would be landscaped. The installation of landscaping would serve to protect the soil and reduce any erosion that could occur. Therefore, with compliance with applicable regulations during construction and operation, impacts regarding soil erosion or the loss of topsoil would be less than significant.

(3) Ground Failure

Threshold 3:	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Impact 4.E-3 *Mass grading at the site has the potential to reduce slope stability and result in settling and other geologic hazards. However, adherence to the design and remedial grading and monitoring recommendations of the Geotechnical Report, as required by Mitigation Measures GEO-1 through GEO-15, would reduce such impacts to a less than significant level.*

The project proposes cuts and fills to maximum design depths of approximately 130 feet (vicinity of Lot 123), excluding utility excavation, and 138 feet (vicinity of Lot 223), respectively. Cut slopes would range from small, two-foot-high side yard split slopes to 140 feet at 2:1 slope ratios. One 1.5:1 cut slope approximately 80 feet high is proposed. Fill slopes would range from small, less than two-foot-high side yard split slopes to 160 feet at 2:1 slope ratios. The majority of cut and fill slopes are designed at a slope ratio of 2:1. The Engineering Geologist would observe cut slopes and cut slope stabilization backcuts during grading. Cut slopes within the Williams and Ladd Formations may expose adverse bedding that would require remediation. The cut slope superjacent to Lots 278 and 279 is anticipated to require replacement with a buttress fill and probable buttresses are anticipated for the cut slope above Lots 261 through 267 and below Lots 247 through 255. Within the Ladd Formation, the majority of the cut slopes would expose bedding dipping into the slope or at an angle steeper than the proposed cut slopes (greater than 60 degrees). Cut slopes within the Ladd and Silverado Formations that expose bedding dipping into the slope or at an angle steeper than the proposed cut slopes are expected to be grossly stable; however, the final determination would be made based on exposed conditions during grading.

Cut slopes within the Ladd and Silverado Formations may also expose conglomerate resulting in poorly cemented sands, cobbles and boulders at finish grade, producing a rough uneven surface. These cut slopes would be evaluated in the field by the Project Engineering Geologist or Geotechnical Engineer. Replacement of those slopes with compacted stabilization fills may be required. Cut slopes exposing alluvial/colluvial soils (Qal) would require replacement with a drained stabilization fill. Typically, such corrective grading would be constructed with a minimum key width corresponding to one-half the full height of the superjacent slope, but not less than 15 feet. Minimum key depths at the toe would be two feet. All stabilization fills would be provided with a backdrain and outlet system as detailed in the Geotechnical Report.

The highest fill slope would be approximately 160 feet in height and located subjacent to Lot 68. Based on the slope stability analyses, the 2:1 fill slopes 160 feet and less in height, when properly constructed with onsite materials, are expected to be grossly stable. Keys would be constructed at the toe of all fill slopes where unsuitable soil removals do not accomplish a minimum key width of one-half the slope height plus bench widths or 20 feet, whichever is greater. Minimum key depths at the toe would be two feet. Due to grading limit restrictions, removals of unsuitable soils beyond the proposed toe may be limited; therefore, additional slope maintenance would be expected in the areas where a 1:1 projection into approved materials cannot be achieved.[27] Where a transition of cut and fill occurs across a finished lot, it will be necessary to overexcavate the bedrock portions and replace it with compacted fill. The depth of bedrock overexcavation would be equal to one-third the maximum fill depth (after removals) on the fill side of the transition. The Geotechnical Report recommends that cut pads be overexcavated a minimum of five feet to provide a uniform foundation material, which is required by Mitigation Measure GEO-4. Difficult excavation with a backhoe can be expected in some street areas.

Because the project would involve deep fills in the canyon areas and side-hill fill slopes, the fill would be compacted to the minimum relative compaction recommended in the Geotechnical Report, as required by Mitigation Measure GEO-6. This would reduce the amount of fill settlement to a less than significant level.

Fill materials would be spread in thin lifts, moisture conditioned to about one to two percentage points over optimum moisture content and compacted to a minimum of 90 (or 93) percent of the laboratory maximum dry density as determined in accordance with ASTM Test Method D-1557. Each lift would be treated in a like manner until the desired finished grades are achieved. Fill slopes would also be constructed at the minimum relative compactions, with the exception of the outer three feet of the slope face, which can be placed at 90 percent relative compaction.

Because the maximum depth of proposed canyon fill is approximately 138 vertical feet, the areal loading from fill placement would cause settlement due to the compressibility of the fill materials. The magnitude of settlements would depend on the thickness of fill and the compressibility characteristics of fill materials. Considering the maximum fill depth and anticipated consolidation characteristics of the fill materials, the compacted fill may approximately six to eight-inches. Due to the granular nature of the site soils, the majority of this settlement would occur during grading operations and long-term secondary settlement would be negligible. The Geotechnical Report proposes positioning settlement monuments at strategic locations in the deeper fill areas and recommends periodic surveys by the Project Civil Engineer to evaluate the magnitude and progress of settlements. These would be monitored by the Project Civil Engineer on a

[27] *Ginter & Associates, Inc., April 25, 2014, page 46.*

regular basis until the primary settlement has stabilized and before those areas are released for construction.

As recommended in the Geotechnical Report, and required by Mitigation Measure GEO-1, the site's loose, compressible residual soil, non-engineered onsite fill, colluvium, alluvium, landslide debris, older alluvium and weathered bedrock would be removed from fill areas prior to placement of fill and from shallow cut areas, where exposed at finish grades. Fills associated with "recreational" grading, construction of unpaved access roads, mining operations and existing trench backfill would be removed prior to fill placement. Other fills, including roadway fills and trench backfill, are not mapped due to their localized extent and minor thickness. Removals would extend below the undocumented fill until competent materials are encountered.

The Geotechnical Report recommends that all alluvial and colluvial soils below proposed fill areas and in cut areas shall be removed to expose competent bedrock or terrace deposits. All alluvium deposits exposed at existing or cut grades would be entirely removed prior to fill placement. Anticipated average removal depths for alluvium/colluvium areas are expected to vary to an estimated maximum thickness of 35 feet. All landslide debris that could adversely affect the proposed development would be removed to expose the underlying competent bedrock.[28] The seismic refraction survey revealed that excavation difficulty is expected to increase with depth and, in order to attain design grades, very heavy ripping would be anticipated in the Silverado and Ladd formations underlying the site. Therefore, it is likely that excavating during grading would also encounter ledges and zones of extremely hard rock that may require blasting.

Guidelines to determine the depth of removals are provided in the Geotechnical Report; however, the exact extent of the removals would be determined in the field during grading, when observation and evaluation of the greater detail afforded by those exposures can be performed by the Geotechnical engineer and/or Engineering Geologist.[29] The minimum backcut ratio would be 1:1 (horizontal to vertical). The bottoms of all removal areas would be observed, mapped and approved by the Engineering Geologist prior to fill placement. It is recommended that the bottoms of removals be surveyed and documented by the Project Civil Engineer.[30] With the incorporation of recommendations of the Geotechnical Report regarding temporary shoring and temporary excavations, as required by Mitigation Measure GEO-2, the project site is considered suitable for the proposed excavation and fill activities and impacts related to the stability of cut and fill slope would be less than significant.

Ascending and descending natural slopes exist within the site that range in height up to approximately 200 feet with slope ratios from 2:1 to locally 1.2:1. Stability analyses of the highest ascending slope of 160 feet above Lot 4 indicates a factor-of-safety in excess of the code minimums (described in Appendix II of the

[28] *Ginter & Associates, Inc., April 25, 2014, page 43.*

[29] *Slope stability analyses were performed for the proposed highest cut slope (Section 1-1'), highest fill slope (Section 2-2'), buttressed slope (Section 3-3'), highest ascending natural slope (Section 4-4'), highest descending natural slope (Section 5-5'). Temporary backcut conditions for buttressed slopes as shown on Section 3-3' was also analyzed. Shear strength parameters established and used in 2006 analyses by previous consultant Pacific Soils Engineering, Inc. were utilized. The slopes were analyzed by calculating the factors of safety for circular-type failures using the Modified Bishop's Method and block-type failure surfaces using Modified Janbu Method. GSTABL7 was utilized to evaluate slope stability factors of safety under static and pseudo-static conditions. For pseudo-static analyses, a horizontal seismic coefficient of 0.15g was utilized for the critical failure surfaces on each cross-section.*

[30] *Ginter & Associates, Inc., April 25, 2014, page 41.*

Geotechnical Report). Therefore, no geologic hazards associated with natural slopes on the project site would occur as a result of project implementation.

(4) Expansive Soils

Threshold 4:	Be located on expansive soil, as defined in Table 18 1 B of the Uniform Building Code (1994), creating substantial risks to life or property?

Impact 4.E-4 *On-site soils are anticipated to have low to medium expansion potential. Any soils with high or critical expansion potential would be replaced with compacted fill with low or medium expansion potential as required by Mitigation Measure GEO-4. Design of foundations to meet medium soils expansion potential, as required by Mitigation Measure GEO-10, would reduce risks to life or property to a less than significant level.*

Expansive soils are characterized by the ability to undergo significant volume change (shrink and swell) as a result of variation in soil moisture content.

Based on the laboratory tests performed during the investigation of the site by PSE, it is anticipated that the majority of onsite soils would classify as "very low" to "medium" in expansion potential according to Table 18-I-B of the 1997 UBC[31]. However, portions of the Silverado Formation could produce materials ranging from very high to critical in expansion potential. If warranted, over excavation to depth and replacement with compacted fill, as recommended in the Geotechnical Report and required by Mitigation Measure GEO-4, would reduce the effects of any highly expansive soils encountered at grade.[32]

The compacted engineered fill at the project site is anticipated to be low to medium soil expansion potential. Preliminary geotechnical criteria for design of building foundations, including conventional footing and post-tensioned foundation options, according to medium soil expansion are presented in the Geotechnical Report.[33] With adherence to the recommendations of the Geotechnical Report for foundation design, as required by Mitigation Measure GEO-10, impacts related to risks to life or property resulting from expansive soils would be reduced to a less than significant level.

(5) Septic Tanks and Alternative Wastewater Disposal Systems

Threshold 5:	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

Impact 4.E-5 *The project would be served by the City's wastewater system. Infrastructure (i.e., pipes) would be installed to accommodate the proposed expansion. No significant impact would occur with regard to soils supporting septic tanks or alternative wastewater disposal systems.*

[31] *Ginter & Associates, Inc., April 25, 2014, page 38.*

[32] *Ginter & Associates, Inc., April 25, 2014, page 47.*

[33] *Ginter & Associates, Inc., April 25, 2014, pages 51 and 52.*

The project site would be served by the City's wastewater system. Thus, no septic systems or alternative wastewater systems would be installed. Therefore, no significant impact with regard to soils supporting septic tanks or alternative wastewater disposal systems would occur. Please see Section 4.N, *Utilities and Service Systems*, of this Draft EIR for a detailed analysis regarding wastewater.

(6) Consistency With Regulatory Framework

Threshold 6:	Conflict with an applicable plan, policy or regulation adopted for the purpose of avoiding or mitigating physical impacts associated with geology and soils?

Impact 4.E-6 *The proposed project would comply with all requirements related to seismic and geologic hazard safety standards. The project would not conflict with an applicable plan, policy or regulations adopted for the purpose of avoiding or mitigating physical impacts associated with geology and soils and impacts would be less than significant with implementation of Mitigation Measures GEO-1 through GEO-23.*

Table 4.E-1, *General Plan Consistency Analysis*, provides an analysis of the project relative to applicable goals and policies in the Environmental Hazards and Public Safety Element of the General Plan. As shown in Table 4.E-1, the project would be consistent with the policies and would not conflict with portions of the policies that are directed at the City. The proposed project would comply with all applicable state and local building standards with regard to seismic and geologic hazard safety standards. The project would not be located within a designated Alquist-Priolo Special Study Zone. As indicated in the Geotechnical Report, no known active or potentially active faults exist within the project site. However, because the age of last movement along a fault exposed in Trench T-12, in the northwest corner of the site is presently unknown due to lack of dateable overlying sediments, a provisional habitable structures setback zone for the fault has been recommended until additional investigation may be undertaken. The Geotechnical Report considers this a conservative interpretation because the fault has no surface expression and its length is limited based on the un-faulted strata observed in the north-central part of the site south of Mabey Canyon. Prior investigators also concluded that the Alquist-Priolo trace of the Main Street Fault is clearly overlain by un-faulted upper Pleistocene sediments near Mabey Canyon and is thus, not active in the northwest part of the site south of Mabey Canyon, which precludes the need for habitable structures setbacks in that area.[34] In addition, the project would incorporate the recommendations in the site-specific Geotechnical Report, as required by Mitigation Measures GEO-1 through GEO-23. Therefore, the project would not conflict with an applicable plan, policy or regulation adopted for the purpose of avoiding or mitigating physical impacts associated with geology and soils and impacts would be less than significant.

3. CUMULATIVE IMPACTS

For geology and soils, the study area considered for the cumulative impact includes (1) the area that could be affected by proposed project and (2) the areas affected by other projects whose activities could directly or indirectly affect the geology and soils of the project site. Geologic and soil impacts are generally site-specific and there is little, if any, cumulative relationship between development projects. Adherence to all relevant

[34] *Pacific Soils Engineering, Inc. (2005) cited in Ginter & Associates, April 25, 2014, page 36.*

Table 4.E-1

General Plan Consistency Analysis

Goals and Policies	Consistency
Environmental Hazards and Public Safety – Seismic, Geologic, and Erosion Hazards	
Goal 11.1 – Substantially reduce the known level of risk to loss of life, personal injury, public and private property damage, economic and social dislocation, and disruption of vital community services that would result from earthquake damage or other geologic disturbance.	**Consistent**. The proposed project would comply with all applicable state and local building standards. A geotechnical/soils report prepared for the proposed project would be reviewed and approved by the City Engineer, along with other approvals for the project. The project would comply with all recommendations stated therein to reduce substantially the risk of loss of life, personal injury, public and private property damage, economic and social dislocation, or disruption of vital community services that would result from earthquake damage or other geologic disturbances. .
Policy 11.1.1 – Require new development and re-development to be undertaken in a manner that is in compliance with current seismic and geologic hazard safety standards, as follows: • Regulate land uses in areas known to have, or have potential to have, significant seismic and/or other geologic hazards. • Require detailed scientific analyses of natural hazards to the satisfaction of the City Engineer as a condition of development approval within the City of Corona.	**Consistent**. As indicated above, the proposed project would comply with all applicable state and local building standards with regard to seismic and geologic hazard safety standards. The project would not be located within a designated Alquist-Priolo Special Study Zone and, as indicated in the Geotechnical Report, no known active or potentially active faults exist within the project site. However, because the age of last movement along a fault exposed in Trench T-12, in the northwest corner of the site is presently unknown due to lack of dateable overlying sediments, a provisional habitable structures setback zone for the fault until has been recommended until additional investigation may be undertaken. The Geotechnical Report considers this a conservative interpretation because the fault has no surface expression and its length is limited based on the un-faulted strata observed in the north-central part of the site south of Mabey Canyon. Prior investigators also concluded that the Alquist-Priolo trace of the Main Street Fault is clearly overlain by un-faulted upper Pleistocene sediments near Mabey Canyon and is thus, not active in the northwest part of the site south of Mabey Canyon, which precludes the need for habitable structures setbacks in that area.[35] In addition, the project would incorporate the recommendations in the site-specific Geotechnical Report. Therefore, the project would not conflict with an applicable plan, policy or regulations adopted for the purpose of avoiding or mitigating physical impacts associated with geology and soils and impacts would be less than significant.

Source: City of Corona General Plan, ICF International, and PCR Services Corporation.

plans, codes, and regulations with respect to project design and construction would reduce project-specific and cumulative geologic impacts to a less-than significant level. Therefore, since geologic hazards are site-specific, the project, in combination with other past, present, and reasonably foreseeable future projects, would not create a potentially significant cumulative impact on geological resources.

Impacts from erosion and loss of topsoil from site development and operation can be cumulative in effect within a watershed. The Santa Ana Watershed, which encompasses the City of Corona and the sphere of

[35] *Pacific Soils Engineering, Inc. (2005) cited in Ginter & Associates, April 25, 2014, page 36.*

influence, forms the geographic context of cumulative erosion impacts. Development throughout the watershed would be subject to State and local runoff and erosion prevention requirements, including the applicable provisions of the general construction permit, BMPs, and Phases I and II of NPDES, as well as implementation of fugitive dust control measures of SCAQMD Rule 403. These measures would be implemented as conditions of approval of project development and subject to continuing enforcement. As a result, it is anticipated that cumulative impacts on the Santa Ana Watershed due to runoff and erosion from cumulative development activity would be less than significant.

4. MITIGATION MEASURES

In order to ensure that impacts related to geology, soils, and seismicity are reduced to less than significant, the following mitigation measures are proposed:

Mitigation Measure GEO-1: Site Preparation and Removals. All grading shall be accomplished under the observation and testing of the Project Geotechnical Engineer and Engineering Geologist in accordance with the recommendations contained in the Project Geotechnical Report, contained in Appendix F of this Draft EIR), the current codes practiced by the City of Corona and the Earthwork Specifications contained in Appendix IV of the Project Geotechnical Report.

Loose, compressible residual soil, non-engineered onsite fill, colluvium, alluvium, landslide debris, older alluvium and weathered bedrock shall be removed from fill areas prior to placement of fill and shall be removed from shallow cut areas, where exposed at finish grades. Guidelines to determine the depth of removals are presented below; however, the exact extent of the removals must be determined in the field during grading, when observation and evaluation of the greater detail afforded by those exposures can be performed by the Geotechnical engineer and/or Engineering Geologist.

The minimum backcut ratio shall be 1:1 (horizontal to vertical). The bottoms of all removal areas shall be observed, mapped and approved by the Engineering Geologist prior to fill placement. It is recommended that the bottoms of removals be surveyed and documented by the Project Civil Engineer.

Groundwater, if encountered during grading, shall be evaluated by the Geotechnical Engineer and/or Engineering Geologist. In general, groundwater is not anticipated to adversely affect grading although saturated soils and free water may be encountered along canyons and within alluvium removals. If groundwater is excessive, remedial measures such as horizontal drains or under drains may need to be installed. Further, settlement monuments and plates (see Plate VI of the Geotechnical Report) shall be installed during and after completion of grading to monitor settlement monuments and plates shall be used to determine when the majority of the primary settlement has been completed to allow for the release of affected lots for construction.

- **Stripping**: Vegetation, debris and other deleterious materials are unsuitable as structural fill material and shall be disposed of offsite prior to commencing removals and placement of compacted fills. The thick, natural vegetative growth onsite is significant and will require consideration for removal. An onsite mulching operation

may be considered. The mulched materials could then be used in future landscape areas.

- **Soil and Weathered Bedrock (unmapped):** Loose, compressible onsite soils and underlying weathered bedrock shall be removed to expose the underlying competent bedrock materials prior to placement of compacted fill and when exposed in shallow cut area. An average removal depth of 5 feet is anticipated for removal of topsoil and weathered bedrock. In general, onsite soils and weathered bedrock are suitable to be re-used as structural fill when properly moisture-conditioned.
- **Undocumented Artificial Fill (locally mapped as AF_u):** Fills associated with "recreational" grading, construction of unpaved access roads, mining operations and existing trench backfill shall be removed prior to fill placement. Generally, these artificial fills range from a depth of 3 to 20 feet. Local areas of undocumented fill associated with previous geotechnical investigations are not plotted on the map. Other fills, including roadway fills and trench backfill, are not mapped due to their localized extent and minor thickness. Removals shall extend below the undocumented fill until competent materials are encountered.
- **Alluvium/Colluvium (map symbol Q_{al}):** All alluvium deposits exposed at existing or cut grades shall be entirely removed prior to fill placement. These deposits range in thickness from approximately 5 feet to 35 feet. Ginter and Associates recommends that all alluvial and colluvial soils below proposed fill areas and in cut areas be removed to expose competent bedrock or terrace deposits. Anticipated average removal depths for alluvium/colluvium areas are expected to vary to an estimated maximum thickness of 35 feet.

  Groundwater was not encountered during PSE's subsurface investigation within the alluvium onsite. However, access was limited and certain alluvial areas could not be investigated such as within Krooner Canyon. If "saturated" alluvium is encountered that possesses a degree of saturation of 85% of more and is consistent with depth to bedrock, consideration may be given to leaving the saturated alluvium in-place, provided that settlement time-delay consequences are acceptable to the owner. If saturated alluvium is encountered and is going to remain in-place, an additional liquefaction investigation may be required and dynamic settlement recommendations for those areas will likely change.
- **Older Alluvium (Q_{oa}):** All older alluvium shall be removed to expose the underlying competent bedrock. Generally, these deposits range in depth from 10 to about 20 feet.
- **Landslide Debris (Qls):** All landslide debris that could adversely affect the proposed development shall be removed to expose the underlying competent bedrock. Generally, these deposits range in depth from 10 to about 29 feet, but may range up to around 35 feet in depth.
- **Removals Along Grading Limits:** Removals of unsuitable soils shall be required prior to fill placement along the grading limit. A 1:1 projection, from toe of slope or grading limit, outward to competent materials shall be established, when possible. Where removals are not possible due to grading limits, property line or easement restrictions, removals shall be initiated at the grading boundary (property line easement, grading limit or outside the improvement) at a 1:1 ratio inward to competent materials. Where this reduced removal criterion is implemented, special maintenance zones may be necessary. Affected areas shall be established, minimally, as a 1:1 projection from suitable removal bottom to finish ground surface. This

condition is mainly expected in the slope areas. Where the projection intersects the face of the slope, the potential for distortion of the slope in response to post-grading settlements exists and provisions for future maintenance of such slopes shall be provided.

Mitigation Measure GEO-2: Slope Stability and Remediation

- **Cut Slopes:** The majority of cut slopes have been designed at a slope ratio of 2:1. The Engineering Geologist shall observe cut slopes and cut slope stabilization backcuts during grading. Modifications to the recommendations presented herein will likely be required based upon conditions exposed by grading.
- **Williams Formation (KW):** Cut slopes within the Williams Formation may expose adverse bedding that shall require remediation. The cut slope superjacent to Lots 278 and 279 is anticipated to require replacement with a buttress fill. Probable buttresses are anticipated for the cut slope above Lots 261 through 267 and the cut slope below the WQMP Basin and Lots 247 through 255, as depicted on Figure 1 and Figure 2 (pocket) of the Geotechnical Report.
- **Ladd Formation:** Cut slopes within the Ladd Formation may expose adverse bedding that shall require remediation. The majority of the cut slopes should expose bedding dipping into the slope or at an angle steeper than the proposed cut slopes (greater than 60 degrees). Cut slopes within the Ladd Formation that expose bedding dipping into the slope or at an angle steeper than the proposed cut slopes are expected to be grossly stable; however, the final determination shall be made based on exposed conditions during grading. Cut slopes within the Ladd Formation may expose conglomerate resulting in poorly cemented sands, cobbles and boulders at finish grade, producing a rough uneven surface. These cut slopes shall be evaluated in the field by the Project Engineering Geologist or Geotechnical Engineer. Replacement of those slopes with compacted stabilization fills may be required. Future exploration and in-grading observation could reveal more favorable geology in these specific areas.
- **Alluvium/Colluvium:** Cut slopes exposing alluvial/colluvial soils (Q_{al}) shall require replacement with a drained stabilization fill. Typically, such corrective grading would be constructed with a minimum key width corresponding to one-half the full height of the superjacent slope, but not less than 15 feet. Minimum key depths at the toe shall be 2 feet. All stabilization fills shall be provided with a backdrain and outlet system as detailed in Appendix IV of the Geotechnical Report.
- **Silverado Formation:** Cut slopes within the Silverado Formation are expected to be grossly stable; however the final determination shall be made based on exposed conditions during grading. Cut slopes within the Silverado Formation may expose poorly cemented sands, cobbles and boulders at finish grade, which would produce a rough uneven surface. These cut slopes shall be evaluated in the field by the Project Engineering Geologist or Geotechnical Engineer. Replacement of those slopes with compacted stabilization fills may be required.
- **Fill Slopes:** The majority of fill slopes on the project are designed at a maximum slope ratio of 2:1. The highest fill slope is approximately 160 feet in height and located subjacent to Lot 68. Based on the results of the calculations, the 2:1 fill slopes 160 feet and less in height, when properly constructed with onsite materials, are expected to be grossly stable, as designed. Keys shall be constructed at the toe of all fill slopes where unsuitable soil removals do not accomplish a minimum key width of one-half

the slope height plus bench widths or twenty (20) feet, whichever is greater. Minimum key depths at the toe shall be 2 feet. Due to grading limit restrictions, removals of unsuitable soils beyond the proposed toe may be limited; therefore, additional slope maintenance shall be expected in the areas where a 1:1 projection into approved materials cannot be achieved.

Mitigation Measure GEO-3: Subsurface Drainage. Canyon subdrains are proposed as depicted on Figures 1 through 7 of the Geotechnical Report and shall consist of 6-inch and 8-inch diameter pipes and shall be constructed in accordance with the details shown in Appendix IV of the Geotechnical Report. Final determination of drain locations shall be made in the field. Outletting of subdrain systems shall require coordination with the Project Civil Engineer in determining suitable facilities to accept to drain water.

Mitigation Measure GEO-4: Overexcavation. Where a transition of cut and fill occurs across a finished lot, it shall be necessary to overexcavate the bedrock portions and replace it with compacted fill. The depth of bedrock overecavation shall be equal to 1/3 the maximum fill depth (after removals) on the fill side of the transition. Anticipated transition lots are shown on figures 1-7 of the geotechnical report. Cut pads shall be overexcavated a minimum of 5 feet to provide a uniform foundation material. Some highly expansive soils of the Silverado formation may be encountered at grade in some areas. Consideration shall be given to increasing the overexcavation depth to mitigate for highly expansive soils, if warranted. Difficult excavation with a backhoe can be expected in some street areas. Ginter & associates recommends street overexcavation and replacement with compacted fill to facilitate utility emplacement in these street areas and driveways. Depths of overexcavation shall extend one (1) foot below the deepest utility line.

Mitigation Measure GEO-5: Fill Materials. Excavated on-site soils may be used as compacted fill. The fill materials to be used as compacted engineered fill shall be free of organics, debris, deleterious materials, and rocks over 6 inches maximum dimension, and must be approved by the project geotechnical engineer or project geologist prior to use. Import soils, if required, shall be evaluated by the project geotechnical engineer for suitability prior to delivery. Import soils shall be free of trash, debris or other objectionable materials. All import fill shall have engineering characteristics similar to the on-site soils.

Mitigation Measure GEO-6: Fill Placement, Moisture Conditioning, and Compaction. After approval of the over-excavation and prior to placement of any compacted engineered fill materials, the exposed removal bottoms shall be scarified to a minimum depth of six (6) inches. The area shall then be moisture conditioned approximately 1 to 2 percentage points above the optimum moisture content, and compacted to a minimum of 90 (or 93) percent of the applicable maximum density. The planned development will involve deep fills in the canyon areas and side-hill fill slopes. In order to reduce the amount of fill settlement, the fill shall be compacted to the minimum relative compaction shown below:

Fill Depth (Feet)	Minimum Relative Compaction (ASTM: D1557) (%)
0 – 50	90
Below 50	93

Fill slopes shall also be constructed at the minimum relative compactions shown above, with the exception of the outer 3 feet of the slope face which can be placed at 90% relative compaction. Deep fill areas requiring 93% relative compaction are delineated in Plate VI of the Geotechnical Report.

Generation of oversized rock (over 8 inches in maximum dimension) from excavations in the bedrocks is anticipated. Oversize rock shall be placed in single file windrows not exceeding three feet in height and six (6) feet in width with a minimum equipment width (15 feet) separating each windrow or a rock blanket fill not exceeding two (2) to three (3) feet in height. Large erratic rocks shall be buried individually. Granular fill shall be thoroughly flooded in the rock voids and covered with a minimum two feet compacted fill blanket. Successive windrows shall be staggered and none shall be placed within 10 feet of finished grade or closer than 15 feet to compacted fill slope surfaces. Typical rock placement construction detail is provided in Appendix IV of the Geotechnical Report. Placement of rock windrows shall be performed under the observation and recommendations of the Project Geotechnical Engineer.

Fill materials shall be spread in thin lifts, moisture conditioned to about 1 to 2 percentage points over optimum moisture content and compacted to a minimum of 90 (or 93) percent of the laboratory maximum dry density as determined in accordance with ASTM Test Method D-1557. Each lift shall be treated in a like manner until the desired finished grades are achieved. The grading contractor shall have suitable and sufficient compaction equipment in operation to achieve the required compaction. When necessary, earthmoving equipment may be utilized for compaction or temporarily halted in order to permit adequate compaction of fills.

Mitigation Measure GEO-7: Slope Construction

1. Care shall be taken during grading to prevent spillage of loose materials over slopes to remain natural. Should loose soil be spilled onto natural slopes by the grading contractor, removal of the loose fill shall be required.
2. Fill shall be properly benched into firm bedrock or compacted fill as directed by the Project Engineering Geologist and/or Geotechnical Engineer during grading. Typical benching shall include 4-foot verticals exposing approved, competent material (see Appendix D – Typical Benching Detail of the Geotechnical Report).
3. In order to minimize surficial slumps on compacted fill slopes, the following grading procedures shall be used:
   a) Where possible, fill slopes shall be constructed by overfilling a minimum of three (3) horizontal feet and then trimming back to expose the dense inner core of the slope surface. Compacted fill slopes shall be back-rolled during construction at intervals not exceeding four (4) vertical feet. Care shall be taken to construct the slope in a workmanlike manner so that it is positioned at its designed orientation and slope ratio. Achieving a uniform slope surface by subsequent thin wedge filling must be avoided. Any add-on correction to a fill slope shall be done by overfilling the affected area in horizontal, compacted lifts which must be benched into the existing fill prism. The overfilled slope may then be trimmed to the design gradient.

b) Where fill slopes are planned above natural slopes and cannot be overfilled and trimmed back, the slopes shall be rolled for the entire height of the slope with a sheepsfoot roller and then finished with a grid roller. If the desired compaction is not obtained in this manner, a vibratory sheepsfoot roller may be required. To be most effective, this equipment shall be anchored and manipulated from a side-boom tractor. In lieu of a grid roller, the slope may be track rolled with a John Deere 450, Caterpillar D-8 dozer or equivalent. To obtain the required compaction and appearance of the slope face, the soil moisture shall be maintained at above optimum from the time of mass filling to the completion of grid rolling.

c) The grading contractor shall take proper care to avoid spillage of loose material down the face of the slopes during grading and during drainage terrace and down-drain construction. Fine grading operations for benches and down-drains shall not deposit loose trimmed soils on the finished slope surfaces. Loose soil materials shall require removal.

d) Seeding and planting of slopes shall proceed as rapidly as possible to achieve a well-established and deep-rooted vegetal cover requiring minimal watering. The type of vegetation and watering schedule shall be established by a landscape architect familiar with hillside maintenance.

Mitigation Measure GEO-8: Earthwork Observations and Testing

a) The site preparation, over-excavation, and earthwork shall be performed under the observation and testing by a representative of the Project Geotechnical Engineer or Project Geologist.

b) The fill shall be tested at the time of placement to verify that the required compaction is achieved.

c) The fill compaction shall be determined in the field by the Sand Cone Method (ASTM: D 1556) or Nuclear Gauge Method (ASTM: D 2216), or other test method approved by the Project Geotechnical Engineer.

d) During grading, an adequate number of field density tests shall be performed using approved test procedures in order to determine compliance of earthwork to the project requirements. The frequency of field density testing shall be in accordance with the recommendations of the Project Geotechnical Engineer.

e) Quality control testing performed to determine the acceptability of the fill compaction shall be based on the laboratory maximum dry density and optimum moisture content determined in accordance with ASTM: D 1557 test procedure.

f) Any surface or subsurface obstructions, or questionable materials encountered during grading shall be brought immediately to the attention of the Project Geotechnical Engineer. Deeper excavations may be required, should unsuitable soils be encountered locally, as determined by the Project Geotechnical Engineer and/or Project Geologist.

Mitigation Measure GEO-9: **Deep Fill Settlement Monitoring**. In deep fill areas, settlement monuments shall be installed and periodically surveyed by the project civil engineer to evaluate the magnitude and progress of settlements. Ginter & associates proposes positioning settlement monuments at strategic locations in the deeper fill areas as shown on figure vi of the geotechnical report. These shall be monitored on a regular basis until the primary settlement has stabilized before those areas released for construction.

Mitigation Measure GEO-10: Foundation Design. The compacted engineered fill at the project site is anticipated to be low to medium soil expansion potential. Presented below are preliminary geotechnical criteria for design of building foundations, based on medium soil expansion potential for the on-site soils:

Option 1 - Conventional Footing:

Allowable Bearing Pressure (1)	=	1,500 pounds per square foot (psf)
Minimum Footing Depth (2)	=	24 inches
Minimum Footing Width	=	Continuous: 12 inches Isolated: 24 inches
Passive Soil Pressure (3)	=	250 psf/ft.
Friction Coefficient	=	0.30 (ultimate)
Minimum Footing Reinforcement	=	Four No. 4 bars, 2 each at top and bottom
Garage Door Grade Beam	=	18 inches deep, Four No. 4 bars, Two each at top and bottom, tied into foundation elements.

(1) The above value may be increased 250 psf for each additional foot exceeding the minimum embedment depth and/or width, subject to a maximum of 2,500 psf. Allowable bearing pressures may be increased by one-third for short term loading due to wind or seismic forces.

(2) Footing depth is from lowest adjacent finished soil grade. Footings shall be deepened, as necessary, to provide setback distance from adjacent slope in conformance with CBC criteria.

(3) Value applies to level soil condition, and is subject to a maximum of 2000 psf.

Option 2 – Post-Tensioned Foundation:

If post-tensioned slab/footing system is selected for the subject project, the design may be based on the geotechnical criteria shown below for medium soil expansion potential. These are based on the guidelines presented in the PTI, Third Edition design manual.

Thornthwaite Moisture Index	=	-20
Equilibrium Suction	=	3.6
Edge Lift Moisture Variation Distance, em	=	5.1 feet
Edge Lift, ym	=	1.1 inches
Center Lift Moisture Variation Distance, em	=	9.0 feet
Center Lift, ym	=	0.47 inches
Minimum Footing Depth (Exterior)	=	18 inches below adjacent grade

The above foundation criteria are based on medium soil expansion consideration only. Foundation design shall consider anticipated post-construction settlements, as appropriate. Foundation design details such as slab thickness, concrete strength, reinforcements, etc. shall be established by the Project Structural Engineer considering medium soil expansion and settlement potential provided below.

Mitigation Measure GEO-11: Foundation Settlement. Total static and differential post-construction settlements for footings designed and constructed in accordance with the criteria given below and supporting loads not exceeding the typical loadings for residential construction (column and wall loads on the order of 30 kips and 3 kips/lineal foot, respectively) are not anticipated to exceed the values shown below. The settlement estimates shall be confirmed based on review of the foundation plans. Structures shall be designed for the following post-construction settlements:

- Total settlement = 1 inch
- Differential settlement = ¾-inch (*)

(*) Between similarly loaded column footings and for continuous footings and slabs over a distance of approximately 30 feet.

General Remarks:

(i) Footing depths shall not be allowed to be affected adversely, such as through erosion softening, digging, landscaping, etc.

(ii) Where foundations encroach closer than five (5) feet horizontally from the flow line of drainage swales, the footing shall be deepened sufficiently to maintain the required embedment depth below the adjacent flow line.

(iii) Foundation details such as concrete strength, reinforcements, etc. shall be established by the Project Structural Engineer, considering the loading and medium soil expansion potential. The footing and slab reinforcements recommended in the Geotechnical Report are minimum requirements. More restrictive criteria based on structural design considerations or Code requirements shall govern.

(iv) Foundation excavations shall be observed and approved by the Project Geotechnical Engineer prior to the placement of reinforcement or concrete. Forming of footing excavations may be required. Excavations shall be free of slough and debris and thoroughly moisture conditioned prior to placing concrete.

(v) Excavated material from footing and utility trenches shall not be placed in slab-on-grade areas unless properly compacted and tested.

Mitigation Measure GEO-12: Slab-On-Grade.

Recommended Minimum Criteria For Slab-On-Grade Are Shown Below:

Concrete Floor Slabs: Concrete floor slabs shall be 5 inches thick (minimum) and shall be reinforced with No. 3 bars at 18 inches on center, each way at mid height. No. 3 bars at 18 inches on center shall be provided connecting floor slabs to footings. In order to minimize migration of moisture up the concrete slab from soil subgrade and damage to floor coverings, a moisture barrier/water vapor retarder is recommended beneath floor slabs as discussed hereinafter.

Moisture/Water Vapor Retarder for Concrete Slab-on-Grade: In order to reduce the potential for moisture/water vapor migration up through the slab and possibly affecting floor covering, a moisture/vapor retarder is recommended under concrete floor slab-on-

grade. The moisture barrier shall be properly installed, lapped and sealed in accordance with the manufacturer's specifications. Punctures and rips shall be repaired prior to placement of sand. At a minimum, this moisture/water vapor retarder shall consist of 10-millimeter thick polyethylene ("Visqueen"), lapped and sealed, and placed mid-height within a 4-inch coarse sand layer. This moisture/water vapor retarder shall be installed in accordance with manufacturer's specifications. The following recommendations are based on the tentative guidelines by the American Concrete Institute (ACI, April 2001) to reduce the potential moisture/water vapor intrusion in concrete slab-on-grade. Based on Ginter & Associates' review of available literature, it appears that the ACI procedure would be more effective to help reduce potential moisture/water vapor migration up through concrete slab-on-grade.

Recommendations based on the ACI guidelines are presented below:

- The moisture/water vapor retarder shall consist of high strength polyethylene membrane and shall meet or exceed the ASTM: E-1745-97 Class C material requirements for water vapor permeance, tensile strength and puncture resistance. The vapor retarder shall consist of "Moistop Plus" (Fortifiber Building Products Systems) or "Vapor Block" VB 15 (Americover, Inc.), or approved equal. The vapor retarder shall be underlain by a capillary break comprised of minimum 4 inches thick pea gravel layer. The gravel layer shall be placed and compacted on approved soil sub-grade.
- The membrane shall be placed on approved gravel layer and properly lapped and sealed. Membranes intersecting utility pipes, sewer lines, ducts or drains shall be properly wrapped around the penetrations and sealed. All punctures and rips in the membrane shall be repaired prior to placement of concrete, following manufacturer's recommendations. The vapor retarder shall be installed in general accordance with the procedures outlined in ASTM: E-1643, and in conformance with the installation procedures recommended by the manufacturer.
- To minimize slab curling, a low slump concrete (low shrinkage mix design) shall be used for the slab construction, as determined by the Project Structural Engineer.

The moisture/water vapor protection for concrete slab-on-grade shall be selected based on cost and construction considerations, and considering potential future problems resulting from improper and uncontrolled landscape irrigation practices. Regardless of the moisture/water vapor retarder option selected, it should be emphasized that proper control of irrigation and landscape water adjacent to the structure is of paramount importance.

Mitigation Measure GEO-13: Driveways. Driveway concrete slabs shall be 5 inches thick (minimum) with no. 3 bars at 18 inches on center, each way at mid-height. The slab may be placed directly on properly prepared sub-grade. No moisture barrier is required under driveway slabs.

Mitigation Measure GEO-14: Exterior Flatwork. Exterior concrete flatwork (e.g. Sidewalks, walkways) shall be 4 inches thick (minimum), with no. 3 bars at 24 inches on center, each way at mid-height and placed on properly prepared sub-grade. Hardscape areas within two feet of the descending slopes shall include a thickened edge deepened to provide a

minimum five (5) feet horizontal setback between the bottom outside face of the thickened edge and slope face.

Mitigation Measure GEO-15: Sub-Grade Pre-Saturation. Prior to concrete placement, the soil sub-grade shall be thoroughly wetted to about 12 inches in depth at a moisture condition of about 2 to 3 percentage points above the optimum moisture content.

Mitigation Measure GEO-16: General. Interior floor slabs and exterior concrete flatwork, including driveway, shall be properly designed for the construction and service loading conditions, potential settlements and soil expansion. The structural details, such as slab thickness, concrete strength, reinforcing criteria, joint spacing, etc. Shall be established by the project structural engineer. The recommended minimum reinforcements for concrete slabs provided above are intended for preliminary design only. More restrictive criteria as dictated by structural design or regulatory requirements shall govern.

Mitigation Measure GEO-17: Retaining Walls

- **Foundations:** Retaining wall foundations may be supported on either compacted engineered fill or competent bedrock. If a bedrock/fill transition is encountered, the bedrock portion shall be over-excavated minimum 2 feet and replaced with approved compacted fill. Alternatively, a cold joint shall be constructed in both the footing and the wall. Footings may be designed in accordance with the foundation design criteria presented in the Geotechnical Report when embedded at least two feet below lowest adjacent grade. Footings located on or at top of slopes shall be deepened, as necessary, to provide minimum lateral setback between footing and slope faces in accordance with CBC requirements.
- **Lateral Earth Pressures:** The earth pressures acting on retaining walls depend primarily on allowable wall movement, type of backfill materials, backfill slopes, wall inclination, surcharges, and any hydrostatic pressure. The following lateral earth pressures are recommended for vertical walls with no hydrostatic pressure and no surcharge loading:

Wall Condition	Backfill Type	Lateral Earth Pressure (Equivalent Fluid Pressure) (pcf)	
		Level	2:1 (H:V)
Active (Cantilever)	Sandy Soils	40	65

  The surcharge effect of anticipated loads on the wall backfill (i.e. traffic, construction equipment, footings, etc.) shall be included in the wall design. If the wall is free to deflect, 33 percent of the maximum surcharge load located within a distance equal to the height of wall shall be used in the design.
- **Backfill:** Retaining wall backfill shall consist of predominantly granular non-expansive soils. The backfill shall extend within a 45-degree plane from the wall footing. Retaining wall backfill shall be mechanically compacted to minimum 90 percent of the applicable laboratory maximum density and performed under the observation and testing of the Project Geotechnical Engineer. No jetting, ponding, or flooding shall be permitted. No backfill shall be placed against concrete until minimum design strengths are attained.

- **Backfill Drainage:** The wall design shall include waterproofing and weep holes or sub-drains or back-drains, as appropriate, for relieving possible hydrostatic pressures. If on-site soils are utilized for wall backfill, the design shall include a prefabricated drainage blanket (such as Miradrain 2000, or equivalent). At a minimum, sub-drains shall consist of 4-inch diameter, perforated Schedule 40, PVC pipe or equivalent, embedded in approximately 3 cubic feet per lineal foot of ¾-inch (maximum) rock, or approved alternate. This permeable material shall be enveloped in Geofabric consisting of Mirafi 140 or equivalent. The pipe and trench bottom shall be sloped at a gradient of 2± percent to a suitable discharge outlet. Sub-drains placed behind retaining walls shall be approved by the Project Geotechnical Engineer prior to backfill placement.

Mitigation Measure GEO-18: Soil Corrosion. The previous geotechnical consultants, pacific soils engineering, inc., performed preliminary testing and indicated that the site soils are corrosive to metals. Therefore, representative finished grade samples shall be tested for corrosion suites (sulfate, chloride, ph and resistivity) upon completion of grading. It may be necessary to retain a corrosion engineer for consultation.

Mitigation Measure GEO-19: Utility Trench Backfill

- Bedding material shall consist of on-site sandy or imported materials exhibiting a San Equivalent (S.E.) value of 30 or greater.
- The on-site soils are considered suitable for trench backfill, provided they are free of organic materials and oversize rocks.
- Backfill of all exterior and interior trenches shall be placed in thin lifts not exceeding 4 inches and mechanically compacted to achieve a relative compaction of not less than 90% based on ASTM: D1157. Care shall be taken not to damage utility lines.
- Utility trenches shall not be located within the influence of footings. This is defined as a zone located below the footing and a line sloping at an inclination of 1:1 (horizontal to vertical) outward from the outside edge of footings. If utility lines are located within the zone of footings, the backfill shall be compacted to a minimum 95 percent relative compaction or slurry backfilled (minimum 1-1/2 sack cemented sand mix.
- To reduce potential water migration into building sub-grade through the granular bedding/shading layer and/trench backfill, utility trenches shall be backfilled with the onsite finer grained materials or sand-cement slurry for minimum 3 feet length at their entry points.
- Trenches in fill soils and alluvial deposits greater than 4 feet in depth shall be shored or sloped back as required by the local regulatory agency, the state of California Division of Industrial Safety Construction Safety Orders, and Federal OSHA requirements.

Mitigation Measure GEO-20: Asphalt Concrete Pavement. Preliminary asphalt concrete pavement sections for the planned streets in the development were developed utilizing the Caltrans method of design and the structural section design guide for California cities and counties. The following recommended pavement sections were computed assuming an "r" value of 30 for site soils compacted as sub-grade material, and assumed traffic indices. The actual "r" value will depend on the soil conditions exposed at the planned street sub-grade elevations. During rough grading, "r" value testing shall be performed on the pavement sub-grade soils to confirm the pavement design basis. Further analysis

and evaluation are necessary if the design traffic index and the sub-grade "r" value are different from those used in Ginter & Associates' analyses.

	Recommended Minimum Pavement Section		
Traffic Index	Asphalt Concrete (inches)	Aggregate Base (inches)	Total (inches)
5.0	3.0	6.0	9.0
6.0	4.0	8.0	12.0
7.0	4.0	10.0	14.0
8.0	5.0	12.0	16.0

Aggregate base shall consist of crushed aggregate base (CAB) or crushed miscellaneous base (CMB) and shall comply with the specifications outlined in the "Standard Specifications for Public Works Construction", ("Green Book"). The base material shall be compacted to minimum 95 percent of the maximum laboratory density, determined in accordance with ASTM: D-1557. The soil sub-grade shall be compacted to minimum 90 percent relative compaction. The subgrade soils shall exhibit a firm and unyielding surface, in addition to the recommended minimum compaction. Final compaction and testing of pavement sub-grade shall be performed just prior to placement of aggregate base.

Mitigation Measure GEO-21: Site Drainage. All roof and surface drainage shall be directed away from structures and their appurtenances and slopes to approved drainage facilities. Ponding of water shall be avoided. For graded soil areas, a minimum gradient of 2 percent away from structures shall be maintained. The drainage patterns designed by the project civil engineer shall be established at the time of fine grading and maintained throughout the life of the structure or, if altered, shall be replaced with a properly designed area drain system. Irrigation activities at the site shall be monitored and controlled to prevent overwatering. Planter areas adjacent to structures shall be avoided. If utilized, such planters shall include measures to contain irrigation water and prevent moisture migration into walls and under foundations and slabs-on-grade.

Mitigation Measure GEO-22: Slope Planting, Irrigation And Maintenance. General guidelines for slope planting, irrigation and maintenance are shown below:

a) Slope planting shall consist of appropriate drought resistant vegetation as recommended by the Landscape Architect. Landscaping of slopes shall be completed as soon as possible and properly maintained.

b) The property owner is responsible for proper irrigation and for maintenance and repair of installed irrigation systems. Leaks shall be repaired immediately. Sprinklers shall be adjusted to provide maximum coverage with a minimum of water usage and overlap. Over-watering with consequent excessive runoff and ground saturation shall be avoided.

c) If automatic sprinkler systems are installed, their use shall be adjusted to account for natural rainfall conditions.

d) All interceptor ditches, drainage terraces, down-drains, and any other drainage devices that have been installed shall be maintained and cleaned.

e) If rodent activity is present, the property owner shall undertake a program for the elimination of burrowing animals. This shall be an ongoing program in order to promote slope stability.

f) Water shall not be allowed to flow over the constructed or natural slopes. This may require the construction of berms or ditches along the top of slopes, if such devices are not in place.

Mitigation Measure GEO-23: Additional Investigation. Additional geologic and geotechnical investigation may be necessary during the 40-scale grading plan review phase to obtain supplemental information relative to the site geologic conditions and engineering properties of on-site materials and to confirm the preliminary recommendations provided herein.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

With compliance with applicable requirements regarding geology and soils, impacts associated with geology and soils would be less than significant.

4.0 ENVIRONMENTAL IMPACT ANALYSIS
F. GREENHOUSE GAS EMISSIONS

INTRODUCTION

This section of the EIR addresses the project's potential effect on global climate change (GCC) due to generation of greenhouse gas (GHG) emissions. Relevant regulations and existing conditions are described as well as the potential for the project to result in GCC-related impacts due to generation of GHG emissions that would exceed applicable thresholds of significance, either directly or indirectly, or conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the GHG emissions. Data used to prepare this section was obtained from the *Air Quality and Greenhouse Gas Report, Skyline Heights Project* (herein referred to as the Air Quality and Greenhouse Gas Report) prepared by Michael Brandman Associates, dated May 2014 which is included in Appendix C of this Draft EIR.

1. ENVIRONMENTAL SETTING

a. Existing Conditions

The main contribution of GHG emissions in California between the years 2000 through 2009 was the transportation sector. The second highest sector was industrial, which includes sources from refineries, general fuel use, oil and gas extraction, cement plants, and cogeneration heat output. California GHG emissions in 2009 totaled approximately 453 million metric tons (MMT) of carbon dioxide equivalent (CO2e).[1]

In California, climate change may result in consequences such as the following:[2]

- A reduction in the quality and supply of water from the Sierra snowpack. If heat-trapping emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. This can lead to challenges in securing adequate water supplies. It can also lead to a potential reduction in hydropower.
- Increased risk of large wildfires. If rain increases as temperatures rise, wildfires in the grasslands and chaparral ecosystems of southern California are estimated to increase by approximately 30 percent toward the end of the 21st century because more winter rain will stimulate the growth of more plant "fuel" available to burn in the fall. In contrast, a hotter, drier climate could promote up to

[1] *GHG emissions other than carbon dioxide are commonly converted into carbon dioxide equivalents, which take into account the differing global warming potential (GWP) of different gases. For example, the Intergovernmental Panel on Climate Change finds that nitrous oxide has a GWP of 310 and methane has a GWP of 21. Thus, the emission of 1 ton of nitrous oxide and 1 ton of methane is represented as the emission of 310 tons of CO_2e and 21 tons of CO_2e, respectively. This allows for the summation of different GHG emissions into a single total.*

[2] *California Climate Change Center. 2006. Our Changing Climate, Assessing the Risks to California: A Summary Report from the California Climate Change Center, CEC-500-2006-077, July 2006, http://www.scc.ca.gov/webmaster/ftp/pdf/climate_change/assessing_risks.pdf. Accessed May 2012.*

90 percent more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.

- Reductions in the quality and quantity of certain agricultural products. The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- Exacerbation of air quality problems. If temperatures rise to the medium warming range, there could be 75 to 85 percent more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.
- A rise in sea levels resulting in the displacement of coastal businesses and residences. During the past century, sea levels along California's coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.
- An increase temperature and extreme weather events. Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.
- A decrease in the health and productivity of California's forests. Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.

These changes in California's climate and ecosystems are occurring at a time when California's population is expected to increase from 34 million to 59 million (by 2040).[3] As such, the number of people potentially affected by climate change, as well as the amount of anthropogenic GHG emissions expected under a "business as usual" (BAU) scenario, is expected to increase. Changes similar to those noted above for California would also occur in other parts of the world, with regional variations in the resources affected and vulnerability to adverse effects. GHG emissions in California are attributable to human activities, such as those associated with industry/manufacturing, utilities, transportation, and the residential and agricultural sectors, as well as natural processes.[4]

b. Regulatory Framework

(1) Federal

The U.S. Environmental Protection Agency (USEPA) is responsible for implementing federal policy to address GHGs. The federal government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO_2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions. The USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. These programs (e.g., the Energy Star labeling system for energy-efficient products) play a

[3] *California Energy Commission, Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004, (2006). Available: http://www.energy.ca.gov/2006publications/CEC-600-2006-013/CEC-600-2006-013-SF.PDF.*

[4] *Ibid.*

significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

In *Massachusetts v. Environmental Protection Agency* (Docket No. 05–1120), the United States Supreme Court held in April of 2007 that the USEPA has statutory authority under the federal Clean Air Act to regulate GHGs. The Court did not hold that the USEPA was required to regulate GHG emissions; however, it indicated that the agency must decide whether GHGs cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare.

On May 19, 2009, the President announced a national policy for fuel efficiency and emissions standards in the United States auto industry. The adopted federal standard applies to passenger cars and light-duty trucks for model years 2012 through 2016. The rule surpasses the prior Corporate Average Fuel Economy standards and requires an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO_2 per mile by model year 2016, based on USEPA calculation methods. These standards were formally adopted on April 1, 2010. In August 2012, standards were adopted for model year 2017 through 2025 passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO_2 per mile. According to the USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle.[5]

On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act. The USEPA adopted a Final Endangerment Finding for the six defined GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) on December 7, 2009. The Endangerment Finding is required before USEPA can regulate GHG emissions under Section 202(a)(1) of the Clean Air Act consistently with the United States Supreme Court decision. The USEPA also adopted a Cause or Contribute Finding in which the USEPA Administrator found that GHG emissions from new motor vehicle and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. These findings do not themselves impose any requirements on industry or other entities. However, these actions were a prerequisite for implementing GHG emissions standards for vehicles.

On July 20, 2011, the USEPA published its final rule deferring GHG permitting requirements for carbon dioxide emission from biomass-fired and other biogenic sources until July 21, 2014. In September 2011, the USEPA released an "Accounting Framework for Biogenic CO_2 Emissions from Stationary Sources," which analyzes accounting methodologies and suggests an implementation for biogenic carbon dioxide emitted from stationary sources. Environmental groups successfully challenged the permitting deferral in *Center for Biological Diversity v. EPA*, 722 F.3d 401 (DC Cir. 2013). The court did not rule on whether the USEPA has authority under the federal Clean Air Act to permanently exempt biogenic carbon dioxide sources from permitting.

On April 13, 2012, the USEPA published a proposed rule to establish, for the first time, a new source performance standard for GHG emissions. Under the proposed rule, new fossil fuel-fired electric generating units larger than 25 MW would be required to limit emissions to 1,000 pounds CO_2 per megawatt-hour

[5] *United States Environmental Protection Agency, "EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks," http://www.epa.gov/oms/climate/documents/420f12051.pdf. 2012.*

(MWh) on an average annual basis, subject to certain exceptions. On January 8, 2014, the USEPA withdrew that proposed rule[6] and replaced it with a new proposed rule that shares much in common with the previous proposal.[7] However, there also are a number of differences, including the universe of sources covered by the rule, the emissions standards for subcategories of sources, a determination of the best system of emission reduction for coal-fired electric generating units, and a new alternative compliance option, among others.

On April 17, 2012, the USEPA issued emission rules for oil production and natural gas production and processing operations.

(2) State

With the passage of several pieces of legislation, including state senate and assembly bills and executive orders, California launched an innovative and pro-active approach to dealing with GHG emissions and climate change at the state level.

(a) Assembly Bill 1493

In response to the transportation sector accounting for a large portion of California's CO_2 emissions, Assembly Bill (AB) 1493, enacted on July 22, 2002, required CARB to set GHG emission standards for passenger vehicles, light duty trucks, and other vehicles whose primary use is non-commercial personal transportation manufactured in and after 2009. In setting these standards, CARB must consider cost effectiveness, technological feasibility, economic impacts, and provide maximum flexibility to manufacturers. The State of California in 2004 submitted a request for a waiver from federal clean air regulations, which ordinarily preempts state regulation of motor vehicle emission standards, to allow the state to require reduced tailpipe emissions of CO_2. In late 2007, the USEPA denied California's waiver request. In early 2008, the state brought suit against USEPA related to this denial. In January 2009, the President directed the USEPA to assess whether its denial of the waiver was appropriate under the federal Clean Air Act. In June 2009, the USEPA granted California the waiver.

However, as discussed previously, the USEPA have adopted federal standards for model year 2012 through 2016 light-duty vehicles. In light of the USEPA standards, California - and states adopting California emissions standards - have agreed to defer to the proposed national standard through model year 2016. The 2016 endpoint of the federal and state standards is similar, although the federal standard ramps up slightly more slowly than required under the state standard. The state standards (called the Pavley standards) require additional reductions in CO_2 emissions beyond model year 2016 (referred to as Pavley Phase II standards). As noted above, the USEPA have adopted GHG emission standards for model year 2017 through 2025 vehicles. These standards are slightly different from the Pavley Phase II standards, but the State of California has agreed not to contest these standards, in part due to the fact that while the national standard would achieve slightly less reductions in California, it would achieve greater reductions nationally and is

[6] *79 Fed. Reg. 1352 (Jan. 8, 2014).*

[7] *79 Fed. Reg. 1430 (Jan. 8, 2014).*

stringent enough to meet state GHG emission reduction goals.[8] On November 15, 2012, CARB approved an amendment that allows manufacturers to comply with the 2017-2025 national standards to meet state law.

(b) Executive Order S-3-05

The goal of this executive order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by 2020, and 3) 80 percent below the 1990 levels by 2050. In 2006, this goal was further reinforced with the passage of AB 32.

(c) Assembly Bill 32

The Global Warming Solutions Act of 2006 sets the same overall GHG emissions reduction goals outlined in Executive Order S-3-05 while further mandating that CARB create a plan that includes market mechanisms and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

The CARB Board approved the 1990 greenhouse gas emissions level of 427 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) on December 6, 2007 (California Air Resources Board 2007). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 $MMTCO_2e$. Emissions in 2020 in a BAU scenario were estimated in 2008 to be 596 $MMTCO_2e$, which do not account for reductions from AB 32 regulations (California Air Resources Board 2008c). However, CARB updated the year 2020 business as usual (BAU) scenario in 2012 based on new and revised data. The updated forecast accounts for the effects of the recent economic recession, as well as new estimates for future fuel and energy demand, as well as other factors. The 2020 BAU forecast taking into account the effects of the recent economic recession is 545 $MMTCO_2e$. Therefore, a 21.7 percent reduction from the year 2020 BAU forecast is required to achieve AB 32 reduction goal for year 2020.

(d) Executive Order S-01-07

Executive Order S-1-07, the Low Carbon Fuel Standard (issued on January 18, 2007), requires a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020. Regulatory proceedings and implementation of the Low Carbon Fuel Standard have been directed to CARB. The Low Carbon Fuel Standard has been identified by CARB as a discrete early action item in the adopted Climate Change Scoping Plan. CARB expects the Low Carbon Fuel Standard to achieve the minimum 10-percent reduction goal; however, many of the early action items outlined in the Climate Change Scoping Plan work in tandem with one another. To avoid the potential for double-counting emission reductions associated with AB 1493 (see previous discussion), the Climate Change Scoping Plan has modified the aggregate reduction expected from the Low Carbon Fuel Standard to 9.1 percent. CARB released a draft version of the Low Carbon Fuel Standard in October 2008. The final regulation was approved by the Office of Administrative Law and filed with the Secretary of State on January 12, 2010; the Low Carbon Fuel Standard became effective on the same day.

[8] *California Air Resources Board, "Advanced Clean Cars Summary," http://www.arb.ca.gov/msprog/clean_cars/acc%20summary-final.pdf. Accessed April 2014.*

(e) Senate Bill 97

Senate Bill (SB) 97 required the Governor's Office of Planning and Research (OPR) to develop amendments to the California Environmental Quality Act (CEQA) Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

(f) Renewable Energy Standard/Renewable Portfolio Standard (2002/2006/2011)

SB 1078 (2002) and SB 107 (2006) created the Renewable Energy Standard (RES) program, which required electric companies to increase their procurement of eligible renewable energy resources by at least 1 percent of their retail sales annually, until reaching 20 percent by 2010. SB 2X 1 (2011) required a Renewable Portfolio Standard (RPS, functionally the same thing as the RES) of 33 percent by 2020.

(3) Regional

After AB 32 was passed, the SCAQMD formed a Climate Change Committee along with a Greenhouse Gases CEQA Significance Thresholds Working Group and the SoCal Climate Solutions Exchange Technical Advisory Group. On September 5, 2008, the SCAQMD Board approved the SCAQMD Climate Change Policy, which outlines actions the SCAQMD will take to assist businesses and local governments in implementing climate change measures, decrease the agency's carbon emissions, and provide information to the public regarding climate change. On December 5, 2008, the Board approved interim CEQA GHG significance thresholds for stationary source projects where it is the lead agency. The threshold is a tiered approach to determine a project's significance, with 10,000 metric tons of CO_2e as a screening numerical threshold for stationary source projects. In order to provide guidance to local lead agencies on determining the significance of GHG emissions identified in CEQA documents, the GHG CEQA Significance Threshold Working Group drafted thresholds with the intent of capturing 90 percent of development projects.[9] Under Tiers 1 and 2, projects that are exempt from CEQA or consistent with an approved local GHG reduction plan can be found to be less than significant. Under Tier 3, a project's GHG emissions are compared to the draft screening thresholds. At present, the SCAQMD has not formally adopted thresholds for use by other lead agencies, but recommends that industrial projects utilize the 10,000 $MTCO_2e$ screening level that has been adopted for SCAQMD projects. The GHG CEQA Significance Threshold Working Group has drafted a significance indicator of 3,000 $MTCO_2e$ for mixed-use or all land use projects, but it has not been formally adopted. Under Tier 4, a project's GHG emissions are compared to a performance standard, such as achieving a percentage reduction in GHG emissions from a base case scenario (i.e., BAU scenario) or achieving a project-level efficiency target of 4.8 $MTCO_2e$ per service population.

(4) Local

The City of Corona General Plan includes policies related to GHG emissions. The following policies are applicable to the proposed project:

> **Goal 1.5** – Distinct neighborhoods and districts that contribute to the identity, character, and image of Corona as a vital, livable, diverse, innovative, and environmentally sustainable community.

[9] *South Coast Air Quality Management District, Board Meeting, December 5, 2008, Agenda No. 31, Interim GHG Significance Threshold Proposal – Key Issues/Comments Attachment D.*

- **Policy 1.5.14** – Require that developers demonstrate water conservation in the landscape design of their proposed projects, such as the use of drought tolerant species.

- **Policy 1.5.17** – Require that new residential, commercial, office, and industrial development be designed to minimize consumption of and sustain scarce environmental resources through such methods as the following, as applicable to the type and scale of development:

  - Site design—concentration and intermixing of development to minimize vehicular trips and promote walking, building orientation in consideration of solar access and heat gain and loss, and other.
  - Landscaping—drought-tolerant species, use of recycled water for irrigation, and other purposes.
  - Capture of rainwater and re-use on site.
  - Building design and construction materials—energy-and water efficient fixtures, recycled building materials, insulation and wall thickness, permeable paving surfaces, and comparable techniques.

Goal 10.2 – Ensure sustainable use of finite energy and water resources for the long-term use of residents and visitors of Corona.

- **Policy 10.2.5** – Require the use of reclaimed water in common areas and landscape treatments for all proposed developments.

Goal 10.21 – Reduce air quality degradation through energy conservation.

- **Policy 10.21.1** – Reduce the amount of energy consumed by commercial and residential uses, as recommended by the Southern California Air Quality Management District.

- **Policy 10.21.2** – Continue to require the use and installation of energy conservation features in all new construction projects and wherever feasible, retrofitting in existing and re-development projects.

The City of Corona adopted a Climate Action Plan (CAP) in 2012. The purpose of the CAP is to provide guidance on how to analyze GHG emissions and determine the significance of the emissions during the CEQA review of proposed development projects within the City of Corona.[10] To address the state's requirement to reduce GHG emissions, the City of Corona prepared its CAP with the goal of reducing GHG emissions within the City by 15 percent below existing (2008) levels by 2020. The City's target is consistent with the AB 32 target and ensures that Corona will be providing GHG reductions locally that will complement state and international efforts to stabilize climate change. Because the City's CAP addresses GHG emissions reductions, is in concert with AB 32 and international efforts to address GCC, and includes specific local requirements that will substantially lessen the cumulative problem, compliance with the plan fulfills the description of mitigation found in the State CEQA Guidelines.

[10] *City of Corona, Climate Action Plan, (2012).*

According to SCAQMD's interim guidance document for addressing GHG emissions, carbon dioxide (CO_2) is the most important component of GHGs because it constitutes the majority of total GHG emissions and is very long lasting in the atmosphere. For this reason, estimated CO_2 emissions are used as the benchmark for analysis.

2. ENVIRONMENTAL IMPACTS

a. Methodology

The evaluation of potential impacts related to the emission of GHGs is based on the comparison of the project to the thresholds stated below and applicable regulatory requirements. The analysis is based on the information contained in the Air Quality and Greenhouse Gas Report prepared by Michael Brandman Associates, dated May 2014, which is included as Appendix C of this Draft EIR.

Mass daily GHG emissions from construction and operation of the project were estimated using the CalEEMod (version 2013.2.2) emissions model, an emissions estimation/evaluation model developed in collaboration with air quality management districts of California. For construction activities, the CalEEMod model separates the construction process into multiple phases to account for various construction scenarios, including structure demolition, site clearing, and asphalt paving and the application of architectural coatings. Assumptions regarding construction phasing and equipment use were based on information received from the project Applicant and the construction contractor. A complete list of the construction equipment by phase, construction phase duration assumptions, and changes to modeling default values used in this analysis is included in the CalEEMod printout sheets, which are provided in Attachment A of the Air Quality and Greenhouse Gas Report prepared by Michael Brandman Associates, dated May 2014 (refer to Appendix C of this Draft EIR). With regards to operational GHG emissions, the CalEEMod model was used to calculate GHG emissions from mobile and area sources, such as on-site consumer products, architectural coatings, landscaping equipment, etc., that would occur during long-term project operations. In calculating mobile-source emissions, the CalEEMod default trip assumptions and trip generation rates from the traffic report (refer to Appendix C in this EIR) were applied to arrive at the total vehicle miles traveled (VMT) associated with operational project elements.

b. Thresholds of Significance

(1) CEQA Appendix G (Greenhouse Gas Emissions)

Appendix G of the *CEQA Guidelines* provides thresholds of significance to determine whether a project would have a significant environmental impact regarding GHG emissions. The Appendix G thresholds identified below are included for evaluation in this Draft EIR.

Would the Project:

Threshold 1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment (refer to Impact Statement 4.F-1); or

Threshold 2: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG (refer to Impact Statement 4.F-2).

(2) Greenhouse Gas Emissions

The City of Corona allows project to utilize either the SCAQMD's draft thresholds or the City's adopted Greenhouse Gasses Thresholds Points Worksheet. The City of Corona comments on the project, dated December 19, 2012, Community Development Department comment 1PL-006 (2) demonstrates that the use of the SCAQMD's draft threshold is considered equivalent to the use of the City's Greenhouse Gasses Thresholds Points Worksheet. To determine whether the project is significant, this project uses the SCAQMD draft local agency tiered threshold. The threshold is as follows:

- Tier 1: The project is not exempt under CEQA; go to Tier 2.
- Tier 2: There is no GHG reduction plan applicable to the project; go to Tier 3.
- Tier 3: Project GHG emissions compared with the threshold: 3,500 $MTCO_2e$ per year.
- Tier 4, option 1: Reduce greenhouse gas emissions from BAU consistent with AB 32 (e.g., by 21.7 percent). The California 2020 emissions target is 427 $MMTCO_2e$ and the 2020 baseline (without any AB 32 related regulations) is 545 $MMTCO_2e$ (CARB's projected statewide 2020 GHG emissions taking into account the economic recession). Therefore, a 21.7 percent reduction is required to reduce emissions to the target level.
- Tier 4, option 2: 4.8 $MTCO_2e$/SP/year.

c. Project Design Features

The project would implement project design features that would reduce the potential for GHG emissions due to project construction and operations. The project design features would include, but are not limited to compliance with the California Green Building Standards, as discussed below.

California Green Building Standards. On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011. The Code is a comprehensive and uniform regulatory code for all residential, commercial and school buildings.

The California Green Building Standards Code does not prevent a local jurisdiction from adopting a more stringent code as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided they provide a minimum 50-percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard which buildings need to meet in order to be certified for occupancy. Enforcement is generally through the local building official.

The 2013 California Green Building Standards Code includes the following mandatory requirements for residential developments:

Division 4.1 - Planning and Design (Site Development)

4.106.2 Storm Water Drainage and Retention During Construction

Projects which disturb less than one acre of soil and are not part of a larger common plan of development shall manage storm water drainage during construction.

4.106.3 Grading and Paving

Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings, with the exception of additions and alterations not altering the drainage path.

Division 4.2 - Energy Efficiency

4.201.1 Scope

Standards for residential buildings do not require compliance with levels of minimum energy efficiency beyond those required by the 2013 California Energy Code.

Division 4.3 - Water Efficiency and Conservation (Indoor Water Use)

4.303.1 Water Conserving Plumbing Fixtures and Fittings

Plumbing fixtures and fittings shall comply with the following:

- 4.303.1.1 Waters Closets: ≤ 1.28 gal/flush
- 4.303.1.2 Urinals: ≤ 0.5 gal/flush
- 4.303.1.3.1 Single Showerheads: ≤ 2.0 gpm @ 80 psi
- 4.303.1.3.2 Multiple Showerheads: combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 2.0 gpm @ 80 psi or only one shower outlet is to be in operation at a time
- 4.303.1.4.1 Residential Lavatory Faucets: ≤ 1.5 gpm @ 60 psi
- 4.303.1.4.2 Lavatory Faucets in Common and Public Use Areas of Residential Buildings: ≤ 0.5 gpm @ 60 psi
- 4.303.1.4.3 Metering Faucets: ≤ 0.25 gallons per cycle
- 4.303.1.4.4 Kitchen Faucets: ≤ 1.8 gpm @ 60 psi; temporary increase to 2.2 gpm allowed but shall default to 1.8 gpm

4.303.2 Standards for Plumbing Fixtures and Fittings

Plumbing fixtures and fittings shall be installed in accordance with the California Plumbing Code.

Division 4.3 - Water Efficiency and Conservation (Outdoor Water Use)

4.304.1 Irrigation Controllers

Automatic irrigation system controllers for landscaping provided by the builder and installed at the time of final inspection shall comply with the following:

1 - Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plant watering needs as weather or soil conditions change.

2 - Weather-based controllers without integral rain sensors or communication systems that account for rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s).

Division 4.4 - Material Conservation & Resource Efficiency (Enhanced Durability & Reduced Maintenance)

4.406.1 Rodent Proofing

Annular spaces around pipes, electric cables, conduits, or other openings in sole/bottom plates at exterior walls shall be closed with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency to prevent passage of rodents.

Division 4.4 - Material Conservation & Resource Efficiency (Construction Waste Reduction, Disposal & Recycling)

4.408.1 Construction Waste Reduction of at least 50%

Recycle and/or salvage for reuse a minimum of 50% of the nonhazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4; OR meet a more stringent local construction and demolition waste management ordinance. Documentation is required per Section 4.408.5.

Exceptions:

1 - Excavated soil and land-clearing debris.

2 - Alternate waste reduction methods developed by working with local enforcing agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite.

3 - The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility.

4.408.2 Construction Waste Management Plan

Submit a construction waste management plan meeting Items 1 through 5 in Section 4.408.2. Plans shall be updated as necessary and shall be available for examination during construction.

4.408.3 Waste Management Company

Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that diverted construction and demolition waste materials meet the requirements in Section 4.408.1.

4.408.4 Waste Stream Reduction Alternative

Generate a total combined weight of construction and demolition waste disposed in landfills that is equal to or less than 4 pounds per square-foot of the building area.

Division 4.4 - Material Conservation & Resource Efficiency (Building Maintenance & Operation)

4.410.1 Operation and Maintenance Manual

At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which covers 10 specific subject areas shall be placed in the building.

Division 4.5 - Environmental Quality (Fireplaces)

4.503.1 General

Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA Phase II emission limits where applicable. Woodstoves, pellet stoves and fireplaces shall also comply with all applicable local ordinances.

Division 4.5 - Environmental Quality (Pollutant Control)

4.504.1 Covering of Duct Openings and Protection of Mechanical Equipment During Construction

At the time of rough installation, during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air intake and distribution component openings shall be covered. Tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of water, dust and debris entering the system may be used.

4.504.2.1 Adhesives, Sealants and Caulks

Adhesives, sealants and caulks used on the project shall meet the requirements of the following standards unless more stringent local or regional air pollution or air quality management district rules apply:

1 - Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in Tables 4.504.1 or 4.504.2, as applicable.

Such products shall also comply with Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products as specified in Subsection 2 below.

2 - Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than 1 pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of the California Code of Regulations, Title 17, commencing with Section 94507.

4.504.2.2 Paints and Coatings

Architectural paints and coatings shall comply with VOC limits in Table 1 of the Air Resources Board Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as Flat, Nonflat, or Nonflat-High Gloss coating, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37, of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat, or Nonflat-High Gloss VOC limit in Table 4.504.3 shall apply.

4.504.2.3 Aerosol Paints and Coatings

Aerosol paints and coatings shall meet the Product-Weighted MIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Section 94522(c)(2) and (d)(2) of the California Code of Regulations, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District shall additionally comply with the percent VOC by weight of product limits of Regulation 8, Rule 49.

4.504.3 Carpet Systems

All carpet installed in the building interior shall meet the testing and product requirements of one of the following:

1 - Carpet and Rug Institute's Green Label Plus Program

2 - California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1, February 2010 (also known as Specification 01350.)

3 - NSF/ANSI 140 at the Gold level

4 - Scientific Certifications Systems Indoor Advantage™ Gold

4.504.3.1 Carpet Cushion

All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label Program.

4.504.3.2 Carpet Adhesive

All carpet adhesives shall meet the requirements of Table 4.504.1.

4.504.4 Resilient Flooring Systems

Where resilient flooring is installed, at least 80% of floor area receiving resilient flooring shall comply with one or more of the following:

1 - VOC emission limits defined in the Collaborative for High Performance Schools (CHPS) High Performance Products Database.

2 - Products compliant with CHPS criteria certified under the Greenguard Children & Schools program.

3 - Certification under the Resilient Floor Covering Institute (RFCI) FloorScore program.

4 - Meet the California Department of Public Health, “Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers,” Version 1.1, February 2010 (also known as Specification 01350.)

4.504.5 Composite Wood Products

Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in the Air Resources Board's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et. seq.), on or before the dates specified in those sections as shown in Table 4.504.5. Documentation is required per Section 4.504.5.1.

Definition of Composite Wood Products: Composite wood products include hardwood plywood, particleboard, and medium density fiberboard. "Composite wood products" do not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated wood I-joists, or finger-jointed lumber, all as specified in CCR, Title 17, Section 93120.1(a).

Division 4.5 - Environmental Quality (Interior Moisture Control)

4.505.2 Concrete Slab Foundations

Concrete slab foundations or concrete slab-on-ground floors required to have a vapor retarder by the California Building Code, Chapter 19, or the California Residential Code, Chapter 5, respectively, shall also comply with this section.

4.505.2.1 Capillary Break

A capillary break shall be installed in compliance with at least one of the following: 1 - A 4-inch (101.6 mm) thick base of 1/2-inch (12.7 mm) or larger clean aggregate shall be provided with a vapor retarder in direct contact with concrete and a concrete mix design which will address bleeding, shrinkage and curling shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06. 2 - Other equivalent methods approved by the enforcing agency. 3 - A slab design specified by a licensed design professional.

4.505.3 Moisture Content of Building Materials

Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19% moisture content. Moisture content shall be verified in compliance with the following: 1 - Moisture content shall be determined with either a probe-type or a contact-type moisture meter. Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements in Section 101.8. 2 - Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade-stamped end of each piece to be verified. 3 - At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing. Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Manufacturers' drying recommendations shall be followed for wet-applied insulation products prior to enclosure.

Division 4.5 - Environmental Quality (Indoor Air Quality & Exhaust)

4.506.1 Bathroom Exhaust Fans

Each bathroom shall be mechanically ventilated and shall comply with the following: 1 - Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building. 2 - Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control. a) Humidity controls shall be capable of manual or automatic adjustment between a relative humidity range of less than 50% to a maximum of 80%. b) A humidity control may be a separate component to the exhaust fan and is not required to be integral or built-in. Note: For CALGreen a "bathroom" is a room which contains a bathtub, shower, or tub/shower combination. Fans are required in each bathroom.

Division 4.5 - Environmental Quality (Environmental Comfort)

4.507.2 Heating and Air Conditioning System Design

Heating and air conditioning systems shall be sized, designed, and equipment selected using the following methods: 1 - The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J - 2004 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods. 2 - Duct systems are sized according to ANSI/ACCA 1 Manual D - 2009 (Residential Duct Systems), ASHRAE handbooks or other equivalent design software or methods. 3 - Select heating and cooling equipment according to ANSI/ACCA 3 Manual S - 2004 (Residential Equipment Selection) or other equivalent design software or methods.

Exception: Use of alternate design temperatures necessary to ensure the system functions are acceptable

CHAPTER 7 - Installer & Special Inspector Qualifications (Qualifications, Verifications)

702.1 Installer Training

HVAC system installers shall be trained and certified in the proper installation of HVAC systems and equipment by a recognized training or certification program. Examples of acceptable HVAC training and certification programs include but are not limited to the following:

1 - State certified apprenticeship programs.

2 - Public utility training programs.

3 - Training programs sponsored by trade, labor or statewide energy consulting or verification organizations.

4 - Programs sponsored by manufacturing organizations.

5 - Other programs acceptable to the enforcing agency.

702.2 Special Inspection

Special inspectors must be qualified and able to demonstrate competence to the enforcing agency in the discipline in which they are inspecting.

703.1 Documentation

Documentation of compliance shall include, but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the local enforcing agency. Other specific documentation or special inspections necessary to verify compliance are specified in appropriate sections of CALGreen.

d. Analysis of Project Impacts

(1) GHG Emissions

Threshold	Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Impact 4.F-1 Based on a threshold of significance determined by the City of Corona to be functionally equivalent to those in its CAP, project implementation would generate GHG emissions such that a less than significant impact on the environment would occur.

Construction of the project would generate GHG emissions through the use of on-site heavy-duty construction equipment and the addition of off-site vehicle trips generated by construction workers as well as haul/delivery trucks that travel to and from the project site. Mobile-source emissions would result from

the use of construction equipment such as graders, scrapers, bulldozers, wheeled loaders, cranes, etc. Operation of the project is expected to result in emissions of GHG emissions related to vehicular trips (i.e., mobile-source emissions) and energy consumption from building illumination, heating and cooling, as well as water conveyance and treatment and solid waste disposal.

As directed in the Corona CAP CEQA thresholds and screening tables, project analysis can be conducted either through emissions calculations or by using the screening table provided in the CAP.[11] For the project, CAP conformity is demonstrated via GHG emissions calculations. For new residential development, the amount of emissions required to be reduced under AB 32, which is equivalent to the reductions required by the City's CAP, would be 21.7 percent when compared with BAU conditions and taking into account CARB's revised BAU estimates for the State, inclusive of the economic recession.[12]

The project's construction-related GHG emissions are provided in **Table 4.F-1,** *Construction Greenhouse Gas Emissions*. Although GHGs are generated during construction and are accordingly considered one-time emissions, it is important to consider them when assessing all of the long-term GHG emissions associated with a project. The draft SCAQMD significance thresholds recommend that construction-related GHG emissions be amortized over a project's 30-year lifetime in order to include these emissions as part of a project's annualized lifetime total emissions, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies. In accordance with this guidance, the estimated project's construction GHG emissions have been amortized over a 30-year period and are included in the annualized operational GHG emissions.

The project's operational GHG emissions are shown in **Table 4.F-2**, *Project-Operational Greenhouse Gas Emissions*. Project activities such as vehicles traveling to and from the Project Site, use of energy resources, water/wastewater conveyance, etc., waste disposal and, as described above, amortized construction activity would generate GHG emissions. At the same time, the project would incorporate project design features beyond regulatory requirements that would reduce the potential amount of GHG emissions (refer to subsection 2.(c), *Project Design Features*). The estimated total annual project-related GHG emissions shown in Table 4.F-2 are based on the anticipated level of GHG emissions with implementation of these project design features. The total annual project emissions also include the estimated GHG emissions sequestered from the planting of new trees. The project will occur located on an undeveloped 271 acre plot, of which only 127 acres will be covered by the residential units. Based on carbon sequestration values calculated by the Intergovernmental Panel on Climate Change (IPCC),[13] the 126 acres of preserved grassland and 17 acres of forest land containing 6,100 new trees, is estimated to increase the carbon sink capacity of the project site compared to pre-development levels.

The emissions shown in Table 4.F-2 also include emissions from a comparable BAU project. The BAU scenario emissions estimates include energy and water consumption in accordance with the minimum

[11] *City of Corona, Climate Action Plan, (2012).*

[12] *The 2.38 metric tons per 1,000 for commercial space number was calculated by taking the factor of 23,203 $MTCO_2e$ of emissions to be reduced through new Commercial and Industrial Projects in the City and dividing that by 9,747,000 square feet of new commercial and industrial buildings anticipated within Corona to accommodate anticipated job growth, for a total of 2.38 $MTCO_2e$ per 1,000 square feet of building area. Generation factors were taken from the City of Corona CAP (2012).*

[13] *Intergovernmental Panel on Climate Change, Good Practice Guidance for Land Use, Land-Use Change and Forestry, Appendix 3a.4, (2003).*

Table 4.F-1

Construction Greenhouse Gas Emissions

Phase	Annual Emissions ($MTCO_2e$) [a]		
	Onsite	Offsite	Total
Site Preparation (2015)	225.21	10.46	235.67
Grading (2015)	509.51	16.24	525.75
Paving (2016)	79.30	5.25	84.55
Building Construction (2017)	312.93	198.01	510.94
Building Construction (2018)	310.57	192.78	503.35
Building Construction (2019)	307.09	187.06	494.15
Building Construction (2020)	303.70	181.40	485.09
Building Construction (2021)	76.51	45.24	121.75
Architectural Coatings (2021)	9.59	6.17	15.76
		Total	2,997.02
	Amortized over Project Lifetime (30 years)		99.23

[a] *$MTCO_2e$ = metric tons of carbon dioxide equivalents (includes carbon dioxide, methane, and/or nitrous oxide).*
Source: Michael Brandman Associates, Air Quality and Greenhouse Gas Report, Skyline Heights Project, May 2014

regulatory requirements during the time period consistent with CARB's revised BAU estimates for the State. The BAU project does not account for energy and water efficiency measures that would exceed the regulatory requirements that existing at the time CARB projected the State's BAU GHG emissions, and does not account for reductions in mobile source GHG emissions from the availability of alternative transportation options and improved tailpipe emissions standards. As shown, the project would constitute an equivalent or larger reduction from BAU than has been determined by CARB to be necessary to meet the goals of AB 32 – that is, a reduction of at least 21.7 percent fewer GHG emissions than a comparable BAU development. Therefore, the Project would result in a less than significant impact with regard to GHG emissions.

(2) Consistency with Applicable GHG Plans, Policies and Regulations

Threshold	Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

Impact 4.F-2 The project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs. Therefore, the project would result in a less than significant impact.

As stated previously the City of Corona has an adopted CAP. The City of Corona CAP is a planning and implementation tool to reduce the City's GHG emissions to levels that are less-than or equal-to 1990's levels by 2020. The CAP provides an analysis of the GHG emission sources that are attributed to the City; strategies for meeting regional, State, and Federal reduction targets; and methods for monitoring the City's progress towards reaching those goals. As stated in Impact 4.F-1, the City has determined that the use of the SCAQMD's draft quantitative thresholds is equivalent to the City's "Greenhouse Gases Thresholds Points

Table 4.F-2

Project Operational Greenhouse Gas Emissions

Source	GHG Emissions ($MTCO_2e$ per year)		Percent Reduction from BAU
	BAU	Project	
Area	64.83	64.76	0.01 %
Energy	1,169.63	952.29	18.6 %
Mobile	4,994.84	3,535.40	29.2 %
Waste	155.18	155.18	0.0 %
Water	132.60	98.16	26.0 %
Subtotal – Operation	6,517.07	4,805.78	26.3 %
Subtotal – Construction (Amortized over 30 years)	99.23	99.23	0.0 %
Carbon Sequestration from Newly Planted Trees	-215.94	-215.94	0.0 %
Net Total	6,400.36	4,689.07	26.7 %
		Emission Reduction Goal:	21.7 %
		Does project achieve the reduction goal?	Yes

$MTCO_2e$ = metric tons of carbon dioxide equivalents
Source: Michael Brandman Associates, Air Quality and Greenhouse Gas Report, Skyline Heights Project, May 2014

Worksheet." As shown in Table 4.F-2, the project would result in GHG emissions that would be below the threshold of 21.7 percent reduction compared to a BAU project. Therefore, the project would be consistent with the GHG reductions required in the City's CAP and impacts would be less than significant.

Table 4.F-3, *General Plan Consistency Analysis*, provides an analysis of the project's consistency with the applicable goals and policies contained in Chapter 5, *Environmental Resources*, of the City's General Plan relative to GHGs. As discussed in Table 4.F-3, the project would be consistent with the applicable General Plan goals and policies. As such, impacts related to consistency with applicable plans and regulations would be considered less than significant.

3. CUMULATIVE IMPACTS

GHGs and climate change are exclusively cumulative impacts. There are no non-cumulative GHG emissions impacts from a climate change perspective. As such, GHGs and climate change are cumulatively considerable, even though the contribution may be individually limited. SCAQMD methodology and thresholds are, thus, cumulative in nature. Therefore, the project area for cumulative impacts related to GHGs and climate change is the State of California.

As discussed earlier under Regulatory Setting and demonstrated in Table 4.F-1, the project would be consistent with California's goal to reduce GHG emissions statewide. The project's emissions, without considering cumulative global emissions, would not be enough to cause climate change. The project would

Table 4.F-3

General Plan Consistency Analysis

Goals and Policies	Consistency
Environmental Resources - Air Quality	
Goal 1.5 – Distinct neighborhoods and districts that contribute to the identity, character, and image of Corona as a vital, livable, diverse, innovative, and environmentally sustainable community.	**Consistent**. A full analysis of construction and operational impacts related to GHG emissions was prepared for the proposed project, as provided in the *Air Quality and Greenhouse Gas Report, Skyline Heights Project*, prepared by Michael Brandman Associates, dated May 2014 (provided in Appendix C). As indicated in the analysis of GHG emissions, the project would not conflict with applicable GHG reduction plans and would result in less than significant impacts.
Policy 1.5.14 – Require that developers demonstrate water conservation in the landscape design of their proposed projects, such as the use of drought tolerant species.	**Consistent**. As discussed in Section 2.0, *Project Description*, plantings on commonly-owned (i.e., under Homeowners' Association [HOA] ownership) and private slopes would be chosen from the "Defensible Space Landscaping Plant Palette for Fuel Modification in Riverside County" guidelines and all trees and shrubs would be California Department of Water Resources "Water Use Classifications of Landscape Species" (WUCOLS) low water use.
Policy 1.5.17 – Require that new residential, commercial, office, and industrial development be designed to minimize consumption of and sustain scarce environmental resources through such methods as the following, as applicable to the type and scale of development. ▪ Site design—concentration and intermixing of development to minimize vehicular trips and promote walking, building orientation in consideration of solar access and heat gain and loss, and other ▪ Landscaping—drought-tolerant species, use of recycled water for irrigation, and other purposes ▪ Capture of rainwater and re-use on site ▪ Building design and construction materials—energy and water efficient fixtures, recycled building materials, insulation and wall thickness, permeable paving surfaces, and comparable techniques	**Consistent**. The project would minimize vehicle trips and promote walking by containing pedestrian routes and pathways, common open space and other amenities. The project would provide connectivity to Skyline Drive and associated trails allowing for pedestrian and bicycle access. The project would also provide connectivity to the Foothill Parkway west extension, which would serve to reduce traffic congestions on east-west thoroughfares in the City. The project would incorporate energy efficiency and water efficiency measures that would at a minimum meet the California Green Building Standards. The project would reduce energy related to water use by installing water-conserving fixtures that would achieve at least a 20-percent reduction in indoor water use and moisture-sensing or other equivalent "smart" irrigation systems for larger landscaped areas. Common open space recreation areas would be planted with WUCOLS low-water plants minimizing the demand for irrigation water.
Goal 10.2 – Ensure sustainable use of finite energy and water resources for the long-term use of residents and visitors of Corona.	**Consistent**. The project would incorporate energy efficiency and water efficiency measures that would at a minimum meet the California Green Building Standards for building energy use and indoor and outdoor water use. The project would reduce energy related to water use by installing water-conserving fixtures that would achieve at least a 20-percent reduction in indoor water use and moisture-sensing or other equivalent "smart" irrigation systems for larger landscaped areas. Common open space recreation areas would be planted with WUCOLS low-water plants.

Table 4.F-3 (Continued)

General Plan Consistency Analysis

Goals and Policies	Consistency
	As indicated in the analysis of GHG emissions, the project would not conflict with applicable GHG reduction plans and would result in less than significant impacts.
Policy 10.2.5 – Require the use of reclaimed water in common areas and landscape treatments for all proposed developments.	**Consistent**. The project would incorporate appropriate systems to deliver reclaimed water to meet the project's non-potable needs. As discussed in the *Preliminary Reclaimed Water Report*, prepared by KWC Engineers, dated January 16, 2014, computer modeling results verifies that adequate service pressures, at the meter locations, can be provided to the project during the demand scenarios considered.
Goal 10.21 – Reduce air quality degradation through energy conservation.	**Consistent**. See discussion under Goal 10.2 above.
Policy 10.21.1 – Reduce the amount of energy consumed by commercial and residential uses, as recommended by the Southern California Air Quality Management District.	**Consistent**. See discussion under Goal 10.2 above.
Policy 10.21.2 – Continue to require the use and installation of energy conservation features in all new construction projects and wherever feasible, retrofitting in existing and re-development projects.	**Consistent**. See discussion under Goal 10.2 above.

Source: City of Corona General Plan; PCR Services Corporation, 2014

be consistent with the state's goal of reducing GHG emissions to 1990 levels by 2020. As such, the project's contribution to climate change/worldwide GHG emissions would be less than significant.

4. MITIGATION MEASURES

Based on the analysis above, the project would result in a less than significant impact and mitigation is not required.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts related to GHG would be less than significant.

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4.0 ENVIRONMENTAL IMPACT ANALYSIS
G. HAZARDS AND HAZARDOUS MATERIALS

INTRODUCTION

This section analyzes potential impacts associated with hazards and hazardous materials that could occur with implementation of the Project. Relevant regulations and existing conditions are described as well as the potential for the Project to: create a significant hazard to the public or the environment related to hazardous materials; impair implementation of an adopted emergency response plan; or, expose people or structures to wildland fire hazards. This section is based on a Phase I Environmental Site Assessment (ESA) for the site prepared by Hillman Consulting (2013) and a Fuel Modification Report prepared by BMLA Landscape Architecture (2014). These reports are provided in Appendix G of this EIR.

1. ENVIRONMENTAL SETTING

a. Existing Conditions

(1) Hazardous Materials/Records Review

Currently, the site is mostly vacant characterized by steep topography, generally increasing in elevation from the northeast to the southwest. The site is in an almost natural state with dense chaparral punctuated by sporadic stands of scrub oak covering most slopes. Several canyons and ravines that are located on the site convey natural drainage across the site. One single-family home is located within the larger annexation area surrounding the site, which is located to the north of the project site. Access to the single-family residence is provided via Green River Road. Miscellaneous vacated buildings, used in conjunction with a former horse stable enterprise, are located adjacent to and east of the existing residence.

Historically, the property has been primarily undeveloped since at least the early 1900s. The northwest portion of the site was used as a landing strip from approximately the 1950s until at least the 1990s. The abandoned landing strip, including a concrete pad that may have been used for a hanger, is located on the southern side of Mabey Canyon, south of Mabey Canyon Road and to the west of the Mabey Canyon Debris Basin. Some evidence of spills or releases was observed in the area of the abandoned landing strip during the site reconnaissance conducted as part of the Phase I ESA. In addition, running approximately parallel to the north of the landing strip between the landing strip and Mabey Canyon Road is a drainage culvert. Multiple cars were observed to have been laid on their sides to construct the western portion of the southern berm. The vehicles appeared to be from the 1940s to 1960s. Some isolated areas of nuisance dumping were also observed during the site reconnaissance. More specifically, construction debris, including pieces of concrete; car parts; and trash were observed in several locations on the site. Currently, there are no utilities provided to the site. There is no evidence of wells or septic systems on the site.

As part of the ESA, environmental agency databases that log known hazardous site conditions were reviewed to ascertain whether the site or any adjacent properties were listed on such Federal, State, or local databases. These databases list properties by location and provide historic information regarding past use and presence of hazardous conditions. The site was not identified on any of the regulatory databases searched and no

adjoining properties were identified on the databases. In addition, the site and adjoining properties were not identified on the Registered Storage Tank or on the Leaking Underground Storage Tank Databases. No Brownfield listings were identified within a ½-mile radius of the site.

Radon, which is a naturally occurring, colorless, odorless gas that is a byproduct of the decay of radioactive materials potentially present in bedrock and soil, can be a concern at a site since it can enter the lowest level of a building through floor cracks, structural joints or plumbing conduits. Based on U.S. Environmental Protection Agency (USEPA) data, the site is located in an area with a low potential for radon concentrations that exceed USEPA action guidelines. In addition, the County of Riverside is classified as Zone 3, or low risk area for radon.

In terms of other hazardous materials that can occur on a site, as there are no buildings on the site and the one single-family home with adjacent miscellaneous vacated buildings previously used for horse stables are located within the larger annexation area surrounding the site which are not to be removed, a screening of asbestos-containing materials, lead-based paint, and mold were not undertaken as part of the ESA. Based on the ESA, no evidence of recognized environmental conditions was identified in connection with the site. The site and surrounding properties are not listed in any of the record searches in the ESA.

(2) Areas of Fire Hazard/Wildfire

The site is adjacent to the Cleveland National Forest with residential development to the north and east and forest lands to the south. The site contains steep slopes and narrow canyons and is vegetated with chaparral with areas of buckwheat, grasses, chemise and ceanothus.

The City of Corona has conducted an analysis of fire hazards in the City and has determined that no areas within the City limits would be within a very high fire hazard severity zone (VHFHSZ) classification.[1] However, the site is located outside the City limits but within the City's Sphere of Influence (SOI). Therefore, the site is within the State Responsibility Area (SRA). Based on the State Fire Hazard Severity Zones in SRAs for the County of Riverside, the project site is designated SRA VHFHSZ. As indicated in the General Plan Update Technical Background Report, the wildland/urban interfaces create extremely dangerous and complex fire situations. Development of lands within the SOI areas would increase the urban-wildland interface and associated wildland fire risk.

As indicated in the Fuel Modification Report, which is provided in Appendix G of this EIR, the site is located in an inland valley transitional environment, in which the summers are hot and the winters are mild. Because of down slope air mass drainage, the site is not affected by freezing and the hot days are tempered by coastal effects of gentle breezes moving west to east through the Santa Ana canyon at the end of each day. Like most of the Inland Empire the effects of the Santa Ana winds have a strong impact on the site, especially throughout the fall months. The Santa Ana winds are strong off-shore winds driven by the heat of the desert creating a high pressure that can drive the wind gusts to 60 miles per hour and greater. The wind direction is generally out of the northeast. The site is also affected by the southwesterly breezes, which carrycoastal moisture down the slopes of the site, and which provide additional moisture to support the chaparral habitat for which the Cleveland National Forest is known.

[1] *City of Corona General Plan Update Technical Background Report, EIP Associates, March 2004.*

Though the Santa Ana winds are not limited to the fall months, the winds are especially impactful and create an identified fire season. Based on the Fuel Modification Report, the property has not been subject to a wild fire in several decades and has a high potential for large amounts of fuel loading in the understories of the large shrub masses. Due to the site's proximity to wildland area, the geography of the area, and the density and type of vegetation, which can have very high oil content that can create fire danger, the site has a high potential for wildland fire danger.

An analysis of the provision of fire protection services is contained in Section 4.I, Public Services, of this EIR. As indicated in Section 4.I, the City of Corona Fire Department (CFD), Riverside County Fire Department, and the California Department of Forestry all provide service to areas outside the City limits but within the SOI, depending on the location of a fire.

b. Regulatory Framework

This section provides a discussion of federal, state, and local regulations that address hazardous materials as well as wildland fires.

(1) Federal

(a) Federal Resource Conservation and Recovery Act (RCRA)

According to the U.S. Environmental Protection Agency (US EPA), a "hazardous" waste is defined as one "which because of its quantity, concentrations, or physiochemical or infectious properties, may either increase mortality or produce irreversible or incapacitating illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed" (U.S. Public Health and Welfare Code Section 25140-25145.4). Special handling and management are required for materials and wastes that exhibit hazardous properties. Treatment, storage, transport, and disposal of these materials are highly regulated at both the Federal and State levels. Compliance with Federal and State hazardous materials laws and regulations minimizes the potential risks to the public presented by these potential hazards.

The Federal hazardous waste laws are generally contained in the Resource Conservation and Recovery Act (RCRA) (Title 40 of the Code of Regulations at parts 239 through 282). These laws provide the "cradle to grave" regulation of hazardous wastes. Businesses, institutions, and other entities that generate hazardous waste are required to identify and track their hazardous waste from the point of generation until it is recycled, reused, or disposed of. The primary responsibility for implementing RCRA is assigned to the US EPA, although individual states are encouraged to seek authorization to implement some or all RCRA provisions.

(2) State

(a) California Department of Toxic Substances Control (DTSC)

The responsibility for implementation of RCRA was given to the DTSC in August 1992. The DTSC is also responsible for implementing and enforcing California's own hazardous waste laws, which are known collectively as the Hazardous Waste Control Law. Although similar to RCRA, the California Hazardous Waste Control Law and its associated regulations define hazardous waste more broadly and so regulate a larger

number of chemicals. Hazardous wastes regulated by California but not by US EPA are called "non-RCRA hazardous wastes."

(b) Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

Title 27 of the California Code of Regulations, otherwise known as the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program ("Unified Program"), was created in 1993 by Senate Bill 1082 to consolidate, coordinate, and make consistent the administrative requirements, permits, inspections, and enforcement activities for environmental and emergency management programs. The Unified Program is implemented at the local government level by Certified Unified Program Agencies (CUPAs). The Unified Program consolidates, coordinates, and makes consistent the following hazardous materials and hazardous waste programs (Program Elements):

- Hazardous Waste Generation (including on-site treatment under Tiered Permitting);
- Aboveground Petroleum Storage Tanks (APST) (only the Spill Prevention Control and Countermeasure Plan [SPCC]);
- Underground Storage Tanks (USTs);
- Hazardous Material Release Response Plans and Inventories;
- California Accidental Release Prevention Program (CalARP); and
- Uniform Fire Code Hazardous Material Management Plans and Inventories.

(c) California Health and Safety Code

The Code regulates health and safety including hazardous waste and materials, household waste, vectors, emergency preparedness, fire hazards, radiation, and water protection.

(d) Hazardous Building Components

Structural building components sometimes contain hazardous materials such as asbestos, polychlorinated biphenyls (PCBs), lead, and mercury. These materials are subject to various regulatory protocols. However, there are no structures located on the site and therefore, these regulations would not be applicable. The one single-family home with adjacent miscellaneous vacated buildings previously used for horse stables are located within the larger annexation area surrounding the site which are not to be removed.

(e) California Fire Plan

The California Fire Plan is the State's plan for reducing the risk of wildfire through a cooperative effort between the State Board of Forestry and Fire Protection and the California Department of Forestry and Fire Protection (CAL FIRE). By placing the emphasis on prevention, the Fire Plan looks to reduce firefighting costs and property losses; to increase firefighter safety; and to contribute to ecosystem health. The Fire Plan sets up the structure of County-level plans. However, the Fire Plan is structured so that individual fire departments can establish plans and policies for land within their respective jurisdictions.

Sections 51175-51189 of the California Government Code (GC) define responsibilities for CAL FIRE and for local agencies. Sections 51178 and 51181 define the CAL FIRE Director's responsibility to identify VHFHSZs; transmit this information to local agencies; and periodically review the recommendations relative to

identification of VHFHSZs. In part, Sections 51178.5 and 51179 define the local agency's responsibility to make the recommendation available for public review and to designate, by ordinance, VHFHSZs in its jurisdiction. Section 51176 identifies that land is classified in the State "in accordance with whether a VHFHSZ is present so that public officials are able to identify measures that will retard the rate of spread, and reduce the potential intensity, of uncontrolled fires that threaten to destroy resources, life, or property, and to require that those measures be taken." Sections 51175-51189 direct CAL FIRE to map areas of VHFHSZ within Local Responsibility Areas (LRAs) and SRAs. Wildland fire protection in California is the responsibility of either the state, local government, or the federal government. LRAs include the incorporated cities, cultivated agricultural lands, and portions of the desert with service typically provided by municipal fire departments, fire protection districts, counties, and by CAL FIRE under contract to the local government. SRAs include areas of the state in which the financial responsibility of preventing and suppressing fires has been determined to be primarily the responsibility of the State.

Mapping of the VHFHSZs is based on relevant factors such as fuels, terrain, and weather. VHFHSZ maps were initially developed in the mid-1990s, but are now being updated based on improved science, mapping techniques, and data. Mapping was prepared by CAL FIRE's Fire and Resource Assessment Program using data and models that describe development patterns, potential fuels over a 30-50 year horizon, expected fire behavior, and expected burn probabilities to quantify the likelihood and nature of vegetation fire exposure to new construction. Based on the State "Fire Hazard Severity Zones in SRA" for the County of Riverside, the project site is designated SRA VHFHSZ. When development is located within a VHFHSZ, annual vegetation clearing, building design/materials restrictions, and other building mandates are required to protect properties from wildfire.

(f) California Fire Code (CFC) 2010, California Code of Regulations, Title 24, Part 9

The City of Corona has adopted the 2013 CFC. The purpose of the CFC is to establish the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety and general welfare from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operations.

(i) CFC Chapter 49, Fire Code, Requirements for Wildland-Urban Interface Fire Areas

The purpose of Chapter 49, Requirements for Wildland-Urban Interface Fire Areas, of the CFC is to provide minimum standards to increase the ability of a building to resist the intrusion of flame or burning embers being projected by a vegetation fire and contributes to a systematic reduction in conflagration losses through the use of performance and prescriptive requirements.

(g) California Building Code Chapter 7A, Materials and Construction Methods for Exterior Wildfire Exposure

The purpose of Chapter 7A, *Materials and Construction Methods for Exterior Wildfire Exposure*, of the California Building Code (CBC) is to establish minimum standards for the protection of life and property by increasing the ability of a building located in any Fire Hazard Severity Zone (FHSZ) within SRAs or any Wildland-Urban Interface Fire Areas to resist the intrusion of flame or burning embers projected by a vegetation fire and contributes to a systematic reduction in conflagration losses. Chapter 7A applies to

building materials, systems and or assemblies used in the exterior design and construction of new buildings within a Wildland-Urban Interface Fire Area.

(h) Local

(i) City of Corona General Plan, Environment Hazards and Public Safety

Chapter 4, Infrastructure and Public Services, of the City of Corona's General Plan addresses the provision of public utilities and services, including the provision of fire protection services. Chapter 4 contains goals and policies regarding fire protection services. An analysis of project consistency with the applicable goals and policies of the City's Infrastructure and Public Services Element regarding fire services is provided in the Analysis of Project Impacts subsection, below (see Threshold 7).

Chapter 6, Environment Hazards and Public Safety, of the City of Corona's General Plan contains the City's Public Health and Safety Element. The chapter of the General Plan addresses environmental hazards including: seismic, geologic, erosion; flooding; hazardous materials; noise control; and emergency/disaster preparedness. An analysis of project consistency with the applicable goals and policies of the City's Public Health and Safety Element regarding hazards and hazardous materials is provided in the Analysis of Project Impacts subsection, below (see Threshold 7).

(ii) City of Corona Municipal Code, Title 3 Revenue and Finance, Chapter 3.36, Fire Facilities Fee

It is the purpose and intent of this chapter to implement the City's General Plan to attempt to assure that fire facilities which satisfy City standards are available concurrent with the need caused by new development within the City. Due to the location of certain development within the urban/wildland interface area by the Cleveland National Forest, such development will create a fire hazard impacts not found in other parts of the City. The City has established a fire facilities fee to fund the provision of fire provision services to property located within this urban/wildland interface.

2. ENVIRONMENTAL IMPACTS

a. Methodology

The analysis focuses on the hazardous materials and potential hazards associated with wildland fires that could occur as a result of the residential subdivision. An ESA was conducted on the site to assess the environmental condition of a property to determine the presence or likely presence of hazardous substances that could result in an existing, previously existing, or potential release of a hazardous substance on the site.

The methodology for preparation of the ESA include review of USGS map; review of historical records; review of previous Phase I ESA; a search of environmental regulatory databases; and visual reconnaissance. The ESA was conducted using generally accepted Phase I ESA industry standards in accordance with the ASTM Standard Practice E 1527-05 for Phase I ESAs. Information from the assessment was used to determine whether any portion of the 270.9-acre site is on a list of hazardous materials sites or would create a significant hazard to the public or the environment. In determining the level of significance, the analysis assumes that construction and operation of the proposed project would be in compliance with relevant federal, state, and local laws and regulations pertaining to the use, storage, and disposal of hazardous materials.

The Fuel Modification Report provides information regarding existing site conditions and provides a plan that would be reviewed by the CFD. The Fuel Modification Plan is summarized below under the Project Design Features subsection.

b. Thresholds of Significance

Appendix G of the *CEQA Guidelines* (the Initial Study Environmental Checklist form) and the City's Initial Study Checklist include questions relating to hazards and hazardous materials that are utilized as the thresholds of significance in this section (Thresholds 1-8). Accordingly, the proposed project may create a significant environmental impact if it would result in one or more of the following:

Threshold 1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (refer to Impact Statement 4.G-1);

Threshold 2: 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 (refer to Impact Statement 4.G-1);

Threshold 3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (refer to Impact Statement 4.G-2);

Threshold 4: 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 (refer to Impact Statement 4.G-3);

Threshold 5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area (refer to Impact Statement 4.G-4);

Threshold 6: For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area (refer to Impact Statement 4.G-4);

Threshold 7: Conflict with an applicable plan, policy or regulation adopted for the purpose of avoiding or mitigating any physical impacts associated with hazards or hazardous materials (i.e., impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan) (refer to Impact Statement 4.G-5); or

Threshold 8: Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands (refer to Impact Statement 4.G-6).

c. Project Design Features

The Project would include the implementation of a Fuel Modification Plan, which would be approved by the CFD. **Figure 4.G-1A**, *Conceptual Fuel Modification Plan – Northerly Half of Skyline Heights*, and **Figure 4.G-1B**, *Conceptual Fuel Modification Plan – Southerly Half of Skyline Heights*, illustrate the zones that would be established on the site in order to provide protection from fire hazards. The residential lots would be maintained, irrigated defensible space and would conform to the defensible space principles set forth by the City's Health and Safety Codes and Building Code. No encroachment of flammable improvements from the private lots into the fuel modification zones would be allowed. All planting would comply with the City's adopted acceptable plant list and irrigated to maintain moisture content. The defensible space zone would be a minimum of 30 feet between the property line and the structure.

All structures and/or residences built within the proposed development would include, but not be limited to, the following:

- All residences would be sprinklered;
- All structures would comply with applicable City Building Codes, International Wildland-Urban Interface Codes, and California Fi re and Building Codes;
- Roof overhangs or eaves on lots adjacent to Fuel Modification Zone I would be enclosed with 1-hour rated or non-combustible materials per City Building Code and skylights would not be allowed on structure roofs in these areas;
- Structures such as patios, decks, arbors and fences would be constructed of non-combustible materials;
- Any chimney, flue or stovepipe would have an approved spark arrestor;[2] and
- All structures that are located within 200 feet of wildland areas would have one-hour constructed eaves around the entire perimeter of the structure.

The common open space areas within the site would be located in the Maintained, Irrigated Landscape Improvement Zones as shown in Figures 4.G-1A and 4.G-1B. These areas would consist of manufactured slopes, planted recreational spaces and flood and water quality basins. The areas would contain 15-foot wide access maintenance paths and service access roads where required for basin maintenance. Any constructed features, such as walls, fences, and pilasters within these areas would be constructed of non-flammable material. The plant material would conform to the Plant Palette for Defensible Space Guideline provided by the City's Fire Department. Spaces would be irrigated in accordance with the City's standards. These areas would be maintained by the Homeowner's Association (HOA).

Fuel Modification Zone 1 (see Figures 4.G-1A and 4.G-1B above) would be a minimum of 30 feet wide measured horizontally from the residential property line. Native vegetation would be removed in these areas and would be replaced with plants from the Plant Palette for Defensible Space Guideline provided by the CFD. The areas would be overhead irrigated to provide moisture content in the plantings. Any

[2] *An approved spark arrestor is defined as a device constructed of non-flammable materials, 12 gauge minimum thickness, or other approved material found satisfactory by the Corona Fire Department, and having 1/2" perforations for arresting carbon or sparks and installed to be visible for the purposes of inspection and maintenance.*

PCR

N

0 600 Feet

Conceptual Fuel Modification Plan – Northerly Portion of Skyline Heights

Skyline Heights Project

Source: bmla Landscape Architecture, 2014.

FIGURE

4.G-1A

PCR

N

0 600 Feet

Conceptual Fuel Modification Plan – Southerly Portion of Skyline Heights

Skyline Heights Project

Source: bmla Landscape Architecture, 2014.

FIGURE

4.G-1B

maintenance pathways or service roads contained in Fuel Modification Zone 1 would be fenced and gated and kept weed free. The Fuel Modification Zone 1 would be maintained by the HOA.

Fuel Modification Zone 2 (see Figures 4.G-1A and 4.G-1B above) would be a minimum of 70 feet wide beginning at the outer limits of Zone 1. Native vegetation would be thinned by 50 percent to remove the fuel loading and dead vegetation from this zone. The area would be maintained in accordance with the City's weed abatement policies. The Fuel Modification Zone 2 would be maintained by the HOA.

The fuel modification treatments that include trimming of native vegetation must be complete prior to delivery of combustible material to the site in order to provide protection during construction of the subdivision.

d. Analysis of Project Impacts

Threshold 1:	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
Threshold 2:	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?

Impact 4.G-1 *Project implementation would result in the development of the currently largely undeveloped site with 292 residences, roads, landscaping, and detention basins, which would result in an increase in the use, storage, transport, and disposal of hazardous materials. During construction, hazardous materials, such as gasoline and oil would be used. During occupancy of the residences household hazardous materials, such as pesticides, cleaners, paints, and pool supplies would be used and stored on site. Compliance with applicable regulations would reduce potential significant impacts regarding hazardous materials to a less than significant level.*

(1) Construction

Based on the ESA and as discussed above, the site is not included on the list of hazardous materials sites (Cortese List) compiled pursuant to Government Code Section 65962.5. The site is vacant and therefore, no buildings that could contain hazardous materials such as asbestos or lead would be demolished. The single-family home with adjacent miscellaneous vacated buildings previously used for horse stables are located within the larger annexation area surrounding the site which are not to be removed. During construction, hazardous materials, such as gasoline and oil would be used. However, compliance with applicable regulations would reduce potential significant impacts regarding hazardous materials to a less than significant level.

(2) Operation

The Project includes the development of 292 residences and would not involve the routine transport, use, or disposal of significant amounts of hazardous materials. The proposed residential uses would result in the use of ordinary household or general commercial cleaners, solvents, painting supplies, pesticides for

landscaping and pool maintenance, and other substances utilized for cleaning and maintenance of residential development. These types of chemicals are not considered acutely hazardous, and would be used in limited quantities. All potentially hazardous materials would be contained, stored, and used in accordance with manufacturers' instructions and handled in compliance with applicable federal, state, and local health and safety standards and regulations. Any associated risk transport, use, or disposal of hazardous materials would be adequately reduced to a less than significant level through compliance with these standards and regulations.

Threshold 3:	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Impact 4.G-2 *The site is located further than one-quarter mile from an existing or proposed school. The project would result in the development of 292 single-family residences. While some hazardous materials are used in homes, the quantities are generally small. Therefore, the project would not result in the handling or emissions of hazardous materials, substances, or waste within one-quarter mole of an existing or proposed school and no significant impact would occur.*

The site is not located within one-quarter mile of an existing or proposed school. The site is located approximately 1.5 miles from the nearest school. In addition, the 292 proposed residences that would be located on the site would not emit hazardous emissions. While the residences would use small amounts of hazardous materials as discussed above under Impact Statement 4.G-1, the quantities would be small. As the residences would not emit hazardous emissions or result in the handling of hazardous or acutely hazardous materials, substances or waste aside from what is routinely used in residences within one-quarter mile of an existing or proposed school, no significant impact would occur.

Threshold 4:	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?

Impact 4.G-3 *Based on the Phase I ESA, the site is not located on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5. As the project would not create a significant hazard to the public or the environment, no significant impact would occur.*

As discussed above under Environmental Setting, a Phase I ESA was performed on the parcels that comprise the site. The ESA provides information within a one-mile radius. Based on the ESA, the project site is not on a list of Hazardous Waste and Substances (Cortese) List compiled pursuant to Government Code section 65962.5. Therefore, the project would not create a significant hazard to the public or the environment and no significant impact would occur.

Threshold 5:	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

Threshold 6: For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

Impact 4.G-4 *The site is located approximately three miles south of the Corona Municipal Airport and no private airstrips are located within the vicinity of the site. Therefore, the project would not result in a safety hazard for people living in the subdivision as a result of a public airport or private airstrip.*

The Corona Municipal Airport is located in the northwest portion of the City at 1900 Aviation Drive, approximately three miles north of the site. The airport is recreational (i.e., it is not used by commercial aircraft) and is located on approximately 100 acres of land owned by the U.S. Army Corps of Engineers and leased by the City of Corona. The airport has a 600-plane capacity and currently serves 350 to 400 general aviation aircraft. The airport is operated by the City's Maintenance Services Department.

The Corona Municipal Airport Comprehensive Land Use Plan was adopted by the Riverside County Airport Land Use Commission in 1993. The Airport Comprehensive Land Use Plan contains policies to maintain flight paths and minimize impacts to residents and employees of the area for this general aviation facility. The site is not located within the Airport Comprehensive Land Use Plan area. In addition, no private airstrips are located within the vicinity of the site. Therefore, the project would not result in an aircraft safety hazard for people living in the project area.

Threshold 7: Conflict with an applicable plan, policy or regulation adopted for the purpose of avoiding or mitigating any physical impacts associated with hazards or hazardous materials (i.e., impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan)?

Impact 4.G-5 *The project would not conflict with an applicable plan, policy or regulation associated with hazards or hazardous materials. The residential subdivision would not physically interfere with an adopted emergency response plan. The project would be consistent with the applicable General Plan policy. Thus, no significant impacts would occur.*

As indicated previously, the project would result in the development of 292 residences. As such, the use, storage, transport, and disposal of hazardous materials would be limited. As such, the project would not conflict with an applicable plan, policy or regulation associated with hazards or hazardous materials or physically interfere with an adopted emergency response plan.

With regard to emergency response plans, the City of Corona Emergency Operations Plan addresses the planned response to emergency situations associated with natural or human caused disasters and technological incidents. The Plan includes a matrix of functions and responsibilities for each department, by potential disaster. However, residential uses do not typically result in accidents associated with hazardous materials. In the event of a natural disaster, the City would respond as appropriate.

As shown in **Table 4.G-1**, *General Plan Consistency Analysis*, Goal 11.3 addresses the health, safety, and welfare of residents and visitors through good land use planning and adherence to applicable regulations

Table 4.G-1

General Plan Consistency Analysis

Goals and Policies	Consistency
Infrastructure and Public Services – Police and Fire	
Goal 9.6 – Address fire prevention measures on open space land to reduce the risk of wildland fires.	**Consistent.** The project would implement a fuel modification plan designed specifically to help suppress a wildland fire in different ways. With implementation of the project design features and prescribed mitigation measures relating to fire prevention, any significant risk of loss, injury or death involving wildland fires, would be minimized to the maximum extent feasible. Because the site is not maintained as a fuel modification area and consists of uncontrolled wildland vegetation, existing single-family residences to the north, northeast, and east of the site would gain increased protection from the spread of fire. As such, the proposed project would reduce the threat of wildland fires to people and structures in the project vicinity and thus, reduce the demand for fire services needed in the event of a wildland fire. In addition, in the event of a wildland fire in the project vicinity, the CFD has automatic aid agreements with all fire agencies in State.
Policy 9.6.1 – Implement brush clearing and other fire prevention programs on Open Space lands, thereby reducing the possibility for the encroachment of wildland fires onto inhabited areas (in consideration of maintenance programs for important plant and animal habitats).	
Policy 9.6.2 – Remove chaparral and other highly flammable vegetation and replace it with slow-burning and fire-resistant species in natural areas that are proximate to urbanized areas.	
Environmental Hazards and Public Safety – Hazardous Materials	
Goal 11.3 – Ensure that the health, safety and general welfare of residents and visitors of the City of Corona including the overall health of the natural environment is provided through good land use planning and strict adherence and enforcement of the City of Corona Hazardous Material Area Plan, Uniform Fire Code, Certified Unified Program Agency, and other pertinent sources and documents.	**Consistent**. A Phase 1 ESA was prepared for the site. Based on the ESA, no evidence of recognized environmental conditions was identified in connection with the site. The site and surrounding properties are not listed in any of the record searches in the ESA. The project would result in 292 residences on the site. Compliance with applicable regulations regarding the storage and disposal of household hazardous wastes would reduce potential impacts to a less than significant level.

Source: PCR Services Corporation, 2014.

regarding hazardous materials. The site is located in the City's SOI and the project would result in the annexation into the City and development of the site. Thus, development is anticipated on the site and has been considered in the City's planning efforts. In addition, compliance with applicable regulations regarding the storage and disposal of household hazardous wastes would reduce potential impacts to a less than significant level. Thus, the project would be consistent with the City's General Plan goal and policies relating to hazards and hazardous materials. Therefore, no significant impact with regard to emergency response plans would occur.

Threshold 8:	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Impact 4.G-6 *With the implementation of the fuel modification plan the project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires. Thus, no significant impact would occur with regard to wildland fires with implementation of applicable project design features and mitigation measures.*

As discussed above, the site is located within a VHFHSZ within a SRA.[3] Due to the location of the site within the urban/wildland interface area by the Cleveland National Forest and the development of the proposed residential subdivision, the project would locate people within the wildland/urban interface area, which could pose a safety threat to the public and firefighters. Approval and implementation of a Fuel Modification Plan would be required for the project as indicated in correspondence from the CFD.[4] The proposed Fuel Modification Plan is described in Section 2.c, Project Design Features, above, and would be reviewed and approved by the CFD prior to implementation. In addition, compliance with the CBC Chapter 7A (Materials and Construction Methods for Exterior Wildfire Exposure), would be required to be clearly shown on the building plans submitted for review and approval by the CFD. The creation of the different zones as shown in the Fuel Modification Plan and the use of non-flammable materials in compliance with code requirements would serve to reduce the potential fire hazard.

The project would not conflict with General Plan policies regarding wildland fires. As shown in Table 4.G-1, consistent with Policy 9.6.2, the project would result in the replacement of highly flammable vegetation with plants on the City's approved list of fire-resistant species as indicated in the proposed Fuel Modification Plan. In addition, maintenance of the zones would be completed by the HOA, which would ensure continued maintenance over time.

The site is not currently maintained as a fuel modification area and consists of uncontrolled wild land vegetation. The implementation of the Fuel Modification Plan would provide some protection to the existing single-family residences to the north, northeast, and east of the site. As such, the proposed project could reduce the threat of wildland fires to people and structures in the project vicinity and thus, could reduce the demand for fire services needed in the event of a wildland fire. In the event of a wildland fire in the project vicinity, the CFD has automatic aid agreements with all fire agencies in State.

[3] *Fire Hazard Severity Zones in SRA, Western Riverside County, adopted by CAL FIRE on November 7, 2007.*

[4] *Cindi Schmitz, Corona Fire Department, Email correspondence, dated February 27, 2014.*

With implementation of the project design feature (i.e., Fuel Modification Plan), as required by Mitigation Measure PS-1 below, compliance with all applicable regulations regarding fire access, fire flows, and number of hydrants, and the prescribed mitigation measures relating to fire prevention contained in Section 4.I, Public Services, of this EIR, any significant risk of loss, injury or death involving wildland fires, would be reduced to a less than significant level.

3. CUMULATIVE IMPACTS

The health and safety hazards posed by most hazardous materials are typically local in nature. They generally do not combine in any cumulative sense with the hazards of other projects. Possible exceptions, however, include potential toxic air contaminant emissions, transportation of hazardous materials, and waste disposal. The need to respond to hazardous materials emergencies could also increase as a result of cumulative development. However, as indicated above, the residential development of the site would result in limited use of hazardous materials. Such use would include materials that are typically used in residences. As such, the project would not result in a significant impact with regard to hazardous materials. Therefore, the project would not contribute to a cumulatively significant impact.

With regards to cumulative impacts regarding adopted emergency response and evacuation plans, all related projects would be evaluated on a project-by-project basis to determine consistency with applicable plans. For example, all related projects would be required to provide the minimum number of required emergency access roads per applicable regulatory requirements and any related traffic improvements would be reviewed by the CFD for approval of emergency access as required by the City. The project would not conflict with any adopted emergency response and evacuation plans and as such, would not contribute impacts that are cumulatively considerable regarding impairing implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan.

With regards to cumulative impacts associated with wildland fires, the project site and vicinity is located in an area highly prone to wildfires. Similar to the Project, any related project adjacent to an area susceptible to wildland fire hazards would be required to implement a Fuel Modification Plan. Mitigation of potential wildland fire hazards is regulated by federal, state, and local requirements, and would be addressed on an individual basis. There would be a beneficial effect from the project in reducing the potential for exposure to wildland fires on existing residential uses in the local project vicinity. Therefore, with implementation of requirements, including a Fuel Modification Plan, the proposed project would not result in cumulatively considerable impacts relative to wildfire hazards.

In summary, the project would not contribute to cumulatively significant impacts with regard to hazardous materials, emergency response plans or hazards. Therefore, no mitigation measures to address cumulative impacts would be necessary.

4. MITIGATION MEASURES

Based on the analysis above, the project would result in a no significant or less than significant impacts with regard to hazards and hazardous materials. However, to ensure that impacts remain below the threshold, the following mitigation measures provided in Section 4.I, Public Services, of this Draft EIR with regard to fire protection services are also recommended to address wildland fire hazards:

Mitigation Measure PS-1: Prior to issuance of building permits, the project Applicant shall obtain CFD review and approval of the site plan, fuel modification plan, and project design features including, but not limited to roadway design to meet or exceed minimum fire and emergency access requirements including ingress/egress; driveway and fire lane width; turning radii inside and outside; grades/elevations; adequate on-site space to park CFD apparatus; fire hydrant sizing, spacing and locations; fire protection systems including automatic fire sprinkler systems and fire alarms installed in each residence; availability of adequate firefighting water flow; and approved building materials. The project Applicant shall implement the fuel modification plan and other CFD-required fire life safety features prior to issuance of a certificate of occupancy.

Mitigation Measure PS-2: Prior to the issuance of building permits, the project Applicant shall pay the required service and development fees pursuant to the "Fire Facilities Fund" as amended in Chapter 3.36 of the CMC to the City of Corona for the public improvements and facilities associated with the CFD.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

With compliance with applicable requirements regarding hazards and hazardous materials and with the implementation of the above mitigation measures, impacts associated with hazards and hazardous materials would be remain below the threshold.

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4.0 ENVIRONMENTAL IMPACT ANALYSIS
H. HYDROLOGY AND WATER QUALITY

INTRODUCTION

This section of the EIR evaluates the potential impacts to hydrology and water quality conditions in the City of Corona from implementation of the proposed project. The analysis in this section is based, in part, upon a *Preliminary Drainage Report (Hydrology Study)* and *Water Quality Management Plan (WQMP)*, which were both prepared by KWC Engineers in January 2014 as well as the *Infiltration Opportunities, Constraints and Recommendations for Water Quality Treatment Purposes* prepared by Ginter & Associates, Inc. in May 2013. These documents are included in Appendix H of this EIR.

1. ENVIRONMENTAL SETTING

a. Existing Conditions

(1) Existing Water Quality Conditions

(a) Santa Ana Region

The project site is located within Region 8 (Santa Ana Region) of the California Regional Water Quality Control Board (RWQCB). The Santa Ana River and its principal tributaries begin in the San Bernardino Mountains, the eastern San Gabriel Mountains, and the Santa Ana Mountains. The Santa Ana Region's boundaries are illustrated in **Figure 4.H-1**, *Santa Ana Region Watershed Map*. The project site falls within the Santa Ana River Watershed, with the primary water quality concerns being wastewater reclamation (Total Dissolved Solids [TDS] and nitrogen issues), groundwater recharge, water level management, and invasive plant eradication. **Table 4.H-1**, *Receiving Waters for Urban Runoff from the Project Site*, identifies receiving waters that would receive urban stormwater runoff from the project site, the listed water quality impairments, and beneficial uses associated with these water bodies (also see further discussion below regarding beneficial uses).

According to the Santa Ana Water Quality Control Plan, water quality in the project area is continuously altered by a number of factors including, but not limited to, consumptive use, importation of water high in dissolved solids, runoff from urban and agricultural areas, and the recycling of water within the basin. In general, water quality in the Santa Ana Region becomes progressively poorer as water moves along hydraulic flow paths. The highest quality water is typically associated with tributaries flowing from surrounding mountains and groundwater recharged by these streams. As indicated above in Table 4.H-1, each of the receiving waters has multiple designated beneficial uses. These designations provide a description of how the water is used and what beneficial purposes it serves. The following provides a description of each of these water uses for the two affected receiving water bodies.[1] Agricultural Supply (AGR) – Waters used for farming, horticulture, or ranching, including, but not limited to, irrigation, stock watering, and support of vegetation.

[1] *State Water Resources Control Board. "Water Quality Control Plan for the Santa Ana River Basin (Region 8)." Updated July 2014.*

Table 4.H-1

Receiving Waters for Urban Runoff from the Project Site

Receiving Waters	303(d) List Impairments	Designated Beneficial Uses	Proximity to RARE Beneficial Use
Temescal Creek, Reach 1	pH	REC1, REC2, WARM, WILD	--
Santa Ana River, Reach 3	Bacteria and Viruses (Pathogens), Copper (wet season) and Lead	AGR, GWR, REC1, REC2, WARM, WILD, RARE	--

Notes: pH = percent hydrogen (acidity/alkalinity); AGR = Agricultural Supply; GWR = Ground Water Recharge; REC1 = Water Contact Recreation; REC2 = Non-contact Water Recreation; WARM = Warm Water Freshwater Habitat; WILD = Wildlife Habitat; RARE = Rare, threatened, or endangered species.

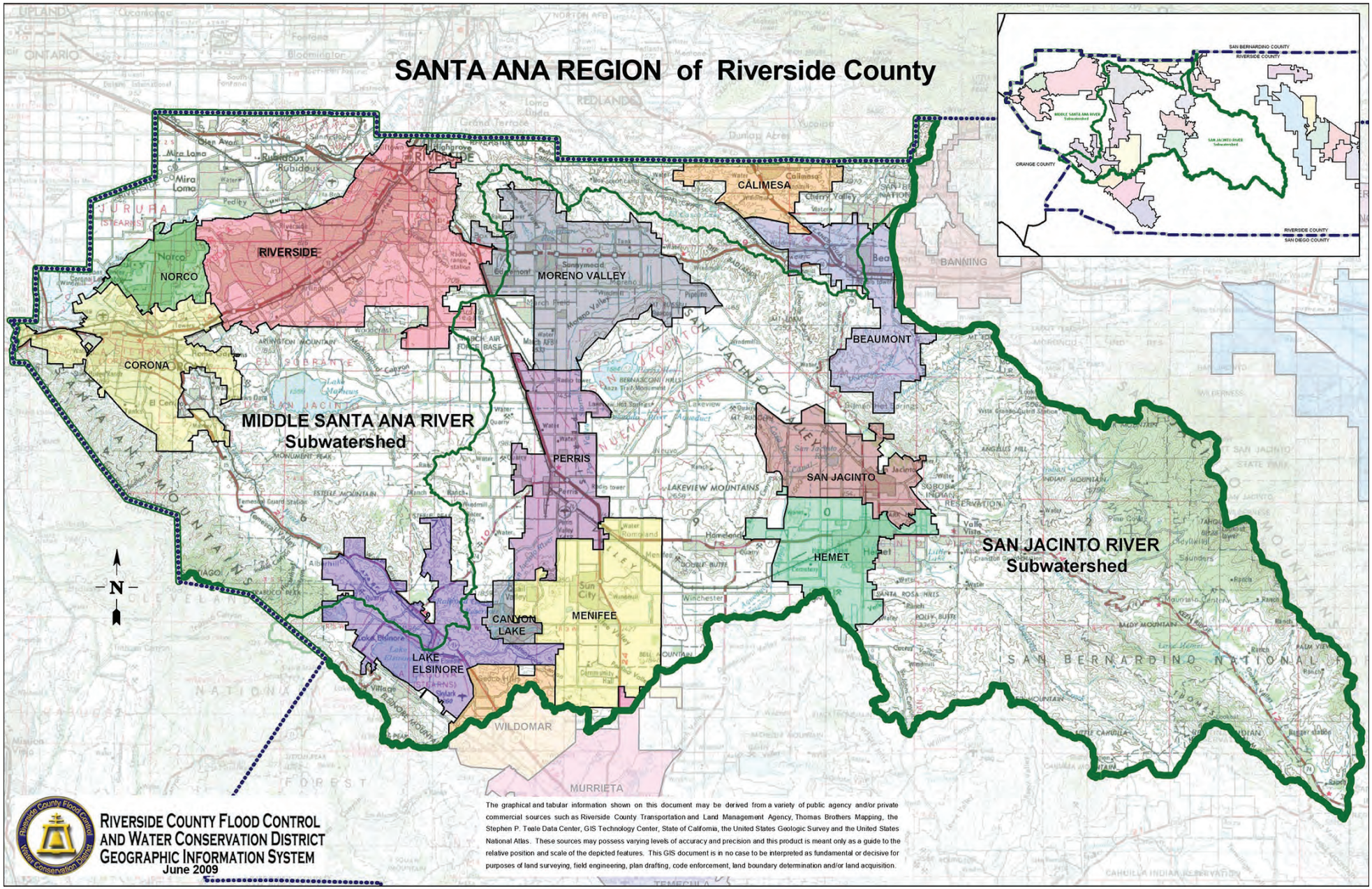
Source: KWC Engineers, 2014 and PCR Services Corporation, 2014.

- Groundwater Recharge (GWR) – Waters used for natural or artificial recharge of groundwater for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers.
- Rare, Threatened, or Endangered (RARE) – Waters support the habitats necessary for the survival and successful maintenance of plant or animal species designated under state or federal law as rare, threatened, or endangered.
- Water Contact Recreation (REC1) – Waters used for recreational activities involving body contact with water where ingestion of water is reasonably possible. Uses include, but are not limited to, swimming, water-skiing, whitewater activities, fishing, and use of natural hot springs.
- Non-contact Water Recreation (REC2) – Waters used for recreational activities involving proximity to water, but not normally involving body contact with water where ingestion of water is reasonably possible. Uses include, but are not limited to, picnicking, sunbathing, hiking, camping, boating, hunting, sightseeing, and aesthetic enjoyment.
- Warm Freshwater Habitat (WARM) – Waters that support warm water ecosystems including, but not limited to, preservation and enhancement of aquatic habitats, vegetation, fish, and wildlife, including invertebrates.
- Wildlife Habitat (WILD) – Water that support wildlife habitats including, but not limited to, the preservation and enhancement of vegetation and prey species used by wildlife, such as waterfowl.

(2) Existing Surface Hydrology and Drainage Conditions

The project site is located within the Foothill area of the City's West Sphere of Influence (SOI) within the Santa Ana River Watershed, which encompasses approximately 153.2 square miles across three counties (San Bernardino County, Riverside County, and Orange County). Flows within this watershed start in the San Bernardino Valley, crossing Riverside and Orange Counties before emptying into the Pacific Ocean.

The project site consists of sparsely vegetated and otherwise undeveloped land with the exception of dirt roads. The site is characterized by steep topography, generally increasing in elevation from the northeast to



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Santa Ana River Watershed Map

Skyline Heights Project

Source: Riverside County Flood Control and Water Conservation District, 2009.

FIGURE

4.H-1

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the southwest. There are several canyons and ravines on the site that convey natural drainage across the site. The site generally drains from southwest to northeast, in a natural canyon flow condition, with the flowline of the streams having an average slope of about 10 to 20 percent.

Figure 4.H-2, *Existing Site Hydrology*, illustrates the current drainage patterns within and surrounding the project site. There are four major watersheds on and adjacent to the site: Areas A, B, C, and D. Area A is approximately 15.4 acres in size and is located north of Mabey Canyon and is situated entirely on the site. The northerly and westerly portion of Area A drains north and west. Area B is approximately 48.2 acres in size and is located south of Mabey Canyon and is situated entirely on the site. Currently, the natural canyon flows into an engineered open space west of Cape Drive, into a concrete trapezoidal channel that flows towards Border Avenue. Area C, which is approximately 311.6 acres in size, is located south of Area B and extends in a westerly direction off the site. The un-named blueline stream, which is located in Area C, flows into the Oak Street Debris Basin via an engineered concrete trapezoidal channel. Area D, which is approximately 44.5 acres, is located on the southern portion of the site and extends beyond the site boundary. The natural canyon drains into a storm drain located in Trudy Way which outlets into the Oak Street Debris Basin. The total site drainage area comprises approximately 419.7 acres and under existing conditions generates 977.0 cubic feet per second (cfs) in the 100-year event and 594.9 cfs in the 10-year event.

There are two USGS designated blueline streams onsite. Mabey Canyon flows into an existing basin prior to discharging towards Lincoln Avenue. The other un-named stream flows into Kroonen Channel and the Oak Street Debris Basin prior to discharging into the Oak Creek Channel.

Since the site is undeveloped there are no major drainage improvements on-site or upstream of the site. The City of Corona Drainage Master Plan does not identify the drainage facilities for the area surrounding the Skyline Heights project site area. Under existing conditions, stormwater runoff is conveyed via natural channel flow through the site and discharges into storm drains in Border Avenue, Lincoln Avenue and the Oak Street Channel before discharging into Temescal Creek – Reach 1, which is located approximately three miles north of the site.

(3) Groundwater Resources

Water resources in the City and throughout Riverside County are sustained by substantial groundwater basins, which are used as reservoirs to store water during wet years. These underground reservoirs are tapped throughout the year according to the demand for water. Groundwater conditions in these basins are influenced by natural hydrologic conditions such as percolation of precipitation, groundwater seepage, and ephemeral stream flow within the watershed areas.

As discussed in the 2008 Groundwater Management Plan (GWMP, included as Appendix D to the City's 2010 Urban Water Management Plan [UWMP]), the City's service area overlays the Temescal, Bedford, and Coldwater sub-basins, though only the Temescal sub-basin underlies a portion of the site. The Temescal sub-basin is a DWR-defined sub-basin of the Upper Santa Ana Valley Groundwater Basin, bounded on the north by the Chino sub-basin and the south by the Elsinore Groundwater Basin. The GWMP mentions that the Bedford and Coldwater sub-basins were historically considered a part of the Elsinore Groundwater Basin, but are not DWR-defined sub-basins. **Figure 4.H-3**, *Groundwater Basins*, illustrates the extents of the Temescal sub-basin and the approximate locations of the Bedford and Coldwater sub-basins.

The City's groundwater supplies are pumped from the Temescal, Bedford, and Coldwater sub-basins. The City has 25 groundwater wells consisting of 20 wells in the Temescal sub-basin, seven of which feed the Temescal Desalter, and five wells in the Coldwater sub-basin, two of which are inactive. In the past decade the City has strived to increase the production of local water relative to imported water. In 2000, water from the all of the basins composed 33 percent of total production. Since 2006, this percentage has varied between 53 and 62 percent.

The three sub-basins from which the City extracts groundwater are not adjudicated, as defined by DWR. Therefore, there are no defined legal pumping rights for the City. While there is no formal legal adjudication of the basins, a memorandum of agreement concerning water production from the Coldwater sub-basin went into effect December 1, 2008. The agreement arose because a groundwater well (Trilogy Well), constructed by Elsinore Valley Municipal Water District (EVMWD) was not located in accordance with terms of a previous legal agreement established in 1963.

The new agreement ensures that the City and the EVMWD will be allowed to pump sufficient water from the Coldwater sub-basin to meet their respective requirements and to maximize the sustainable use of the Coldwater sub-basin as a water supply. According to the agreement, an operating committee will annually determine the amount of groundwater that can be safely extracted from the Coldwater sub-basin.

(a) Bedford Sub-basin

The Bedford sub-basin is located south of the Temescal sub-basin in Temescal Canyon between the Santa Ana Mountains and the El Sobrante Hills (see Figure 4.H-3). The basin covers an area of approximately ten square miles with an alluvial depth ranging from 30 to 200 feet. Groundwater within the basin tends to flow northwest into the Temescal sub-basin. The City has abandoned one potable well in the Bedford sub-basin, Well No. 4, and has two non-potable wells that can be used to supplement reclaimed water from the water reclamation facility (WRF). Between 2007 and 2009, an average of just under 300 acre-feet per year (AFY) was supplied by the non-potable wells. The City currently does not use the non-potable wells for a continuous source of supply, but they can supplement the reclaimed water system when necessary. With additional treatment, the City may use the wells as a potable supply source in the future.

Other extractors from the basin have been EVMWD and Foothill Properties. EVMWD extracted 616 AF from four wells in 1993, and Foothill Properties extracted 887 AF from three wells in 1993. According to the 2008 GWMP, the City may plan to re-drill this source for future use.

(b) Coldwater Sub-basin

The City acquired the rights to the surface flows of Coldwater Canyon in 1964 when it purchased the assets of the Corona City Water Company (CCWC). To meet DPH requirements, the surface flow is spread in percolation ponds and extracted by the City's three Glen Ivy area wells in the Coldwater sub-basin.

The Coldwater sub-basin is located southwest of the Bedford sub-basin and the Temescal Wash (see Figure 4.H-3). The basin encompasses an area of approximately 2.6 square miles and lies within the structural graben between the Santa Ana Mountains to the west and the El Sobrante Hills to the east. The Coldwater sub-basin is bound by the North Glen Ivy Fault to the northeast. The North Glen Ivy Fault behaves as an effective barrier to groundwater flow and prevents migration of groundwater from the Coldwater

Sub Area	Area (ac)	Total Area (ac)	Q100 (cfs)	100-Yr Tc (min)	Q10 (cfs)	10-Yr Tc (min)
A1	2.42	2.42	5.07	7.46	5.07	7.46
A2	0.72	0.72	2.74	5.76	1.72	5.76
A3	2.51	2.51	5.34	7.51	5.24	7.51
A4	1.53	1.53	5.55	6.32	3.49	6.32
A5	8.22	8.22	19.67	14.23	12.22	14.23
Area A	*15.39*	*15.39*	*44.27*	*14.23*	*27.74*	*14.23*
B1	9.28	9.28	22.76	13.59	14.15	13.59
B2	9.99	19.27	45.92	15.13	28.39	15.37
B3	4.50	4.50	11.81	11.91	7.36	11.91
B4	17.20	21.70	55.26	12.79	34.27	12.93
Confluence	*40.97*	*40.97*	*94.10*	*12.80*	*58.17*	*12.93*
B5	7.26	7.26	26.45	6.74	16.02	6.74
Area B	*48.23*	*48.23*	*135.48*	*12.80*	*74.19*	*12.93*
C1	8.17	8.17	19.83	13.85	12.32	13.85
C2	96.72	104.89	232.66	16.64	142.46	17.12
C3	6.64	6.64	16.56	13.14	10.30	13.14
C4	19.65	26.29	63.15	14.48	39.02	14.69
Confluence	*131.18*	*131.18*	*291.99*	*16.64*	*178.71*	*17.12*
C5	9.37	140.55	312.25	13.53	191.08	17.83
C6	6.65	6.65	16.83	12.78	10.47	12.78
C7	10.53	17.18	43.48	12.78	27.06	12.78
C8	2.43	19.61	49.45	13.53	30.75	13.65
C9	13.52	33.13	82.66	13.77	51.31	13.85
C10	5.82	38.96	96.82	17.23	60.08	13.93
Confluence	*178.97*	*178.00*	*399.10*	*17.24*	*244.40*	*17.83*
C11	8.73	186.23	417.09	17.75	255.68	18.43
C12	6.07	6.07	14.86	13.64	9.23	13.63
C13	7.94	14.02	33.11	14.43	20.46	15.61
Confluence	*202.26*	*202.24*	*448.54*	*17.75*	*274.58*	*18.43*
C14	8.88	211.12	467.05	18.47	285.77	19.30
C15	5.58	5.58	13.26	14.43	8.24	14.43
C16	3.84	9.42	22.23	14.92	13.78	15.00
C17	3.97	13.38	31.50	19.42	19.52	15.00
C18	12.39	25.78	58.96	13.63	36.57	16.79
C19	2.84	2.84	7.36	14.52	4.58	17.21
C20	11.86	14.70	37.02	14.92	22.95	13.19
C21	59.97	74.67	579.61	13.05	412.19	20.43
Area C	*311.59*	*311.57*	*675.81*	*18.43*	*412.19*	*20.43*
D1	8.38	8.38	20.04	14.26	12.44	14.26
D2	7.86	7.86	19.52	13.25	12.14	13.25
D3	6.00	13.56	33.96	14.07	21.07	14.19
Confluence	*22.24*	*22.24*	*53.74*	*14.07*	*33.46*	*14.19*
D4	22.24	44.48	77.58	16.27	47.35	16.76
Area D	*44.48*	*44.48*	*131.32*	*16.27*	*80.81*	*16.76*
Total		*419.57*	*976.98*		*594.92*	

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Existing Site Hydrology

Skyline Heights Project

Source: KWC Engineers, 2014.

FIGURE

4.H-2

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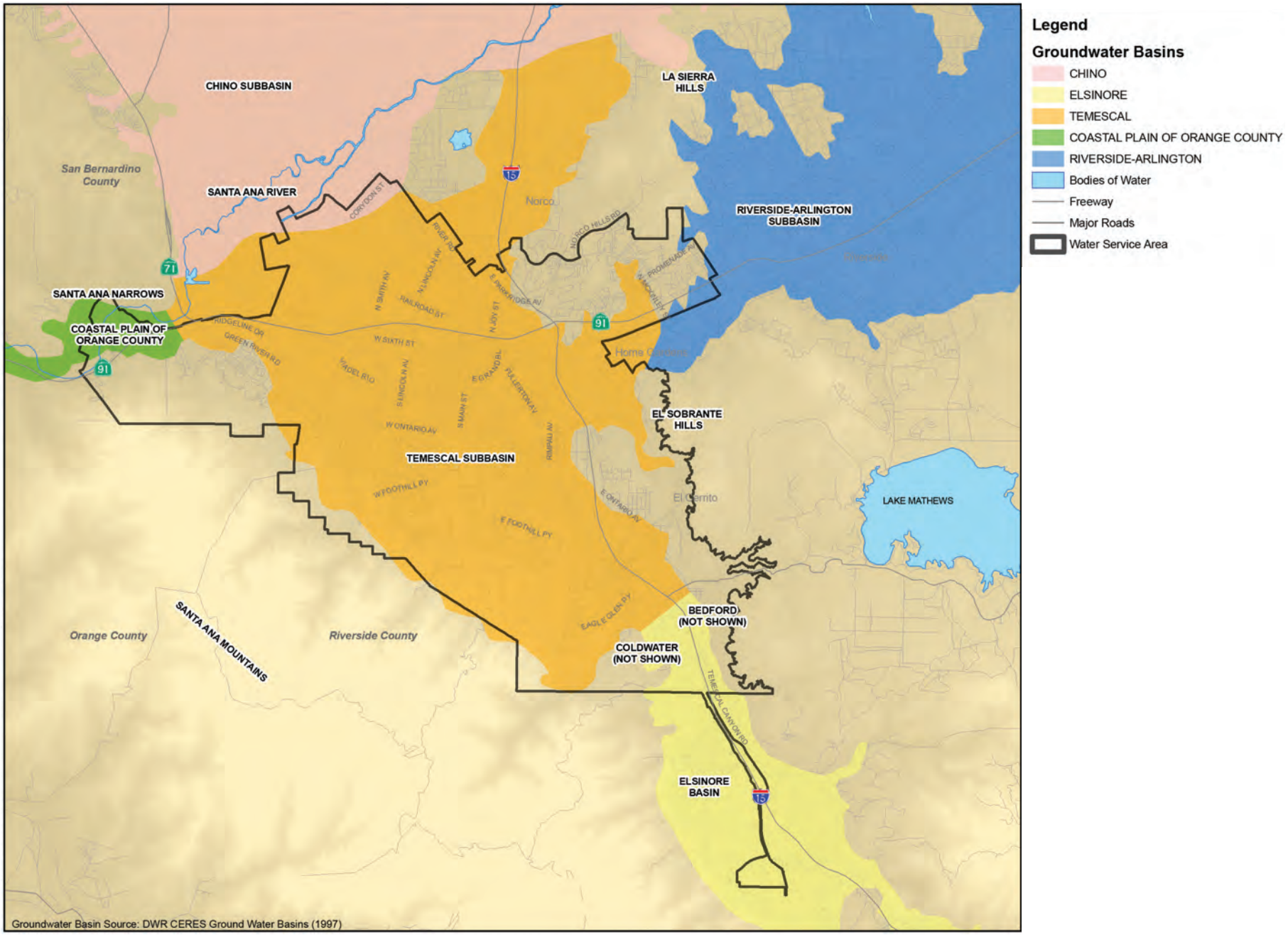

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N

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Groundwater Basins

Skyline Heights Project

Source: City of Corona, 2013.

FIGURE

4.H-3

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sub-basin into the Temescal Wash. Groundwater levels throughout the basin typically respond rapidly to precipitation and recharge because of the high permeability and limited groundwater storage within this basin.

The City and EVMWD are the two major extractors of groundwater from the Coldwater sub-basin. The City currently operates three wells in the Coldwater sub-basin. Future production from the Coldwater sub-basin is projected to remain static through the year 2030.

(c) Temescal Basin

The Temescal sub-basin encompasses an area of approximately 26 square miles bound by the Santa Ana River, La Sierra Hills, El Sobrante Hills and the Santa Ana Mountains. Typical depths for the City's wells in the Temescal sub-basin range from 180 to 480 feet. Groundwater quality of these wells typically does not meet the EPA and DPH maximum contaminant levels (MCLs) for nitrate (45 mg/L). The shallow basin groundwater typically has levels of nitrates ranging from 4.0 to 110 mg/L, some of which require treatment and/or blending to meet regulatory requirements.

(d) Groundwater Levels and Historical Trends

The groundwater sub-basins underlying the City have undergone significant changes since groundwater development began in the early 1900s. Since that time, the groundwater sub-basins have supported a variety of uses including extensive agricultural irrigation (especially citrus), industrial demand from mining and citrus packaging, and increasing urban use. Early agricultural activities in the sub-basins were supplemented by diversions of surface water imported into the basin. Agricultural reliance on groundwater increased through the 1940s and 1950s, peaking in the early 1960s but continuing into the 1970s.

Increasing urban use has replaced most of that early agricultural demand. Groundwater pumping has varied over time and by sub-basin. In the late 1940s, the total amount of groundwater pumping in the sub-basins was about 20,000 AFY. That amount increased to between 25,000 AFY and 32,000 AFY from the late 1950s to the mid-1970s. Total groundwater pumping decreased to below 20,000 AFY in the 1980s and early 1990s due to a decrease in agricultural irrigation, but has increased to about 25,000 AFY in recent years due to municipal pumping for urban uses. Most of the pumping occurred in the Temescal sub-basin.

Production in the Coldwater sub-basin has been less than 25 percent in recent years. Bedford sub-basin production is relatively minor and currently is only used to supplement the reclaimed water system when necessary. Total production exceeded 15,000 AFY in the Temescal sub-basin from 1951 to 1978 in support of agriculture irrigation with peak production occurring from 1959 through 1964. Production declined to below 10,000 AFY by 1979 and averaged about 9,419 AFY over the next 17 years (1979-1996). During this time, agricultural pumping had significantly declined, but municipal pumping had not yet increased. Since 2002, pumping has exceeded 20,000 AFY for the first time since the 1960s peak irrigation totals.

Total production in the Coldwater sub-basin typically ranges from less than 3,000 AFY to more than 10,000 AFY. Since 1980, production has averaged 7,018 AFY. Production from Bedford sub-basin is significantly less than in Temescal or Coldwater sub-basins. Since 1947, Bedford sub-basin production has ranged from 373 AFY to 4,658 AFY and has declined slightly over time with decreasing agriculture land use. The City has not supplied its potable water system from the Bedford sub-basin since 2000. The City has two non-potable

wells which supplement the reclaimed water system from the Bedford sub-basin, but currently does not rely upon these for continuous use.

(e) Sources of Recharge and Discharge

The Temescal sub-basin receives runoff and recharge from almost 14,000 acres of uplands in the adjacent Santa Ana Mountains. Watersheds contributing runoff from the east are almost as large, but contribute less runoff because of lower elevations and corresponding precipitation.

Temescal Wash is lined through most of the Corona city limits. The only unlined portion of the wash in the Temescal sub-basin is the 1.5-mile area where the wash emerges from Temescal Canyon. This area is characterized by high groundwater, likely the result of infiltration of stream flow and relatively fine-grained surficial deposits. Other than limited infiltration in this narrow section of the sub-basin, Temescal Wash does not contribute significant natural recharge to the Temescal sub-basin. However, the City operates three water reclamation facilities (WRFs), two of which provide percolation to groundwater in the Temescal sub-basin via wastewater discharge ponds.

Volume typically ranges between 4,000 and 10,000 AFY. Watersheds contributing runoff to the Coldwater sub-basin and Bedford sub-basin cover 9,525 acres and 11,858 acres, respectively, more than three times the area of the sub-basin. Although the watershed contributing runoff to the Bedford sub-basin is more than 2,000 acres larger than the Coldwater watershed, the Coldwater sub-basin receives more runoff due to the higher watershed elevations.

(4) Floodplains

The National Flood Insurance Act (1968) established the National Flood Insurance Program, which is based on the minimal requirements for flood plain management and is designed to minimize flood damage within Special Flood Hazard Areas. The Federal Emergency Management Agency (FEMA) is the agency that administrates the National Flood Insurance Program. Special Flood Hazard Areas (SFHAs) are defined as areas that have a one-percent chance of flooding within a given year, also referred to as the 100-year flood. Flood Insurance Rate Maps (FIRMs) were developed to identify areas of flood hazards within a community. According to the FIRM catalog, the FIRM produced by FEMA that cover the project area are Map Nos. 06065C1351G and 06065C1353G.[2] As illustrated on the FIRM, the project site is located outside the FIRM study limits and currently within an unmapped Zone X area.

b. Regulatory Framework

(1) Federal

(a) Clean Water Act

In 1972, President Nixon signed the Federal Water Pollution Control Act (now known as the Clean Water Act) into law (33 U.S.C. § 1251 *et seq.*) for purposes of restoring and maintaining the chemical, physical, and biological integrity of the nations' waters by preventing point and nonpoint pollution sources. More specifically, the Act introduced the National Pollutant Discharge Elimination System (NPDES) permits for the

[2] *Both maps were revised on August 28, 2008.*

discharge of pollutants to "Waters of the U.S."[3] from any point source.[4] In 1987, the Clean Water Act was amended to require that the U.S. Environmental Protection Agency (USEPA) establish regulations for permitting municipal and industrial storm water discharges under the NPDES permit program. Final regulations regarding storm water discharges were issued on November 16, 1990, and require that municipal separate storm sewer system (MS4) discharges and industrial (including construction) storm water discharges to surface waters be regulated by an NPDES permit.

The Clean Water Act requires states to adopt water quality standards for receiving water bodies and to have those standards approved by the USEPA. Water quality standards consist of designated beneficial uses for a particular receiving water body (e.g., wildlife habitat, agricultural supply, fishing), along with the water quality criteria necessary to support those uses. Water quality criteria are prescribed concentrations or levels of constituents (such as lead, suspended sediment, and fecal coliform bacteria) or narrative statements that represent the quality of water that support a particular use. Because the State of California was unable to develop these standards for priority toxic pollutants, the USEPA promulgated the California Toxics Rule in 1992 (40 Code of Federal Regulations [CFR] 131.38), which fills this gap. As a separate Rule, the California Toxics Rule is discussed further below under State regulations.

When water quality issues compromise the designated beneficial uses of a particular receiving water body, Section 303(d) of the Clean Water Act requires the identification and listing of that water body as "impaired". Once a water body has been deemed impaired, a Total Maximum Daily Load (TMDL) must be developed for the impairing pollutant(s). A TMDL is an estimate of the total load of pollutants from point, non-point, and natural sources that a water body may receive without exceeding applicable water quality standards (plus a "margin of safety"). Once established, the TMDL allocates the loads among the water body's current and future pollutant sources.

Section 404 of the Clean Water Act is a program administered by the U.S. Army Corps of Engineers (USACE) that regulates the discharge of dredged and fill material into "Waters of the U.S.", including wetlands. Activities that affect "Waters of the U.S." that are regulated under this program include fills for development (including physical alterations to drainages to accommodate storm drainage, stabilization, and flood-control improvements); water resource projects (such as dams and levees); infrastructure development (such as highways and airports); and conversion of wetlands to uplands for farming and forestry. The USEPA and the USACE have issued Section 404(b)(1) Guidelines (40 CFR 230) that regulate dredge and fill activities, including water quality aspects of such activities.

Section 401 of the Clean Water Act requires that any person applying for a federal permit or license that may result in a discharge of pollutants into "Waters of the U.S." must obtain a State water quality certification ensuring that the activity complies with all applicable water quality standards, limitations, and restrictions. Section 404 permits and authorizations are subject to a Section 401 certification by the local Regional Water Quality Control Board (RWQCB).

[3] *"Waters of the U.S." include all waters that have, are, or may be used in interstate or foreign commerce (including sightseeing or hunting), including all waters subject to the ebb and flow of the tide and all interstate waters including interstate wetlands (33 CFR 328.3).*

[4] *Point sources are discrete water conveyances such as pipes or man-made ditches.*

(b) Federal Antidegradation Policy

The federal Antidegradation Policy was released in 1968 and was included in the USEPA's first Water Quality Standards Regulation. The Antidegradation Policy represents a three-tiered approach to maintaining and protecting water quality. First, all existing beneficial uses and levels of water quality necessary to protect those uses must be preserved and protected from degradation. Second, water quality must be protected in areas where the quality cannot support the propagation of fish, shellfish, and wildlife and recreation ("fishable/swimmable"). Third, the policy provides special protection of waters for which the ordinary water quality criteria are not sufficient. These waters are called "Outstanding National Resources Waters" and have been designated as unique or ecologically sensitive.

If an activity is going to be allowed to degrade or lower water quality (in situations where existing water quality is higher than that needed to maintain established beneficial uses), the Antidegradation Policy requires that proposed projects meet the criteria below:

- The activity is necessary to accommodate important economic or social development in the area.
- Water quality is adequate to protect and fully maintain existing beneficial uses.

(c) National Flood Insurance Act

The National Flood Insurance Act of 1968 (42 U.S.C. 4001, *et. Seq.)* established the National Flood Insurance Program, which is based on the minimal requirements for floodplain management and is designed to minimize flood damage within Special Flood Hazard Areas. FEMA is the agency that administers the National Flood Insurance Program. Special Flood Hazard Areas (SFHA) are defined as areas that have a one-percent chance of flooding within a given year, also referred to as the 100-year flood. Flood Insurance Rate Maps were developed to identify areas of flood hazards within a community.

(2) State

(a) Porter-Cologne Water Quality Act

California's Porter-Cologne Water Quality Control Act of 1970 (Water Code § 13000 *et seq.)* (Porter-Cologne Act) grants the State Water Resource Control Board (SWRCB) and the nine regional boards (RWQCBs) power to protect surface water and groundwater quality and is the primary vehicle for implementing California's responsibilities under the federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges of waste to surface and groundwater, to regulate waste disposal sites, and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a Water Quality Control Plan (Basin Plan) for its region. The Basin Plan must conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State Water Policy. The Basin Plan establishes beneficial uses for surface and groundwater in the region, and sets forth narrative and numeric water quality standards to protect those beneficial uses. The Porter-Cologne Act also states that an RWQCB may include water discharge prohibitions applicable to particular conditions, areas, or types of waste within its regional plan. For this project, the applicable RWQCB is the Santa Ana Board (Region 8).

(b) California Toxics Rule

The California Toxics Rule (40 CFR 131.38) is a USEPA-issued federal regulation that provides water quality criteria for potentially toxic constituents in California surface waters with designated uses related to human health or aquatic life. The rule fills a gap in California water quality standards that was created in 1994 when a State court overturned the State's water quality control plans containing water quality criteria for priority toxic pollutants. These federal criteria are legally applicable in the State of California for inland surface waters, enclosed bays, and estuaries for all purposes and programs under the Clean Water Act.

The California Toxics Rule establishes two types of aquatic life criteria: (1) acute criteria represent the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time[5] without harmful effects and (2) chronic criteria equal the highest concentration to which aquatic life can be exposed for an extended period of time (four days) without deleterious effects. Due to the intermittent nature of storm water runoff (especially in southern California), the acute criteria are considered to be more applicable to storm water conditions than chronic criteria.

(c) State Antidegradation Policy

State Water Board Resolution No. 68-16 ("Statement of Policy with Respect to Maintaining the High Quality of Waters of the State", also known as the "Anti-degradation Policy") restricts degradation of surface water and groundwater. In particular, Resolution 68-16 protects water bodies where existing quality is higher than necessary for the protection of beneficial uses. Under Resolution 68-16, whenever the existing quality of water is better than the quality established in policies, such existing high quality will be maintained until it has been demonstrated to the state that any change would be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality that is less than that prescribed in the policies. Any activity that produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements that would result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with the maximum benefit to the people of the State will be maintained.

(d) National Pollutant Discharge Elimination System Permit

The NPDES permit program is administered in the State of California by the RWQCBs, and was first established under the authority of the Clean Water Act to control water pollution by regulating point and non-point sources that discharge pollutants into "Waters of the U.S.". If discharges from industrial, municipal, and other facilities go directly to surface waters, those project applicants must obtain permits. An individual NPDES permit is specifically tailored to a facility. A general NPDES permit covers multiple facilities within a specific activity category such as construction activities. A general permit applies the same or similar conditions to all dischargers covered under the general permit.

[5] *The rule does not specify timeframe for "acute". Standard practice would likely imply that any condition that is permanent or semi-permanent is chronic—all else would be short-term.*

(i) General Construction Permit

The SWRCB has issued a statewide general NPDES Permit and Waste Discharge Requirements (WDRs) for storm water discharges from construction sites. Under this General Construction Permit, discharges of storm water from construction sites with a disturbed area of one or more acres are required to either obtain individual NPDES permits for storm water discharges or be covered by the General Construction Permit. Each applicant under the General Construction Permit must file a Notice of Intent (NOI) with the RWQCB and ensure that a Storm Water Pollution Prevention Plan (SWPPP) is prepared prior to grading. Terms of the SWPPP must be implemented during construction. The primary objective of the SWPPP is to identify Best Management Practices (BMPs) to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges from the site during construction.

In 1999, the SWRCB issued and subsequently amended the General Construction Storm Water Permit (Water Quality Order 99-08-DWQ), which governs discharges from construction sites that disturb one acre or more of surface area. Again, on September 2, 2009, the SWRCB adopted a General Construction Permit that (Water Quality Order 2009-0009-DWQ) substantially altered the approach taken to regulate construction discharges through (1) requiring the determination of risk levels posed by a project's construction discharges to water quality and (2) establishing numerical water quality thresholds that trigger permit violations. These permit regulations took effect on July 1, 2010, but were challenged. Subsequent to the legal challenge, the SWRCB adopted an order 2010 and then another updated permit on July 17, 2012 (WQO-2012-0006-DWQ/NPDES CAS000002).

(ii) Municipal Storm Water Permitting (MS4 Permit)

The State's Municipal Storm Water Permitting Program regulates storm water discharges from MS4s. MS4 Permits were issued in two phases. Phase I was initiated in 1990, under which the RWQCBs adopted NPDES storm water permits for medium (serving between 100,000 and 250,000 people) and large (serving more than 250,000 people) municipalities. As part of Phase II, the SWRCB adopted a General Permit for small MS4s (serving less than 100,000 people) and non-traditional small MS4s including governmental facilities such as military bases, public campuses, and prison and hospital complexes (WQ Order No. 2003-0005-DWQ).

(e) Groundwater Management

The Groundwater Management Act (Water Code §§ 10750-10755.4) was first introduced in 1992 as Assembly Bill 3030. It has since been amended by SB 1938 in 2002 and AB 359 in 2011. Generally, the Groundwater Management Act provides a systematic procedure for local agencies to develop Groundwater Management Plans (GMPs). The 2011 amendments to the Act require public agencies to prepare and implement GWPs that focus on identifying groundwater recharge areas.

In September 2014, Governor Brown signed a three-bill legislative package (AB 1739, SB 1168, and SB 1319) into law, collectively referred to as the Sustainable Groundwater Management Act (SGMA). The SGMA provides a framework for sustainable management of ground water supplies by local authorities, with a limited role for state intervention if necessary to protect the groundwater resource. The SGMA requires the formation of local groundwater sustainability agencies (GSAs) that must assess conditions in their local water basins and adopt locally-based management plans. Once identified, the GSAs have the authority to require registration of groundwater wells, measure and manage extractions, require reports and assess fees,

request revisions of basin boundaries, including establishing new sub-basins. GSAs responsible for high- and medium-priority basins must adopt groundwater sustainability plans within five to seven years, depending on whether the basin is in critical overdraft. Agencies may adopt a single plan covering an entire basin or combine a number of plans created by multiple agencies. Preparation of groundwater sustainability plans is exempt from CEQA. Plans must include a physical description of the basin, including groundwater levels, groundwater quality, subsidence, information on groundwater-surface water interaction, data on historical and projected water demands and supplies, monitoring and management provisions, and a description of how the plan will affect other plans, including city and county general plans. Plans will be evaluated every five years.

The Department of Water Resources (DWR) also has duties under the SGMA, including: designating basins as high, medium, low or very low priority (January 1, 2015); adopting regulations for boundary adjustments (January 1, 2016); adopting regulations for evaluating the adequacy of GSPs and GSA coordination agreements (June 1, 2016); publishing a report estimating water available for groundwater replenishment (December 31, 2016); and publishing groundwater sustainability BMPs (January 1, 2017). The project site is located in the Upper Santa Ana Valley Groundwater Basin. This groundwater basin has been designated as a medium priority basin by the DWR.[6] The GSA for the Upper Santa Ana Valley Groundwater Basin is the Western Municipal Water District (WMWD).

(3) Regional

(a) Basin Plan

As indicated above, the project site is located within the Santa Ana RWQCB's jurisdiction. The Water Quality Control Plan for the Santa Ana River Basin (Santa Ana River Basin Plan) designates beneficial uses and water quality objectives for water bodies in the region. Narrative water quality criteria contained in the Basin Plan cover a range of both organic and inorganic constituents for both surface and groundwater; the Santa Ana River Basin Plan prohibits the degradation of water quality in a manner that would adversely impact a water body's designated beneficial uses. The Basin Plan incorporates applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act. For certain designated surface water bodies and groundwater management zones, specific numeric water quality objectives have been established for a range of constituents. These water quality criteria apply within receiving waters and do not apply directly to runoff. Within the project area, there are no water bodies (or groundwater management zones) for which numeric objectives have been established. However, there are water quality objectives that apply by the tributary rule.

The Santa Ana RWQCB defines a beneficial use for surface waters in the region as "one of the various ways that water can be used for the benefit of people and/or wildlife." Beneficial uses, along with specific water quality criteria, comprise water quality standards for surface (navigable) waters as defined by Section 303 of the federal Clean Water Act (33 United States Code [USC] §1313). Under the Porter-Cologne Water Quality Control Act (California Water Code §§13050 et seq.), these concepts are separately considered as beneficial uses and water quality objectives. Beneficial uses and water quality objectives are to be established for all "Waters of the State", both surface and subsurface groundwater.

[6] *California Department of Water Resources Website, CASGEM Groundwater Basin Prioritization, Casgem Basin Summary, Upper Santa Ana Valley, dated May 30, 2014, http://www.water.ca.gov/groundwater/casgem/pdfs/basin_prioritization/SRO%20206.pdf, accessed June 2015.*

There are 23 beneficial uses defined statewide; of these, 19 are recognized within the Santa Ana Region. One additional beneficial use—Limited Warm Freshwater Habitat—is unique to the Santa Ana Region, bringing the total number of beneficial uses recognized in the Santa Ana Region to 20. The 20 beneficial uses include the following: MUN: municipal and domestic supply; AGR: agricultural supply; IND: industrial service supply; PROC: industrial process supply; GWR: Groundwater Recharge; NAV: navigation; POW: hydropower generation; REC1: water contact recreation; REC2: noncontact water recreation; COMM: commercial and sport fishing; WARM: warm freshwater habitat; LWARM: limited warm freshwater habitat; COLD: cold freshwater habitat; BIOL: biological significance; WILD: wildlife habitat; RARE: rare, threatened, or endangered species; SPWN: spawning, reproduction, and development; MAR: marine habitat; SHEL: shellfish harvesting; EST: estuarine habitat. The beneficial uses identified for Temescal Creek (Reach 1) and the Santa Ana River (Reach 3) are listed in the Existing Conditions section above.

(b) General Waste Discharge Requirements for Discharges to Surface Waters Which Pose an Insignificant (de minimus) Threat to Water Quality (Dewatering Permit)

The Santa Ana RWQCB issued Order No. R8-2003-0061 and Amendments to NPDES Permit No. CAG998001 (Dewatering Permit) to regulate the discharge of dewatering wastes from construction, subterranean seepage, and other similar types of discharges considered to have "de minimus" impacts on water quality within the jurisdictions covered by the permit. This permit was updated in March 2009 (by Order No. R8-2009-0003, NPDES NP. CAG998001) and applies to projects located within the jurisdiction of the Santa Ana RWQCB, including the City of Corona. To obtain coverage under this permit, an applicant must submit a Notice of Intent (NOI) and data establishing the chemical characteristics of the dewatering discharge. A standard monitoring and reporting program is included as part of the permit. For dewatering activities that are not covered by the General Permit, Waste Discharge Requirements, and an individual NPDES permit must be obtained from the applicable RWQCB.

(c) Riverside County Water Quality Management Plan (WQMP) Guidance Document

This document is intended to provide guidelines for project-specific post-construction BMPs and for regional and sub-regional source control BMPs and structural BMPs to address management of urban runoff quantity and quality to protect receiving waters. The document identifies the BMPs, including design criteria for treatment control BMPs that may be applicable when considering any map or permit for which discretionary approval is sought. New development and significant redevelopment projects submitted since December 31, 2004, are required to submit a project-specific WQMP prior to the first discretionary project approval or permit. Project applicants may be required to submit a preliminary project-specific WQMP for discretionary project approval (such as land use entitlement). Project applicants are required to submit for review and approval a final project-specific WQMP that is in substantial conformance with the preliminary project-specific WQMP prior to the issuance of any building or grading permit. The new MS4 permit adopted on January 29, 2010 and amended on June 7, 2013, identifies new requirements for approval of WQMPs by local agencies.

(4) Local

(a) City of Corona Groundwater Management Plan

The City of Corona developed a Groundwater Management Plan in 2008 (GWMP) to support the management of a reliable and sustainable groundwater resource for the City. The GWMP follows the guidelines set forth by AB 3030, the California Department of Water Resources Groundwater Management

Act, which provides a systematic procedure for an existing local agency to develop a groundwater management plan. The GWMP allows the City of Corona to address issues of groundwater recharge and storage in order to effectively manage the local sub-basins and the City's water supply. The GWMP area covers three groundwater sub-basins within the City's water service area and sphere of influence. These three sub-basins, including the Temescal, Coldwater, and Bedford sub-basins, are located in western Riverside County in the Santa Ana River Watershed. Collectively, the analysis of these basins is used to describe the "state of the basins" with respect to groundwater use, water levels, quality, and storage. The GWMP identified the following objectives for the management and operations of the relevant basins:

- Operate the groundwater basin in a sustainable manner for beneficial uses;
- Increase the reliability of water supply for basin users;
- Prevent substantial water level declines in Channel Aquifer;
- Protect groundwater quality in unconfined aquifers;
- Maintain required outflow at Prado Dam; and
- Monitor groundwater levels, quality, and storage.

(b) City of Corona General Plan

The City of Corona General Plan contains policies relevant to hydrology, drainage, groundwater resources, and surface water quality. Specifically, the relevant policies of the Infrastructure and Utilities Element and the Environmental Resources Element of the General Plan address impacts of development on the City's storm drain system, surface water quality, flooding hazards, and City water supply sources including groundwater basins. The proposed project's consistency with the applicable policies of the General Plan is discussed below under Consistency with Regulatory Framework.

(c) City of Corona Municipal Code

The City of Corona Municipal Code (CMC) contains various requirements relative to stormwater management, including minimizing flooding, construction of and connection to City storm drains, and control pollutants in storm water runoff from development sites. The relevant regulations contained in the CMC are discussed individually below.

(i) Floodplain Management

Title 18, *Floodplain Management*, of the CMC is intended to protect people and property within the City from flooding and flood-related hazards. The purpose of CMC Title 18 is to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

1. Protect human life and health;
2. Minimize the expenditure of public funds for costly flood control projects;
3. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

4. Minimize prolonged business interruptions;

5. Minimize damage to public facilities and utilities such as water and gas mains; electric, telephone and sewer lines; streets and bridges located in areas of special flood hazard;

6. Help maintain a stable tax base by providing for the use and development of areas of special flood hazard so as to minimize future flood blight areas;

7. Ensure that potential buyers are notified that property is in an area of special flood hazard; and

8. Assure that those who occupy the areas of special flood hazard assume responsibility for their actions.

(ii) Storm Drains

Chapter 13.16, *Storm Drains*, of the CMC addresses the construction of and connection to the City's storm drain system. Chapter 13.16 regulates diversions of stormwater flows from existing storm drains, prohibits off-site flow of irrigation runoff or other wastewater, and dictates the size and location of catch basins.

(iii) Storm Water Management and Discharge Controls

Chapter 13.27, *Storm Water Management and Discharge Controls*, of the CMC regulates stormwater quality and discharges to the storm drain system. The purpose of Chapter 13.27 is to protect the future health, safety and general welfare of the City's citizens by:

1. Reducing pollutants in storm water discharges to the maximum extent practicable;

2. Regulating illicit connections and discharges to the storm drain system; and

3. Regulating non-storm water discharges to the storm drain system.

The enforcement of Chapter 13.27 is intended to protect and enhance the water quality of City watercourses, water bodies, groundwater and wetlands in a manner consistent with the Federal Clean Water Act (33 USC 1342 et seq.).

2. ENVIRONMENTAL IMPACTS

a. Methodology

A Hydrology Study was prepared by KWC Engineers for the project. The purpose of the study was to hydrologically model the project site's on-site and off-site tributary watersheds and to determine the existing and proposed peak runoffs and volumes in order to analyze stormwater measures. The hydrologic analysis was prepared using the Rational Method as specified in the Riverside County Hydrology Manual. The Hydrology Study also approximates the peak storage required to mitigate any increased runoff due to development for the most critical storm and duration event using the Unit Hydrograph Method in accordance with the Riverside County Rational Method. The Hydrology Study also contains a Debris Basin Analysis for the undeveloped tributary watershed areas upstream of the site. The analysis was conducted using the U.S. Army Corps of Engineers Los Angeles District Method for Prediction of Debris Yield

Water quality impacts were assessed by considering the types of pollutants and/or effects on water quality likely to be associated with construction and operation of the project, project design features to treat contaminants, and expected contaminant flows with project implementation. Project consistency with relevant regulatory permits/requirements, including BMPs and applicable plans, was evaluated to demonstrate how compliance would ensure that the project would not significantly degrade existing water quality.

Flooding impacts were addressed in consideration of applicable safety policies of the City's General Plan Safety Element and the design requirements within the City's Municipal Code. A determination was made as to whether such policies, procedures, and regulatory requirements would adequately address potential flooding hazards on the site.

Groundwater impacts were evaluated by estimating the domestic water demands of the proposed project, a portion of which is provided by local groundwater basins, relative to the safe yield of affected aquifers.

b. Thresholds of Significance

Appendix G of the *CEQA Guidelines* provides a checklist of questions to assist in determining whether a proposed project would have a significant impact related to various environmental issues including hydrology and water quality. Based on the following issue areas identified in Appendix G of the *CEQA Guidelines*, a significant impact to hydrology and water quality would occur if the project would result:

Threshold 1: Violate any water quality standards or waste discharge requirements (refer to Impact Statement 4.H-1 below);

Threshold 2: Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted) (refer to Impact Statement 4.H-2 below);

Threshold 3: Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site (refer to Impact Statement 4.H-1 below);

Threshold 4: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site (refer to Impact Statement 4.H-3 below);

Threshold 5: 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 (refer to Impact Statement 4.H-3 below);

Threshold 6: Otherwise substantially degrade water quality (refer to Impact Statement 4.H-1 below);

Threshold 7: Place housing within a 100-year flood plain as mapped on federal Flood Hazard Boundary or Flood Insurance Rate Maps or other flood hazard delineation maps (refer to Impact Statement 4.H-4 below);

Threshold 8: Place within a 100-year flood plain structures which would impede or redirect flood flows (refer to Impact Statement 4.H-4 below);

Threshold 9: Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam (refer to Impact Statement 4.H-4 below);

Threshold 10: Inundation by seiche, tsunami, or mudflow (refer to Impact Statement 4.H-4 below); or

Threshold 11: Comply with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan and municipal code) adopted for the purpose of avoiding or mitigating a physical impact associated with hydrology and water quality (refer to Impact Statement 4.H-5 below).

c. Project Design Features

A Water Quality Management Plan (WQMP) has been prepared for the proposed project in compliance with the requirements of the County and City NPDES Stormwater Program requirements for stormwater management. The following Project Design Features (PDFs), which include various Best Management Practices (BMPs), would be incorporated into the project:

PDF HYD-1 The project will consist of 292 single family residential lots with a minimum lot size of 7,200 square feet on 270.9 acres and the proposed development pattern will preserve approximately 96 acres of this area as natural open space areas in which no grading would occur and thus the existing vegetation and drainage patterns will be protected.

PDF HYD-2 Approximately 21.38 acres of the site will be acquired by the RCTC/City of Corona for the construction of the Westerly Extension of Foothill Parkway and Mabey Canyon Debris Basin. Drainage and water quality for these areas will be coordinated with the development plans for the project.

PDF HYD-3 The Applicant will seek coverage under the Statewide General Construction Activity NPDES Permit. In accordance with the requirements of the permit, the Applicant will implement a Storm Water Pollution Prevention Plan (SWPPP), which will specify BMPs and erosion control measures to be used during construction that will address both runoff conditions and potential pollution. BMPs could include, but not be limited to, such measures as water bars, silt fences, staked straw bales, wind erosion control, stabilized construction entrances and exits, and street sweeping and vacuuming.

PDF HYD-4 The project will install a system of flow-by basins, detention basins, and storm drain piping so that off-site flows will by-pass the site and will not be co-mingled with development runoff which will be treated at the designated BMP treatment areas.

PDF HYD-5 The site is divided into five tributary areas, or Drainage Management Areas (DMAs), which are designated as Basins A, B, C, D, and E. The Applicant will install biotreatment BMPs (i.e., extended detention basins) within each DMA as approved by the City Department of Public Works.

PDF HYD-6 The onsite storm drain system will be owned by the City of Corona and maintained by the Public Works Department, except for the WQMP basins and pipes leading to and from the WQMP basins, which will be maintained by the Homeowners' Association. An Operation and Maintenance Plan and Documentation of Finance, Maintenance and Recording Mechanisms (O&M) will be provided with the Final WQMP and will agreed to by the Applicant and the City of Corona to ensure perpetual maintenance of the BMPs.

PDF HYD-7 Project landscaping will comply with applicable landscaping requirements specified in Chapter 13.26, Water Conservation Plan of the CMC. The proposed landscape design will consist of moderately drought-tolerant sustainable plantings and trees and the irrigation system will utilize weather-based, water-conserving irrigation technology and management. Reclaimed water will be used for non-potable water demands.

d. Analysis of Project Impacts

(1) Water Quality

Threshold 1:	Would the project violate any water quality standards or waste discharge requirements?
Threshold 3:	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?
Threshold 6:	Would the project otherwise substantially degrade water quality?

Impact 4.H-1 *Construction and operation of the project would comply with all applicable regulatory requirements regarding water quality. Compliance with applicable regulatory requirements and implementation of the project design features, including BMPs as part of the project's WQMP, would ensure that construction and operational water quality impacts would be less than significant.*

(a) Construction

(i) Water Contaminants

Construction activities would include the use of heavy equipment and construction-related chemicals, such as fuels, oils, grease, solvents and paints that would be stored in limited quantities on-site. In the absence of

proper controls, these construction activities could result in accidental spills or disposal of potentially harmful materials used during construction that could wash into and pollute surface waters or groundwater.

However, the project would be subject to existing regulations associated with the protection of water quality. The applicable WDRs, the NPDES Construction General Permit for construction activities, and SWPPP (with associated BMPs) are considered protective of water quality during construction and would, therefore, prevent a substantial violation of water quality standards and minimize the potential for contributing additional sources of polluted runoff during construction of the project. These existing regulations, programs, and policies would ensure that the potential for discharge of polluted stormwater from construction sites to affect beneficial uses of receiving waters and water quality standards, where applicable, would not be substantial. Compliance with regulatory requirements would ensure that construction of the project would not result in the exceedance of water quality standards during construction, including TMDL limits applicable to Temescal Creek and Santa Ana River. Therefore, construction-related impacts would be less than significant.

(ii) Erosion and Sedimentation

During construction, the project site would be subject to ground-disturbing activities (e.g., excavation and grading, foundation and infrastructure construction, the installation of utilities). These activities would expose soils for a limited time, allowing for possible erosion and sediments to enter into runoff.

Although project development has the potential to result in the erosion of soils, this potential would be reduced through standard erosion controls imposed during site preparation and grading activities. For instance, the project would be subject to existing regulations associated with the protection of water quality. Specifically, construction activities would be carried out in accordance with the requirements of the General Construction NPDES Permit. In accordance with the requirements of the permit, the Project would implement a SWPPP, which as indicated in PDF HYD-3 would specify BMPs and erosion control measures to be used during construction that would address both runoff conditions and potential pollution. BMPs could include, but not be limited to, the use of or implementation of water bars, silt fences, staked straw bales, wind erosion control, stabilized construction entrances and exits, and street sweeping and vacuuming. Lastly, the project would implement standard erosion control construction practices as required by the City to reduce the potential for erosion during construction. With the implementation of standard erosion control measures, impacts with respect to erosion and sedimentation would be less than significant.

(b) Operation

(i) Pollutant Discharges

Stormwater discharge is generated by rainfall that runs off the land and impervious surfaces such as paved streets, driveways, patios, and rooftops. Stormwater discharge may include pollutants of concern, which are those that are expected to be generated by the project and that could impact stormwater. During operation of the project, pollutants of concern within runoff may include, but are not limited to, bacterial indicators, metals, nutrients, pesticides, toxic organic compounds, sediments, trash and debris, and oil and grease. These pollutants of concern are typical in hillside development and residential subdivisions. The project priority Pollutants of Concern are bacterial indicators and metals as these are the listed water quality impairments for the Temescal Creek and Santa Ana River.

This runoff can flow directly into storm drains and continue through pipes until it is released, untreated, into Temescal Creek and the Santa Ana River. Untreated stormwater runoff degrades water quality in surface waters and groundwater and can affect drinking water, human health, and plant and animal habitats. The project's design features, including operational BMPs, listed under the Project Design Features section above would be implemented in a manner consistent with applicable Municipal NPDES Permit and City WQMP requirements to ensure less than significant water quality impacts. The Preliminary WQMP has been prepared for the project in accordance with City of Corona WQMP requirements, which includes both source control and treatment control BMPs, as well as site design BMPs.

Based on the City's WQMP requirements, retention BMPs must be designed to retain, on-site, (infiltrate, harvest and use, or evapotranspire) storm water runoff up to 85 percent average annual capture efficiency. According to the Model WQMP, if it is not feasible to meet LID performance criteria through retention and/or biotreatment provided on-site or at a sub-regional/regional scale, then treatment control BMPs shall be provided on-site or off-site prior to discharge to waters of the US. Sizing of treatment control BMP(s) shall be based on either the unmet volume after claiming applicable water quality credits, if appropriate.

The City of Corona may conduct verifications to assure that implementation and appropriate maintenance of structural and non-structural BMPs prescribed within the project WQMP is taking place at the project site. The HOA would retain operations, inspections and maintenance records of these BMPs and they would be made available to the City upon request. All records would be maintained for at least five (5) years after the recorded inspection date for the lifetime of the project.

(ii) Hydrologic Conditions of Concern

In addition to the direct introduction of pollutants to stormwater flows, impacts to water quality can also result from changes to the hydrologic regime including: (1) increased runoff volume and velocity; (2) reduced infiltration; (3) increased flow frequency, duration, and peaks; (4) faster time to reach peak flow; or (5) other water quality degradation. Under certain circumstances, changes could also result in the reduction in the amount of available sediment for transport (i.e., storm flows could fill this sediment-carrying capacity by eroding the downstream channel). These changes have the potential to permanently impact downstream channels and habitat integrity. A change to the hydrologic regime of a development project site would be considered a hydrologic condition of concern (HCOC) if the change would have a significant impact on downstream erosion compared to the pre-development condition or have significant impacts on stream habitat, alone or as part of a cumulative impact from development in the watershed. A project-specific WQMP must address the issue of HCOCs unless one of the following exceptions apply to the project:

- **HCOC Exemption 1:** The Priority Development Project disturbs less than one acre. The Co-Permittee has the discretion to require a Project-Specific WQMP to address HCOCs on projects less than one acre on a case by case basis. The disturbed area calculation should include all disturbances associated with larger common plans of development.
- **HCOC Exemption 2:** The volume and time of concentration of storm water runoff for the post-development condition is not significantly different from the pre-development condition for a 2-year return frequency storm (a difference of 5% or less is considered insignificant) using one of the following methods to calculate:
    - Riverside County Hydrology Manual

- Technical Release 55 (TR-55): Urban Hydrology for Small Watersheds (NRCS 1986), or derivatives thereof, such as the Santa Barbara Urban Hydrograph Method
- Other methods acceptable to the Co-Permittee

- **HCOC Exemption 3:** All downstream conveyance channels to an adequate sump (for example, Prado Dam, Lake Elsinore, Canyon Lake, Santa Ana River, or other lake, reservoir or naturally erosion resistant feature) that will receive runoff from the project are engineered and regularly maintained to ensure design flow capacity; no sensitive stream habitat areas will be adversely affected; or are not identified on the Co-Permittees Hydromodification Sensitivity Maps.

The runoff from the proposed project site (WQMP Areas A, B, C, and E) would discharge directly to the City/County maintained MS4 Storm Drain System and the Mabey Canyon Debris Basin, which drains to the Santa Ana River Reach 3. These facilities have been identified by Riverside County Flood Control and Water Conservation District to be within a watershed not susceptible to HCOC according to the HCOC Applicability Map. As such, a portion of the proposed project would meet HCOC Exemption 3 above, and therefore, an analysis of HCOCs is not required for WQMP Areas A, B, C, and E.

However, the runoff from proposed WQMP drainage areas D1, D2, and D3 would not fall into HCOC Exemption 3 criteria, and therefore the project is required to mitigate the HCOC. As such, the project would include the installation of a series of privately maintained Detention Basins within the site to mitigate the HCOC requirements as well as the increase in runoff that would occur from the development of the site. The Hydrology Study indicates that for WQMP Area D1, D2, and D3, the on-site Detention Basin located upstream of the discharge point would mitigate the HCOC runoff and velocity for this drainage area.

(iii) Conclusion

Compliance with applicable regulatory requirements, as well as implementation of the project design features and BMPs identified in the WQMP, would ensure that operation of the project would not adversely affect the receiving waters of Temescal Creek or the Santa Ana River, result in the violation of water quality standards, and minimize the potential for contributing sources of polluted runoff. Based on the above, water quality impacts would be less than significant.

(2) Groundwater Resources

Threshold 2:	Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Impact 4.H-2 *The project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. As such, impacts to groundwater resources would be less than significant.*

The project would result in the development of 292 single-family residences on the approximately 270.9-acre site within an undeveloped hillside area to the south/southwest of the Foothill Parkway Westerly Extension. Approximately 21.38 acres of the eastern portion of the site would be used as right-of-way for the construction of the Foothill Parkway Westerly Extension. Approximately 96 acres of the 270.9-acre project site would not be graded and thus would remain as natural open space. The proposed project would not involve any groundwater extraction or other activities that could result in direct withdrawal or depletion of groundwater supplies. As noted above, a portion of the City's water supply is provided by groundwater from local aquifers, and as such the project would increase demands on the City's groundwater basins. However, as discussed in Section 4.N, *Utilities and Service Systems*, of this Draft EIR, buildout of the project would not result in any adverse impacts to the City's water supplies, including groundwater resources. The City is able to meet the water demands of the proposed project in normal, single dry, and multiple dry years through 2035. As the proposed project would not adversely affect groundwater resources and water demand would not exceed water supplies, impacts to groundwater resources would be less than significant.

(3) Hydrology and Drainage

Threshold 4:	Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount or surface runoff in a manner which would result in flooding on or off-site?
Threshold 5:	Would the project 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?

Impact 4.H-3 *The project would be designed to maintain existing drainage patterns of the site and area. Post development runoff would be consistent with applicable regulatory requirements and the post-project site would not result in significant hydrology impacts downstream such that flooding or erosion would occur on- or off-site. Furthermore, the project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage. Overall, impacts regarding changes in drainage patterns and stormwater flows would be less than significant with mitigation.*

The project would result in an increase in runoff as a result of the development of an undeveloped hillside area. The project would add approximately 40 acres of impervious area in the form of streets, rooftops, driveways, and sidewalks. Runoff from rooftops would be designed to drain into pervious landscape areas within each residential lot prior to discharge onto streets or connection to the proposed on-site storm drain systems. The amount of impervious surfaces would represent about 15 percent of the site or about four percent of the total tributary area. Approximately 96 acres of the 270.9-acre project site would not be graded and would be set aside as natural open space. However, because the development of the site would introduce a greater percentage of impervious surfaces, the post-development flow volumes that would be generated on site would be higher than the pre-development flows without an adequate drainage system and a well-planned post-construction WQMP which would include addressing any hydrologic conditions of concern that could result from the proposed project.

As indicated above and as evaluated in the Hydrology Study, the project site is divided into four tributary areas, or Drainage Management Areas (DMAs), as shown in **Figure 4.H-4**, *Proposed Site Hydrology*, which are designated as Basins A, B, C, and D. **Table 4.H-2**, *Comparison of Existing and Proposed Peak Flows*, provides a comparison between the existing condition and proposed condition Rational Method 10 and 100 Year Hydrology results. Under existing conditions, as discussed above, the site has a total drainage area of approximately 419.7 acres and a total flow rate of 976.98 cfs in the 100-year event and 594.92 cfs in the 10-year event. As can be seen in Table 4.H-2, the proposed condition would generate approximately 996.8 cfs in the 100-year event and 614.2 in the 10-year event, which would be an increase of about 19.86 cfs in the 100-year event and 19.25 cfs in the 10-year event. While there would be an increase in the proposed condition, the proposed discharge from the site would be within three percent of the existing discharge. The difference in peak flow would be mitigated in the proposed detention basins. Area A would include the entire northern portion of the site; however, only a portion of Area A in the existing condition drains towards Mabey Canyon, which is the proposed outlet. Under the proposed condition a flow increase of 24.54 cfs in the 100-year event and 15.63 cfs in the 10-year event would result. The Hydrology Study indicates that the flow increase is inconsequential to the flow in Mabey Canyon and detention for Area A would not be required.[7]

Table 4.H-2

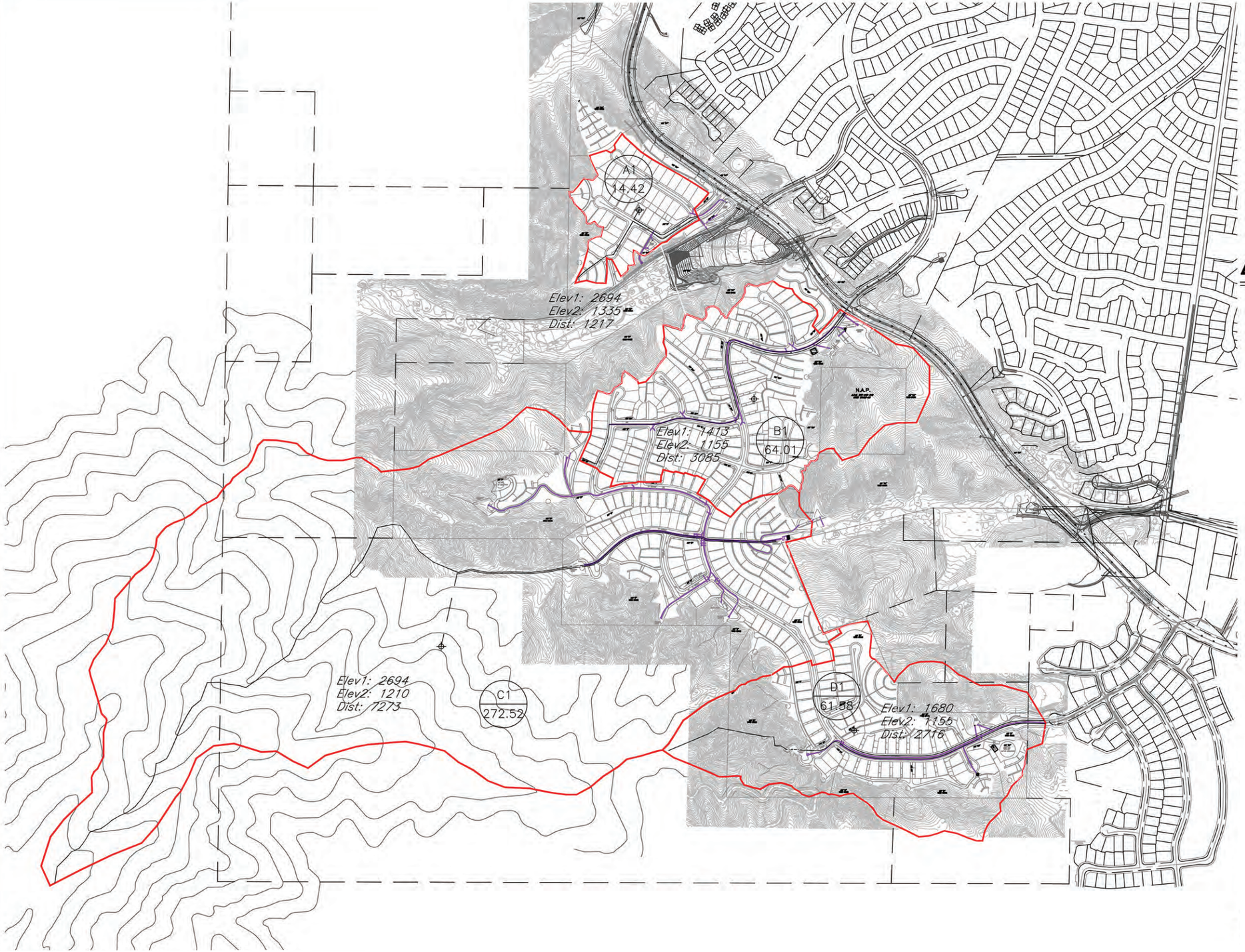
Comparison of Existing and Proposed Peak Flows

Area	Existing Q_{10} (cfs)	Proposed Q_{10} (cfs)	Difference Q_{10} (Prop-Exist)	Existing Q_{100} (cfs)	Proposed Q_{100} (cfs)	Difference Q_{100} (Prop-Exist)
A	15.71	31.34	15.63	25.22	49.76	24.54
B	74.19	111.99	37.80	125.48	180.87	55.39
C	412.19	368.21	-43.98	675.81	600.73	-75.08
D	80.81	102.63	21.82	131.32	165.48	34.16
Total	594.92	614.17	19.25	976.98	996.84	19.86

Source: KWC Engineers, Preliminary Drainage Report, January 2014

The project would result in the installation of an on-site storm drain system that would be owned by the City of Corona and maintained by the City of Corona Public Works Department, except for the WQMP basins and pipes leading to and from the WQMP basins, which would be maintained by the HOA. The Hydrology Study provides preliminary estimated sizes and locations for the storm drain facilities, which would be refined in the design review and final engineering process. The system would be designed in accordance with City standards. Mainline pipe sizes would be based on the 100-year storm event. Catch basins and storm drain laterals would be placed at locations to keep the 10-year flow below the top of the curb and the 100-year flow below the right-of-way. The on-site street capacities would be sufficient to provide the level of protection required by Riverside County. Since the storm drain mainline pipes would be sized for the 100-year storm event, the street would contain local flows until catch basins intercept the 100-year flow.

[7] *Preliminary Drainage Report, KWC Engineers, January 21, 2013, page 7.*



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Proposed Site Hydrology

Skyline Heights Project

Source: KWC Engineers, 2014.

FIGURE

4.H-4

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The project proposes a detention basin for each drainage area. A combination WQMP and detention basin is proposed for drainage area A. However, for drainage areas A, B, C, and D separate WQMP and detention basins are proposed. More specifically, as illustrated in **Figure 4.H-5**, *Preliminary WQMP Site Plan*, the WQMP establishes five DMAs, which are designated as Basins A, B, C, D1, D2, D3, and E. Each DMA tributary area for the proposed project would drain into an extended detention basin, the locations of which are illustrated in Figure 4.H-5. Area A, which would have 45 lots, would drain towards the Mabey Canyon detention basin. Two extended detention basins would be located in the southern portion of Area A. Area B, a larger area would drain through a water quality basin and detention basin prior to entering a storm drain proposed as part of the Foothill Extension project which would outlet into the same canyon as in the existing conditions (into an engineered open space west of Cape Drive, into a concrete trapezoidal channel flowing towards Border Avenue). Area C, a smaller area would drain into an extension of the concrete channel constructed as part of the Foothill Parkway project. Upstream natural canyons would flow into debris basins and on-site flows would be conveyed via a storm drain pipe system into a water quality basin prior to discharging into the canyon downstream of the project grading limits. Storm drain pipes are proposed within the project site, per the project WQMP, to collect on-site development runoff which would be treated at strategically located WQMP basins within the project site.

As shown in **Figure 4.H-6**, *Proposed Storm Drain Facilities*, the proposed project would outlet at four (4) locations. Outlet Structure No. 1 and No. 2 would be located in the northern portion of the development, north of Mabey Canyon. Outlet Structure No. 3 would be located just west of the Foothill Parkway Extension and Outlet Structure No. 4 would be located in Area C of the subdivision. Area C would outlet into an existing canyon bottom; however, the remaining areas would connect directly to existing storm drains or future storm drain pipes that would be constructed as part of the Foothill Parkway Westerly Extension project. For Area C, a concrete impact basin energy dissipator and rip-rap pad would be designed as part of the final engineering for the project in accordance with City standards. The outlet velocity would be at or below the existing condition or to a non-erosive velocity. A mitigation measure, Mitigation Measure HYD-1, is recommended to ensure the implementation of the requirement.

In addition, four flow-by basins would be installed on the site on the westernmost portion of the subdivision in the central and southern portion of the site. In addition, the Hydrology Study includes a debris basin analysis, which determines the debris yield for the undeveloped tributary watershed areas upstream of the proposed project. Based on the debris bulking analysis, each on-site debris basin has been sized to accommodate the anticipated flows within each respective tributary area. Thus, the system of flow-by basins, detention basins, and storm drain piping would ensure that off-site flows would by-pass the site and would not be co-mingled with development runoff which needs to be treated at the proposed designated BMP treatment areas.

As such, despite the increase in runoff that would result from the development of the site, with the proposed drainage system the pre- and post-developed conditions would be met at the outlet of the project. The post-project site would not result in significant hydrology impacts such that flooding would occur on- or off-site. In addition, the project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage. As such, impacts regarding changes in drainage patterns and stormwater flows would be less than significant with implementation of applicable mitigation.

(4) Flood Hazards

Threshold 7:	Place housing within a 100-year flood plain as mapped on federal Flood Hazard Boundary or Flood Insurance Rate Maps or other flood hazard delineation maps?
Threshold 8:	Place within a 100-year flood plain structures which would impede or redirect flood flows?
Threshold 9:	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?
Threshold 10:	Inundation by seiche, tsunami, or mudflow?

Impact 4.H-4 *Implementation of the project would not expose people and structures to flood hazards since residential pad elevation would be approximately 25 feet higher than the streambed flowline. In addition, the site is not located within an area subject to inundation from a levee or dam failure. Given the site location impacts from seiches, mudflows, or tsunamis would not occur. Therefore, impacts related to flooding are considered less than significant.*

As indicated above, the project site is located outside the FIRM study limits and currently within an unmapped Zone X area. The Project would require a Conditional Letter of Map Revision (CLOMR) through FEMA. Prior to the issuance of the Certificate of Occupancy, the Applicant shall secure FEMA's approval for the Letter of Map Revision (LOMR) which may impact the Mabey Canyon channel. The proposed Foothill Parkway Westerly Extension project proposes to expand regional storm water facilities, including the Mabey Canyon Debris Basin, prior to the construction of the proposed Skyline Heights project. The Skyline Heights project would include grading of the area along the northerly channel bank of Mabey Canyon streambed to create residential lots adjacent to the channel. The lowest proposed residential pad elevation would be approximately 25 feet higher than the streambed flowline. Given the existing width and configuration of the Mabey Canyon drainage channel, and the elevation of the proposed residential pads throughout the site, the potential for flooding in the development would not be likely to occur.

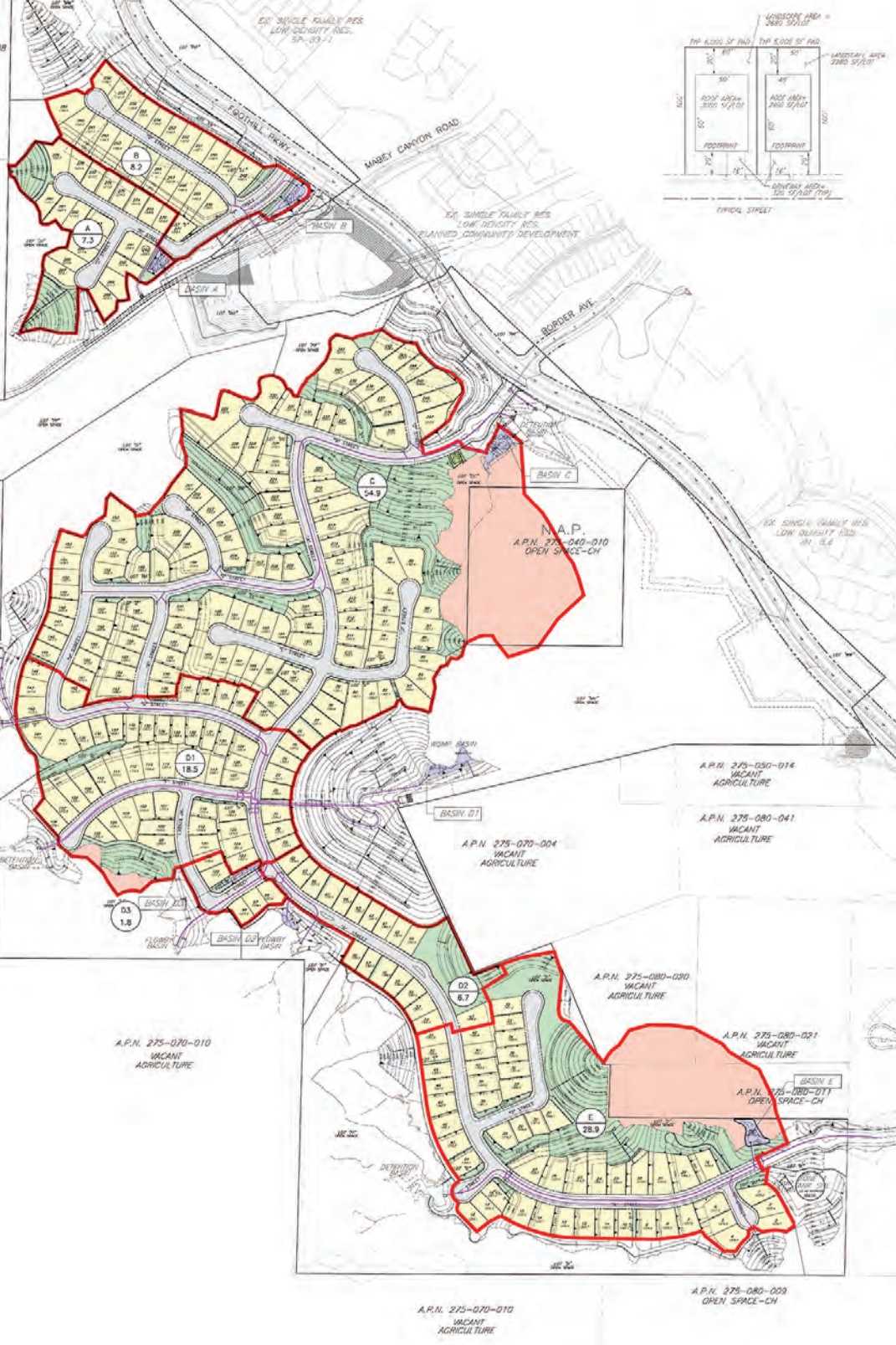
As shown in Figure 5.2-1 of the City's General Plan Technical Background Report, the project site is not located within an area subject to inundation from failure of a levee or dam. Therefore, no adverse impacts related to flooding as a result of the failure of a levee or dam would occur. Lastly, the project site is located approximately 24 miles inland from the ocean and no other large bodies of water exist in proximity to the project site. Thus, there would be no potential for flooding from seiche effects or tsunamis, or potential mudflow hazards, associated with a seismic event. No impacts would occur in this regard.

(5) Consistency with Regulatory Framework

Threshold 11:	Would the project conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan and municipal code) adopted for the purpose of avoiding or mitigating a physical impact associated with hydrology and water quality?

Impact 4.H-5 *Implementation of the proposed project would not conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the General Plan and Municipal Code) with regard to hydrology, drainage, flooding, and water quality. Therefore, the project would result in a less than significant impact.*

WQMP BASIN SUMMARY TABLE			
BASIN	AREA (AC)	OWNERSHIP	MAINTENANCE
A	0.14	HOME OWNERS ASSOCIATION	HOME OWNERS ASSOCIATION
B	0.21	HOME OWNERS ASSOCIATION	HOME OWNERS ASSOCIATION
C	0.33	HOME OWNERS ASSOCIATION	HOME OWNERS ASSOCIATION
D1	0.20	HOME OWNERS ASSOCIATION	HOME OWNERS ASSOCIATION
D2	0.06	HOME OWNERS ASSOCIATION	HOME OWNERS ASSOCIATION
D3	0.07	HOME OWNERS ASSOCIATION	HOME OWNERS ASSOCIATION
E	0.18	HOME OWNERS ASSOCIATION	HOME OWNERS ASSOCIATION



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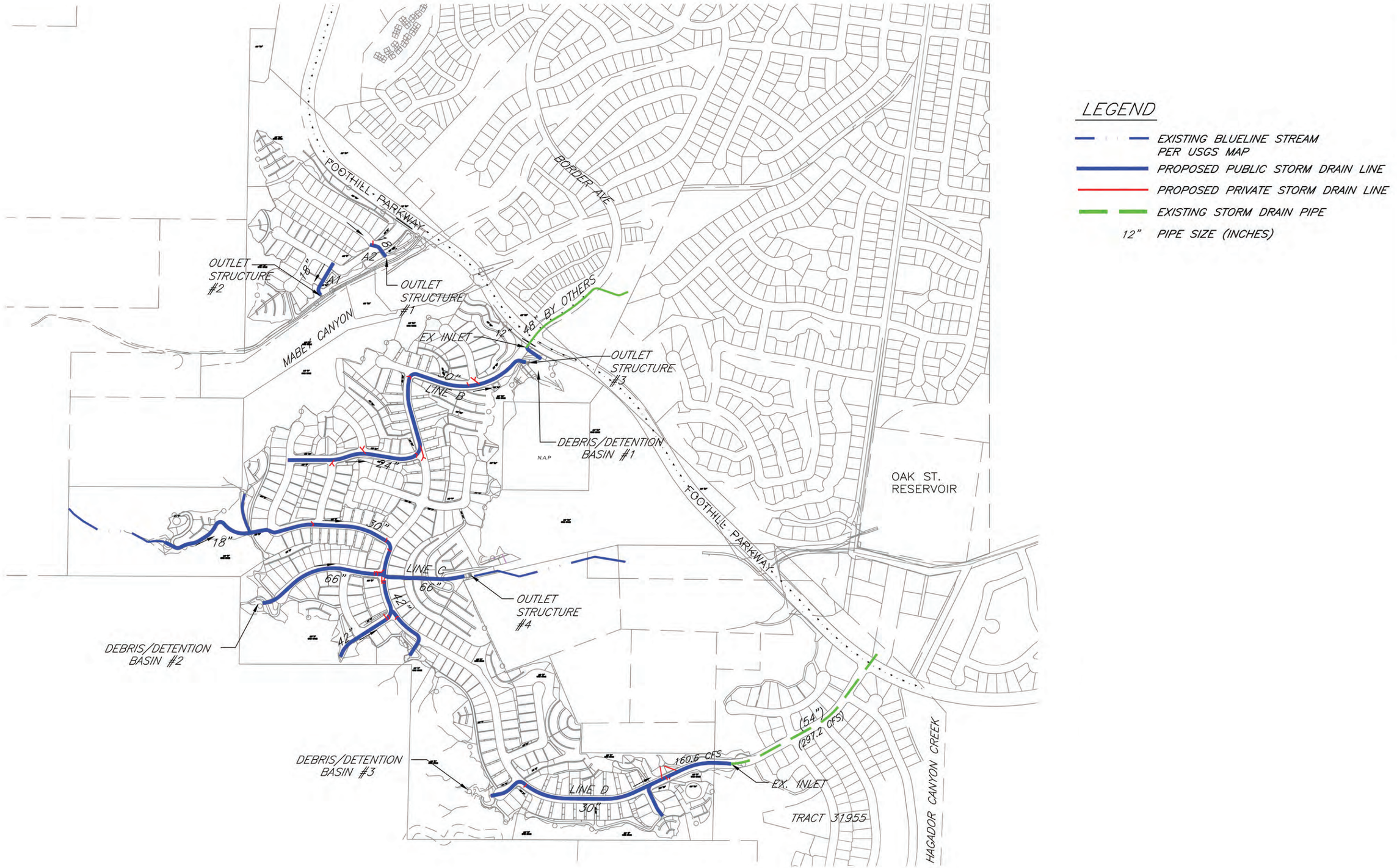
Preliminary WQMP Site Plan

Skyline Heights Project

Source: KWC Engineers, 2014.

FIGURE

4.H-5



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Proposed Storm Drain Facilities

Skyline Heights Project

Source: KWC Engineers, 2014.

FIGURE

4.H-6

(a) Corona General Plan

As discussed above, the project would comply with all applicable federal, state, and local laws and regulations related to hydrology, drainage, flooding, and water quality. The City of Corona General Plan contains goals and policies related to hydrology, drainage, flooding, and water quality. As shown in **Table 4.H-3**, *General Plan Consistency Analysis*, the project would be consistent with the applicable goals and policies of the City's General Plan, and therefore impacts in this regard would be less than significant.

(b) Corona Municipal Code

The project site, as discussed above, is not located within the boundaries of a designated 100-year flood plain. However, to the extent required by the City, the proposed project would comply with Title 18, *Floodplain Management*, of the CMC, which is intended to protect people and property within the City from flooding and flood-related hazards. Additionally, the proposed project would involve the construction of new storm drains on-site in order to ensure the project-related stormwater flows do not exceed the capacity of storm drains serving the area (see discussion above). As such, the proposed project would comply with Chapter 13.16, *Storm Drains*, of the CMC, which addresses the construction of and connection to the City's storm drain system and also regulates diversions of stormwater flows from existing storm drains, prohibits off-site flow of irrigation runoff or other wastewater, and dictates the size and location of catch basins. As required by Chapter 13.27, *Storm Water Management and Discharge Controls*, of the CMC, the proposed project would implement the project-specific WQMP in order to minimize adverse impacts to water quality. Overall, the proposed project would not conflict with the applicable requirements of the CMC, and as such impacts in this regard would be less than significant.

3. CUMULATIVE IMPACTS

Cumulatively, development within the watershed would result in an increase in impervious surfaces in addition to changes in land use and associated pollutant runoff characteristics. Increased impervious surfaces are likely to alter existing hydrology and increase potential pollutant loads. However, all development and future development in the City and throughout the Santa Ana RWQCB must comply with all requirements of and obtain NPDES permits as applicable. Although continued growth is anticipated to occur in the City and surrounding areas, new development and significant redevelopment would have to minimize their individual impacts to water quality and pollutant transport through implementation of BMPs. Because these requirements would be imposed on all other developments, it is anticipated that each development would be required to mitigate its own specific impact on water quality and drainage. Therefore, if all other developments are required to mitigate for impacts to water quality, a less than significant cumulative impact to water quality would occur.

While cumulative development in the City and region would increase the demand for water, groundwater recharge policies and practices implemented by the City and other local agencies would ensure groundwater supplies are maintained at appropriate levels. Other regulatory mechanisms such as the water management plan conservation policies (such as education and outreach to residents and business owners) further ensure that groundwater levels are maintained at the appropriate levels. As such, impacts related to groundwater recharge would be less than significant.

Table 4.H-3

General Plan Consistency Analysis

Goals and Policies	Consistency
Infrastructure and Public Services – Storm Drainage	
Policy 7.6.6 – Require new development to prepare hydrologic studies to assess storm runoff impacts on the local and sub-regional storm drainage systems, and, if warranted, require new development to provide adequate drainage facilities and to mitigate increases in stormwater flows and/or cumulative increases in regional flows. Developers of proposed projects are to submit a final drainage plan for the City Engineer's review and approval.	**Consistent**. Per City requirement, a preliminary Hydrology Study and a preliminary WQMP were prepared for the project. The City engineer will review and comment on the WQMP until an approval is granted for the project. The studies indicate the types of features to be employed and the resulting flows to be generated off-site. Using a system of flow-by basins, detention basins, and storm drain piping, off-site flows would by-pass the site and would not be co-mingled with development runoff which would be treated at the proposed designated BMP treatment areas. In addition, while the project would increase stormwater flows, the pre- and post-development conditions would be met at the outlet of the project. The project would be consistent with this policy.
Goal 7.7 – Ensure that urban runoff from existing and new development does not degrade the quality of the City's surface waters, groundwater system, and other sensitive environmental areas.	**Consistent**. The proposed project would be designed to avoid water quality impacts in accordance with the requirements within the WQMP and SWPPP for project construction and operation. See Policies 7.6.6 and 7.7.7.
Policy 7.7.1 – Ensure that new development does not degrade surface waters or the groundwater system.	**Consistent**. The proposed project would be designed to avoid water quality impacts in accordance with the requirements within the WQMP and SWPPP for project construction and operation. See Policies 7.6.6 and 7.7.7.
Policy 7.7.2 – Reduce pollutant loading through passive treatment systems such as vegetated filter strips, grass swales, and infiltration/sedimentation areas in suitable open space areas, overland flow channels and landscaping adjacent to parking lots and streets.	**Consistent**. The project would incorporate sustainable design principles, including water-wise planting and irrigation; water quality and stormwater best management practices, extended detention basins, and on-site biotreatment. The project would also include approximately 96 acres of ungraded natural open space within the 270.9-acre project site. Therefore, the project would reduce pollutant loading through passive treatment systems appropriate to the site and the nature of the development. The project would be consistent with this policy.
Policy 7.7.3 – In new developments, minimize impervious areas that are directly connected to piped or channelized drainage systems.	**Consistent**. The proposed project would be designed to avoid water quality impacts in accordance with the requirements in the SWPPP and WQMP for project construction and operation. See Policies 7.6.6 and 7.7.7.
Policy 7.7.5 – Require that development projects consider the appropriateness of the channelization of storm water runoff to facilitate its possible capture and re-use for on-site irrigation and other purposes.	**Consistent**. The proposed project would be designed to avoid water quality impacts in accordance with the requirements within the WQMP and SWPPP for project construction and operation. See Policies 7.6.6 and 7.7.7. The project would use reclaimed water for non-portable water demand and would install moderately drought-tolerant sustainable plantings and trees and the irrigation system would utilize weather-based, water-conserving irrigation technology and management. Therefore, the project would be consistent with the intent of this

Table 4.H-3 (Continued)

General Plan Consistency Analysis

Goals and Policies	Consistency
	policy.
Policy 7.7.7 – Require developers to obtain a National Pollutant Discharge Elimination System (NPDES) permit from the State Water Resources Control Board (SWRCB) prior to moving construction equipment onto a development site. The NPDES permit shall be retained at the construction site throughout the construction period, and a copy shall be filed with the City Engineer.	**Consistent**. Construction activity resulting in a land disturbance of one acre or more, or less than one acre when part of a larger common plan of development or sale, must obtain the General Permit for Discharges of Stormwater Associated with Construction Activity. The permit requires the development and implementation of a SWPPP. The SWPPP must list the BMPs the discharger will use to protect stormwater runoff and information regarding the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if the BMPs fail; and a sediment monitoring plan if the site discharges directly to a water body on the 303(d) list for sediment. The proposed project would comply with all SWRCB and City requirements per the City's NPDES permit. The project would be consistent with this policy.
Policy 7.7.8 – During construction projects, ensure compliance with all the terms and conditions outlined as part of the NPDES permit, including the implementation of the latest BMPs and a determination of need for any additional Water Quality Management Plans to reduce pollutants and urban runoff flows to the maximum extent practical.	**Consistent**. See Policy 7.7.7.
Policy 7.7.9 – Require that new developments employ the most efficient drainage technology to control drainage and minimize damage to environmentally sensitive areas.	**Consistent**. See Policies 7.6.6 and 7.7.7.
<u>Environmental Resources - Hydrological Resources</u>	
Policy 10.1.2 – Conduct construction activities to minimize adverse impacts on water resources through the use of Best Management Practices, as established and updated from time to time, by the City of Corona.	**Consistent**. The proposed project would comply with all applicable state and local requirements to reduce flooding impacts. Furthermore, the parcel map for the project, which would be reviewed and approved by the City engineer, would comply with all recommendations stated therein to reduce impacts related to flooding hazards. The project would be designed to connect to the City's storm drain system and direct water safely off and through the project site. The project would be consistent with this policy.

Table 4.H-3 (Continued)

General Plan Consistency Analysis

Goals and Policies	Consistency
Policy 10.1.3 – In the event that previously unknown soil or groundwater contamination is encountered during construction, suspend construction and implement appropriate health and safety procedures. Where site contamination is identified, implement an appropriate remediation strategy that is approved by the City and DTSC.	**Consistent**. A Phase 1 Environmental Site Assessment (ESA) was prepared for the proposed project (see Appendix H and Section 4.G, Hazards and Hazardous Materials, of this EIR). As part of the ESA, environmental agency databases that log known hazardous site conditions were reviewed to ascertain whether the site or any adjacent properties were listed on such federal, state, or local databases. The site was not identified on any of the regulatory databases searched and no adjoining properties were identified on the databases. In addition, the site and adjoining properties were not identified on the Registered Storage Tank or on the Leaking Underground Storage Tank Databases. No Brownfield listings were identified within a one-half mile radius of the site. The project would be required to comply with all recommendations for hazardous substances removal if encountered on-site. Thus, the project would be consistent with this policy.
Policy 10.1.4 – Prohibit the discharge of toxins, debris, refuse, and other pollution into watercourses, other drainages and groundwater basins.	**Consistent**. The project would result in the development of 292 single-family residences. A HOA would be formed and would be responsible for the maintenance of the WQMP basins and pipes leading to and from the WQMP basins. In addition, educational materials would be provided to residents regarding the detention basins and stormwater pollution prevention information regarding the use and disposal of hazardous materials associated with residential uses, such as pesticides, household cleaning supplies, paints, etc. Landscaping would be designed to minimize irrigation, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides. Project landscaping must comply with the applicable landscaping requirements specified in Chapter 13.26, Water Conservation Plan of the CMC. Therefore, no significant impacts regarding water quality would occur and the project would be consistent with this policy.
Policy 10.2.4 – Require the use of water and energy conservation features and materials in the design and construction of all public buildings, projects, and site development while encouraging their use citywide.	**Consistent**. The project would install water- and energy-efficient appliances to reduce water demand and energy output. In addition, project landscaping must comply with the applicable landscaping requirements specified in Chapter 13.26, Water Conservation Plan of the CMC. The proposed landscape design would incorporate water conservation measures including water-conserving planting, efficient irrigation systems, and water-conserving fixtures. Therefore, the project would comply with this policy.
Policy 10.2.5 – Require the use of reclaimed water in common areas and landscape treatments for all proposed development.	**Consistent.** As discussed in Section 4.N, Utilities and Service Systems, of this EIR, a new 12-inch Zone 3 reclaimed water line is proposed as part of the City's Foothill Parkway Westerly Extension Improvements and would be located in Foothill Parkway from Chase Drive to Serfas Club Drive and in Chase Drive from Foothill Parkway to Skyline Drive. This reclaimed water line is assumed to be in place prior to implementation of the proposed project. Therefore, reclaimed water would be available to the site. Reclaimed water service would be utilized at

Table 4.H-3 (Continued)

General Plan Consistency Analysis

Goals and Policies	Consistency
	the project site for irrigation purposes. Therefore, the project would comply with this policy.
Policy 10.3.2 – Incorporate natural drainage systems into developments where appropriate and feasible.	**Consistent.** The project site is currently undeveloped and in its natural state. Natural drainage courses currently exist on the project site. The proposed project would, however, incorporate a storm drain system, including biotreatment (i.e., extended detention basins) in order to capture and treat on-site stormwater flows. The pre- and post-developed conditions would be met at the outlet of the project. Therefore, the project would be consistent with this policy.
Policy 10.3.3 – Retain storm water at or near the site of generation for percolation into the groundwater to conserve it for future uses and to mitigate adjacent flooding.	**Consistent.** Refer to Policy 10.3.2. The proposed project would incorporate biotreatment features on the project site in order to retain stormwater flows and minimize flooding potential both on- and off-site.
Environmental Hazards and Public Safety – Flooding Hazards	
Goal 11.2 – Reduce the potential risk of flood hazards to community property and human life.	**Consistent**. The proposed project would be partially located within the 500-year floodplain. The proposed project would comply with all applicable state and local requirements to reduce flooding impacts. In addition, the lowest proposed residential pad elevation would be approximately 25 feet higher than the streambed flowline. The project would be designed to connect to the City's storm drain system and direct water safely off and through the project site. Therefore, the project would be consistent with this goal.
Policy 11.2.2 – Require that all new development incorporate sufficient measures to mitigate flood hazards including the design of onsite drainage systems linking with Citywide storm drainage, gradation of the site so that runoff does not impact adjacent properties or structures on the site, and elevation of the structures above any flooding elevation.	**Consistent**. See Goal 11.2.
Policy 11.2.8 – Require that all new stormwater drainage facilities be constructed and managed in accordance with City and Riverside County design specifications.	**Consistent.** All proposed stormwater facilities on the site would be constructed and managed in accordance with all applicable City and County design requirements. A Final Hydrology and Hydraulics Report would be conducted to determine the proposed hydraulic grade lines throughout the storm drain system and final detention basin sizing. The Final Hydrology and Hydraulics Report would be reviewed and approved by the City Department of Public Works to ensure compliance with applicable requirements. Therefore, the project would be consistent with this policy.

Table 4.H-3 (Continued)

General Plan Consistency Analysis

Goals and Policies	Consistency
Policy 11.2.11 – Require stormwater detention basins, where appropriate, to reduce the potential risk of flood hazards. The location, design, and operational practices of the detention basins shall be in conformity with applicable Federal, State, County, and City environmental codes and regulations.	**Consistent.** Refer to Policy 10.3.3 and Policy 11.2.8 above.

Source: PCR Services Corporation, 2014.

4. MITIGATION MEASURES

The project would comply with applicable regulations that would reduce potential impacts related to hydrology and water quality to less than significant. However, the following mitigation measure is recommended to ensure compliance:

Mitigation Measure HYD-1: For Drainage Management Area C, the final engineering for the drainage of Area C shall include a concrete impact basin energy dissipater and rip-rap pad and shall be designed in accordance with City standards. The outlet velocity shall be at or below the existing condition or to a non-erosive velocity. The plans shall be submitted to the City for review and approval.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the implementation of project design features and the recommended mitigation measure, impacts related to hydrology and water quality would be less than significant.

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4. ENVIRONMENTAL IMPACT ANALYSIS
I. LAND USE AND PLANNING

INTRODUCTION

This section of the EIR describes the existing environmental and regulatory setting for land use and planning, analyzes potential impacts on land use and planning that would result from implementation of the proposed project, and identifies the significance of those impacts. The analysis is also based on the following applicable plans and policies: The Southern California Association of Governments' 2008 Regional Comprehensive Plan, Regional Transportation Plan/Sustainable Communities Strategy, and Compass Blueprint Growth Vision; the City of Corona's General Plan (adopted March 17, 2004, with latest updates in 2008), and applicable Municipal Code sections.

Land use and planning compatibility issues concern the physical compatibility of the land uses of the proposed project with adjacent or surrounding land uses as well as a proposed project's consistency with the plans and policies of the agencies that have regulatory jurisdiction over the project. This analysis describes existing land uses that could be affected by the proposed project and the proposed project's compliance with relevant land use plans, policies, and ordinances of the City of Corona as well as regional planning agencies. The land use analysis addresses issues pertaining to the potential for the creation of physical incompatibilities between the proposed project and adjacent land uses or activities and determines whether any identified incompatibilities would result in physical impacts on the environment.

1. ENVIRONMENTAL SETTING

The City of Corona is located approximately 45 miles southeast of Los Angeles in western Riverside County. The City limits encompass 39.2 square miles.[1] The City of Corona contains a broad diversity of uses including housing, schools, parks, libraries, religious facilities, civic, retail, industrial, offices, and open space. The majority of the City (67 percent) is developed for housing, public, parks and open space uses and approximately 17 percent of the City is undeveloped.[2]

a. Existing Conditions

(1) Project Site

The project site is located within unincorporated Riverside County in the City of Corona Sphere of Influence (SOI). As shown in Figure 2-1, Regional and Vicinity Map, in Chapter 2 of this EIR, the site is located approximately three miles south of State Route 71 (SR-71, Chino Valley Freeway) and SR-91 (Riverside Freeway) and approximately four miles west of Interstate 15 (I-15, Temecula Valley Freeway) along the southwestern boundary of the City of Corona. The 270.9-acre project site is located adjacent to, and southwest of, the proposed Foothill Parkway Westerly Extension. As shown in Figure 2-5, West Sphere of

[1] *Source: City of Corona website; available: http://discovercorona.com/About-Corona.aspx*

[2] *Source: City of Corona General Plan, adopted March 17, 2004, page 19.*

Influence County of Riverside Zoning, in Chapter 2 of this EIR, the most of the SOI is zoned Rural Residential (0.2 – 0.5 dwelling units per acre) under the County of Riverside Zoning Code. A smaller section to the south of the current Trudy Way terminus is zoned A-1-10 (Light Agriculture).

(2) Surrounding Uses

Figure 2-2, Aerial Photo of the Project Site and Surrounding Uses, in Chapter 2 illustrates the location of the 270.9-acre project site, the annexation area, and surrounding development. As shown in Figure 2-2, the project site is generally bounded on the north and east by single-family residences and on the south and west by the Cleveland National Forest and large privately owned parcels. No commercial land uses are located within the immediately surrounding area.

The nearest development (Tract Map 31955) is located adjacent to and southeast of the project site, south of the Foothill Parkway, with access provided by Trudy Way, Rawley Street, Elker Road, and Corbett Street. Tract 31955 consists of an approximately 154-lot, residential subdivision within the R1-7.2 zone, which corresponds to low-density single-family and a 7,200-square-foot minimum lot area. The edges of the subdivision are zoned R1-AD/HD, which corresponds to agricultural/hillside uses in a residential zone. The purpose for the latter zone is to maintain common open spaces on the periphery of the residential development.

The area to the south of Tract 31955 is zoned R1-9.6 (single-family residential, with a 9,600-square-foot minimum lot size) and OS (open space). It is currently undeveloped. This area is accessed by, and to the south of, Skyline Drive.

Existing single-family neighborhoods are also located to the northeast of the project site and Foothill Parkway Westerly Extension. These neighborhoods are generally zoned low-density residential (R1-7.2, R1-8.4, and R1-9.6). Large, undeveloped parcels within the OS zone are interspersed among the residential areas. All of the adjacent developed areas are located within the City of Corona.

The Cleveland National Forest is located to the west of the annexation area and project site. The National Forest is accessed via Skyline Drive, a graded forest service access road to the south of the project site. This road provides recreational hiking and mountain biking opportunities to residents on a local and regional level.

b. Regulatory Framework

The following discussion identifies and describes the regulatory plans, policies, and ordinances that would be applicable to development at the site of the proposed project. Specific provisions of those documents that pertain to the project and address land use and planning issues are listed in the Impact Analysis section below and evaluated for consistency with the Project Design Features (also described below).

(1) State

Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000

Annexation is the means by which an existing city extends its corporate boundaries. The Cortese-Knox Local Government Reorganization Act (Government Code §56000, et seq.) is the framework within which

proposed city annexations, incorporations, consolidations, and special district formations are considered. This law establishes a Local Agency Formation Commission (LAFCO) in each county, empowering it to review, approve or deny proposals for boundary changes and incorporations for cities, counties, and special districts.

In 2000, the Legislature passed AB 2838 (Chapter 761, Statutes of 2000) making the broadest and most significant set of sweeping changes to local government reorganization law since the creation of LAFCOs. In addition to renaming the act the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (CKH Act), AB 2838 affirmed and strengthened the role of LAFCOs in helping shape the future physical and economic growth and development of the State, including, once again, the role of LAFCOs in annexation proceedings.

AB 2838 (Hertzberg, 2000), recognizes and affirms the important role that LAFCOs play in California in serving as an arm of the State, not only in the oversight of local government boundaries, but in evaluating and guiding the efficient, cost-effective, and reliable delivery of municipal services to California's citizenry. AB 2838 expanded the powers and duties of LAFCOs, in its decision-making role in government organization changes, and its examination and guidance of municipal service location and extension timing. This law establishes a LAFCO in each county, empowering it to review, approve, or deny proposals for boundary changes and incorporations/formations for cities, counties, and special districts. In granting these powers, the state has occupied the field of annexation law to the exclusion of local legislation. Therefore, a city or county cannot take actions that frustrate or conflict with state annexation procedures. For this reason, a city cannot adopt a local ordinance that would allow city voters to pass sole judgment on proposed annexation proceedings.

LAFCOs are composed of elected officials from the county and local cities, and a member of the general public. As of 2011, 29 of the 58 LAFCOs also have special district representation. In addition, some LAFCOs have special membership pursuant to the CKH Act. Each LAFCO operates independently of the state. However, it is expected to act within a set of state-mandated parameters encouraging "planned, well-ordered, efficient urban development patterns," the preservation of open-space lands, and the discouragement of urban sprawl. The Legislature has taken care to guide the actions of the LAFCOs by providing statewide policies and priorities for the consideration of annexations (Gov. Code § 56844), and by establishing criteria for the delineation of spheres of influence (Gov. Code § 56425).

State Law does not mandate that annexations conform to local general plans beyond requiring that the LAFCO consider "consistency with the city or county general and specific plans" (Section 56841(g)). Nonetheless, the statutes contain numerous references that attempt to link local land use and open-space policies to the annexation process (Sections 56300, 56375, 56377, 56425, and 56841). Accordingly, the Commission is expected to attempt to harmonize local planning policies with the intent of the State legislation. Where there is a clear conflict, such as incompatibility between city and county general plans, the State law would prevail.

The factors that the LAFCO must consider in reviewing annexation proposals include, but are not limited to, the following (Gov. Code § 56841):

1. Population, population density, land area and use, per capita assessed valuation, topography, natural boundaries, drainage basins, proximity to populated areas, and the likelihood of significant growth during the next ten years.

2. Need for organized community services, present cost and adequacy of government services and controls, probable future needs, probable effect of the annexation and of alternative courses of action on the cost and adequacy of services and controls in the area and vicinity.

3. The effect of the proposed annexation and of alternative actions on adjacent areas, on mutual social and economic interests and on the local government structure of the county.

4. Conformity of the proposal and its effects with LAFCO policies on providing planned, orderly, efficient patterns of urban development and with state policies and priorities in conversion of open-space lands to other uses.

5. Effect of the proposal on maintaining the physical and economic integrity of lands in an agricultural preserve in open-space use.

6. Clarity of the boundaries of the territory, the nonconformance of proposed boundaries with lines of assessment or ownership, the creation of islands or corridors of unincorporated territory and other similar matters affecting the proposed boundaries.

7. Consistency with appropriate city or county general and specific plans.

8. The sphere of influence of any agency which may be applicable to the proposal being reviewed.

9. The comments of any affected agency.

Under Government Code Section 56375(a), a LAFCO is required to approve a city's request to annex land adjacent to its borders when the commission finds that either of the following circumstances exist:

1. The land is substantially surrounded by the city or the Pacific Ocean, is substantially developed or developing, is not prime agricultural land, is designated for urban growth on the city's general plan, and is not within the sphere of influence of another city.

2. The land is located within an urban service area designated by the LAFCO, is not prime agricultural land, and is designated for urban growth on the city's general plan.

Both of these conditions require review of the annexing city's general plan by the LAFCO. A general plan which reflects the proposed annexation improves the chances that the annexation will be approved.

(2) Regional

(a) Southern California Association of Governments

SCAG is the designated regional planning agency for six counties: Los Angeles, Orange, San Bernardino, Riverside, Ventura and Imperial. Within these counties are 16 subregions or Council of Governments (COG). The project site is within the Western Riverside COG, which includes 17 cities and the County of Riverside.

SCAG is a joint powers agency with responsibilities pertaining to regional issues. SCAG's mandated responsibilities include developing plans and policies with respect to the region's population growth, transportation programs, air quality, housing, and economic development.

(i) 2008 Regional Comprehensive Plan

As part of its planning obligations, SCAG prepared the 2008 Regional Comprehensive Plan (RCP). The 2008 RCP was accepted by SCAG for use as an advisory document that may be voluntarily used by local jurisdictions when developing local plans and addressing local issues of regional significance. The RCP addresses issues related to future growth and provides a means for assessing the potential impact of individual development projects within a regional context. Local Governments are asked to consider the RCP's recommendations in the preparation of General Plan updates, municipal code amendments, design guidelines, incentive programs and other actions. The applicable goals of the RCP relevant to land use and an analysis of the project's consistency with these goals and policies are provided below under the subheading Analysis of Project Impacts.

The RCP is also closely linked to, and serves as a basis for the preparation of, SCAG's Regional Transportation Plan and the Compass Blueprint Growth Vision (2 % strategy) program.

(ii) Regional Transportation Plan/Sustainable Communities Strategy

In April 2012, SCAG's Regional Council adopted the 2012 - 2035 Regional Transportation Plan – Sustainable Communities Strategy (RTP/SCS). The RTP/SCS presents the transportation vision for the region through the year 2035 and provides a long-term investment framework for addressing the region's transportation and related challenges. Also, the RTP/SCS contains baseline socioeconomic projections that are used as the basis for SCAG's transportation planning and the provision of services by other regional agencies. The RTP/SCS includes goals and policies that pertain to economic development, mobility, accessibility, travel safety, productivity of the transportation system, protection of the environment and health through improved air quality, energy efficiency, and land use and growth patterns that complement the state and region's transportation investments, and security of the regional transportation system. The applicable goals and policies of the RTP/SCS relevant to the project and an analysis of the project's consistency with these goals and policies are provided below under the subheading Analysis of Project Impacts.

On June 6, 2013, SCAG's Regional Council approved Amendment One to the RTP/SCS and Amendment 13-04 to the 2013 Federal Transportation Improvement Program (FTIP). On September 11, 2014, SCAG's Regional Council approved Amendment Two to the RTP/SCS. The draft amendments were developed as a response to changes to projects in the RTP/SCS and 2013 FTIP. A total of 43 projects were modified or added in these amendments, with a majority of the changes being minor in nature, including changes to completion years, as well as minor modifications to project scopes, costs, and funding.

(iii) Compass Blueprint Growth Vision

SCAG also engages in the Compass Growth Vision effort that addresses the regional development pattern so as to accommodate future development and provide land patterns that improve mobility, reduce vehicle miles traveled, and support the goals and polices established in the RTP. The Growth Vision is driven by four key principles: mobility – getting where we want to go; livability - creating positive communities; prosperity - long-term health for the region; and sustainability - preserving natural surroundings.

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

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

As part of the visioning effort, the Compass Blueprint 2% Strategy provides guidance for how and where SCAG can implement the Growth Vision for Southern California's future. It calls for modest changes to current land use and transportation trends on only 2% of the land area of the region. Directing the changes to the selected 2% of the land identified produces the greatest policy achievement for the least land affected. The Growth Visioning effort encourages clustering/densification of job growth and population activity in proximity to certain transportation facilities. As indicated on the 2% Strategy Opportunity Areas map for the Western Riverside Council of Governments, the City of Corona and its SOI are located within a Compass 2% Strategy Opportunity Area. As such, the site is within a key target area that, if developed at higher density, would help best serve the mobility, livability, prosperity and sustainability goals of the Growth Vision for the region. In anticipation of population growth in Western Riverside County, the City of Corona has initiated several Compass Blueprint projects, including the Metrolink Station Area Plan, Downtown Revitalization Plan, and the Neighborhood Electric Vehicle Program (WRCOG). The applicable principles and policies of the Compass Blueprint Growth Vision relevant to the project and an analysis of the project's consistency with these principles and policies are provided below under the subheading Analysis of Project Impacts.

(b) Air Quality Management Plan

The Air Quality Management Plan (AQMP) of the South Coast Air Quality Management District (SCAQMD) presents strategies for achieving the air quality planning goals set forth in the Federal and California Clean Air Acts (CCAA), including a comprehensive list of pollution control measures aimed at reducing emissions. The SCAQMD, which was established in 1977 pursuant to the Lewis-Presley Air Quality Management Act, is responsible for bringing air quality in the South Coast Air Basin (Basin) into conformity with federal and State air pollution standards. The SCAQMD is also responsible for monitoring ambient air pollution levels throughout the Basin and for developing and implementing attainment strategies to ensure that future emissions will be within federal and State standards. Consistency with the AQMP, last amended in 2012, is addressed in Section 4.B, *Air Quality*, of this EIR.

(c) Western Riverside County Multiple Species Habitat Conservation Plan

The project site is located within the Temescal Canyon Area Plan of the Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP). The WRC MSHCP also establishes habitat assessment requirements for certain plant, bird, mammal, and amphibian species. Discussion of the WRC MSHCP and other applicable regulatory requirements related to biological resources are provided in Section 4.C, *Biological Resources*, of this Draft EIR.

(2) Local

(a) City of Corona General Plan

Local governments have the primary responsibility for the planning and regulation of land uses. State law requires that each city and county prepare and adopt a "comprehensive, long-term general plan for the physical development" of the community. This general plan must cover all incorporated territory and should go beyond the city limits to include "any land outside its boundaries which...bears relation to its planning." (Gov. Code §65300).

Because the general plan is a policy document with a long-term perspective, it includes adjacent territory (sphere of influence or SOI) that the city ultimately expects to annex or to serve. The city's SOI describes the city's probable physical boundaries and service area and serves as a benchmark for the minimum extent of the planning area and represents those areas likely to be served by and potentially annexed to the City. The SOI for the City of Corona was defined by the city, SCAG, and the Riverside County LAFCO. The identification of the SOI is a statement of its future intent and one means by which city officials indicate to state and local governments their concerns for the future of surrounding unincorporated lands.

Therefore, the boundaries of the City of Corona General Plan Planning Area incorporate two geographical areas. These include approximately 37.6 square miles the lands within the City's corporate limits and approximately 35.2 square miles in unincorporated Riverside County lands within its SOI. The City of Corona SOI is illustrated in Figure 2-3 in Chapter 2 of this EIR.

The City of Corona General Plan (adopted March 17, 2004, with latest updates in 2008) guides land use and public investment decisions in the City. The General Plan presents a vision for the City's future and a strategy to make that vision a reality. The General Plan is required to address these topics or elements: land use, circulation, housing, open space, conservation, safety, and noise. The City of Corona General Plan also addresses economic development, community design, historic preservation, and parks and recreation.

The General Plan is comprised of seven chapters. Chapters 3 through 6 include the General Plan elements and related goals and policies and are organized as follows:

- Chapter 3 Community Development
  - Land Use
  - Community Design
  - Housing
  - Historic Resources
  - Economic Development
- Chapter 4 Infrastructure and Public Services
  - Circulation
  - Infrastructure and Utilities
  - Parks, Schools, and Libraries

  - Police and Fire Services
- Chapter 5 Environmental Resources
  - Hydrological Resources
  - Biological Resources
  - Agricultural and Mineral Resources
  - Air Quality
  - Visual Resources
- Chapter 6 Environmental Hazards and Public Safety
  - Seismic, Geologic, and Erosion Hazards
  - Flooding Hazards
  - Hazardous Materials
  - Noise
  - Emergency/Disaster Preparedness

Consistency with applicable goals and policies related to Land Use and Infrastructure and Utilities (Energy, Telecommunications) are presented below under the subheading Analysis of Project Impacts. Consistency with applicable goals and policies related to other environmental issues are presented in the corresponding sections of this Draft EIR.

(c) Corona Municipal Code – Title 17

The project will need to adhere to development standards of applicable code chapters within Title 17 when designing site plans for buildings, landscaping and fencing.

2. ENVIRONMENTAL IMPACTS

a. Methodology

The analysis of potential land use impacts considers consistency of the project with applicable local and regional plans, policies, and regulations. The determination of consistency is based upon a review of the previously identified planning documents that regulate land use or guide land use decisions pertaining to the project site. CEQA Guidelines Section 15125(d) requires that an EIR discuss any inconsistencies between the proposed project and applicable general plans, specific plans, and regional plans. The proposed project is considered consistent with applicable plans if it is compatible with the general intent of the plans and would not preclude or substantially impede attainment of relevant objectives, goals, policies, principles, and standards. Determinations of significance are based not on inconsistency alone, but on instances where inconsistencies with plans, policies, and regulations also result in physical impacts on the environment.

b. Thresholds of Significance

Appendix G of the *CEQA Guidelines* (the Initial Study Environmental Checklist form) and the City's Initial Study Checklist include questions relating to land use and planning that are utilized as thresholds of

significance in this section (Thresholds 1 through 3). Accordingly, a significant land use and planning impact would occur if the project would:

Threshold 1: Physically divide an established community (refer to Impact Statement 4.I-1);

Threshold 2: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect (refer to Impact Statement 4.I-2); and/or

Threshold 3: Conflict with any applicable habitat conservation plan or natural community conservation plan (refer to Impact Statement 4.I-3).

c. Project Design Features

(1) Project Components

The project involves the review and consideration of Tentative Tract Map 36544 for the development of 292 single-family homes, including necessary infrastructure, open space, etc. In order to facilitate the development of the residential subdivision, the following approvals and/or entitlements are necessary:

- Annexation of 394.8 acres from unincorporated Riverside County in the City of Corona's SOI to the City of Corona;
- General Plan Amendment to Corona's General Plan Sphere of Influence Land Use Plan (West Sphere) to amend 394.8 acres from Rural Residential 1 (0.2 – 0.5 dwelling units/acre) to Low Density Residential (3-6 dwelling units/acre) on 357.14 acres and Open Space/General on 37.61 acres;
- Zoning text and map amendments, including 37.61 acres to an Open Space zone, 86.23 acres to an Agriculture zone, and 270.9 acres to R-1-7.2 (single-family residential, 7,200 square-foot minimum lot size) located in the city's SOI (westerly sphere) to facilitate the annexation of property into the City of Corona; and
- Approval of Tentative Tract Map 36544.

Tentative Tract 36544 includes numerous lettered lots to be set aside for open space, slope landscaping, streets, and utilities. Forty-five lots would be developed to the north of Mabey Canyon and 247 lots would be developed to the south of Mabey Canyon. The residential development would occur in three phases. Phase I would consist of 157 homes to be located in the central and south sectors of the site, to the south of Mabey Canyon and along the future Trudy Way alignment. Phase II would consist of 90 homes to be constructed in the central sector of the site, south of Mabey Canyon and west of the Trudy Way alignment. Phase III would consist of 45 homes to be constructed in the north sector of the project site, north of Mabey Canyon. It is anticipated that the three phases would be completed by 2020.

The four U.S. Fish and Wildlife Services parcels within the annexation area and the open space parcel at the south edge of the annexation area would be maintained as permanent open space. This would allow permanent access to Skyline Drive and trails within the Cleveland National Forest. Open space would also be

provided within the project site (Tentative Tract 36544) in the form of landscaped slopes, landscaped and native open space areas, and landscaped detention basins.

(a) Vehicular Access, Circulation and Infrastructure Improvements

The project would require the installation of roadway and intersection improvements, requiring street vacations, road closures, relocation of underground utilities, and other improvements. Vehicle access to the project would be from the Foothill Parkway Westerly Extension, which would be constructed along the northeast side of the site. Access to the south edge of the project site would be via Trudy Way, which currently serves Subdivision Tract 31955. The central access point from the Foothill Parkway Westerly Extension would be at "P" Street and access to the northerly sector would be via "B" Street, which would align with Border Avenue. The alignment of the Foothill Parkway Westerly Extension would require the dedication of approximately 21.38 acres from the 270.9-acre project site.

"P" Street would be developed to meet "local collector," 88-foot-wide standards. Eighty-eight-foot-wide "local collector" standards require a 16-foot-wide raised, landscaped median; two 24-foot-wide, two-lane roadways; five-foot-wide sidewalks; and seven-foot landscaped parkways. Trudy Way and "B" Street would be developed to meet "local collector," 68-foot-wide standards. These "local collector" standards require a 44-foot-wide, four-lane roadway, five-foot-wide sidewalks, and seven-foot-wide landscaped parkways. Interior streets would be developed to meet "local street," 60-foot-wide or 56-foot-wide standards. "Local street" 60-foot-wide standards require four-foot-wide sidewalks and eight-foot-wide landscaped parkways. "Local street" 56-foot-wide standards require four-foot-wide sidewalks and six-foot-wide landscaped parkways.

The planned improvements for intersections completed by the project in conjunction with the City's Foothill Parkway Westerly Extension Project include the following construction of the south leg of the Border Avenue at Foothill Parkway intersection to provide a shared northbound left-through right lane, construction of the south leg of the "P" Street at Foothill Parkway intersection to provide a shared northbound left-through right lane.

(b) Landscaping

Landscaping would be included along the streetscapes and in open space areas. Twenty-four-inch boxed trees would be planted at a rate of one per lot or at 35 feet on center along street frontages. Approved tree species include *ginko biloba*, *lagerstroemia indica*, *platanus acerifolia*, *quercus agrifolia*, and *rhus lancea*.

As shown in Figures 2-9 and 2-10 in Chapter 2 of this EIR, plantings on commonly-owned (HOA) and private slopes would be chosen from "Defensible Space Landscaping Plant Palette for Fuel Modification in Riverside County" guidelines and all trees and shrubs would be California Department of Water Resources "Water Use Classifications of Landscape Species" (WUCOLS) low water use. Irrigation would consist of point source drip or in-line drip irrigation. Overhead spray irrigation would not be permitted. Groundcovers would consist of three inches of "gorilla hair" mulch that would be spread evenly over all slope areas. Trees would be 15 gallons for each 400 square feet of slope. Shrubs would be two shrubs for each 64 square feet of slope: 60 percent would be one gallon and 40 percent would be five gallon. Approved trees and shrubs for common and private slopes are listed on Figures 2-9 and 2-10. Common open space recreation areas would be

planted with WUCOLS low-water plants, as shown in Figures 2-9 and 2-10. Areas containing native open space would not be altered from existing conditions.

Detention basin areas would be planted with trees and shrubs to screen views of the basin at the perimeter. The basin floor would be hydroseeded with an appropriate native mix to be determined. Approved trees and shrubs are listed on Figures 2-9 and 2-10.

Figure 2-11 in Chapter 2 illustrates a typical layout for common slopes and open space areas. As shown in Figure 2-11, five-foot walkways would enhance access to open space areas. Where views are available, the view corridor would be retained and an overlook area with seating would be provided. Open space would combine plant and tree species and provide for turf areas to enhance use and access.

Landscaping on private property would be consistent with City of Corona standards. One 15-gallon tree or larger is required for each 400 square feet of slope. No less than 50 percent of the trees shall be evergreens. Two shrubs are required for each 64 feet of slope area. For groundcovers, rooted cuttings shall be planted at 12 inches on center minimum and 24 inches on center maximum, depending on the variety of groundcover. Smaller trees and shrubs shall be planted at the top of the slope and larger trees and shrubs are to be planted further downslope to preserve views and lines of sight. Trees are to be planted near the property line to further frame the view.

(c) Grading

The grading operation entails cut and fill from the existing grades to the proposed ultimate roadway and pad grades within the project development within a single phase. The anticipated maximum cut and fill depths are 160 feet and 145 feet, respectively. The estimated earthwork volume to be moved is approximately 5,000,000 cubic yards. The site is designed to balance the cut and fill within the project site with no import or export of material.

d. Analysis of Project Impacts

(1) Physically Divide an Established Community

Threshold 1:	Would the project physically divide an established community?

Impact 4.I-1 *The proposed project would not physically divide established residential communities in the vicinity of the project site. The Construction Traffic Management Plan would relegate haul traffic to major roadways and would not allow construction parking or staging in existing developed areas. The focus of project traffic at "P" Street would reduce project traffic through existing, adjacent residential neighborhoods. No existing uses would be removed and existing access to Skyline Drive and trails to the Cleveland National Forest would be retained. Impacts with respect to the physical division of an established community would be less than significant.*

Construction

The project's Construction Traffic Management Plan would require adherence to approved haul routes and provide a program for construction parking and staging. During the three construction phases, construction

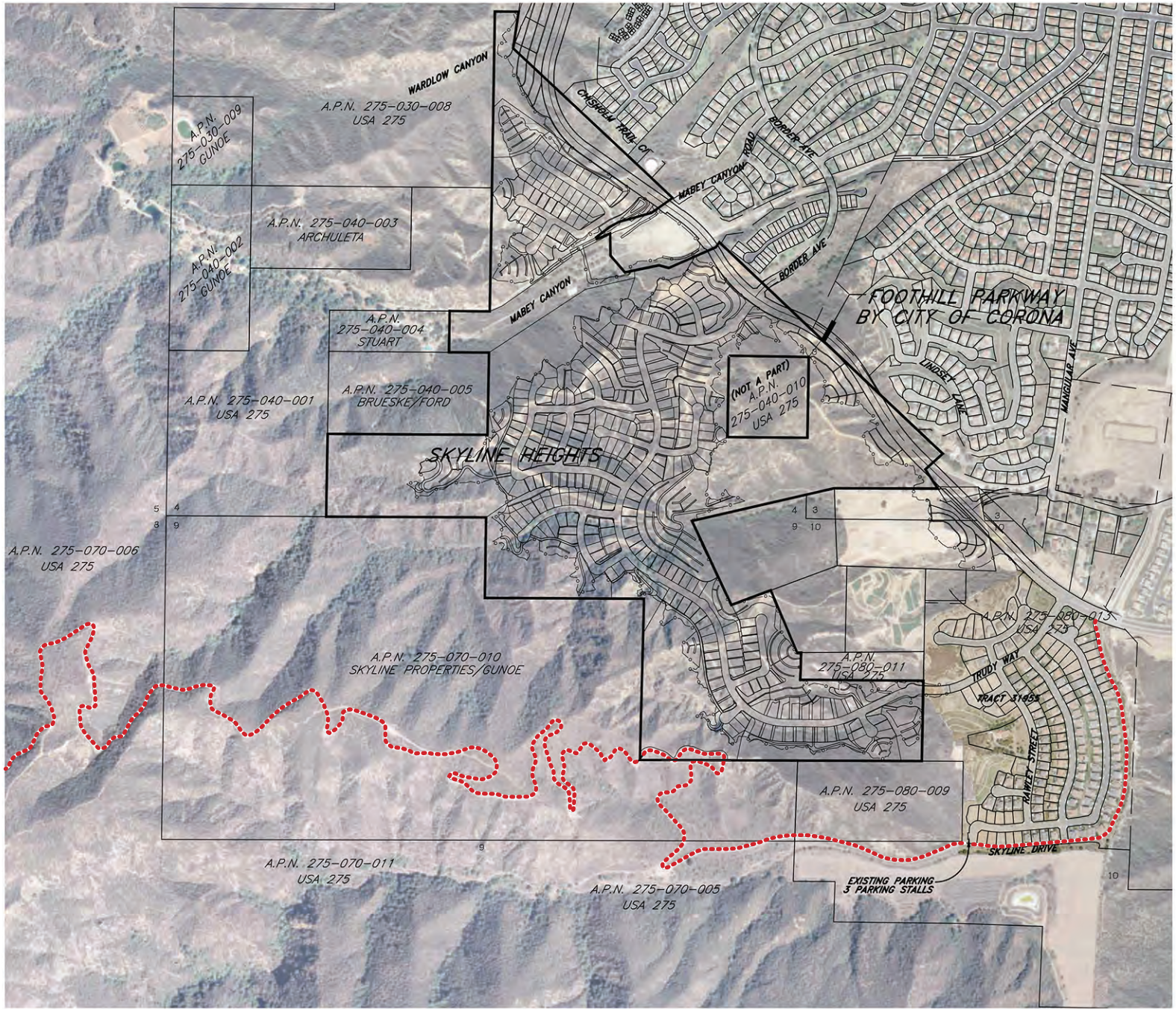
traffic would access the project site via the Foothill Parkway Extension and "P" Street. Vehicle parking and staging would be restricted to the project site and would not encroach on the Foothills Parkway Extension or surrounding, existing neighborhood streets. Haul routes would be limited to highways and would not encroach upon or disturb existing residential neighborhoods. Therefore, construction activities would not physically divide or disrupt an established community.

Operation

The proposed project would be located to the southwest of the Foothill Parkway Extension and adjacent to an existing subdivision, Tract Map 31955. The latter contains approximately 154 single-family residential lots and, as with the project, is located to the south of the Foothill Parkway. "P" Street, a proposed 88-foot right-of-way, divided "local collector" street would serve as a primary access into the northerly portion of the project. "B" Street and Trudy Way, which are proposed 68-foot right-of-way "local collector" streets, would serve as gated primary access to the southerly portion of the project. Although "P" Street would provide primary access, because the project contains no industrial or commercial uses, any vehicles from the project traversing Trudy Way through a portion of the adjacent subdivision would be related to the proposed residential use and not dissimilar in character to residential traffic in the existing neighborhood. Limited use of Trudy Way and the local residential character of the project's traffic during operation would reduce the project's traffic effects on the adjacent residential neighborhood. Therefore, the project would not divide or adversely disrupt the existing residential neighborhood in the vicinity of Trudy Way.

The project's third phase would be located in the area of "B" Street, which is aligned with Border Avenue to the north of the Foothill Parkway Extension. The extension of the Foothill Parkway Extension to Green River Road and use of "B" Street would reduce through traffic from the project onto Border Avenue. Therefore, the project would not divide or adversely disrupt the existing residential neighborhood in the vicinity of Border Avenue.

The proposed project would not require the removal of existing land uses and would not alter current access to existing land uses within the annexation area including access to Skyline Trail, which is a recognized and designated public access trail. As shown below in **Figure 4.I-1**, *Skyline Trail Alignment*, and **Figure 4.I-2**, *Skyline Trail Access and Trailhead Location*, while the project would be developed near the existing Skyline Trail, and two limited segments of the trail alignment are contained within the annexation area and the 270.9-acre project site, respectively, the project is not anticipated to directly or indirectly affect trail access or operation. Specifically, the southernmost portion of the annexation area contains an unpaved segment of the trail immediately west of an existing gate and three handicapped-accessible parking spaces at the intersection of Skyline Drive and Borrero Way, while another unpaved trail segment at a higher elevation to the west is located within the project site (southern edge of APN 275-070-003). However, no physical changes to these areas would occur as part of the project, and therefore implementation of the project would not result in direct adverse effects on the trail or otherwise affect trail access. Furthermore, the trail would not be accessible directly from the project site, given steep topography and intervening development (see Figure 4.I-2).



PCR

N

0 160 Feet

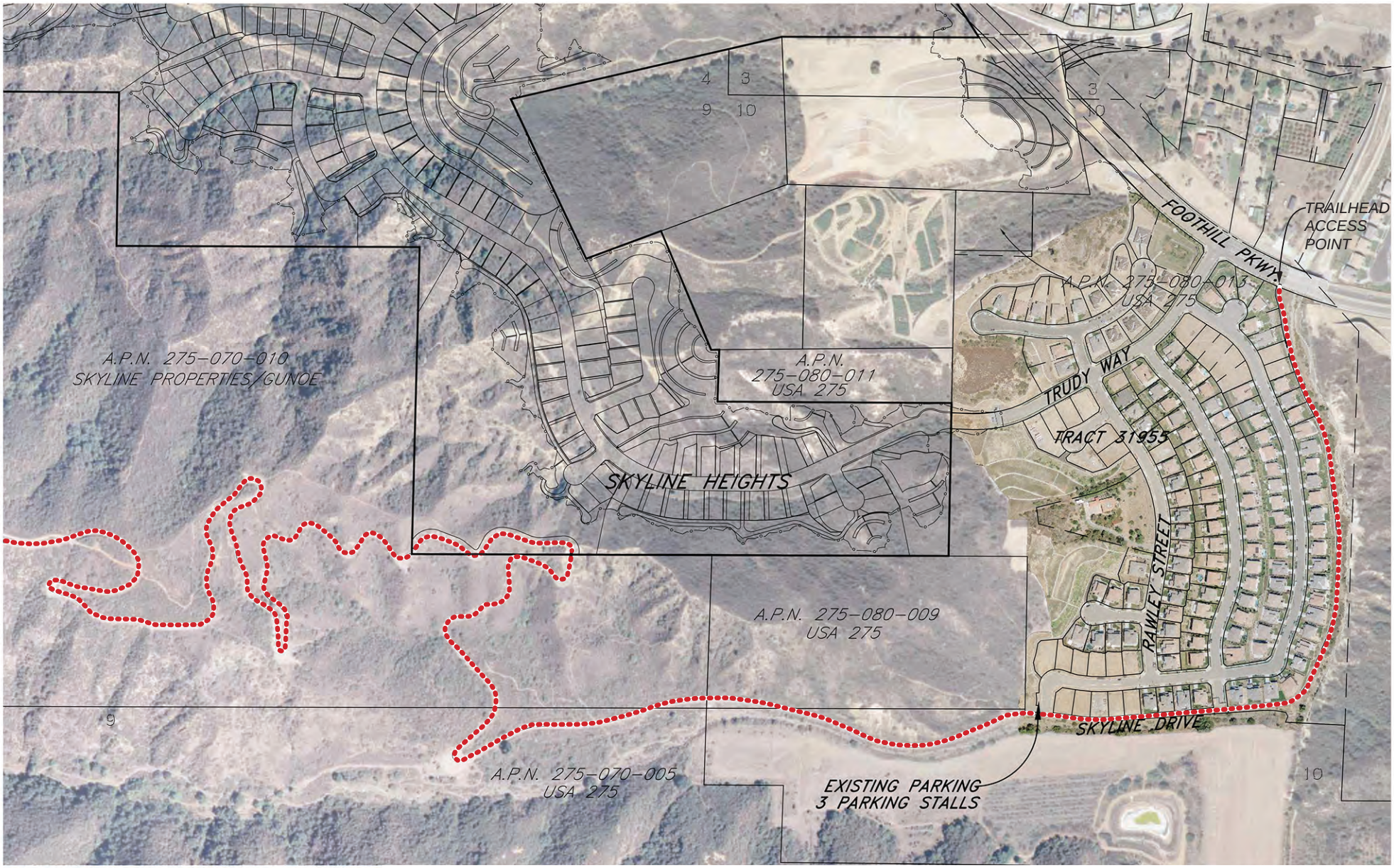
Skyline Trail Alignment

Skyline Heights Project

Source: KWC Engineers, 2015.

FIGURE

4.I-1



LEGEND

SKYLINE HEIGHTS PROJECT BOUNDARY (RICHLAND DEVELOPERS INC.)

EXISTING SKYLINE TRAIL

N

0 800 Feet

PCR

Skyline Trail Access and Trailhead Location

Skyline Heights Project

Source: KWC Engineers, 2015.

FIGURE

4.I-2

Additionally, while future project residents would likely utilize the existing trail facilities in the area for recreation, including the adjacent Skyline Trail, the increase in trail use associated with the project is expected to be nominal relative to the existing trail usage, and thus it is not expected that the project would result in measurable degradation of the trail. As such, the project would not adversely affect existing routing or substantially increase the use of Skyline Drive or the Skyline Trail itself, which currently provides regional trail access to the Cleveland National Forest.

Other existing residential and non-residential land uses in the area would be located to the north of the Foothill Parkway Extension and would not be affected by the project's street layout or access plan. Therefore, the project would not divide or adversely disrupt existing residential neighborhoods to the north of the Foothill Parkway Extension. Impacts with respect to the physical division of an established community would be less than significant.

(2) Consistency with Applicable Plans and Policies

Threshold 2:	Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Impact 4.I-2 *The proposed project would result in less than significant land use impacts with regard to consistency with the CKH Act, SCAG's Regional Comprehensive Plan, RTP/SCS and Compass Blueprint Growth Vision, and the City of Corona General Plan. With the approval of the requested amendments to the General Plan existing inconsistencies between the General Plan and uses on the project site would be resolved.*

(a) Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000

The project must meet the criteria for annexation set forth under the CKH Act. Under this regulation, Riverside LAFCO acts within a set of state-mandated parameters encouraging "planned, well-ordered, efficient urban development patterns," the preservation of open-space lands, and the discouragement of urban sprawl. The Legislature has taken care to guide the actions of the LAFCOs by providing statewide policies and priorities for the consideration of annexations (Government Code Section 56844), and by establishing criteria for the delineation of spheres of influence (Government Code Section 56425).

Table 4.1-1, *Comparison of the Proposed Annexation to Required LAFCO Consideration Factors*, compares the consistency of the proposed annexation to factors under State law that must be considered by LAFCO in making a determination in the suitability of an annexation. As shown in Table 4.I-1, the project would be consistent with the population density and land area, and land use consideration factors in that population density would not exceed SCAG's RTP projections and the site is located within the City's SOI and is a mutually determined site for future development by LAFCO, the City, the County, and SCAG in accordance with the local government structure of the county. The proposed annexation would provide open space and would conserve access to Skyline Drive, which serves as trail access to the Cleveland National Forest to the region and thus, serve social interests of the area. The proposed subdivision would contribute approximately 21.38 acres for the City's Foothill Parkway Extension and, thus, serve mutual economic

interests. With the implementation of project design features, government services would be adequate to serve the proposed project.

The proposed annexation would provide open space and would conserve access to Skyline Drive, which serves as trail access to the Cleveland National Forest to the region and, thus, would serve social interests of the area. The proposed subdivision associated with the annexation would provide approximately 21.38 acres for the City's Foothill Parkway Extension and, thus, serve mutual economic interests.

The area proposed for development is adjacent to an existing residential subdivision in the R-1-7.2 zone (the same as requested for the proposed subdivision) within the City of Corona and directly across the proposed Foothill Parkway Extension from similar residential development within the City. The contiguity of the annexation site to existing development and the City boundary would provide for an orderly, efficient pattern of urban development. Also, because the annexation area is within an approved SOI, it would be consistent with state policies and priorities for conversion of open-space lands to other uses.

With regard to agricultural preserves, lands within the annexation area are not contained within agricultural preserves. However, 86.23 acres would be zoned Agriculture and 37.61 acres would be zoned Open Space. Under the proposed zoning, approximately 64.3 percent of the annexation area (394.8 acres) would be developed and 35.39 percent would be retained as agricultural or open space land. The proposed annexation comprises contiguous properties and would not create islands or corridors of unincorporated territory. With regard to general plan consistency, the proposed annexation is located within the City of Corona's General Plan as an SOI area proposed for single-family residences and agricultural uses. The proposed subdivision is consistent in density (du/acre) with adjacent residential subdivisions within the City.

Government Code Section 56375(a)(4)(B), requires the LAFCO annex a property where it is located within an urban service area that has been delineated and adopted by a commission, which is not prime agricultural land, as defined by Section 56064, and is designated for urban growth by the general plan of the annexing city. Such is the case here, the proposed annexation area is adjacent to the City boundary to the north and east, is not designated as prime agricultural land, is located in the City of Corona SOI and designated for future development, and is located with the City of Corona's service area.

As shown in Table 4.I-1, the proposed annexation would be substantially consistent with existing requirements and consideration factors. Because the proposed annexation would be substantially consistent with existing regulations of the CKH Act, the impact with respect to this regulation would be less than significant.

Table 4.I-1

Comparison of the Proposed Annexation to Required LAFCO Consideration Factors

Factor	Evaluation of Project Consistency in Meeting Required Consideration Factors
1. Population, population density, land area and use, per capita assessed valuation, topography, natural boundaries, drainage basins, proximity to populated	**Consistent.** The effect of population density with respect to SCAG's RTP projections, land use, topography, natural boundaries, proximity to populated areas and

Table 4.I-1 (Continued)

Comparison of the Proposed Annexation to Required LAFCO Consideration Factors

Factor	Evaluation of Project Consistency in Meeting Required Consideration Factors
areas, and the likelihood of significant growth during the next ten years.	other concerns are addressed in Chapter 2, Project Description; Section 4.E, Geology and Soils; Section 4.K, Population, Housing, and Employment; and other applicable sections of this EIR and, thus, provide information to decision-makers regarding the effects of annexation.
2. Need for organized community services, present cost and adequacy of government services and controls, probable future needs, probable effect of the annexation and of alternative courses of action on the cost and adequacy of services and controls in the area and vicinity.	**Consistent**. The effect of the annexation on community services is evaluated in Sections 4.L, Public Services, and 4.N, Utilities, of this EIR. As described therein, with the implementation of project design features, government services would be adequate to serve the proposed project.
3. The effect of the proposed annexation and of alternative actions on adjacent areas, on mutual social and economic interests and on the local government structure of the county.	**Consistent.** The annexation area is located within the City's SOI and is, thus, a mutually determined site for future development by LAFCO, the City, the County, and SCAG in accordance with the local government structure of the county. The proposed annexation would provide open space and would conserve access to Skyline Drive, which serves as trail access to the Cleveland National Forest to the region and thus, serve social interests of the area. The proposed subdivision would contribute approximately 21.38 acres for the City's Foothill Parkway Extension and, thus, serve mutual economic interests.
4. Conformity of the proposal and its effects with LAFCO policies on providing planned, orderly, efficient patterns of urban development and with state policies and priorities in conversion of open-space lands to other uses.	**Consistent.** The proposed annexation is located in the City of Corona's SOI and adjacent to the existing city boundary. The area proposed for development is adjacent to an existing residential subdivision in the R-1-7.2 zone (the same as requested for the proposed subdivision) within the City of Corona and directly across the proposed Foothill Parkway Extension from similar residential development within the City. The contiguity of the annexation site to existing development and the City boundary would provide for an orderly, efficient pattern of urban development. Also, because the annexation area is within an approved SOI, it would be consistent with state policies and priorities for conversion of open-space lands to other uses. Approximately 86.23 acres would be zoned for agricultural uses and 37.61 acres would be zoned for open space. Under the proposed zoning, approximately 64.3 percent of the annexation area (394.8 acres) would be developed and 35.39 percent would be retained as agricultural or open space land.
5. Effect of the proposal on maintaining the physical and economic integrity of lands in an agricultural preserve in open-space use.	**Consistent.** Lands within the annexation area are not contained within agricultural preserves. However, 86.23 acres would be zoned Agriculture and 37.61 acres would

Table 4.I-1 (Continued)

Comparison of the Proposed Annexation to Required LAFCO Consideration Factors

Factor		Evaluation of Project Consistency in Meeting Required Consideration Factors
		be zoned Open Space.
6. Clarity of the boundaries of the territory, the nonconformance of proposed boundaries with lines of assessment or ownership, the creation of islands or corridors of unincorporated territory and other similar matters affecting the proposed boundaries.		**Consistent.** The proposed annexation comprises contiguous properties and would not create islands or corridors of unincorporated territory.
7. Consistency with appropriate city or county general and specific plans.		**Consistent**. The proposed annexation is located within the City of Corona's General Plan as an SOI area proposed for single-family residences and agricultural uses. The proposed subdivision zoning is consistent in density (du/acre) with adjacent residential subdivisions within the City.
8. The sphere of influence of any agency which may be applicable to the proposal being reviewed.		**Consistent.** The proposed annexation area is located within the City of Corona Sphere of Influence.
9. The comments of any affected agency.		**Consistent**. This Draft EIR and the annexation application would be circulated for city, county, and state agency review.
Government Code Section 56375(a):		
	1. The land is substantially surrounded by the city or the Pacific Ocean, is substantially developed or developing, is not prime agricultural land, is designated for urban growth on the city's general plan, and is not within the sphere of influence of another city.	**Consistent.** The proposed annexation area is adjacent to the City boundary to the north and east. It is not designated as prime agricultural land. However, approximately 86.23 acres would be zoned for future agricultural purposes. The site is located in the City of Corona SOI and designated for future development.
	2. The land is located within an urban service area designated by the LAFCO, is not prime agricultural land, and is designated for urban growth on the city's general plan.	Consistent. The proposed annexation area is located with the City of Corona's service area and contiguous to existing City boundaries. It is designated for future development in the City's general plan.

Source: PCR Services Corporation, 2014.

(b) SCAG Regional Plans and Programs

The project site is currently undeveloped land located within the City of Corona SOI, as defined by the City of Corona, Riverside LAFCO and SCAG. The current land use designation of the project site (site of proposed residential development) in unincorporated Riverside County is Rural Mountainous (RM), which allows single-family residential development up to one dwelling unit per 10 acres (minimum 10-acre lot size). Adjacent residential land uses in the City of Corona are zoned R1-7.2 (single-family with a 7,200-square-foot minimum lot size), similar to the proposed 3 to 6 units per acre proposed by the project. The project site is also located within a Compass Blueprint 2% Strategy Area, which anticipates future growth. The project would be consistent with SCAG objectives to focus growth in existing and emerging centers and along major transportation corridors and to preserve existing open space and stable residential areas. As described

above, the Compass Blueprint 2% Strategy calls for modest changes to current land use and transportation trends on only 2% of the land area of the region. The Growth Visioning effort encourages densification of job growth and population activity in proximity to certain transportation facilities. The project site is located in the City of Corona SOI, which as is the City of Corona, served by regional freeways (I-15 and SR-91) and transit (Corona's Metrolink station) and is within a target area that, if developed at higher density, would help serve the mobility, livability, prosperity and sustainability goals of the Growth Vision for the region. The proposed annexation provides for the preservation of open space parcels and continued access to trails via Skyline Drive to the Cleveland National Forest. The proposed subdivision incorporates permanent, common open space areas that would preserve views and enhance the natural setting. The project would also be within the anticipated growth projected by SCAG's RTP/SCS for the local, subregional, and regional areas, respectively, between the years of 2008 and 2035 (see Section 4.K, of this EIR). Because the project would be located within an area anticipated for future growth and consistent with the principals of SCAG regional plans and policies, it would have a less than significant impact with respect to SGAG regional plans and policies.

(c) City of Corona General Plan

The 394.8-acre annexation area, which includes the 270.9-acre project site, is currently within unincorporated Riverside County and the City of Corona SOI. Most of the SOI is designated under the current Riverside County General Plan as Rural Mountainous (RM), which allows for residential development at a density of one dwelling unit per ten acres, with the remaining portion designated as Conservation-Habitat (OS-CH). While the County's land use designations for the project site and larger annexation area are currently in force, the City's General Plan also designates the property as Rural Residential I (0.2-0.5 dwelling units per acre) and Open Space/General (OS/G), respectively, for the same parcels, since these parcels are located within the City's SOI. The Land Use chapter of the General Plan provides guidance for the City of Corona and its SOI. It defines how lands are to be used, the density, intensity, and physical form and character of development and a strategy that articulates where growth will occur and what lands will be conserved.

Implementation of the proposed project would require an amendment to Corona's General Plan to incorporate the annexed portion (394.8 acres) of the SOI within the City of Corona boundary and to change the land use designation from the County's Rural Mountainous (RM) designation and the City's Rural Residential I (0.2 - 0.5 dwelling units/acre) designation to Low Density Residential (LDR), with a density of 3-6 dwelling units per acre on 357.19 acres, and Open Space/General on 37.61 acres.

The proposed change in land use designations for the 270.9-acre project site would be consistent with existing, adjacent residential uses, which are designated as LDR and Estate Residential (ER, with a density of 1 to 3 dwelling units per acre) within the City of Corona, as well as the existing open space and agricultural uses in the annexation area, but outside the project site.

As presented in **Table 4.I-2**, *General Plan Consistency Analysis*, the proposed project would be consistent with all of the applicable goals and policies of the General Plan, including those related to provision of additional housing opportunities, preservation of open space and sensitive habitat areas, adequacy of public services and infrastructure, mobility and accessibility, and sustainability and natural resource conservation. As such, the project would be consistent with the City's General Plan and impacts in this regard would be less than significant.

Table 4.I-2

General Plan Consistency Analysis

Goals and Policies	Evaluation of Project Consistency
Community Development – Land Use	
Goal 1.1 – A community that contains a diversity of land uses that supports the needs of and provides a high quality of life for its residents, sustains and enhances the City's economy and fiscal balance, is supported by adequate community infrastructure and services, and is compatible with the environmental setting and resources.	**Consistent**. The proposed project would require an amendment to the General Plan require an amendment to Corona's General Plan to incorporate the annexed portion (394.8 acres) of the SOI within the City of Corona boundary and to change the City's land use designation from Rural Residential I (0.2 - 0.5 dwelling units/acre) to Low Density Residential (3-6 dwelling units per acre) on 357.14 acres and Open Space/ General on 37.61 acres. Specific zoning on the project site (270.9 acres) would be R-1-7.2 (single-family residential with a minimum lot size of 7,200 square feet). The remainder of the annexation site would be zoned Agriculture (86.23 acres) and Open Space (37.61 acres). The General Plan Amendment would allow for the development of 292 single-family homes and the preservation of permanent open space. New single-family housing in the City of Corona would expand the City's range of land uses and support the needs of the community, while providing a high quality of life for its residents. As discussed in Section 4.N, Utilities and Service Systems, of this EIR, water, drainage and sewer lines are available in the area to serve the project. Impacts to biological and cultural resources and transportation systems would be reduced to less than significant levels through the implementation of design features and mitigation measures described in Sections 4.C, 4.D, and 4.M. of this EIR. The project would not result in adverse impacts and, as such, would be compatible with the environmental setting and resources.
Policy 1.1.1 – Accommodate uses that support the diverse needs of Corona's residents including opportunities for living, commerce, employment, recreation, education, culture, entertainment, civic engagement, and social and spiritual activity that are in balance with natural open spaces.	**Consistent.** The project provides housing and, thus, provides new living space in Corona. In addition, the project preserves open space as well as maintaining access to existing trails (via Skyline Drive) to the Cleveland National Forest and, as such, would be consistent with the objectives of the General Plan to maintain a balance between development and natural open space.
Policy 1.1.4 -Accommodate the types, densities, and mix of land uses that can be adequately supported by transportation and utility infrastructure (water, sewer, etc.) and public services (schools, parks, libraries, etc.)	**Consistent.** The project increases the City housing stock and mix of housing while being adequately supported by transportation and utility infrastructure (Section 4.N, Utilities and Service Systems) and public services (see Section 4.L, Public Services) of this EIR.
Policy 1.1.5 – Accommodate uses that in balance with the preservation and conservation of open spaces for recreation, aesthetic relief, natural resource value, and public safety (such as floodways, seismic fault zones, and other.	**Consistent.** The annexation provides permanent open space parcels between the subdivision development and surrounding areas, as well as incorporating open space features within the proposed subdivision, that provide for recreation and natural resource value. As discussed in Sections 4.H, Hydrology and Water Quality, and 4.E,

Table 4.I-2 (Continued)

General Plan Consistency Analysis

Goals and Policies	Evaluation of Project Consistency
	Geology, the project would provide adequate drainage and retention of surface flow, would not locate residences with canyon drainage areas or in proximity to active fault zones.
Goal 1.2 – A cohesive and integrated City comprised of distinct and vital commercial and business districts and livable residential neighborhoods, which are correlated with supporting transportation and utility infrastructure and sustain natural open spaces, hillsides, and canyons.	**Consistent**. The project would provide a livable residential neighborhood that is supported by regional roadways, adequate utility infrastructure, and permanent open space, hillsides, and canyons within and around the proposed residential subdivision.
Policy 1.2.1 – Locate and design development to reflect Corona's unique physical setting considering its natural topography, environmental resources, natural hazards, and opportunities for views in accordance with this Plan's policies for Natural Resources and Public Safety.	**Consistent**. The project, which would locate homes within a hillside area, would minimize grading activities by following the natural topography of the area to the extent feasible. Natural hazards, such as canyon drainage areas would be avoided and opportunities for views from open space areas within the subdivision would be enhanced by public viewing areas. Landscape plans are designed to avoid view blockage.
Policy 1.2.2 – Require that land uses be located and designed to reflect and incorporate the property's natural drainage courses, to the extent feasible in consideration of public safety and habitat preservation.	**Consistent**. The project would be designed to avoid deep drainage courses, which providing for habitat preservation in permanent open space areas to the extent feasible (see Sections 4.C, Biological Resources, and 4.H, Hydrology, of this EIR).
Goal 1.3 - Development pattern that retains and complements the City's important residential neighborhoods, commercial and industrial districts, and open spaces.	**Consistent.** The annexation would support open space by providing permanent open space parcels and trail access to the Cleveland National Forest via Skyline Drive. The proposed density would be consistent with existing residential development in the area and would not detract from the City's existing residential neighborhoods.
Policy 1.3.1 - Permit land use development consistent with the Land Use Plan, as depicted in Figure 3. The following indicates the primary land use categories and the densities/intensities and, where appropriate, heights to be permitted. Public uses may be permitted in any land use designation, consistent with Policy 1.15.2.	**Consistent.** Although lands within the SOI are not depicted in Figure 3 of the General Plan, the project would be consistent with adjacent land use and zoning designations within the City boundary, as shown in Figure 3, including the LDR, ER, and OS/G land use designations and open space and R-1-7.2 zoning within the adjacent subdivisions.
Goal 1.4 – Strategic growth that preserves existing viable residential neighborhoods and commercial and industrial districts and targets new development to remaining vacant parcels that are environmentally suitable and can be supported by infrastructure and services and reuses appropriate properties to enhance their economic vitality and community livability.	**Consistent**. The project would not occur in existing residential areas or affect existing neighborhoods. The site is a vacant parcel within the City's SOI that is slated for residential development and, as discussed in Sections 4.L, Public Services, and 4.N, Utilities and Service Systems, of this Draft EIR, is supported by existing infrastructure and services. No existing land uses would be redeveloped or reused.

Table 4.I-2 (Continued)

General Plan Consistency Analysis

Goals and Policies	Evaluation of Project Consistency
Policy 1.4.8 – Require that development occur only when the public infrastructure and services needed to support that development are available, will be provided concurrently, or are committed to be provided within a reasonable time frame where this would not incur adverse impacts on current infrastructure and services, to the extent permitted by State law.	**Consistent**. As analyzed in Sections 4.L, *Public Services*, 4.M, *Transportation*, and 4.N, *Utilities and Service Systems*, of this Draft EIR, the project would ensure that adequate infrastructure and services are available to accommodate the demand generated by the project and no adverse impacts would occur due to project development.
Goal 1.5 – Distinct neighborhoods and districts that contribute to the identity, character, and image of Corona as a vital, livable, diverse, innovative, and environmentally sustainable community.	**Consistent**. The project would provide a high quality residential neighborhood, which combines residential development, well- maintained landscaping and street design, in combination with permanent open space, that would contribute to the character and image of Corona as a livable and environmentally sustainable community.
Policy 1.5.1 – Promote the development of residential neighborhoods, commercial and industrial districts, and public places that are distinguished by their physical design, image, effectiveness in nurturing community socialization and economic activity, and perception as valued places by residents, business persons, and visitors to the City.	**Consistent**. As discussed in Chapter 2, Project Description, of this EIR, the project would incorporate specific design features that include high quality landscaping and street design, common landscaped areas and view locations, and permanent open space that would be valued by the residents of the area and visitors.
Policy 1.5.11 – Require the submittal and approval of landscape plans for all development projects.	**Consistent**. A concept landscape plan would be submitted as part of the permit application. Landscape treatments would include trees, shrubs, and potted plantings, street layouts and design, building setbacks and heights that would be consistent with the project's landscape plan and Corona Municipal Code. Landscaping materials will include WUCOLS drought resistant, low-water-demand vegetation.
Goal 1.7 – Residential neighborhoods that contain a diversity of housing and supporting uses to meet the needs of Corona's residents that are designed to enhance livability and a high quality of life.	**Consistent**. The proposed project would provide additional single-family housing units within the City, which would help the City meet its current and future RHNA goals. Additionally, the proposed residential development would include various improvements such as new roads, open space areas, landscaping, and other features that are intended to enhance livability of on-site residents and provide a high quality of life.
Goal 1.7 - Residential neighborhoods that contain a diversity of housing and supporting uses to meet the needs of Corona's residents that are designed to enhance livability and a high quality of life.	**Consistent.** The residential project would focus on single-family homes in various sizes. Although only containing single-family homes, the project would contribute to the City's overall variety and diversity of high quality housing stock and, thus, enhance livability and quality of life in the community.

Table 4.I-2 (Continued)

General Plan Consistency Analysis

Goals and Policies	Evaluation of Project Consistency
Policy 1.7.10 - Require that fencing in residential neighborhoods meet high aesthetic and safety standards in consideration of the following principles: - Fencing should not obstruct vehicle sight lines - Fencing should be compatible with the architectural design of nearby structures - Fencing should make a positive contribution to the character of the neighborhood	**Consistent.** Development plans for the project incorporate fencing and wall plans. These include masonry and iron features that contribute to the character of the subdivision and are encoded in HOA requirements.
Goal 1.9 Development of new residential neighborhoods that complement existing neighborhoods and assure a high level of livability for their residents.	**Consistent.** The project would be consistent with zoning, lot size, density with the adjacent residential neighborhood to the east (Subdivision Tract 31955) and with similar single family neighborhoods to the north of the Foothill Parkway Extension. As with the project, these neighborhoods offer a high level of livability for their residents because of views, lot sizes, and high quality new construction.
Policy 1.9.1 - Accommodate the development of new residential neighborhoods in areas depicted by the Land Use Plan and Growth and Development Policy Plan that contain a diversity of housing and supporting schools, parks, and other amenities.	**Consistent.** The project would be located in an SOI area that anticipates new residential development. As discussed in Section 4.L, Public Services, of this EIR, the project would either not impact or would provide support for schools, parks, and other services.
Policy 1.9.2 - Promote the development of master planned communities that integrate a diversity of housing, parks, schools, trails, open spaces, and other elements into a distinct place. Establish a development pattern that ties together individual parcels into a cohesive whole addressing the location and massing of buildings, architecture, landscape, connective pedestrian trails, use of key landmarks, and similar elements.	**Consistent.** The project would be developed as a unified whole, containing pedestrian routes and pathways, common open space and other amenities. The scale of the development is not adequate to support public schools, however, common open space would be provided. The main entrances at "B" Street and "P" Street would feature a landmark to distinguish the residential community.
Goal 1.10 - Development of low-density residential neighborhoods in areas on the City's southern periphery that preserve the rural and open space character of their setting.	**Consistent.** The project would be a low-density residential neighborhood within the southwestern periphery of the City and characterized by its rural and open space setting.
Policy 1.10.1 - Accommodate the development of low-density single-family housing that reflects and maintains the rural character of Corona's foothills and canyons, in accordance with the Land Use Plan's designations and applicable density standards and design and development policies.	**Consistent.** The project would be a low-density single-family residential neighborhood that is characterized by its rural and open space setting. The subdivision would incorporate open space and pedestrian trails, as well as landscape and view standards that would enhance the experience of the setting for residents.
Policy 1.10.2 - Require that development projects be located and designed to maintain predominant topographic forms, contours, and elevations, in the City's foothills and canyons, in accordance with Policies 10.21.2 and 10.21.3.	**Consistent.** The project would be designed to maintain predominant topographic forms, contours, and elevations in accordance with Policies 10.21.2 and 10.21.3.
Policy 1.10.3 - Minimize the removal of native landscape and integrate with new residential development, to .the extent feasible and practical for fire control.	**Consistent;** The project would preserve native landscape in natural open space areas (see Section 4.C, Biological Resources) to the extent feasible. Because of the configuration of the subdivision, much of the subdivision would be integrated into the surrounding habitat to the extent that it is practicable and fire control is maintained.

Table 4.I-2 (Continued)

General Plan Consistency Analysis

Goals and Policies	Evaluation of Project Consistency
Policy 1.10.4 - Site and design development to maintain natural drainages and habitats, except as necessary to assure flood control.	**Consistent. –** Under the proposed subdivision plan, building development would be set back from (not encroach into) Mabey Canyon, a major drainage that divides the site. Natural drainage would be maintained to the extent feasible.
Policy 1.10.5 - Establish community design standards that reflect the rural character such as the use of wood or stone fences, limited sidewalks, extensive street landscape, low levels of street lighting, and similar techniques.	**Consistent. –** The proposed subdivision would incorporate project design features, mitigation measures and the City's Development Plan review to ensure that development reflects the character of the area. The proposed landscape plan calls for extensive street landscape and common open space that enhance views of the natural setting and hills.
Goal 1.16 - Open spaces that provide Corona's residents with opportunities to enjoy the natural environment, provide visual "relief" from urban development, protect significant plant and animal habitats, and protect development from natural environmental hazards.	**Consistent.** The proposed annexation would provide 37.61 acres of designated "open space" land and 86.23 acres of designated "agriculture" land that would be conserved for open space or agricultural purposes. In addition, the proposed subdivision would incorporate common open space areas. These areas would provide visual "relief," protect significant plant and animal habitats, e protect development from natural environmental hazards.
Policy 1.16.2 - Require the dedication of additional open spaces in new residential subdivisions and other applicable development, where necessary, to preserve the natural topography, plant and animal habitats, and flooding and drainage corridors in accordance with subsequent policies of this Plan	**Consistent.** The project would largely preserve Mabey Canyon, a major drainage, and other surrounding topographic features and conserve habitat in drainages (See Section 4.H, Hydrology, of this EIR. The proposed subdivision would also incorporate common open space areas on the periphery of the developed area.
Infrastructure and Public Services – Energy	
Policy 7.11.1 – Require that new development is approved contingent upon its ability to be served with adequate natural gas facilities and infrastructure.	**Consistent**. Natural gas lines are currently located in the surrounding street system that would provide service to the site.
Policy 7.12.1 – Require that new development is approved contingent upon the ability to be served with adequate electrical facilities and service.	**Consistent**. Electrical facilities are currently located both on- and off-site.
Policy 7.12.3 – Continue to provide for the undergrounding of new and existing electrical distribution lines unless it is determined not to be economically or practically feasible as a result of significant environmental or other constraints.	**Consistent**. Utilities serving the project site would be located underground.
Infrastructure and Public Services – Telecommunications	
Policy 7.13.1 – Require that new development be approved contingent upon its ability to be served by adequate telecommunication and other supporting infrastructure.	**Consistent**. Telecommunication infrastructure currently exists in the area and would be available to serve the site.

Source: City of Corona General Plan, 2004 as amended; ICF International, 2013; and PCR Services Corporation, 2013.

(3) Conflict with Habitat Conservation Plan

Threshold 3:	Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

Impact 4.I-3 The proposed project would not conflict with any applicable habitat conservation plan or natural community conservation plan. The project site is located within the Temescal Canyon Area Plan of the WRC MSHCP. The payment of a development mitigation fee is intended to provide full mitigation. Therefore, impacts would be less than significant.

As discussed in detail in Section 4.C, *Biological Resources*, of this Draft EIR, the project site is located within the Temescal Canyon Area Plan of the WRC MSHCP and would comply with the WRC MSHCP. The project site is not within a Criteria Cell, nor is it within the Narrow Endemic Plant Species, Criteria Area Species, Amphibian Species, or Mammal Species Survey Areas. The project is also not located within a MSHCP designated Core or Linkage and will not impact overall Reserve Assembly goals, although the project does adjoin PQP (public quasi-public) and would isolate a 10-acre PQP parcel. None of the identified Planning Species for the Temescal Canyon Area Plan have been located within the survey area. The project site is located within the Burrowing Owl Survey Area and focused surveys were conducted for this species; however, no burrowing owls were found on-site. The project site is located outside the Stephens' kangaroo rat mitigation fee area and the SKR HCP. Project implementation would be carried out in compliance with the WRC MSHCP as relates to (1) core and linkage areas, (2) PQP lands, (3) burrowing owl habitat areas, (4) riparian/riverine habitat areas, and (5) urban/wildland interface areas. The Applicant would pay the required MSHCP development mitigation fee.

Payment of the WRC MSHCP development mitigation fee is required for the undeveloped/vacant areas within the project boundaries. The fee is intended to provide full mitigation under CEQA, NEPA, CESA, and FESA for impacts on the species and habitats covered by the WRC MSHCP, pursuant to agreements with USFWS and CDFG, as set forth in the implementing agreement for the MSHCP. Therefore, the proposed project would be considered consistent with the WRC MSHCP and impacts would be less than significant.

3. CUMULATIVE IMPACTS

Development of the proposed project is not anticipated to result in cumulatively significant land use impacts relative to compliance with the applicable objectives, goals, principles, policies, actions or standards of the SCAG RCP, SCAG RTP/SCS, SCAG Compass Blueprint Growth Vision, City of Corona General Plan, or City of Corona Municipal Code. Any current and future development projects within the City of Corona would be subject to environmental review on a project-by-project basis to evaluate consistency with applicable plans, policies, and regulations as well as the potential to divide a community or conflict with applicable conservation plans. As part of environmental review of individual projects, mitigation would be provided to address any physical impacts due to plan inconsistency. Therefore, the proposed project would not result in a cumulatively considerable contribution to land use impacts associated with dividing a community or plan inconsistencies and cumulative impacts would be less than significant.

4. MITIGATION MEASURES

With the approval of the General Plan Map Amendment, Zoning Map and Text Amendment, Tentative Tract Map, and project design features described in other sections of this EIR, the project would not conflict with relevant land use plans, policies and regulations. Therefore, impacts related to land use and planning would be less than significant and no mitigation measures are required.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project-related and cumulative impacts associated with land use and planning would be less than significant.

4. ENVIRONMENTAL IMPACT ANALYSIS
J. NOISE

INTRODUCTION

This section describes noise and groundborne vibration fundamentals, relevant regulations, and existing conditions associated with noise. Based on applicable thresholds of significance, the section also analyzes the potential impacts of project construction and operational noise on noise sensitive land uses in the vicinity of the project site. Information in this section is largely based on information and findings obtained in the *Noise Impact Analysis Skyline Heights Project* ("Noise Study"), prepared by First Carbon Solutions/Michael Brandman Associates, dated April 24, 2014. The Noise Study is contained in Appendix I of this EIR.

1. ENVIRONMENTAL SETTING

a. Noise Fundamentals

Noise is 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. Sound is produced by the vibration of sound pressure waves in the air. Sound pressure levels are used to measure the intensity of sound and are described in terms of decibels. The decibel ("dB") is a logarithmic unit, which expresses the ratio of the sound pressure level being measured to a standard reference level. A-weighted decibels ("dBA") approximate the subjective response of the human ear to a 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 that are audible to the human ear.

(1) Noise Descriptors

Noise equivalent sound levels are not measured directly, but are calculated from sound pressure levels typically measured in 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. The peak traffic hour L_{eq} is the noise metric used by California Department of Transportation ("Caltrans") for all traffic noise impact analyses.

The Day-Night Average Sound Level ("L_{dn}") 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 ten dBs to sound levels at night between 10 P.M. and 7 A.M. While the Community Noise Equivalent Level ("CNEL") is similar to the L_{dn}, except that it has another addition of 4.77 dB to sound levels during the evening hours between 7 P.M. and 10 P.M. These additions are made to the sound levels at these times because during the evening and nighttime hours, when compared to daytime hours, there is a decrease in the ambient noise levels, which creates an increased sensitivity to sounds. For this reason the sound is perceived to be louder in the evening and nighttime hours and is weighted accordingly. Many cities rely on the CNEL noise standard to assess transportation-related impacts on noise sensitive land uses.

Another noise descriptor that is used primarily for the assessment of aircraft noise impacts is the Sound Exposure Level, which is also called the Single Event Level ("SEL"). The SEL descriptor represents the

acoustic energy of a single event (i.e., an aircraft overflight) normalized to one-second event duration. This is useful for comparing the acoustical energy of different events involving different durations of the noise sources. The SEL is based on an integration of the noise during the period when the noise first rises within 10 dBA of its maximum value and last falls below 10 dBA of its maximum value. The SEL is often 10 dBA greater, or more, than the L_{MAX} since the SEL logarithmetically adds the L_{eq} for each second of the duration of the noise.

(2) Tone Noise

A pure tone noise is a noise produced at a single frequency and laboratory tests have shown the humans are more perceptible to changes in noise levels of a pure tone. For a noise source to contain a "pure tone," there must be a significantly higher A-weighted sound energy in a given frequency band than in the neighboring bands, thereby causing the noise source to "stand out" against other noise sources. A pure tone occurs if the sound pressure level in the one-third octave band with the tone exceeds the average of the sound pressure levels of the two contagious one-third octave bands by 5 dB for center frequencies of 500 Hertz ("Hz") and above; by 8 dB for center frequencies between 160 and 400 Hz; and by 15 dB for center frequencies of 125 Hz or less.

(3) Noise Propagation

From the noise source to the receiver, noise changes both in level and frequency spectrum. The most obvious is the decrease in noise as the distance from the source increases. The manner in which noise reduces with distance depends on whether the source is a point or line source as well as ground absorption, atmospheric effects and refraction, and shielding by natural and manmade features. Sound from point sources, such as air conditioning condensers, radiate uniformly outward as it travels away from the source in a spherical pattern. The noise drop-off rate associated with this geometric spreading is 6 dBA per each doubling of the distance ("dBA/DD"). Transportation noise sources such as roadways are typically analyzed as line sources, since at any given moment the receiver may be impacted by noise from multiple vehicles at various locations along the roadway. Because of the geometry of a line source, the noise drop-off rate associated with the geometric spreading of a line source is 3 dBA/DD.

(4) Ground Absorption

The sound drop-off rate is highly dependent on the conditions of the land between the noise source and receiver. To account for this ground-effect attenuation (absorption), two types of site conditions are commonly used in traffic noise models: soft-site and hard-site conditions. Soft-site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. For point sources, a drop-off rate of 7.5 dBA/DD is typically observed over soft ground with landscaping, as compared with a 6.0 dBA/DD drop-off rate over hard ground such as asphalt, concrete, stone and very hard packed earth. For line sources a 4.5 dBA/DD is typically observed for soft-site conditions compared to the 3.0 dBA/DD drop-off rate for hard-site conditions. To be conservative, hard-site conditions were used in this analysis.

(5) Traffic Noise Prediction

The level of traffic noise depends on the three primary factors: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the number of trucks in the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and greater number of trucks. Vehicle noise is a

combination of the noise produced by the engine, exhaust, and tires. Because of the logarithmic nature of traffic noise levels, a doubling of the traffic volume (assuming that the speed and truck mix do not change) results in a noise level increase of 3 dBA. Based on the Federal Highway Administration ("FHWA") community noise assessment criteria, this change is "barely perceptible," for reference a doubling of perceived noise levels would require an increase of approximately 10 dBA. However, the 1992 findings of Federal Interagency Committee on Noise ("FICON"), which assessed changes in ambient noise levels resulting from aircraft operations, found that noise increases as low as 1.5 dB can cause annoyance, when the existing noise levels are already greater than 65 dB. The truck mix on a given roadway also has an effect on community noise levels. As the number of heavy trucks increases and becomes a larger percentage of the vehicle mix, adjacent noise levels increase.

(6) Noise Barrier Attenuation

Effective noise barriers can reduce noise levels by 10 to 15 dBA, cutting the loudness of traffic noise in half. For a noise barrier to work, it must be high enough and long enough to block the view of a road. A noise barrier is most effective when placed close to the noise source or receiver. A noise barrier can achieve a 5-dBA noise level reduction when it is tall enough to break the line-of-sight. When the noise barrier is a berm instead of a wall, the noise attenuation can be increased by another 3 dBA.

b. Groundborne Vibration Fundamentals

Groundborne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. The effects of groundborne vibrations typically only cause a nuisance to people, but at extreme vibration levels, damage to buildings may occur. Although groundborne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the shaking of a building can be notable. Groundborne noise is an effect of groundborne vibration and only exists indoors, since it is produced from noise radiated from the motion of the walls and floors of a room and may consist of the rattling of windows or dishes on shelves.

(1) Vibration Descriptors

Several different methods are used to quantify vibration amplitude such as the maximum instantaneous peak in the vibrations velocity, which is known as the peak particle velocity ("PPV") or the root mean square ("RMS") amplitude of the vibration velocity. Because of the typically small amplitudes of vibrations, vibration velocity is often expressed in dBs denoted as LV and is based on the RMS velocity amplitude. A commonly used abbreviation is VdB, which in this text, is when the particle velocity level ("LV") or sound velocity level ("SVL") is based on the reference quantity of 1 microinch per second. The LV should not be confused with the speed of sound.

(2) Vibration Perception

Typically, developed areas are continuously affected by vibration velocities of 50 VdB or lower. These continuous vibrations are not noticeable to humans whose threshold of perception is around 65 VdB. Offsite sources that may produce perceptible vibrations are usually caused by construction equipment, steel-wheeled trains, and traffic on rough roads, while smooth roads rarely produce perceptible groundborne noise or vibration.

(3) Vibration Propagation

The propagation of groundborne vibration is not as simple to model as airborne noise. This is because noise in the air travels through a relatively uniform median, while groundborne vibrations travel through the earth, which may contain significant geological differences. There are three main types of vibration propagation: surface, compression, and shear waves. Surface waves, or Rayleigh waves, travel along the ground's surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. P-waves, or compression waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. S-waves, or shear waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse, or side-to-side and perpendicular to the direction of propagation.

As vibration waves propagate from a source, the vibration energy decreases in a logarithmic nature and the vibration levels typically decrease by 6 VdB per doubling of the distance from the vibration source. As stated above, this drop-off rate can vary greatly depending on the soil but has been shown to be effective enough for screening purposes, in order to identify potential vibration impacts that may need to be studied through actual field tests.

(4) Construction-Related Vibration Level Prediction

Construction activity can result in varying degrees of ground vibration, depending on the equipment used on the site. Operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Buildings in the vicinity of the construction site respond to these vibrations with varying results ranging from no perceptible effects at the low levels to slight damage at the highest levels. **Table 4.J-1**, *Vibration Source Levels for Construction Equipment*, identifies approximate vibration levels for particular construction activities. The data in Table 4.J-1 provides a reasonable estimate for a wide range of soil conditions.

c. Existing Noise Conditions

(1) Measurement Procedure and Criteria

To ascertain the existing noise at and adjacent to the project site, field monitoring was conducted on Wednesday, May 1, 2013. The field survey noted that noise within the project area is generally characterized by sounds of nature (i.e., birds), construction activity, and roadway traffic noise.

(2) Noise Measurement Equipment

Noise monitoring was performed using an Extech Model 407780 Type 2 integrating sound level meter. The Extech meter was programmed in "slow" mode to record the sound pressure level at 1-second intervals for in A-weighted form. The sound level meter and microphone were mounted approximately five feet above the ground and equipped with a windscreen during all measurements. The sound level meter was calibrated before monitoring using an Extech calibrator, Model 407766. The noise level measurement equipment meets American National Standards Institute ("ANSI") specifications for sound level meters (S1.4-1983 identified in Chapter 19.68.020.AA).

Table 4.J-1

Vibration Source Levels for Construction Equipment

Equipment	Peak Particle Velocity (inches/second) at 25 feet	Approximate Vibration Level (LV) at 25 feet
Pile driver (impact)	1.518 (upper range), 0.644 (typical)	112, 104
Pile driver (sonic)	0.734 (upper range), 0.170 (typical)	105, 93
Clam shovel drop (slurry wall)	0.202	94
Hydromill (slurry wall)	0.008 in soil, 0.017 in rock	66, 75
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large bulldozer	0.089	87
Caisson drill	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

Source: Transit Noise and Vibration Impact Assessment, Federal Transit Administration, May 2006.

(3) Noise Measurement Locations

The noise monitoring locations were selected in order to obtain noise measurements of the current noise sources impacting the vicinity of the project site and to provide a baseline for any potential noise impacts that may be created by development of the proposed project. The selected sites are shown in **Figure 4.J-1**, *Noise Monitoring Locations*. Appendix I includes a photographic index of the study area and noise level measurement locations.

(4) Noise Measurement Timing and Climate

The noise measurements were recorded between 08:53 hours and 11:00 hours on Wednesday, May 1, 2013. At the start of the noise monitoring, the skies were partly cloudy, winds ranging between 0 to 3 miles per hour, the temperature was 65 degrees Fahrenheit.

(5) Noise Measurement Results

The noise measurements were taken at five (5) locations at and adjacent to the project site. The results of the noise level measurements are provided below in **Table 4.J-2**, *Existing Noise Level Measurements from Noise Study*.

d. Regulatory Framework

(1) Federal Regulations

The adverse impact of noise was officially recognized by the federal government in the Noise Control Act of 1972, which serves three purposes:

Table 4.J-2

Existing Noise Level Measurements from Noise Study

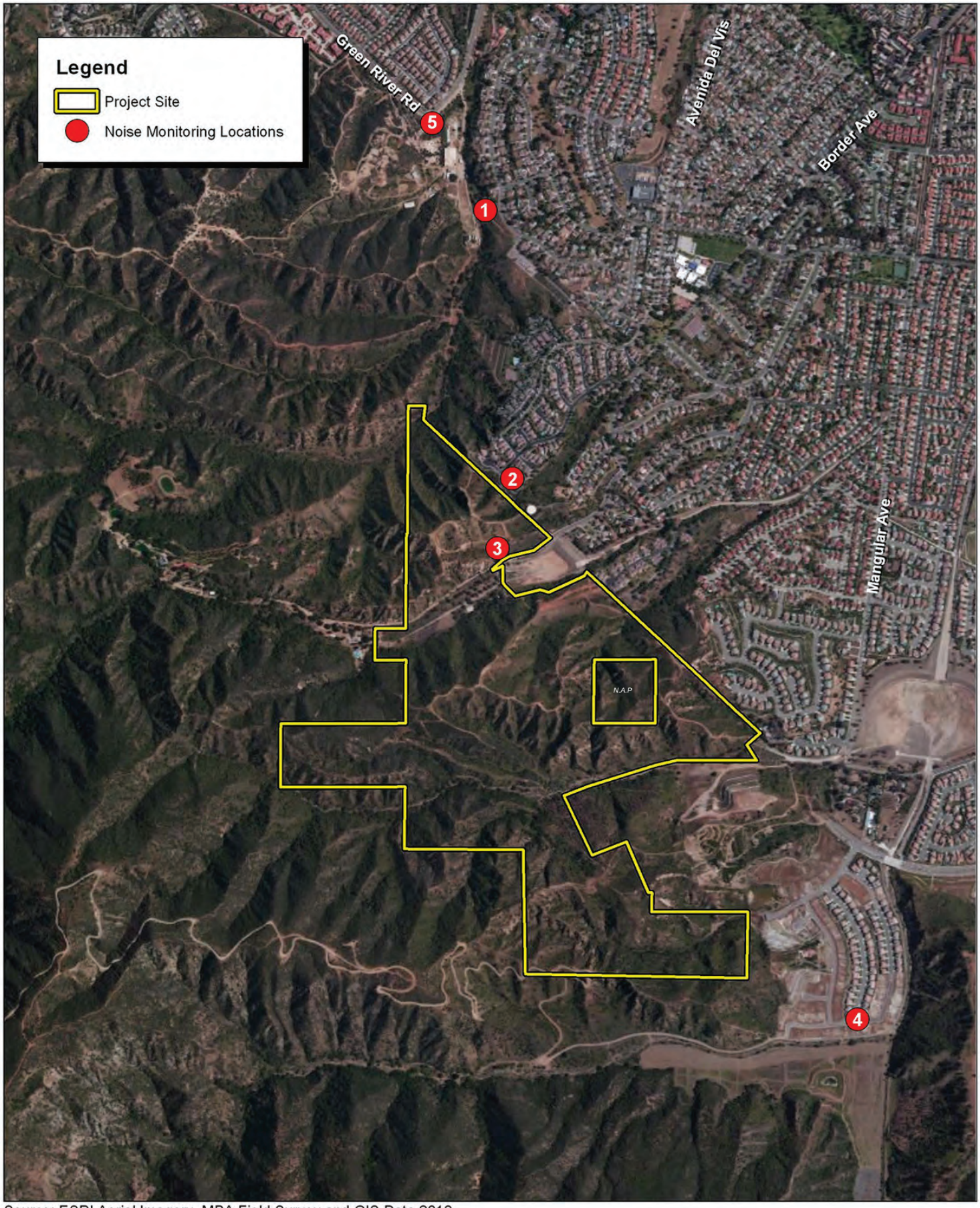
Site Location	Description	L_{eq}	L_{MAX}	L_{MIN}
Site 1	Western side of Adobe Avenue, north of proposed Planning Area 1	48.6	64.6	43.3
Site 2	Eastern end of Chisholm Trail Circle, east of proposed Planning Area 1	43.0	54.1	38.8
Site 3	Western terminus of the public right-of-way portion of Mabey Canyon Road, adjacent to Mabey Canyon Debris Basin and within proposed Planning Area 1.	44.9	55.2	39.0
Site 4	Southern terminus of Elker Road, adjacent to Skyline Drive/Trail and south of proposed Planning Area 3.	47.4	60.4	40.9
Site 5	Intersection of Green River Road and Paseo Grande, north of proposed Planning Area 1.	57.7	71.1	43.4

Source: FirstCarbon Solutions | Michael Brandman Associates, 2014

- Promulgating noise emission standards for interstate commerce;
- Assisting state and local abatement efforts; and
- Promoting noise education and research.

The Federal Office of Noise Abatement and Control ("ONAC") was initially tasked with implementing the Noise Control Act. However, the ONAC has since been eliminated, leaving the development of federal noise policies and programs to other federal agencies and interagency committees. For example, the Occupational Safety and Health Administration ("OSHA") agency limits noise exposure of workers to 90 dB L_{eq} or less for 8 continuous hours or 105 dB L_{eq} or less for 1 continuous hour. The Department of Transportation ("DOT") assumed a significant role in noise control through its various operating agencies. The Federal Aviation Administration ("FAA") regulates noise of aircraft and airports. Surface transportation system noise is regulated by a host of agencies, including the Federal Transit Administration ("FTA"). Transit noise is regulated by the federal Urban Mass Transit Administration ("UMTA"), while freeways that are part of the interstate highway system are regulated by the FHWA. Finally, the federal government actively advocates that local jurisdictions use their land use regulatory authority to arrange new development in such a way that "noise sensitive" uses are either prohibited from being sited adjacent to a highway or, alternately that the developments are planned and constructed in such a manner that potential noise impacts are minimized.

Since the federal government has preempted the setting of standards for noise levels that can be emitted by the transportation sources, the City is restricted to regulating the noise generated by the transportation system through nuisance abatement ordinances and land use planning.



Source: ESRI Aerial Imagery. MBA Field Survey and GIS Data 2013.

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N

0 1400 Feet

Noise Monitoring Locations

Skyline Heights Project

Source: Michael Brandman Associates, 2013.

FIGURE

4.J-1

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(2) State Regulations

Established in 1973, the California Department of Health Services Office of Noise Control ("ONC") was instrumental in developing regularity tools to control and abate noise for use by local agencies. One significant model, which is illustrated in **Table 4.J-3**, *Land Use Compatibility Matrix,* which allows the local jurisdiction, such as the City of Corona, to clearly delineate compatibility of sensitive uses with various incremental levels of noise.

Title 24, Chapter 1, Article 4 of the California Administrative Code (California Noise Insulation Standards) requires noise insulation in new hotels, motels, apartment houses, and dwellings (other than single-family detached housing) that provides an annual average noise level of no more than 45 dBA CNEL. When such structures are located within a 60-dBA CNEL (or greater) noise contour, an acoustical analysis is required to ensure that interior levels do not exceed the 45-dBA CNEL annual threshold. In addition, Title 21, Chapter 6, Article 1 of the California Administrative Code requires that all habitable rooms, hospitals, convalescent homes, and places of worship shall have an interior CNEL of 45 dB or less due to aircraft noise.

Government Code Section 65302 mandates that the legislative body of each county and city in California adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines published by the State Department of Health Services. The guidelines rank noise land use compatibility in terms of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable.

(3) Local Regulations

The City of Corona General Plan establishes the following applicable conclusions, recommendations, standards, policies, and regulations regarding noise and vibration.

(4) City of Corona General Plan

The Noise Element of the City of Corona General Plan provides the conclusions, recommendations, and strategies necessary to ensure an appropriately quiet and pleasurable environment for the residents, employees, and visitors in the County's unincorporated areas. Since the regulation of transportation noise sources such as roadway and aircraft primarily fall under either State or federal jurisdiction, local jurisdictions will generally use land use and planning decisions to limit locations or volumes of such transportation noise sources, to avoid development within noise impact zones, or to shield impacted receivers or sensitive receptors.

(a) City of Corona General Plan Noise Element

Applicable Conclusions and Recommendations:

- In the planning of land use, 65 CNEL should be regarded as the maximum exterior aircraft noise exposure compatible with noise sensitive uses. Where roadway noise exceeds 65 CNEL, mitigation is required;
- The California Noise Insulation Standards sets a 45 dBA CNEL interior noise standard for new multi-family residential units; and

Table 4.J-3

Land Use Compatibility Matrix

Land Use Categories		Community Noise Equivalent Level CNEL						
Categories	**Uses**	**<55**	**60**	**65**	**70**	**75**	**80>**	
Residential	Single Family Duplex	A	A	B	B	D	D	D
	Multiple Family	A	A	B	B	C	D	D
Residential	Mobile Home	A	A	B	C	C	D	D
Commercial Regional, District	Hotel, Mote Transient Lodging	A	A	B	B	C	C	D
Commercial Regional, Village, District, Special	Commercial Retail, Bank, Restaurant, Movie Theatre	A	A	A	A	B	B	C
Commercial Office Institutional	Office Building, Research and Development, Professional Offices, City Office Building	A	A	A	B	B	C	D
Commercial Recreation Institutional Civic Center	Amphitheater, Concert Hall Auditorium, Meeting Hall	B	B	C	C	D	D	D
Commercial Recreation	Children's Amusement Park, Miniature Golf Course, Go-cart Track, Equestrian Center, Sports Club	A	A	A	B	B	D	D
Commercial General, Special Industrial, Institutional	Automobile Service Station, Auto Dealership, manufacturing, Warehousing, Wholesale, Utilities	A	A	A	A	B	B	B
Institutional General	Hospital, Church, Library, Schools, Classroom	A	A	B	C	C	D	D
Open Space	Parks	A	A	A	B	C	D	D
Open Space	Golf Course, Cemeteries, Nature Centers, Wildlife Reserves, Wildlife Habitat	A	A	A	A	B	C	C
Agriculture	Agriculture	A	A	A	A	A	A	A

Interpretation	
Zone A Clearly Compatible	*Specified land use is satisfactory. based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements*
Zone B Normally Compatible	*New construction or development should be undertaken only after detailed Analysis of the noise reduction requirements are made and needed noise insulation features in the design are determined. Conventional construction with dosed windows and fresh air supply systems or air conditioning will normally suffice. Note that residential uses are prohibited with airport CNEL greater than 6S.*
Zone C Normally Incompatible	*New construction or development should generally be discouraged. If new construction or development does proceed. A detailed analysis of noise reduction requirements must be made and needed noise insulation features included in the design.*
Zone D Clearly Incompatible	*New construction of development should generally not be undertaken*

- Noise-sensitive land uses should be considered to include:
  - Residential, including single and multifamily dwellings, and similar uses;
  - Libraries, school classroom areas, churches, and other similar areas;

- Hospitals, nursing homes, convalescent hospitals, and other facilities for long-term medical care;

- The City of Corona General Plan requires development in areas that exceed or may in the future exceed the 65 DB (A) L_{dn} to conduct an acoustical analysis and incorporate design measures in their construction to reduce the interior levels to 45 DB (A) $L_{dn.}$
- It is required for all areas with existing or future ambient noise levels that exceed an exterior noise level of 65 DB (A) L_{dn} to provide satisfactory buffering or construction mitigation measures for all development of new housing, health care facilities, schools, libraries, religious facilities, and other "noise sensitive" land uses.

(b) City of Corona Municipal Code

The City of Corona, California Municipal Code establishes the following noise regulations that are relevant to the proposed project.

Title 17 – Zoning, 17.84 Performance Standards

Section 17.84.040 – Noise: Stationary Noise Standards

(C) 2) Residential land uses including single, double, and multi uses shall have an exterior maximum allowable noise level of 55 dBA CNEL between 7 A.M. and 10 P.M. and 50 dBA CNEL between 10 P.M. and 7 A.M. Interior noise standards from 7 A.M. to 10 P.M. are 45 dBA CNEL and 35 dBA CNEL from 10 P.M. to 7 A.M.

(D) Exterior Noise:

1. It shall be unlawful for any person, entity, or operation at any location within the incorporated area of the City to create any noise or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, which causes the noise level when measured on any other property to exceed:

a) The noise standard for a cumulative period of more than 30 minutes in any hour;

b) The noise standard plus 5 dB for a cumulative period of more than 15 minutes any hour;

c) The noise standard plus 10 dB for a cumulative period of more than 5 minutes in any hour;

d) The noise standard plus 15 dB for a cumulative period of more than one minute in any hour;

e) The noise standard plus 20 dB for any period of time;

(E) Interior Noise: It shall be unlawful for any person at any location within the incorporated area of the City to create any noise or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person which causes the noise level when measured within any other residential dwelling unit or sensitive land use to exceed;

1) The noise standard for a cumulative period of more than five minutes in any hour;

2) The noise standard plus 5 dB for a cumulative period of more than one minute in any hour; or

3) The noise standard plus 10 dB, or the maximum measured ambient, for any period of time.

Section 17.84.040 – Noise: (3) Transportation Noise Sources

The maximum exterior noise level for transportation, both roadway and airport, within residential land uses is 65 dBA CNEL while the interior maximum is 45 dBA CNEL.

Section 17.84.040 – Noise: (D) Special Provisions

(2) Construction noise is prohibited between the hours of 8:00 P.M. and 7:00 A.M. Monday through Saturday and 6:00 P.M. to 10:00 A.M. Sundays and federal holidays.

2. ENVIRONMENTAL IMPACTS

a. Methodology

Potential impacts from short-term and long-term stationary and mobile noise sources associated with the proposed project are assessed quantitatively. The project Applicant provided information regarding on-site construction activities and on-site and off-site operations. Construction activities are calculated from the acoustical center of construction. The acoustical center of construction is the idealized point from which construction could occur. It takes into account the mobility of construction equipment and is derived from multiplying the furthest distance construction equipment could be from a sensitive receiver with the closest distance (construction staging area) and then taking the square root of the product. Changes in noise level at adjacent noise-sensitive land uses attributable to the proposed project were also evaluated. This included an evaluation of whether noise generated from on-site operations could affect local residences at both existing and future on- and off-site noise-sensitive land uses. Off-site traffic volumes on local roadways would increase as a result of the proposed project, which would incrementally increase traffic noise in the project area. Noise impacts related to vehicular traffic were modeled using a version of the FHWA Traffic Noise Prediction Model (FHWA-RD-77-108), as modified for CNEL and the "Calveno" energy curves. Site-specific information is entered, such as roadway traffic volumes, roadway active width, source-to-receiver distances, travel speed, noise source and receiver heights, and the percentages of automobiles, medium trucks, and heavy trucks that the traffic is made up of throughout the day, amongst other variables. The daily traffic volumes were obtained from the *Traffic Impact Analysis Report Skyline Heights* ("TIA"), prepared by Linscott, Law & Greenspan, dated July 16, 2013. The TIA is contained in Appendix I of this EIR.

Project-Related Traffic

Impacts attributable to project-specific traffic increases would be considered significant if they create a 5-dBA or greater increase in noise levels along roadways accessed by project-specific traffic (3 dBA if resulting noise level exceeds 65 dBA at sensitive receptor boundaries). Offsite noise levels were calculated along roadway segments in the project vicinity for the following scenarios:

- Existing Conditions
- Existing plus Project
- Year 2020, without Project
- Year 2020, with Project
- Year 2035 (Cumulative), without Project

- Year 2035 (Cumulative), with Project

Using the traffic noise modeling parameters outlined above, the various scenarios that are described above were modeled to determine project-specific increases in noise levels at a uniform distance of 50 feet from roadway centerline. The uniform distance allows for direct comparisons of potential increases or decreases in noise levels based upon various traffic scenarios; however, at this distance, no specific noise standard necessarily applies. Therefore, the change in a noise level between scenarios is the focus of this portion of the analysis, rather than the resulting independent noise level for any one segment.

b. Thresholds of Significance

Appendix G of the *CEQA Guidelines* provides a checklist of questions to assist in determining whether a project would have a significant impact related to various environmental issues including noise. Based on the following issue areas identified in Appendix G of the *CEQA Guidelines*, a significant impact to noise would occur if the proposed project would result in one or more of the following:

Threshold 1: Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies (refer to Impact Statement 4.J-1 below);

Threshold 2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels (refer to Impact Statement 4.J-2 below);

Threshold 3: A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project (refer to Impact Statement 4.J-1 below);

Threshold 4: A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (refer to Impact Statement 4.J-1 below);

Threshold 5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the project would expose people residing or working in the project area to excessive noise levels (refer to Impact Statement 4.J-3 below);

Threshold 6: For a project within the vicinity of a private airstrip, the project would expose people residing or working in the project area to excessive noise levels (refer to Impact Statement 4.J-3 below); or

Threshold 7: Conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan and municipal code) adopted for the purpose of avoiding or mitigating an environmental effect (refer to Impact Statement 4.J-4 below).

c. Project Design Features

There are no specific Project Design Features ("PDFs") that relate to potential noise impacts.

d. Analysis of Project Impacts

(1) Noise Generation

Threshold 1:	Would the project expose persons to or generate noise levels in excess of standards presumed in the local general plan or noise ordinance, or applicable standards of other agencies?
Threshold 3:	Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
Threshold 4:	Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Impact 4.J-1 *Implementation of the proposed project could result in temporary increases in ambient noise levels and expose people to temporary, intermittent, and moderate to high-level noise levels. However, as the proposed project would comply with the City of Corona's Noise Ordinance, construction noise impacts would be less than significant. Nonetheless, mitigation has been prescribed to minimize the potential for construction noise impacts at the nearby noise sensitive residential land uses. The proposed project's residential uses would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the proposed project. Thus, long-term operational noise impacts would be less than significant.*

(a) Short-Term Construction Noise Impacts

Short-term noise impacts could potentially occur during project construction activities from either the noise impacts created from the transport of workers and movement of construction materials to and from the project site, or from the noise generated onsite during demolition and ground clearing activities, excavation, grading, and similar ground-disturbing activities.

Construction noise levels vary significantly based upon the size and topographical features of the active construction zone, duration of the workday, and types of equipment employed. According to the Noise Study, a typical eight-hour construction day would generate 84 dBA CNEL at a distance of 50 feet from the noise source, on average. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Although there would be potential for a relatively high single-event noise exposure resulting in potential short-term intermittent annoyances, the effect on long-term ambient noise levels would be nominal when averaged over a longer period. As illustrated by the ambient noise level measurements in Table 4.J-2, maximum noise levels in the project vicinity are currently up to 71.1 dBA.

Construction of the proposed project would require the use of heavy equipment for demolition of the existing onsite structures, site grading and excavation, installation of utilities, paving, and building

fabrication. Development activities would also involve the use of smaller power tools, generators, and other sources of noise. During each stage of development, there would be a different mix of equipment operating and noise levels would vary based on the amount of equipment in operation and the location of the activity. The closest noise-sensitive uses to the project site are the single-family residences located along Condor Circle, Clearview Circle, and Meadow Crest Circle, approximately 75 feet northeast of the project site boundary.

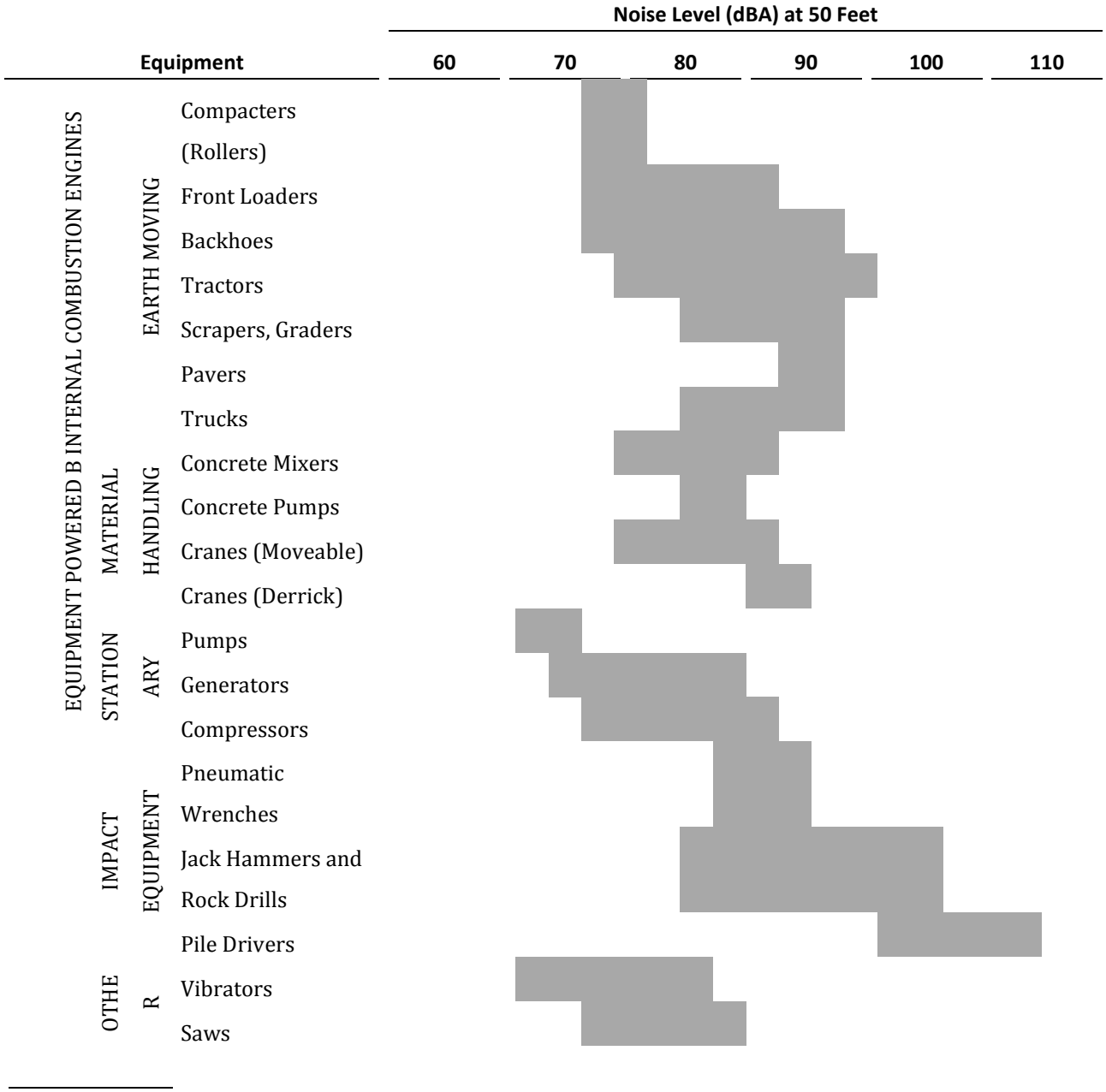
The United States Environmental Protection Agency ("U.S. EPA"), has compiled data regarding the noise generating characteristics of specific types of construction and typical construction activities. The data pertaining to the types of construction equipment and activities that would occur at the project site are presented in **Table 4.J-4**, *Construction Equipment Noise Levels* and **Table 4.J-5**, *Typical Outdoor Construction Noise Levels*, respectively, at a distance of 50 feet from the noise source (i.e., reference distance). The noise levels shown in Table 4.J-4 represent composite noise levels associated with typical construction activities, which take into account both the number of pieces and spacing of heavy construction equipment that are typically used during each phase of construction. According to Table 4.J-4, outdoor noise levels at noise-sensitive receptors 50 feet from the noise source would range from 77 dBA to 86 dBA with the use of noise-attenuating devices. As illustrated in Table 4.J-5, construction noise during the heavier initial periods of construction is presented as an average of 86 dBA when measured at a reference distance of 50 feet from the center of construction activity. These noise levels would diminish notably with distance from the construction site at a rate of 6 dBA per doubling of distance. For example, a noise level of 86 dBA measured at 50 feet from the noise source to the receptor would reduce to 80 dBA at 100 feet from the source to the receptor, and reduce by another 6 dBA to 74 dBA at 200 feet from the source to the receptor.

During construction, two basic types of activities would be expected to occur and generate noise at the project site. The first activity would involve the preparation and grading of the project site to accommodate the building foundations for the proposed project. The second activity that would generate noise during construction would involve the physical construction and finishing of the proposed residential buildings. The annexation area that is not part of the proposed project would be graded and potentially constructed upon at a later date and would be subject to all the noise standards of the proposed project. It is unknown at this time how the grading of the annexation area would be phased. As such, impacts from this area would be addressed as they become specific projects and would be required to undergo a similar analysis. Further, the existing sensitive receptors in the vicinity of the annexation area are further away from the project boundary than the receptors analyzed for the proposed project. Therefore construction noise impacts would be similar to, or less than those already reported herein.

Table 4.J-6, *Exterior Noise at Nearest Offsite Sensitive Uses from Project Construction*, illustrates the construction noise levels that would occur at the adjacent offsite sensitive uses during construction at the project site. The peak construction noise levels experience by the adjacent offsite sensitive receptors would be approximately 82 dBA, with the use of mufflers on the construction equipment. However, the increase in noise levels at the offsite locations during construction at the project site would be temporary in nature, and would not generate continuously high noise levels, although occasional single-event disturbances from construction are possible. As such, the estimated noise level increases at each sensitive receptor that is shown in Table 4.J-6 would only occur periodically, not continuously, throughout the construction day. Additionally, in the later phases of construction when work is being conducted within the interior of the proposed buildings, the noise levels at the adjacent sensitive receptors would be further reduced as the

Table 4.J-4

Construction Equipment Noise Levels.



Source: United States Environmental Protection Agency, 1971, "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances," NTID 300-1.

physical structures that are constructed onsite would break the line-of-sight noise transmission from the proposed project to the offsite receptors.

Table 4.J-5

Typical Outdoor Construction Noise Levels

Construction Phase	Average Noise Levels at 50 Feet with Mufflers (dBA)	Average Noise Levels at 60 Feet with Mufflers (dBA)	Average Noise Levels at 100 Feet with Mufflers (dBA)	Average Noise Levels at 200 Feet with Mufflers (dBA)
Ground Clearing	82	80	76	70
Excavation, Grading	86	84	80	74
Foundations	77	75	71	65
Structural	83	81	77	71
Finishing	86	84	80	71

Source: United States Environmental Protection Agency, Noise from Construction Equipment and Operations, Building Equipment and Home Appliances, PB 206717, 1971,

Table 4.J-6

Exterior Noise at Nearest Offsite Sensitive Uses from Project Construction

Sensitive Land Use	Approximate Distance to Project Site (ft.)	Estimated Highest Average Construction Noise Level at Property Line (dBA)
Residences located adjacent to the northeast portion of the project site along Condor Circle, Clearview Circle and Meadow Crest Circle.	75	82

Source: First Carbon Solutions-Michael Brandman Associates, 2013; Federal Transit Administration, Transit Noise and Vibration Impact Assessment, Final Report, May 2006.

Nonetheless, the typical construction noise levels associated within the proposed project would exceed the residential noise standard of 65 dBA at the closest residential receptor boundary. As such, construction-related noise impacts associated with the proposed project could be potentially significant.

Project construction and demolition shall be restricted to the hours of 7:00 A.M. to 8:00 P.M. Monday through Saturday, and 10:00 A.M. to 6:00 P.M. on Sundays and Federal holidays (Mitigation Measure NS-1). Noise and groundborne vibration construction activities whose specific location on the project site may be flexible shall be conducted as far as possible from the nearest noise- and vibration-sensitive land uses (Mitigation Measure NS-2). Construction and demolition activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously (Mitigation Measure NS-3). The use of construction equipment or construction methods with the greatest peak noise generation potential shall be minimized (Mitigation Measure NS-4). The project contractor shall use power construction equipment with state-of-the-art noise shielding and muffling devices (Mitigation Measure NS-5). Barriers such as, but not limited to, plywood structures of flexible sound control curtains shall be erected between the proposed project and the adjacent existing residences to the northeast and west, to minimize the amount of noise to the maximum extent feasible during construction (Mitigation Measure NS-6). All construction truck traffic shall be restricted to truck routes approved by the City of Corona Planning Department, which shall avoid residential areas and other sensitive receptors to the extent feasible (Mitigation Measure NS-7). Adjacent land uses

within 300 feet of the construction site shall be notified about the estimated duration and hours of construction activities at least 30 days before the start of construction (Mitigation Measure NS-8).

Overall, compliance with the applicable regulatory requirements of the City's Noise Ordinance and implementation of the prescribed mitigation measures, impacts related to short-term construction noise would be less than significant.

(b) Long-Term Operational Noise Impacts

Potential noise impacts associated with the long-term operations of the proposed project would include stationary noise sources associated with the proposed project and vehicular traffic on roadways within the project vicinity. As the project proposes residential uses, it is not considered a source of onsite operational noise. The nearest main road to the proposed project is West Foothill Parkway. Lots 247 and 251 would be located nearest West Foothill Parkway. However, both lots would be located at least 50 feet from the road right-of-way ("ROW") with pad elevations of at least 30 feet above the roadway. According to the Noise Study, at this distance and elevation, the roadway noise would be approximately 43.8 dBA CNEL, which is below the residential noise standard of 65 dBA. The roads proposed within the proposed project are collectors and would not be a source of significant traffic noise. To further reduce roadway noise, the embankment between the road ROW and the backyard of the proposed homes would be landscaped with a perimeter wall to be placed on top of the embankment.

The project traffic noise roadway impacts were calculated by comparing the existing traffic noise levels with the existing plus project, the comparison of Year 2020 traffic noise levels both with and without the project, and Year 2035 traffic noise levels both with and without the project; refer to **Table 4.J-7**, *Project Traffic Noise Contributions*. The segments modeled in the Noise Study include Green River Road, Paseo Grande, Ontario Avenue, Border Avenue, Lincoln Avenue, and Foothill Parkway. As presented in Table 4.J-7, no roadway segments have an increase of 3 dBA or greater. The highest increase is 1.3 dBA CNEL along the segment of Foothill Parkway between Elysia Street and Lincoln Avenue under the existing and existing plus project scenarios. Thus, the change in noise levels from existing conditions for this scenario is not considered significant. As such, impacts related to long-term operational noise would be less than significant.

Table 4.J-7

Project Traffic Noise Contributions

Roadways/Road Segment	Existing		Existing Plus Project			Year 2020					Year 2035				
	ADT	dB CNEL	Existing plus Project ADT	dB CNEL	Project Specific Increase	Without Project ADT	dB CNEL	With Project ADT	dB CNEL	Project Specific Increase	Without Project ADT	dB CNEL	With Project ADT	dB CNEL	Project Specific Increase
Green River Road															
between Serf as Club Drive and Paseo Grande	12,398	68.6	13,228	68.9	0.3	16,303	69.8	17,273	70.1	0.3	26,492	71.9	27,462	72.1	0.2
Paseo Grande															
between Ontario Avenue and Green River Road	12,357	68.6	13,187	68.9	0.3	7,893	66.7	8,031	66.7	0.0	9,546	67.5	9,684	67.6	0.1
Ontario Avenue															
between Paseo Grande and Border Avenue	10,413	67.9	11,383	68.3	0.4	1,959	60.6	1,959	60.6	0.0	2,304	61.3	2,304	61.3	0.0
between Border Avenue and Via Pacifica	11,873	68.4	11,873	68.4	0.0	5,400	65.0	5,400	65.0	0.0	6,353	65.7	6,353	65.7	0.0
between Via Pacifica and Lincoln Avenue	25,677	71.8	25,677	71.8	0.0	17,157	70.0	17,157	70.0	0.0	20,184	70.8	20,184	70.8	0.0
Border Avenue															
between Via Pacifica and Ontario Avenue	3,362	63.0	3,500	63.1	0.1	3,539	63.2	3,677	63.4	0.2	4,177	63.9	4,315	64.0	0.1
between Ontario Avenue and Foothill Parkway	3,097	62.6	4,205	63.9	1.3	3,205	62.8	3,343	62.9	0.1	3,695	63.4	3,833	63.5	0.1
Lincoln Avenue															
between Citron Street and Ontario Avenue	20,521	70.8	21,213	71.0	0.2	18,997	70.5	19,551	70.6	0.1	21,883	711	22,437	71.2	0.1
between Ontario Avenue and Foothill Parkway	16,785	69.9	17,616	70.2	0.3	6,721	66.0	7,413	66.4	0.4	9,209	67.3	9,901	67.7	0.4

Table 4.J-7

Project Traffic Noise Contributions

Roadways/Road Segment	Existing		Existing Plus Project			Year 2020					Year 2035				
	ADT	dB CNEL	Existing plus Project ADT	dB CNEL	Project Specific Increase	Without Project ADT	dB CNEL	With Project ADT	dB CNEL	Project Specific Increase	Without Project ADT	dB CNEL	With Project ADT	dB CNEL	Project Specific Increase
Foothill Parkway															
between Elysia Street and Lincoln Avenue	4,941	64.6	6,603	65.9	1.3	9,336	67.4	10,860	68.1	0.7	21,619	71.0	23,143	71.32	0.3
between n Lincoln Avenue and Highgrove Street	6,352	65.7	7,182	66.3	0.6	8,990	67.2	9,820	67.6	0.4	16,203	69.8	17,035	70.0	0.2

Source: FirstCarbon Solutions | Michael Brandman Associates, 2014

(2) Groundborne Vibration and Noise

Threshold 2:	Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Impact 4.J-2 *Implementation of the proposed project would not result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. Impacts would be less than significant in this regard.*

(a) Short-Term Construction Vibration Impacts

Construction activities could produce vibration that may be felt by adjacent uses. The construction of the proposed project would not require the use of equipment such as pile drivers, which are known to generate substantial construction vibration levels. According to the Noise Study, the primary source of vibration during project construction would be from a large bulldozer (tractor), which would generate 0.089 inch per second PPV at 25 feet. Groundborne vibration typically decreases rapidly with distance. The closest receptors to the project site are the residential uses located approximately 75 feet from the northeastern project boundary. The vibration levels caused by a large bulldozer operating 75 feet from the nearest sensitive receptor would be less than 0.02 inch per second RMS. This vibration level would not exceed the City's regulatory standard for vibration sources of 0.05 inch per second. As such, impacts related to short-term construction vibration would be less than significant.

(b) Long-Term Operational Vibration Impacts

As the project proposes residential uses, the proposed project does not include any sources of operational vibration. As such, impacts related to long-term operational vibration impacts would be less than significant.

(3) Aircraft/Airport Noise

Threshold 5:	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the project would expose people residing or working in the project area to excessive noise levels?
Threshold 6:	For a project within the vicinity of a private airstrip, the project would expose people residing or working in the project area to excessive noise levels?

Impact 4.J-3 *Implementation of the proposed project would not result in exposure of persons to or generation of excessive noise levels from airport-related noise. Impacts would be less than significant in this regard.*

The Corona Municipal Airport is located more than three miles to the northeast of the project site. The project site is not located within an airport land use plan and is not located within two miles of a public or private airport or airstrip. Therefore, the project site would not receive airport-related noises and would not expose people residing or working within the project area to excessive noise levels. As such, impacts related to aircraft/airport noise impacts would be less than significant.

(4) Consistency With Regulatory Framework

Threshold 7:	Would the project conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan and municipal code) adopted for the purpose of avoiding or mitigating an environmental effect?

Impact 4.J-4 *Implementation of the proposed project would not conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the proposed project with regard to noise (including, but not limited to the General Plan and Municipal Code). This impact is considered less than significant.*

As mentioned above, the proposed project would not conflict with the City's Noise Ordinance. Further, the proposed project would not conflict with applicable goals and policies contained in the City's General Plan regarding noise, as discussed below in **Table 4.J-8**, *General Plan Consistency Analysis*. As illustrated in Table 4.J-8, impacts related to consistency with the City of Corona General Plan regarding noise would be less than significant.

3. CUMULATIVE IMPACTS

In order for the proposed project to create a cumulative considerable impact, the proposed project's portion of the cumulative increase in noise would need to increase the noise levels by 3 dBA to 5 dBA at sensitive receptor boundaries. As presented in Table 4.J-7, the highest increase for the year 2035 with and without the project scenarios is 0.4 dBA CNEL along the segment of Foothill Parkway between Elysia Street and Lincoln Avenue. As such, no cumulative noise impact is anticipated.

Table 4.J-8

General Plan Consistency Analysis

General Plan Goal/Policy	Project Consistency Statement
Environmental Hazards and Public Safety – Noise	
Policy 11.5.1 – Require that in areas where existing or future ambient noise levels exceed an exterior noise level of 65 dB(A) Ldn, all development of new housing, health care facilities, schools, libraries, religious facilities, and other "noise sensitive" land uses shall include satisfactory buffering and/or construction mitigation measures to reduce noise exposure to levels within acceptable limits.	**Consistent**. A full analysis of construction and operational impacts related to noise was prepared for the proposed project, as provided in the Noise Study (see Appendix I in this Draft EIR). The proposed project would be designed to minimize noise impacts. Overall, compliance with the applicable regulatory requirements of the City's Noise Ordinance and implementation of the prescribed mitigation measures NS-1 through NS-8, impacts related to short-term construction noise would be less than significant. As the project proposes residential uses, it is not considered a source of on-site operational noise. The nearest main road to the proposed project is West Foothill Parkway. Lots 247 and 251 would be located nearest West Foothill Parkway. However, both lots would be located at least 50 feet from the road right-of-way ("ROW") with pad elevations of at least 30 feet above the roadway. According to the Noise Study, at this distance

Table 4.J-8 (Continued)

General Plan Consistency Analysis

General Plan Goal/Policy	Project Consistency Statement
	and elevation, the roadway noise would be approximately 43.8 dBA CNEL, which is below the residential noise standard of 65 dBA. The roads proposed within the proposed project are collectors and would not be a source of significant traffic noise. To further reduce roadway noise, the embankment between the road ROW and the backyard of the proposed homes would be landscaped with a perimeter wall to be placed on top of the embankment.
Policy 11.5.3 – Require development in all areas where the existing or future ambient noise level exceeds 65 dB(A) Ldn to conduct an acoustical analysis and incorporate special design measures in their construction, thereby, reducing interior noise levels to the 45 dB(A) Ldn level, as depicted on Table 5.	**Consistent.** Refer to response Policy 11.5.1
Policy 11.5.4 – Encourage existing "noise sensitive uses," including schools, libraries, health care facilities, and residential uses in areas where existing or future noise levels exceed 65 dB(A) Ldn to incorporate fences, walls, landscaping, and/or other noise buffers and barriers, where appropriate and feasible.	**Consistent.** Refer to response Policy 11.5.1
Policy 11.5.5 – Require development that generates increased traffic and substantial increases in ambient noise levels adjacent to noise sensitive land uses, to provide appropriate mitigation measures in accordance with the acceptable limits of the City Noise Ordinance.	**Consistent.** Refer to response Policy 11.5.1
Policy 11.5.6 – Require construction activities that occur in close proximity to existing "noise sensitive" uses, including schools, libraries, health care facilities, and residential uses to limit the hours and days of operation in accordance with City Noise Ordinance.	**Consistent.** Refer to response Policy 11.5.1
Goal 11.7 – Provide for the reduction of noise spillover or encroachment where the noise environment from commercial and industrial land uses is unacceptable; and protect and maintain adjoining residential areas and other "noise sensitive" areas having acceptable noise environments.	**Consistent.** Refer to response Policy 11.5.1

Source: City of Corona General Plan (2004) and PCR Services Corporation (2014).

4. MITIGATION MEASURES

(1) Construction

Mitigation Measure NS-1: Construction and demolition shall be restricted to the hours of 7:00 A.M. to 8:00 P.M. Monday through Saturday, and 10:00 A.M. to 6:00 P.M. on Sundays and Federal holidays.

Mitigation Measure NS-2: Noise and groundborne vibration construction activities whose specific location on the project site may be flexible (e.g., operation of compressors and generators, cement mixing, general truck idling) shall be conducted as far as possible from the nearest noise-and vibration-sensitive land uses.

Mitigation Measure NS-3: Construction and demolition activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels.

Mitigation Measure NS-4: The use of construction equipment or construction methods with the greatest peak noise generation potential shall be minimized (i.e., use of drills, jackhammers).

Mitigation Measure NS-5: The project contractor shall use power construction equipment with state-of-the-art noise shielding and muffling devices.

Mitigation Measure NS-6: Barriers such as, but not limited to, plywood structures of flexible sound control curtains shall be erected between the proposed project and the adjacent existing residences to the northeast and west, to minimize the amount of noise to the maximum extent feasible during construction.

Mitigation Measure NS-7: All construction truck traffic shall be restricted to truck routes approved by the City of Corona Public Works Department, which shall avoid residential areas and other sensitive receptors to the extent feasible.

Mitigation Measure NS-8: Adjacent land uses within 300 feet of the construction site shall be notified about the estimated duration and hours of construction activities at least 30 days before the start of construction.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the recommended mitigation measures and compliance with the City's Noise Ordinance would ensure that impacts related to noise and vibration remain less than significant.

4. ENVIRONMENTAL IMPACT ANALYSIS
K. POPULATION, HOUSING, AND EMPLOYMENT

INTRODUCTION

This section addresses the potential population growth, housing, and employment effects of the proposed project in the context of the local area (the City of Corona), the Western Riverside subregion, and the Southern California Association of Governments ("SCAG") regional area of the proposed project. The analysis evaluates the proposed project's population growth, housing, and employment effects in relation to adopted growth forecasts and relevant policies and programs. Demographic data and projections presented in this section are primarily based on SCAG forecasts contained in the *SCAG 2012 Regional Transportation Plan/Sustainable Communities Strategy* ("RTP/SCS"), which was adopted in April 2012. The *City of Corona General Plan Housing Element* (2004) and *Final Housing Element 2013-2021* includes the City's goals, policies, and programs to address housing needs in the City. A discussion of the proposed project's consistency with the applicable goals, policies and programs of the Housing Element is also provided in this section.

1. ENVIRONMENTAL SETTING

a. Existing Conditions

(1) Existing On-Site Conditions and Surrounding Land Uses

The majority of the 394.8-acre annexation Project site is primarily undeveloped, with the exception of one existing single-family homes, a nursery, and buildings formerly used in conjunction with a horse stable. Surrounding land uses include single-family residences to the north, northeast, and east.

(2) Demographic Analysis of the Areas

The project area is located within the regional area of SCAG, the subregional area of Western Riverside, and the local area of the City of Corona ("City") demographic areas. The largest area is the regional area of SCAG, which includes 14 subregions, including Western Riverside. The Western Riverside subregion consists of 17 Riverside County cities, the County of Riverside, the Eastern Municipal Water District ("EMWD"), the Western Municipal Water District ("WMWD"), March Joint Powers Authority ("March JPA"), and Riverside County Superintendent of Schools. The local area boundary of the project area is the City. **Table 4.K-1**, *Existing Population, Housing, and Employment Summary*, below, discusses the population, housing, and employment numbers for the local, subregion, and regional areas for the year 2008 based on SCAG data.

As shown in Table 4.K-1 and according to the data contained in the 2012 SCAG RTP/SCS, for 2008 the City has an estimated population of approximately 148,000 residents, approximately 44,600 households, and 71,200 employees. The Western Riverside subregional area has a residential population of approximately 2,128,000 residents, a household total of approximately 679,000 households, and approximately 664,000 employees. The SCAG regional area has a total residential population of 17,895,000 residents, approximately 5,814,000 households, and approximately 7,738,000 employees.

Table 4.K-1

Existing Population, Housing, and Employment Summary

	Total Population	Total Households [a]	Total Employment
Local Area			
Corona	148,000	44,600	71,200
Subregional Area			
Western Riverside	2,128,000	679,000	664,000
Regional Area			
SCAG	17,895,000	5,814,000	7,738,000

[a] *SCAG's growth forecasts reflect the number of households present within an area rather than the number of housing units.*

Source: PCR Services Corporation based on data presented in Table 18 of the SCAG 2012 RTP/SCS projections, April 2012.

The 2012 RTP/SCS provides data on projected population, housing, and employment at various geographical levels within the SCAG region. The following analysis will provide an overview of the projections and trends anticipated for population, housing, and employment in relation to the proposed project as provided by SCAG. The SCAG projection data for population, housing, and employment are shown in **Table 4.K-2**, *Population, Housing, and Employment Projections*, above. In correlation with each trend, population, housing, and employment within the City are anticipated to increase through the year 2035. Job/housing ratio projections are provided below in **Table 4.K-3**, *Job/Housing Ratio Projections*.

b. Projections and Trends

(1) Population

According to SCAG's regional forecast, the population will increase in all geographic zones during the years between 2008 and 2035. In the local area of the City, the percentage growth is an approximate 11.22 percent increase between the years 2008 and 2035. During the same time period, the population growth in the subregional area of Western Riverside is forecasted to have a percentage increase of 56.20 percent, and an approximate percentage increase of 23.45 percent for the regional area of SCAG.

(2) Housing

The SCAG housing forecasts indicate that the housing growth in the local area of the City is projected to increase by approximately 9.42 percent between the years of 2008 and 2035. During the same time period, the housing growth for the subregional area of Western Riverside is forecasted to be approximately 60.82 percent. The housing forecast for the regional area of SCAG is estimated to experience an increase of 25.99 percent. The large increase in housing within the subregional and regional areas can be attributed to the County's growing population and residential development to accommodate it.

Table 4.K-2

Population, Housing, and Employment Projections

Geographic Zone	Actual 2008	Projected 2020	Projected 2035	2008-2035 Growth [a]	2008-2035 Percentage Change (%)
Population					
Local Area	148,000	155,800	164,600	16,600	+11.22
Subregional Area	2,128,000	2,592,000	3,324,000	1,196,000	+56.20
Regional Area	17,895,000	19,663,000	22,091,000	4,196,000	+23.45
Housing					
Local Area	44,600	46,100	48,800	4,200	+9.42
Subregional Area	679,000	834,000	1,092,000	413,000	+60.82
Regional Area	5,814,000	6,458,000	7,325,000	1,511,000	+25.99
Employment					
Local Area	71,200	88,300	105,000	33,800	+47.47
Subregional Area	664,000	939,000	1,243,000	579,000	+87.20
Regional Area	7,738,000	8,414,000	9,441,000	1,703,000	+22.01

[a] 2008-2035 growth was calculated by taking the difference between projected 2035 and actual 2008.

Source: PCR Services Corporation based on data presented in Table 18 of the SCAG 2012 RTP/SCS projections, April 2012.

Table 4.K-3

Job/Housing Ratio Projections [a]

Geographic Zone	2008	Projected 2020	Projected 2035
Local Area	1.60	1.92	2.15
Subregional Area	0.98	1.13	1.14
Regional Area	1.33	1.30	1.29

[a] *Job/Housing Ratio is calculated by dividing the employment and housing forecasted number.*

Source: PCR Services Corporation based on data presented in Table 18 of the SCAG 2012 RTP/SCS projections, April 2012.

(3) Employment

According to SCAG, the local area of the City will have an employment percent increase of approximately 47.47 percent between the years of 2008 and 2035. Employment in the subregional area of Western Riverside is projected to increase by 87.20 percent while the regional area of SCAG is projected to increase 22.01 percent, during the same time period.

(4) Job/Housing Ratio

A jobs-housing balance is the distribution of employment relative to the distribution of workers within a given geographic area. A job/housing ratio of 1:1 indicates that there is a job for every one household. As such, for ratios below 1.0, those areas are considered to have jobs deficit and housing surplus, or "housing-rich". For ratios above 1.0, those areas are considered to have a job surplus, or "job-rich" and a housing deficit. As identified by SCAG, the ideal average job/housing ratio in the SCAG region is 1.25.

As shown above for the year 2008, the local area of the City has a job/housing ratio of 1.60, the subregional area of Western Riverside has a ratio of 0.98, and the regional area of SCAG has a ratio of 1.33. Within the local area, the job/housing ratio is expected to increase from 1.60 to 2.15 between 2008 and 2035 and will be considered "job rich" with a housing deficit above the ideal 1.25 job/housing ratio. The subregional area's job/housing ratio is also expected to increase from 2008 to 2035 with a job/housing ratio of 0.98 to 1.14 and will also be considered "job rich" but below the ideal SCAG ratio. The job/housing ratio for the SCAG regional area will decrease, but remains close to the ideal SCAG ratio of 1.25. As population continues to increase in the local, subregional, and regional geographic zones, employment demands will be met as there will be a job surplus, but new houses will need to be built to meet the future housing demands and meet the ideal average job/housing ratio of 1.25 as identified by SCAG.

c. Regulatory Framework

(1) Southern California Association of Governments ("SCAG")

The Project is located within the jurisdiction of SCAG. SCAG is a Joint Powers Agency established under California Government Code Section 6502 et seq. Pursuant to federal and state law, SCAG serves as a Council of Governments, a Regional Transportation Planning Agency, and the MPO for Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial counties. SCAG's mandated responsibilities include developing plans and policies with respect to the region's population growth, transportation programs, air quality, housing, and economic development. Specifically, SCAG is responsible for preparing the RTP/SCS and Regional Housing Needs Assessment ("RHNA"), in coordination with other state and local agencies. These documents include population, employment, and housing projections for the region and 14 subregions. The project site is located within the Western Riverside Council of Governments ("WRCOG") subregion ("Riverside County subregion").

(2) Regional Transportation Plan/Sustainable Communities Strategy ("RTP/SCS")

On April 4, 2012, SCAG adopted the 2012-2035 RTP/SCS: Towards a Sustainable Future. The 2012-2035 RTP/SCS is a long-range regional transportation plan that provides a blueprint to help achieve a coordinated and balanced regional transportation system in the SCAG region, which is composed of six counties: Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The RTP/SCS is the culmination of a multi-year effort involving stakeholders from across the SCAG Region, and includes short- and long-range population, housing, and employment projections for local, subregional, and regional geographies that are utilized for regional planning efforts.

(3) Regional Housing Needs Assessment ("RHNA")

A RHNA, most recently adopted and approved by the SCAG Regional Council on October 4, 2012, includes an assessment of regional housing needs for very low income, low income, moderate income, and above moderate income groups for the planning period from January 2014 through June 2021.[1] The RHNA is used by local communities to address land use planning, prioritize local resource allocation, and decide how to address identified existing and future housing needs resulting from population, employment, and household growth. As shown in Table 4.K-2, there are 44,600 housing units in the City as of 2008. According to the RHNA, the housing needs for the City include a total of 770 additional dwelling units, of which 192 will be very low income, 128 low income, 142 moderate income, and 308 above moderate income housing; refer to **Table 4.K-4**, *Regional Housing Growth Needs of the City of Corona.*

Table 4.K-4

Regional Housing Growth Needs of the City of Corona

Very Low Income Households	Low Income Households	Moderate Income Households	Above Moderate Income Households	Total Households
192	128	142	308	770
25.0%	16.6%	18.4%	40.0%	100%

Source: Southern California Association of Governments Website: http://www.scag.ca.gov/Documents/5thCyclePFinalRHNAplan.pdf

(4) City of Corona General Plan Housing Element 2014-2021

State law requires housing elements to be updated at least every five years to reflect a community's changing housing needs. The City of Corona Housing element was last updated in 2013; however, special legislation extended the update cycle for jurisdictions within SCAG to coincide with the 2012 update of baseline population, employment, and other shared data for the RTP/SCS. Therefore, the Housing Element is updated for the years 2013-2021 for the update cycle for jurisdictions in the SCAG region and is consistent with other regional and local plans. The City of Corona Final Housing Element 2014-2021 is comprised of the following major components:

- An analysis of Corona's population, household, and employment base, and the characteristics of the City's housing stock to define the nature and extent of unmet housing needs (Chapter 2).
- A review of potential constraints to meeting the City's identified housing needs (Chapter 3).
- An evaluation of resources and opportunities that will further the development of new housing and advance energy conservation in the community (Chapter 4).
- A statement of the Housing Plan to address Corona's identified housing needs, including housing goals, policies, and programs (Chapter 6).

[1] *Southern California Association of Governments website: http://www.scag.ca.gov/Documents/5thCyclePFinalRHNAplan.pdf. Accessed May 2014.*

2. PROJECT IMPACTS

a. Methodology

The population, housing, and employment analysis consists of a comparison of the project's proposed development and estimated population, housing, and employment to the expected forecasted SCAG projections for the years 2008 through 2035 for the three geographic areas. The analysis addresses impacts at the local ("Corona"), subregional ("Western Riverside"), and regional ("SCAG") areas. The analysis also evaluates the project's estimated population, housing, and employment and its compatibility with SCAG projections and related policies applicable to the project area.

b. Significance Thresholds

Appendix G of the *CEQA Guidelines* provides a checklist of questions to assist in determining whether a proposed project would have a significant impact related to various environmental issues including population, housing, and employment. Based on the following issue areas identified in Appendix G of the *CEQA Guidelines*, a significant impact to population, housing, and employment would occur if the proposed project would result in one or more of the following:

Threshold 1: Induce substantial population growth in an area, either directly (e.g. by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure) (refer to Impact Statement 4.K-1);

Threshold 2: Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere (refer to Impact Statement 4.K-1.);

Threshold 3: Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere (refer to Impact Statement 4.K-1.); and

Threshold 4: Comply with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan and municipal code) adopted for the purpose of avoiding or mitigating an environmental effect (refer to Impact Statement 4.K-2).

c. Project Design Features

The proposed project would introduce 292 single-family detached residential dwellings that would provide new housing opportunities to the local, subregional and regional areas.

d. Analysis of Project Impacts

Threshold	Would the project induce substantial population growth in an area, either directly (e.g. by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?
Threshold	Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

Threshold	Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Impact 4.K-1 Implementation of the proposed project would not induce substantial population, housing, or employment growth in the project area beyond that anticipated by SCAG projections. Further, implementation of the proposed project would not displace substantial numbers of existing housing or people and would not necessitate the construction of replacement housing elsewhere. These impacts are considered less than significant.

(1) Construction Impacts

The proposed project would generate construction workers during the demolition, grading and excavation, and building construction and finishing phases. However, project construction would not necessarily generate new employment within the region. Rather, construction workers move from project to project and are somewhat mobile. To the extent that the proposed project would support and contribute to the pool of construction workers, the overall impacts of project implementation would be considered beneficial. Since construction activities related to the proposed project would not exceed expected growth nor alter the location, distribution, density, or growth rate of construction employment through the local, subregional, and regional area, construction-related employment impacts would be less than significant.

(2) Operational Impacts

(a) Population Growth

The proposed project includes the construction of 292 single-family homes that would generate a population of approximately 1,028 residents.[2] The residential population increase to the City associated with the proposed project is compared to the expected population increase for the years between 2008 and 2035 in the local, subregional, and regional areas. **Table 4.K-5**, *Proposed Project Population, Household, and Employment Impacts Between the Years of 2008 and 2035*, below, shows the project's population increase in relation to the three geographic areas. The increase of 1,028 residents to the City would represent a total of 6.193 percent, 0.086 percent, and 0.024 percent of the population growth projected by SCAG for the local, subregional, and regional areas, respectively, between the years of 2008 and 2035.

As shown above, these percent increases do not exceed the forecasted growth set forth by SCAG. In addition, the project population growth would not substantially alter the location or growth rate of the population projected and forecasted for the City, the Western Riverside subregion, and SCAG region. By adding new housing units to the general housing supply, the Project would support applicable housing policies of the City's General Plan, SCAG's RTP/SCS, and housing allocation goals of the RHNA, and would substantially help meet the housing demands of the growing population of the City by contributing to housing availability and opportunity in the project area. As such, the proposed project would not result in a significant population impact.

[2] *The average household size for the City of Corona is 3.52 persons/household per the U.S. Census Bureau, http://quickfacts.census.gov/qfd/states/06/0616350.html, accessed May 2014. 292 single family homes X 3.52 persons = 1,028 persons.*

Table 4.K-5

Proposed Project Population, Household, and Employment Impacts Between the Years of 2008 and 2035

	Population[a]	Project Percent of Growth[b] (%)	Household[a]	Project Percent of Growth[b] (%)	Employment[a]	Project Percent of Growth[b] (%)
Net New from Proposed Project	*1,028*[c]		*292*[d]		*N/A*[e]	
Local Area	16,600	+6.193	4,200	+6.952	33,800	N/A
Subregional Area	1,196,000	+0.086	413,000	+0.071	579,000	N/A
Regional Area	4,196,000	+0.024	1,511,000	+0.019	1,703,000	N/A

[a] *The local, subregional, and regional area numbers represent the 2008-2035 growth projections as provided in Table 4.K-2 above.*
[b] *Percent difference calculated by dividing the project's net new growth by the 2008-2035 growth projections.*
[c] *The average household size for the City of Corona is 3.52 persons/household per the U.S. Census Bureau, http://quickfacts.census.gov/qfd/states/06/0616350.html, accessed May 2014. 292 single-family homes X 3.52 persons = 1,028 persons.*
[d] *The proposed project includes the construction of 292 single-family homes.*
[e] *The project proposes residential uses, thus resulting in no direct employment.*

Source: PCR Services Corporation, 2014 and SCAG, 2012.

Although project implementation would result in the removal of two existing single-family homes, it would not displace substantial numbers of people, since such removal would be limited to approximately seven persons[3], if both residences are occupied, which would be offset by the future provision of up to 1,028 persons on-site. As such, impacts related to the displacement of substantial numbers of people, necessitating the construction of replacement housing elsewhere, would be considered less than significant.

(b) Household Growth

As presented in Table 4.K-5, the proposed project would represent 6.952 percent, 0.071 percent, and 0.019 percent of household growth projected by SCAG for the local, subregional, and regional areas between the years of 2008 and 2035, respectively. The demand of additional housing units is well within the SCAG housing growth projections for the City, the Western Riverside subregion, and the SCAG region. By creating new housing units within the project area, the proposed project would support applicable housing policies of SCAG's RTP/SCS and housing allocation goals of the RHNA, and would substantially help meet the housing demands of the growing population of the City. As such, impacts related to housing growth would be considered less than significant.

Although project implementation would result in the removal of two existing single-family homes, it would not displace substantial numbers of existing housing, since such removal would be limited to two housing units that would be offset by the future provision of up to 292 single-family homes on-site, or 290 net new housing units. As such, impacts related to the displacement of substantial numbers of existing house, necessitating the construction of replacement housing elsewhere, would be considered less than significant.

[3] *The average household size for the City of Corona is 3.52 persons/household per the U.S. Census Bureau, http://quickfacts.census.gov/qfd/states/06/0616350.html, accessed May 2014. 2 single family homes X 3.52 persons = 7.04 persons.*

(c) Employment Growth

The proposed project would generate up to 292 single-family homes. Thus, project implementation would not directly generate new job opportunities to the City. As shown above in Table 4.K-3, the local area, subregional area, and regional area would be considered "job rich" with a housing deficit that would not meet the ideal 1.25 job/housing ratio. As population continues to increase in the City, the Western Riverside subregion, and the SCAG region, employment demands would be met as there would be a job surplus, but new homes would need to be built to meet the future housing demands and meet the ideal average job/housing ratio of 1.25 as identified by SCAG. The proposed would introduce up to 292 residential units, which would be able to provide housing for residents and help make up for the high job/housing ratio within the City. As such, impacts associated with employment growth would be less than significant.

Threshold	Would the project conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan and municipal code) adopted for the purpose of avoiding or mitigating an environmental effect?

Impact 4.K-2 *Implementation of the proposed project would not conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan and municipal code). This impact is considered less than significant.*

The City of Corona General Plan (2004) Housing Element and Final Housing Element 2013-2021 (2012) includes goals and policies that relate to housing. An analysis of the proposed project's consistency with each of the applicable goals contained in the Housing Element is presented below in **Table 4.K-6**, *General Plan Consistency Analysis*. As indicated in Table 4.K-6, the proposed project would be consistent with the applicable goals of the General Plan Housing Element with respect to population, housing, and employment. As such, impacts in this regard would be less than significant.

3. CUMULATIVE IMPACTS

Implementation of the proposed project would result in a net increase in the City's residential population by approximately 1,028 persons and housing stock by up to 292 single-family homes. The proposed project, in combination with other cumulative development within the project vicinity would result in a cumulative increase in population, housing, and employment. Achieving the remaining RHNA units is expected through the future redevelopment of the key housing opportunity areas identified through the General Plan update process.

Chapter 3, *Basis for Cumulative Analysis*, of this Draft EIR provides a list of projects that are planned or are under construction in the proposed project study area and would potentially contribute to a cumulative population, housing, and employment impact when combined with the proposed project. **Table 4.K-7**, *Cumulative Population, Housing, and Employment Generation*, below, summarizes the cumulative growth associated with implementation of the proposed project and related projects.

As shown in Table 4.K-7, the cumulative population, housing, and employment projections total 21,927 residents, 6,229 housing units, and 4,301 employees, respectively. Relative to SCAG growth projections at the local, subregional, and regional levels for the 2008 to 2035 timeframe, this represents 132.1, 1.83, and 0.52 percent of overall population growth; 148.3, 1.51, and 0.41 percent of overall housing growth; and 12.8, 0.74, and 0.25 percent of overall employment growth, respectively. As such, cumulative growth associated

Table 4.K-6

General Plan Consistency Analysis

Applicable Goals/Policies/Programs	Project Consistency Statement
Goal 3.1 – Promote and maintain a balance of housing types and corresponding affordability levels to provide for the community's demands for housing within all economic segments of the City.	**Consistent.** The proposed project would generate up to 292 single-family homes. By adding new housing units to the general housing supply, the Project would support applicable housing policies of the City's General Plan, SCAG's RTP/SCS, and housing allocation goals of the RHNA, and would help meet the housing demands of the growing population of the City by contributing to housing availability and opportunity in the project area.
Policy 3.3.1 – Provide public services and improvements that enhance and create neighborhood stability.	**Consistent.** Refer to Section 4.L. Public Services.

Source: City of Corona General Plan (2004) Housing Element and Final Housing Element 2013-2021 and PCR Services Corporation, 2014.

with the proposed project and related cumulative development in the project area is within SCAG's 2008-2035 growth projections at the subregional and regional levels, but would exceed the local projections for population and housing growth within the City of Corona. However, an exceedance of SCAG growth projections at the local level does not necessarily translate into a physical impact on the environment, as each particular development would be subject to environmental review by the City of Corona and conditioned through mitigation measures or alternatives to address any physical impacts related to such growth. The proposed project would contribute to this growth by providing housing and associated population growth, but would not result in adverse physical impacts related to housing and population, and would also contribute to meeting the City's RHNA requirements. As such, although the proposed project would, in conjunction with other related project development, contribute to an exceedance of SCAG population and housing growth projections at the local level (City of Corona), it would not result in a significant cumulative impact due to the lack of physical effects associated with anticipated growth, as physical effects would be addressed through mitigation measures and other mechanisms on a project-by-project basis, subject to approval by the City of Corona (i.e., all related projects are located within the City, and therefore would be subject to City environmental review).

The analysis above provides an assessment of project population, housing, and employment in comparison with local, subregional, and regional growth forecasts, which also accounts for planned or reasonably foreseeable development within each jurisdiction in the local area, subregional area, and regional area. Therefore, the analysis is both a project-level and cumulative analysis. As stated above, the increase of indirect population and housing, and direct employment associated with the proposed project would be within the forecasted population, housing, and employment projections for the Western Riverside subregional area and larger SCAG region, but would exceed projections at the local level for population and housing growth. Furthermore, cumulative development, similar to the proposed project, would also be required to support applicable policies provided by SCAG and the City of Corona General Plan. As such, implementation of the proposed project would not result in significant cumulative impacts associated with

Table 4.K-7

Cumulative Population, Housing, and Employment Generation

Related Project	Residential (units)	Hotel (acres)	Commercial/ Retail/ Restaurant (acres)	Office (acres)	Medical Office (acres)	Industrial (acres)	School (acres)	Total
Foremost Communities (TTM 36541)	237	-	-	-	-	-	-	
MBK Homes and Turner Development (TTM 35590, PP07-007)	288	-	-	-	-	12.25	-	
Cesar Chavez School Expansion (DPR11-006)	-	-	-	-	-	-	2.15	
Knowleton Communities (TTM 33135)	63	-	-	-	-	-	-	
Knowleton Communities (PM 36250, PP09-004)	-	-	1.69	-	-	-	-	
Rancho De Paseo Valencia (TTM 34760, Annex 110, SPA08-005 EIR)	34	-	-	-	-	-	-	
DJJ Development (TTM 32386)	49	-	-	-	-	-	-	
City of Corona Successor Agency/West Coast Development (TTM 34488, PP06-009)	194	-	-	-	-	-	-	
Corona North Main, LLC Phase II (PP12-005)	453	-	-	-	-	-	-	
Pecuniary Capital, LLC (TTM 35851, CUP10-017)	60	-	-	-	-	-	-	
Mulligan-Allen & Associates (PM 35661, PP08-001)	442	-	-	-	-	-	-	
Sherborn, LLC (PM 33959)	-	-	-	-	-	76	-	
Nova Homes (TTM 36533)	103	-	-	-	-	-	-	
Cornerstone Enterprises (PM 36311, PP10-001, CUP10-003, 004; 005)	-	0.89	4.06	-	-	-	-	
Tri-Pointe Homes (TTM 36355, CUP14-001)	146	-	-	-	-	-	-	
Gateway Business Park Crossings (PM 29503R, PP08-008)	-	-	14.0	-	-	14.0	-	
SE Corporation Lakeshore Plaza (PM 34890, PP06-006)	-	-	-	26.6	-	-	-	
Meridian Dos Lagos, LP (PM 34851, PP06-011)	-	-	-	3.6	-	-	-	
Fu Bang Group (PM 33151, PP04-018)	92	-	-	-	-	-	-	
Rexco Development (PP13-006)	354	-	-	-	-	-	-	
Rexco Development	-	-	-	-	-	29.0	-	
Arrantine Hills Specific Plan (SP09-001)	1,621	-	59.1	-	-	18.6	-	

Table 4.K-7 (Continued)

Cumulative Population, Housing, and Employment Generation

Related Project	Residential (units)	Hotel (acres)	Commercial/ Retail/ Restaurant (acres)	Office (acres)	Medical Office (acres)	Industrial (acres)	School (acres)	Total
North Main Street District	404	-	-	-	-	-	-	
Berzansky/PB Development	-	-	-	-	3.6	-	-	
Westliving	112	-	-	-	-	-	-	
Vulcan Materials	-	-	-	-	-	100.0	-	
Sanre Corporation	-	-	-	-	-	3.0	-	
Trammell Crow	-	-	-	-	-	26.34	-	
Griffco Land LLC	125	-	-	-	-	-	-	
Citrus Circle Apartments	42	-	-	-	-	-	-	
Houman /Patel	-	-	-	1.6	-	-	-	
ASTA /Strata	45	-	-	-	-	-	-	
Subtotal Related Projects	4,864	0.89	93.86	31.80	3.60	279.19	2.15	
Proposed Project	290	-	-	-	-	-	-	
TOTAL	5,154	0.89	93.86	30.2	3.60	149.85	2.15	-
Population (residents)	18,142 [a]	9 [b]	1,066 [b]	650 [b]	130 [b]	1,914 [b]	14 [b]	**21,927**
Housing (units)	5,154	3 [b]	303 [b]	185 [b]	37 [b]	544 [b]	4 [b]	**6,229**
Employment (employees)	-	11 [c]	1,212 [c]	739 [c]	148 [c]	2,175 [c]	16 [c]	**4,301**

[a] *4,426 residential units X 3.52 persons per household = 15,580 persons (based on the average household size for the City of Corona is 3.52 persons/household per the U.S. Census Bureau (http://quickfacts.census.gov/qfd/states/06/0616350.html, accessed May 2014.)*

[b] *Indirect housing growth is assumed to be one-quarter (25%) of employment growth, while indirect population growth is assumed to be one-quarter (25%) of employment multiplied by 3.52 persons per household.*

[c] *Project-related growth is based on 11.82 employees per acre of hotel; 12.91 employees per acre of retail; 23.25 employees per acre of office; 41.16 employees per acre of medical office; 7.79 employees per acre of industrial; 0.88 employees per acre of mining; and 7.46 employees per acre of middle schools per data presented in Table B-1 of the "Employment Density Study Summary Report", prepared for SCAG by The Natelson Company (October 2001) for Riverside County. Assumes an FAR of 0.25 for commercial retail/restaurant and office uses and an FAR of 0.33 for Industrial uses.*

Source: PCR Services Corporation, 2015

population, housing, and employment and no mitigation measures are required. Further, the proposed project's contribution to cumulative impacts would not be considerable.

4. MITIGATION MEASURES

All impacts related to population, housing, and employment would be less than significant; as such, no mitigation measures are required.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project-related and cumulative impacts associated with population, housing, and employment growth would be less than significant.

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4. ENVIRONMENTAL IMPACT ANALYSIS
L. PUBLIC SERVICES

INTRODUCTION

This section analyzes the potential impacts of the proposed project regarding public services including fire protection and emergency medical services, police protection and law enforcement services, parks and recreational services, schools, and library services that would serve the proposed project. Existing conditions and relevant regulations are described as well as the potential for the proposed project to impact public service facilities and the ability of the service providers to provide or maintain adequate services with implementation of the proposed project. Information in this section is based on correspondence with the City of Corona Fire Department ("CFD"), the City of Corona Police Department ("CPD"), the City of Corona Maintenance Services Department, the Corona-Norco Unified School District ("CNUSD"), and the City of Corona Public Library ("CPL"), a site-specific Radio Study prepared by Wavepoint Research, Inc. ("Wavepoint") in September 2014, as well as information provided on the City's website and in the *City of Corona General Plan* ("General Plan") (2004), *City of Corona General Plan Technical Background Report* ("Technical Background Report") (2004), *City of Corona General Plan Environmental Impact Report* ("EIR") (2004), the *Santa Ana River Trail Master Plan* (2011), the *City of Corona Bicycle Master Plan* (2001), and the *CNUSD Facilities Needs Analysis* (2012). Correspondence with the above-referenced agencies and the site-specific Radio Study are provided in Appendix J of this Draft EIR.

1. ENVIRONMENTAL SETTING

a. Existing Conditions

(1) Fire Protection and Emergency Medical Services

Fire protection and emergency medical services for both the City and the project site are provided by the CFD. The CFD deploys seven fire stations and staffs seven fire engines, one fire truck, one squad, and one battalion chief for a minimum daily staffing of 35 personnel. The fire engines and truck each have four personnel while the squad has two personnel and battalion chief with one.[1] The proposed project is located within a very high fire hazard severity zone ("VHFHSZ") within a State Responsibility Area ("SRA").[2] The project site is located within the district of Fire Station 6. However, for multiple unit responses, Fire Stations 1 and 3 also provide fire protection and emergency medical services to the project site. Further, a portion of the Project area and vicinity are covered by an aid agreement with the United States Forest Service ("USFS"), Riverside County Fire Department ("RCFD"), and the California Department of Forestry and Fire Protection ("CAL FIRE"). Engine 6 is the first in responder with Engine 1, Engine 3, Truck 1, Squad 3, and Battalion Chief as back-up responders.[3] Fire Station 1 (540 Magnolia Avenue), Fire Station 3 (790 S. Smith Avenue), and Fire Station 6 (110 W. Upper Drive) are located approximately 2.75 miles northeast, 2.75 miles north, and 1.7 miles east of the project site, respectively. The main access routes to the project site from Fires Stations 1, 3, and 6 are Upper Drive and Foothill Parkway. The CFD's response time goal for the first in responder is six minutes, 90 percent of the time. For calendar year 2013, the average response time for Fire Station 6 was

[1] *Cindi Schmitz, CFD, Email correspondence, dated March 17, 2014.*

[2] *Fire Hazard Severity Zones in SRA, Western Riverside County, adopted by CAL FIRE on November 7, 2007.*

[3] *Cindi Schmitz, CFD, Email correspondence, dated March 17, 2014.*

five minutes and 30 seconds. Upon project implementation, the CFD anticipates a similar average response time for Fire Station 6 for calendar year 2014.[4] The incident types, incident counts, and average response times of Fire Stations 1, 3, and 6 are identified below in **Table** 4.L-1, *Fire Incident Types, Counts, and Average Response Times.*

The CFD is funded largely through the City's General Fund, with other funding coming from tax revenue, fees for services, a fee charged to the local ambulance company, the emergency medical service subscription program, and developer impact fees charged to all new development which are used on facilities and equipment.[5] Currently, there are no immediate or future plans for expansion of fire facilities, staff, or equipment inventory.[6]

(2) Police Protection and Law Enforcement Services

Police protection and law enforcement services for both the City and the project site are provided by the CPD. The CPD is divided into three divisions within four police community/patrol zones: Field Services, Investigation Services, and Support Services. The CPD provides emergency police response, non-emergency police response, routine police patrol, crime investigation, offender apprehension, special response teams(i.e., SWAT), hostage negotiators, crime suppression teams, K9 teams trained in explosives/narcotics/missing persons, a traffic enforcement bureau, school resource officers, mounted patrol for special events, community awareness programs, and animal control. All patrol investigation and support services operate from the City's main police station located at 730 Public Safety Way (previously named "Corporation Yard Way"), approximately 4.7 miles north of the project site. The project site is directly accessible from the main station with major roadways.[7] In addition to the main station, the Zone 2 office, located at 340 N. McKinley Street, provides a satellite office for field officers. The Temescal Public Safety Facility, located at 3777 Bedford Canyon Road, is a joint CPD and CFD facility that includes living quarters, office facilities, and an apparatus garage.

The CPD staffing consists of 159 full-time sworn officers, 65 full-time civilian personnel, and 35 part-time personnel for a total of 259 employees with 59 patrol vehicles. The CPD averages 16 patrol officers on duty 24 hours a day, seven days a week with approximately 40 to 50 administrative and investigation staff available within the police station during normal business hours. The project site is located within police community/patrol zone 4 ("Zone 4"), which is roughly south of the State Route 91 ("SR-91") Freeway, Main Street to the east, and the City boundary to the west. Zone 4 is 10.28 square miles and possesses approximately one-quarter of the City's total population of 158,391 people. Zone 4 is patrolled by multiple police units with a minimum two units configured to patrol and remain within the zone 24 hours a day, seven days a week. Additional available units consist of roving units, traffic units, supervisors, and other specialized units. Police staffing is always under review and evaluated in order to maintain the sworn

[4] *Cindi Schmitz, CFD, Email correspondence, dated March 17, 2014.*

[5] *Arantine Hills Specific Plan, Draft Environmental Impact Report, prepared by LSA, dated May 9, 2012.*

[6] *Cindi Schmitz, CFD, Email correspondence, dated March 17, 2014.*

[7] *Captain Jerry Rodriguez, Investigative Services Commander, Email correspondence, dated March 3, 2014.*

Table 4.L-1

Fire Incident Types, Counts, and Average Response Times

CFD Fire Station 1

Incident Type	Incident Count	Average Response Times (MM:SS)
Fire	55	05:44
Rupture/Explosion	2	06:47
EMS/Rescue	2,230	05:41
Hazardous Condition	19	06:39
Service Call	308	06:03
Good Intent	235	05:32
False Call	57	06:49
Total:	**2,906**	**05:44**

CFD Fire Station 3

Incident Type	Incident Count	Average Response Times (MM:SS)
Fire	80	05:46
Rupture/Explosion	2	06:09
EMS/Rescue	1,350	05:25
Hazardous Condition	26	06:45
Service Call	108	06:25
Good Intent	212	05:40
False Call	58	07:20
Total:	**1,836**	**05:35**

CFD Fire Station 6

Incident Type	Incident Count	Average Response Times (MM:SS)
Fire	25	06:36
Rupture/Explosion	1	06:20
EMS/Rescue	830	05:22
Hazardous Condition	14	07:49
Service Call	52	06:13
Good Intent	66	06:14
False Call	21	06:39
Totals:	**1,009**	**05:30**

Notes: EMS = emergency medical services; MM:SS = minutes: seconds.

Source: Cindi Schmitz, CFD, Email correspondence, dated March 17, 2014.

officers to population ratio, maintaining an emergency response within five minutes or less, and retaining adequate officer availability.[8] The CPD has a goal of responding to priority 1 (emergency) calls in five

[8] *Captain Jerry Rodriguez, Investigative Services Commander, Email correspondence, dated March 3, 2014.*

minutes or less and 90 percent of the time, four minutes or less. In 2013, the CPD emergency response time average was five minutes and 11 seconds with 90 percent of the response times at four minutes and six seconds. For priority 2 (non-emergency) calls the response time was 13 minutes and 42 seconds. Currently, the CPD's goal for emergency response times is met. The planned extension of Foothill Boulevard to the west side of the City is anticipated to enhance the flow of traffic creating increased access and response of police units to the entire area. However, the CPD continually researches and examines ways to improve response times and services.[9]

Law enforcement services within the City are funded through a variety of sources including tax revenues, penalties, service fees, development impact fees, asset forfeiture funds, traffic offender funds, the General Fund, and various grants. Grants include Supplemental Law Enforcement Service Funds ("SLESF"), COPS grants, the Edward Byrne JAG Grant, and the Office of Traffic Safety grants. Impact fees are updated on a regular basis and are intended to accommodate an adequate level of police service within the City.[10]

(3) Parks and Recreational Services

The City of Corona Library and Recreation Services Department provides community services and recreational and leisure time opportunities for both the City and the project site. Additionally, the Maintenance Services Department maintains approximately 393 acres of developed parkland within the City.[11] The existing ratio of developed parkland per resident on a City-wide bases is 0.00248 acres.[12] A number of parks are located within the vicinity of the project site. The four nearest parks are classified as neighborhood parks, which would typically serve the neighborhood population of which they are located. The nearest community park, which would likely serve the proposed project, Mountain Gate Park, is located approximately 1.4 miles east of the project site.[13] Refer below to **Table 4.L-2**, *Existing Parks Near the Project Site*, for parks located near the project site and a summary of their park classification, size, location, amenities/activities and approximate distance/direction from the project site.

School recreation facilities are often open to the public during non-school hours. Typically, elementary schools provide additional recreation opportunities to surrounding neighborhoods, while junior high schools and high schools provide additional community-wide facilities. Formal agreements for general public use of school facilities have been made by the City and the CNUSD. Under these agreements, swimming pools and summer aquatics programs have been made available to the public. Other existing recreational resources within the City include community centers, multipurpose recreation centers, a senior center, several tennis courts, two skate parks, a gymnasium facility, and an auditorium within the City Hall Civic Center. Further, residents within the City have access to the nearby Cleveland National Forest, Chino Hills State Park,

[9] *Captain Jerry Rodriguez, Investigative Services Commander, Email correspondence, dated March 3, 2014.*

[10] *Arantine Hills Specific Plan, Draft Environmental Impact Report, prepared by LSA, dated May 9, 2012.*

[11] *Steve Lawson, Senior Management Analyst, City of Corona Library and Recreation Services Department, Email correspondence, dated April 29, 2014.*

[12] *393 acres of developed parkland/158,391 residents = 0.00248 acres of developed parkland per resident per Steve Lawson, Senior Management Analyst, City of Corona Library and Recreation Services Department, Email correspondence, dated April 29, 2014.*

[13] *Steve Lawson, Senior Management Analyst, City of Corona Library and Recreation Services Department, Email correspondence, dated April 29, 2014.*

Table 4.L-2

Existing Parks Near the Project Site

Name	Type of Park/Size	Location	Parks Amenities/Activities	Approximate Distance/Direction from project site[a]
Border Park	Neighborhood (2.28 acres)	2400 Boarder Avenue	Tennis court, volleyball court, children's play equipment, barbecue area, drinking fountains, ADA accessible	1.00 miles north
Mangular Park	Neighborhood (3.63 acres)	2200 Mangular Avenue	Tennis court, children's play equipment, and drinking fountain	1.05 miles north
Ontario Park	Neighborhood (5.17 acres)	Ontario & Via Pacifica	Softball field, basketball court, jogging course, children's play equipment, barbecue and picnic area, covered shelter, bicycle racks, restrooms, and drinking fountains	1.15 miles northeast
Buena Vista Park	Neighborhood (9.48 acres)	2515 Buena Vista Avenue	Softball field, children's play equipment, barbecue and picnic area, covered shelter, restrooms, drinking fountains, ADA accessible	1.25 miles northeast
Mountain Gate Park	Community (21.07 acres)	3100 S. Main Street	Softball field, tennis court, basketball court, jogging course, children's play equipment, barbecue and picnic area, covered shelter, bicycle racks, restrooms, and drinking fountains	1.4 miles east

[a] *Approximate distance/direction from project site in miles is a straight line distance, not a drive distance.*

Source: Steve Lawson, Senior Management Analyst, City of Corona Library and Recreation Services Department, Email correspondence, dated April 29, 2014.; City of Corona Parks and Community Website, http://www.coronadwp.com/parkmaint/parks-facilities.shtml, accessed March 2014; PCR Services Corporation, 2014.

Featherly Regional Park, Prado Regional Park, Prado Basin, Santa Ana River Wildlife Area, Santa Ana River Trail ("SART"), and the Wardlow Wash which all provide regional facilities and recreational opportunities.[14]

Existing bike facilities located within the vicinity of the project site include Class II bikeway facilities located on Foothill Parkway east of Lincoln Avenue and Lincoln Avenue north of Foothill Parkway. Proposed bike facilities located within the vicinity of the project site include Class I bikeway facilities on Skyline Drive south of Foothill Parkway; Class II bikeway facilities on Foothill Parkway west of Lincoln Avenue and Lincoln Avenue south of Foothill Parkway; and Class III bikeway facilities on Mangular Avenue north of Foothill Parkway.[15] Class I bikeway facilities are referred to as bike paths that provide a completely separated right of way for the exclusive use of bicycles and pedestrians with crossflow by motorists minimized. Class II bikeway facilities are referred to as bike lanes that provide a striped lane for one-way bike travel on a street

[14] *City of Corona General Plan Technical Background Report, prepared by EIP Associates, adopted March 2004.*

[15] *City of Corona Bicycle Master Plan and Existing and Proposed Bicycle Facilities Map, prepared by Alta Transportation Consulting and Ryan Snyder Associates, dated May 31, 2001.*

or highway. Class III bikeway facilities are referred to as bike routes that provide for shared use with pedestrian or motor vehicle traffic and are only identified by signage.[16]

(4) Schools

The CNUSD, kindergarten through twelfth grade ("K-12"), serves the City of Corona, the City of Norco, the City of Eastvale, the City of Jurupa Valley, and portions of unincorporated Riverside County, and the project site. The CNUSD operates 31 elementary schools, eight intermediate schools, five comprehensive high schools, and three alternative high schools.[17] Student enrollment in the CNUSD tabulated for the 2012/13 school year was approximately 27,686 elementary school students, 8,529 intermediate schools students, and 17,641 high school students for a total enrolment of 53,856 students. A comparison of current and projected student enrollment to current capacity demonstrates that the CNUSD is still impacted at the intermediate school level but has some additional capacity to accommodate students from new residential development at both the elementary and high school levels.[18] The project site is located within the attendance boundaries of Adams Elementary School, Raney Intermediate School, and the Corona High School.[19] The Adams Elementary School is located at 2350 Border Avenue, approximately 1.50 miles north of the project site. The Raney Intermediate School is located at 1010 West Citron Street, approximately two miles northeast of the project site. The Corona High School is located 1150 W. 10th Street, approximately 2.50 miles northeast of the project site.

(5) Library Services

The CPL provides library services to the City and the project site. The CPL is the City's only library branch while 13 libraries are located within the Riverside County Library System. The CPL is located at 650 South Main Street, approximately 2.84 miles northeast of the project site. The 62,000 square-foot CPL includes 40 staff members, a 170,440 item collection, computers, passport services, private study rooms, and free wireless fidelity ("Wi-Fi"). The CPL has 85,856 total borrowers of which are both residents and non-residents. Hours of operation include Monday thru Wednesday, 10:00 A.M-9:00 P.M., Thursday and Friday 10:00 A.M.-5:00 P.M., Saturday 12:00 P.M.-5:00 P.M. and closed on Sundays.[20]

b. Regulatory Framework

(1) Fire Protection and Emergency Medical Services

(a) California Fire Code ("CFC"), 2010, California Code of Regulations ("CCR"), Title 24, Part 9

The CCR Title 24 (California Building Code ["CBC"]) is a compilation of building standards including fire safety standards for residential and commercial buildings. CBC standards are based on building standards that have been adopted by state agencies without change from a national model code; building standards based on a national model code that have been changed to address particular California conditions; and

[16] *Highway Design Manual, Chapter 1000, Bikeway Planning and Design, Topic 1001 – General Criteria, Section 1001.4 Definitions, June 26, 2006.*

[17] *Nancy Baker, Facilities Supervisor, Corona-Norco Unified School District, Letter Correspondence, dated March 13, 2014.*

[18] *Corona-Norco Unified School District School Facilities Needs Analysis, December 2012.*

[19] *Nancy Baker, Facilities Supervisor, Corona-Norco Unified School District, Letter Correspondence, dated March 13, 2014.*

[20] *Katherine Backus, Management Analyst, Corona Public Library, Letter Correspondence, dated February 27, 2014.*

building standards authorized by the California legislature, not covered by the national model code. Typical fire safety requirements of the CBC include: the installation of sprinklers in all high-rise buildings; the establishment of fire resistance standards for fire doors, building materials, and particular types of construction; and, the clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas. The CBC applies to all occupancies in California, except where more stringent standards have been adopted by local agencies. Specific CBC fire safety regulations have been incorporated by reference in the City of Corona Municipal Code ("CMC"). Chapter 7 of the CBC is incorporated by reference in Chapter 15.12 of the CMC regarding the use of fire-resistant building materials, fire suppression systems, and other fire safety elements related to the design and construction of buildings. Chapter 9, Section 905 of the CBC is incorporated by reference in Chapter 15.12 of the CMC regarding fire protection systems.

(b) City of Corona Municipal Code, Title 15, Buildings and Construction, Chapter 15.12, Fire Code

As set forth in Title 15, Buildings and Construction, Chapter 15.12, Fire Code of the CMC, the City has adopted and incorporated by reference into the CMC the International Fire Code ("IFC") 2009 Edition and the CFC 2010 Edition, collectively referred to by the City as the "Fire Code". All of the regulations, provisions, penalties, conditions and terms referring to the CFC also pertain to the Fire Code for the City of Corona.

(c) City of Corona Municipal Code, Title 3 Revenue and Finance, Chapter 3.36, Fire Facilities Fee

It is the purpose and intent of this chapter to implement the City's General Plan to attempt to assure that fire facilities which satisfy City standards are available concurrent with the need caused by new development within the City. Due to the location of certain development within the urban/wildland interface area by the Cleveland National Forest, such development will create a fire hazard impacts not found in other parts of the City. The City has established a fire facilities fee to fund the provision of fire provision services to property located within this urban/wildland interface.

(d) City of Corona General Plan (2004) – Chapter 4, Infrastructure and Public Services, Police and Fire Services

Chapter 4, Infrastructure and Public Services, Police and Fire Services, of the City of Corona General Plan includes goals and policies pertaining to programming fire personnel and facilities within the City.

(2) Police Protection and Law Enforcement Services

(a) City of Corona General Plan (2004) – Chapter 4, Infrastructure and Public Services, Police and Fire Services

Chapter 4, Infrastructure and Public Services, Police and Fire Services, of the City of Corona General Plan includes goals and policies pertaining to programming police personnel and facilities within the City.

(3) Parks and Recreational Services

(a) Quimby Act

Section 66477 of the California Government Code ("CGC"), also known as the Quimby Act, was enacted by the California legislature in 1965 to promote the availability of park and open space areas in response to

California's rapid urbanization and the need to preserve open space and provide parks and recreation facilities in response to this urbanization. The Quimby Act authorizes cities and counties to enact ordinances requiring the dedication of land, or the payment of fees for park and/or recreational facilities in lieu thereof, or both, by developers of residential subdivisions as a condition to the approval of a tentative map or parcel map. Under the Quimby Act, dedications of land shall not exceed three acres of parkland per 1,000 persons residing within a subdivision, and in-lieu fee payments shall not exceed the proportionate amount necessary to provide three acres of parkland, unless the amount of existing neighborhood and community parkland exceeds that limit. Thus, Chapter 16.35 of the CMC was enacted to ensure compliance with the Quimby Act as discussed below.

(b) City of Corona Municipal Code, Title 16, Subdivisions, Chapter 16.35, Park Dedication and In Lieu Fees

Title 16, Subdivisions, Chapter 16.35, Park Dedication and In Lieu Fees of the CMC, sets forth park and open space requirements and standards for determining park land dedication requirements as well as impact fees to provide residents with adequate open space. As stated in Section 16.35.060, land dedication, impact fees or a combination of both may be required so that three acres of park area are available for every 1,000 residents.

(c) City of Corona General Plan (2004) – Chapter 4, Infrastructure and Public Services, Parks, Schools, and Libraries

Chapter 4, Infrastructure and Public Services, Parks, Schools, and Libraries, of the City of Corona General Plan includes goals and policies pertaining to programming parks and recreational services within the City.

(4) Schools

(a) California Department of Education ("CDE")

The CDE administers California's public education system at the State level and the State Board of Education, by statute, is the governing and policy-determining body of the CDE. The Board adopts rules and regulations for the governing of the State's public schools. The State also provides funding through a combination of sales and income taxes. In addition, pursuant to Proposition 98, the State is also responsible for the allocation of educational funds that are acquired from property taxes. Further, the governing board of any school district is authorized to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district, for the purpose of funding the construction or reconstruction of school facilities.[21]

(b) School Facility Act – Development Fees – Assembly Bill 2926 ("AB 2926") – Senate Bill ("SB 50")

AB 2926 was enacted in 1986 by the State of California and added to the CGC as Section 65995. This Act authorized school districts to collect development fees for certain types of projects based on demonstrated need and generates revenue for capital acquisitions and improvements. It also establishes the maximum fees, adjustable for inflation, which may be collected under this Act. SB 50 subsequently revised the School Facilities Act by defining the Needs Analysis process in Sections 65995.5-65998 of the CGC, by allowing

[21] *California Education Code Section 17620(a)(1).*

school districts to collect fees higher than previously permitted to offset the costs associated with increasing school capacity needs as a result of new development. Developer fees for projects within the CNUSD boundaries are approved by the Board of Education and collected at the time of issuance of building permits.

(c) Critically Overcrowded School Facilities Program – Assembly Bill ("AB 16")

In 2002, AB 16 created the Critically Overcrowded School Facilities program, which supplements the new construction provisions within the School Facilities Program ("SFP"). SFP provides State funding assistance for two major types of facility construction projects: new construction and modernization. The Critically Overcrowded School Facilities program allows school districts with critically overcrowded school facilities, as determined by the CDE, to apply for new construction projects in advance of meeting all SFP new construction program requirements. Districts with SFP new construction eligibility and school sites included on a CDE list of source schools may apply.

(d) City of Corona General Plan (2004) – Chapter 4, Infrastructure and Public Services, Parks, Schools, and Libraries

Chapter 4, Infrastructure and Public Services, Parks, Schools, and Libraries, of the City of Corona General Plan includes goals and policies pertaining to schools within the City.

(5) Library Services

(a) City of Corona Municipal Code, Title 16, Subdivisions, Chapter 16.23, Development Impact Fees

Section 16.23.080 of the CMC identifies the City's Library Facility and Collection section of the Master Facility Plan which requires development impact fees to be charged to new development to maintain current levels of service to the City.

(b) City of Corona General Plan (2004) – Chapter 4, Infrastructure and Public Services, Parks, Schools, and Libraries

Chapter 4, Infrastructure and Public Services, Parks, Schools, and Libraries, of the City of Corona General Plan includes goals and policies pertaining to libraries within the City.

2. ENVIRONMENTAL IMPACTS

a. Methodology

(1) Fire Protection and Emergency Medical Services

Fire protection and emergency medical service needs relate to the size of the population and geographic area served, the number and types of calls for service, and the characteristics of the community and the proposed project. Changes in these factors resulting from the proposed project may increase the demand for services. The CFD evaluates the demand for fire protection and emergency medical services on a project-by-project basis to review a project's emergency features and to determine if a proposed project would require additional equipment, personnel, new facilities, or alterations to existing facilities. Beyond the standards included in the CFC and the Fire Code, consideration is given to the size of the proposed project, uses proposed, fire flow necessary to accommodate the proposed project, response time, distance for engine and

truck companies, fire hydrant sizing and placement standards, access, and the project's potential to use or store hazardous materials. Based on these factors, a determination is made as to whether the CFD would require a new or physically altered facility to maintain current service levels, the construction of which could result in a potentially significant environmental impact.

(2) Police Protection and Law Enforcement Services

The determination of significance relative to impacts on police protection and law enforcement services is based on the ability of the CPD to adequately serve the existing and future population. Based on these criteria, a determination was made as to whether police facilities could accommodate the additional demand for police protection services resulting from the proposed project without the need for a new facility or the alteration of existing facilities.

(3) Parks and Recreational Services

The analysis identifies park and recreational facilities and resources within the project area, identifies the approximate net population growth that would result from the proposed project, and provides a conclusion regarding the effects of the proposed project on park and recreational facilities and resources based on the proximity of the project site to designated recreational facilities and the project's potential contribution to demand for future facilities.

(4) Schools

The analysis of enrollment effects on schools is based in part on the ability of CNUSD school facilities to accommodate the potential increase in students generated from development of the proposed project. The analysis estimates the number of students that would be generated by the proposed project using CNUSD student generation rates, and focuses on whether CNUSD school facilities expected to serve the proposed project would have sufficient available capacity to accommodate these students. The analysis addresses all levels of education facilities operated by the CNUSD (i.e., elementary, middle, and high schools); and focuses on the schools that would serve the project site. It also addresses state regulations, i.e. SB 50, and related development fees as a mechanism for providing new school facilities and addressing school impacts of the proposed project.

(5) Library Services

Potential project impacts on library services and facilities are determined based on identifying the primary service library or libraries that serve the project site, forecasting the number of residents generated by the proposed project, identifying the population within the library's service area at the time of project buildout, combining the project's resident population with the forecasted service area population, and comparing the combined population to the service population for the library as determined by CPL.

b. Thresholds of Significance

Appendix G of the *CEQA Guidelines* provides a checklist of questions to assist in determining whether a proposed project would have a significant impact related to various environmental issues including public services. Based on the following issue areas identified in Appendix G of the *CEQA Guidelines*, a significant impact relative to public services would occur if the project would result in the following:

Threshold 1: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government 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:

- Fire Protection (refer to Impact Statement 4.L-1 below);
- Police Protection (refer to Impact Statement 4.L-2 below);
- Parks (refer to Impact Statement 4.L-3 below);
- Schools (refer to Impact Statement 4.L-4 below);
- Other public facilities (refer to Impact Statement 4.L-5 below).

Threshold 2: Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated (refer to Impact Statement 4.L-3 below);

Threshold 3: Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment (refer to Impact Statement 4.L-3 below); or

Threshold 4: Comply with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan and municipal code) adopted for the purpose of avoiding or mitigating an environmental effect (refer to Impact Statement 4.L-6 below).

c. Project Design Features

Future development pursuant to the proposed project would comply with applicable State and local codes and building requirements related to fire safety and access for emergency vehicles in order to provide an adequate degree of fire and police protection services through proper design and to allow for acceptable response times for fire, police, and emergency medical services. Water infrastructure within the project area would also be constructed and improved as necessary to meet the minimum fire flow requirements of the CFD. The proposed project would further comply with all applicable State and local regulations related to parks and recreation services, schools, and library services.

d. Analysis of Project Impacts

(1) Fire Protection and Emergency Medical Services

Threshold	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Fire Protection?

Impact 4.L-1 *Implementation of the proposed project could result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government 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 and emergency medical services. However, compliance with applicable regulatory requirements and implementation of the project design features and prescribed mitigation measures would reduce potentially significant impacts in these regards to a less than significant level.*

The proposed project would introduce 292 single-family detached residential dwellings that would generate an additional 1,028 persons.[22] As described in the Existing Conditions section above, the CFD provides fire protection and emergency medical services for the project site. The project site is located within the district of Fire Station 6. However, for multiple unit responses, Fire Stations 1 and 3 also provide fire protection and emergency medical services to the project site. Fire Stations 1, 3, and 6, are located approximately 2.75 miles northeast, 2.75 miles north, and 1.7 miles east of the project site, respectively. Due to the close vicinity to multiple stations, the response time to the project site would be within the CFD's response time goals for the first in responder of six minutes, 90 percent of the time. For calendar year 2013, the average response time for Fire Station 6 was five minutes and 30 seconds. Upon project implementation, the CFD anticipates a similar average response time for Fire Station 6 for calendar year 2014.[23]

The proposed project is located within a VHFHSZ within a SRA.[24] Per the CFD, a fuel modification plan for the proposed project is required.[25] Section 4.G, *Hazards and Hazardous Materials*, discusses the potential for impacts associated with wildland fires. Section 4.G provides a detailed discussion of the fuel modification zones proposed by the project, each of which would be designed specifically to help suppress a wildland fire in different ways. As discussed in Section 4.G, with implementation of the project design features and prescribed mitigation measures relating to fire prevention, any significant risk of loss, injury or death involving wildland fires, would be minimized to the maximum extent feasible. As importantly, because the existing project site is not maintained as a fuel modification area and consists of uncontrolled wild land

[22] *The average household size for the City of Corona is 3.52 persons/household per the U.S. Census Bureau, http://quickfacts.census.gov/qfd/states/06/0616350.html, accessed May 2014. 292 single family homes X 3.52 persons = 1,028 persons.*

[23] *Cindi Schmitz, CFD, Email correspondence, dated March 17, 2014.*

[24] *Fire Hazard Severity Zones in SRA, Western Riverside County, adopted by CAL FIRE on November 7, 2007.*

[25] *Cindi Schmitz, Corona Fire Department, Email correspondence, dated February 27, 2014.*

vegetation, existing single-family residences to the north, northeast, and east of the project site would gain increased protection from the spread of fire. As such, the proposed project would reduce the threat of wildland fires to people and structures in the project vicinity and thus, reduce the demand for fire services needed in the event of a wildland fire. In addition, in the event of a wildland fire in the project vicinity, the CFD has automatic aid agreements with all fire agencies in State. Please also refer to the discussion of impacts related to wildland fire hazards provided in Section 4.G, Hazards and Hazardous Materials, of this Draft EIR.

As required by the CFD, the project Applicant shall obtain CFD review and approval of the site plan, fuel modification plan, and project design features including, but not limited to roadways designed to meet or exceed minimum fire and emergency access requirements including ingress/egress; minimum driveway and fire lane width of 28 feet; minimum turning radii of 25 feet inside and 50 feet outside; grades not to exceed ten percent; adequate on-site space to park CFD apparatus; fire hydrant sizing, spacing minimum of 300 feet, and fire hydrant locations; fire protection systems including automatic fire sprinkler systems and fire alarms installed in each residence; minimum availability of firefighting water flow of 1,500 gallons per minute ("gpm") at 20 pounds per square inch ("psi") for two hours; and building materials compliant with the CBC Chapter 7A, Materials and Construction Methods for Exterior Wildlife Exposure (Mitigation Measure PS-1).[26] As described in the Project Design Features section above, water infrastructure within the project area would be constructed and improved as necessary to meet the minimum fire flow requirements of the CFD. The ability of the water service provider to provide water supply to the project site is further discussed in Section 4.N, *Utilities and Service Systems*, of this Draft EIR. Conformance with these development/construction requirements and implementation of the project design features and prescribed mitigation measures reduces the risks associated with fire hazards.

No new fire protection facilities would be necessary as a result of project implementation.[27] The CFD is funded largely through the City's General Fund, with other funding coming from tax revenue, fees for services, a fee charged to the local ambulance company, the emergency medical service subscription program, and developer impact fees charged to all new development which are used on facilities and equipments.[28] To further ensure that the provision of fire and emergency medical services is not eroded by future development, prior to the issuance of a building permit for the construction of the proposed project, the project Applicant shall pay the required service and development fees pursuant to the "Fire Facilities Fund" as amended in Chapter 3.36 of the CMC to the City for the public improvements and facilities associated with the CFD (Mitigation Measure PS-2). These fees would be utilized to fund capital costs associated with acquiring land for new fire stations, constructing new fire stations, purchasing fire equipment for new fire stations, and providing for additional staff as needed and as identified by the City and CFD.

As such, the incremental increase of 1,028 persons, when compared to the City's population of approximately 158,391 people, would not be substantial enough to significantly impact fire and emergency medical services on a daily or annual basis. Overall, compliance with applicable regulatory requirements of the CFC, the CMC/Fire Code, the CFD, and implementation of the project design features and prescribed

[26] *Cindi Schmitz, Corona Fire Department, Email correspondence, dated February 27, 2014.*

[27] *Ibid.*

[28] *Arantine Hills Specific Plan, Draft Environmental Impact Report, prepared by LSA, dated May 9, 2012.*

mitigation measures, impacts related to fire protection and emergency medical services and facilities would be less than significant impact.

(2) Police Protection and Law Enforcement Services

Threshold	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Police Protection?

Impact 4.L-2 *Implementation of the proposed project could result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection and law enforcement services. However, compliance with applicable regulatory requirements and implementation of the project design features and prescribed mitigation measures would reduce potentially significant impacts in these regards to a less than significant level.*

As described above in the Existing Conditions section, the project site is serviced by the CPD within Zone 4. The City's main police station is located at 730 Public Safety Way, approximately 4.7 miles north of the project site. The CPD staffing consists of 159 full-time sworn officers, 65 full-time civilian personnel, and 35 part-time personnel for a total of 259 employees with 59 patrol vehicles. Police staffing is always under review and evaluated in order to maintain the sworn officers to population ratio, maintaining an emergency response within five minutes or less, and retaining adequate officer availability. Currently, the CPD's goal for emergency response times is met.[29] As described in the Project Design Features section above, the proposed project provides development standards regulating vehicular circulation including emergency vehicle access. With development of the site, patrol routes in the area would be slightly modified to include the project site; however, the CPD's current adequate response times would not be substantially changed such that response time objectives are comprised in any manner.[30] In 2013, Zone 4 had priority 1 response times averaging six minutes and three seconds with 90 percent of the response times at five minutes. Upon project implementation, response times to the project site should be within the Zone 4 response time goals.[31] Further, the planned extension of Foothill Boulevard to the west side of the City is anticipated to enhance the flow of traffic creating increased access and response of police units to the entire area.[32]

As required by the CPD, the project Applicant shall be required to set aside land within the project site that would allow CPD, if determined to be necessary in the future, to construct an on-site radio facility site for increased police protection.

[29] *Captain Jerry Rodriguez, Investigative Services Commander, Email correspondence, dated March 3, 2014*

[30] *Ibid.*

[31] *Ibid.*

A site-specific radio study was prepared for the proposed project by Wavepoint in September 2014.[33] The objectives of the radio study were to (1) assess the current coverage of the Corona public safety radio system based on the existing tower/antenna locations, (2) predict coverage in the proposed Skyline Heights development area for purposes of determining the potential requirement to improve coverage in said area by installing an additional communications site, and (3) provide coverage maps and assist the Applicant in technical discussions with the Corona radio system operators. The radio study analysis used conservative configuration parameters and also modeled worst-case (weakest) signal strength from each site. The results of the study show that the existing radio tower sites within the City of Corona's Public Safety radio system provide adequate coverage to the proposed area of the Skyline Heights development. As such, CPD radio communications are anticipated to be maintained throughout the project site and surrounding area without the need for an on-site radio tower facility. However, as required by Mitigation Measure PS-3, below, the project Applicant would be required to set aside a portion of the project site, the size and location of which would be subject to review and approval by the CPD, for construction of such a radio tower facility should CPD determine that one is necessary in the future.

The CPD's operating budget is generated through tax revenues, penalties, service fees, and allowed government assistance including the General Fund, development impact fees, asset forfeiture funds, traffic offender funds, and various grants.[34] To further ensure that the provision of police protection and law enforcement services are not eroded by future development, prior to the issuance of a building permit for the construction of the proposed project, the project Applicant shall pay the required service and development fees to the City for the public improvements and facilities associated with the CPD (Mitigation Measure PS-4). These fees would be utilized to fund capital costs associated with acquiring land for new police facilities, constructing new police facilities, and providing for additional staff as needed and as identified by the City and CPD.

As such, compliance with the applicable regulatory requirements of the CPD, and implementation of the project design features and prescribed mitigation measures, impacts related to police protection and law enforcement services would be less than significant.

(3) Parks and Recreational Services

Threshold	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Parks?

[32] *Ibid.*

[33] *Wavepoint Research, Inc., "Analysis of Corona, California Public Safety Radio Sites Coverage Predictions – Skyline Heights Development," September 30, 2014. Included in Appendix J of this Draft EIR.*

[34] *Arantine Hills Specific Plan, Draft Environmental Impact Report, prepared by LSA, dated May 9, 2012.*

Threshold	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
Threshold	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Impact 4.L-3 *Implementation of the proposed project could result in substantial adverse physical impacts associated with the provision of new or physically altered government 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 parks and recreational facilities. Further, the proposed project could increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility could occur or be accelerated, and the proposed project could include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. However, compliance with applicable regulatory requirements and implementation of the project design features and prescribed mitigation measures would reduce potentially significant impacts in these regards to a less than significant level.*

As described above in the Existing Conditions section, the City of Corona Library and Recreation Services Department provides community services and recreational and leisure time opportunities for the project site. The department maintains approximately 393 acres of developed parkland within the City.[35] The proposed project would generate an additional 1,028 residents, which would incrementally increase demand for park and recreational facilities in the project vicinity. A number of parks are located within the vicinity of the project site. The nearest community park, which would likely serve the proposed project, Mountain Gate Park, is located approximately 1.4 miles east of the project site.[36] The Mountain Gate Park is currently heavily used.[37] Existing bike facilities located within the vicinity of the project site include Class II bikeway facilities located on Foothill Parkway east of Lincoln Avenue and Lincoln Avenue north of Foothill Parkway.[38]

As described above, the City has a total of 393 acres of developed parkland.[39] The existing ratio of developed parkland per resident on a City-wide bases is 0.00248 acres.[40] The City has a recommended standard of 3.5 acres of parkland per 1,000 residents, or 0.00350 acres per resident.[41,42] Therefore, an estimated total of

[35] *Steve Lawson, Senior Management Analyst, City of Corona Library and Recreation Services Department, Email correspondence, dated April 29, 2014.*

[36] *Ibid.*

[37] *Ibid.*

[38] *City of Corona Bicycle Master Plan and Existing and Proposed Bicycle Facilities Map, prepared by Alta Transportation Consulting and Ryan Snyder Associates, dated May 31, 2001.*

[39] *Steve Lawson, Senior Management Analyst, City of Corona Library and Recreation Services Department, Email correspondence, dated April 29, 2014.*

[40] *393 acres of developed parkland/158,391 residents = 0.00248 acres of developed parkland per resident per Steve Lawson, Senior Management Analyst, City of Corona Library and Recreation Services Department, Email correspondence, dated April 29, 2014.*

[41] *Steve Lawson, Senior Management Analyst, City of Corona Library and Recreation Services Department, Email correspondence, dated April 29, 2014.*

[42] *3.5 acres/1,000 persons = 0.0035 acres per person.*

approximately 554[43] acres of parklands are needed within the City to accommodate the City's existing population of 158,391.[44] Thus, this represents a parkland deficit of 161 acres.[45] Since the Project would contribute new residents that would utilize City parks, impacts on City parks and recreational services are considered to be a potentially significant impact.

Three planned parks and recreation projects, Civic Center Gymnasium Improvements, Victoria Park Improvements ADA Interior Restroom Project, and the Butterfield Park Parking Lot Expansion would provide additional recreational opportunities.[46] The Riverside County Regional Park and Open-Space District, the Cities of Corona and Norco, and the Jurupa Community Services District ("JCSD") have entered a partnership to complete their portion of the regional Santa Ana River Trail which lies along the Santa Ana River between the downstream side of State Route 71 ("SR-71") and the Hidden Valley Wildlife Area at the edge of the City of Riverside. Referred to as the Corona-Norco-Eastvale segment, it encompasses the Prado Dam and surrounding flood control basin, as well as the residential communities of Corona, Norco, and Eastvale. The construction of the trail would be divided into three phases with an estimated completion in the 2016-2020 time frame. The trail would be used by local pedestrians (i.e., exercise, walk the dog), long-distance walkers/runners, recreational equestrians, recreational bicyclists, and commuter bicyclists. The Santa Ana River Trail would provide the following amenities: a transportation hub, turn out and vista points, interpretative sites, parking for automobiles and equestrian rigs, overnight parking, bicycle racks, tie-ups for horses, horse corrals, equestrian centers, drinking water facilities for people and horses/dogs, shade trees or structures, regulatory signage, wayfinding signage, benches, trash cans, restrooms, and landscaping.[47] Further, residents within the City, including the project site, have access to the nearby Cleveland National Forest, Chino Hills State Park, Featherly Regional Park, Prado Regional Park, Prado Basin, Santa Ana River Wildlife Area, Santa Ana River Trail ("SART"), and the Wardlow Wash which all provide regional facilities and recreational opportunities.[48]

Assuming the population increase of 1,028 residents at a 0.00350 acre City requirement per person (i.e., 3.5 acres per 1,000 residents); the proposed project would require that provision of approximately 3.6 acres of parkland. However, the proposed project is not proposing new park or recreational facilities. The City collects a park impact fee for residential projects which is used to fund the City's park maintenance and improvement program. Thus, to mitigate the Project's potentially significant impact and to ensure that the provision of parks and recreational services and facilities are not eroded by future development, the project Applicant shall comply with Municipal Code Chapter 16.35, Park Dedication and In Lieu Fees. The City's tentative map review authority shall determine whether land dedication, an in lieu fee, or a combination of the two shall be required in conjunction with its approval of a tentative map (Mitigation Measure PS-5). As such, compliance with applicable regulatory requirements of the Municipal Code and implementation of the

[43] *158,391 persons/1,000 persons = 158.39 X 3.5 acres of parkland = 554.37 acres of needed parkland.*

[44] *City of Corona Total Population (2011) per the U.S. Census Bureau, http://quickfacts.census.gov/qfd/states/06/0616350.html, accessed March 2014.*

[45] *393 acres of developed parkland – 554 acres of needed parkland = 161 acres of parkland deficit.*

[46] *The City of Corona Library and Recreation Services Website, Recently Completed, Current & Planned Projects, http://www.coronadwp.com/parkmaint/projects.shtml, accessed May 2014.*

[47] *Santa Ana River Trail Master Plan, Corona-Eastvale-Norco Segment State Route 71 to Hidden Valley Wildlife Area, prepared by The Dangermond Group, WRC Consulting, Inc., Michael Brandman Associates, and Kammeyer and Associates, dated June 2011 and the City of Corona Online Services Website, Santa Ana River Trail Documents, http://www.discovercorona.com/City-Departments/Parks---Community-Services/Park-Development-(1)/Trail-Projects.aspx, accessed May 2014.*

[48] *City of Corona General Plan Technical Background Report, prepared by EIP Associates, adopted March 2004.*

prescribed mitigation measure, the proposed project's potentially significant impact related to park and recreational facilities would be reduced to less than significant.

(4) Schools

Threshold	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Schools?

Impact 4.L-4 *Implementation of the proposed project could result in substantial adverse physical impacts associated with the provision of new or physically altered government 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 schools. This impact is considered less than significant with mitigation incorporated.*

As described in the Existing Conditions section above, the project site would be served by the CNUSD within the attendance boundaries of the Adams Elementary School, Raney Intermediate School, and the Corona High School, approximately 1.50 miles north, two miles northeast, and 2.50 miles northeast of the project site, respectively. The proposed project would generate an additional 1,028 persons. Based upon the CNUSD student generation factors, the proposed project would generate approximately 88 elementary age students (grades K-6), 25 intermediate students (grades 7-8), and 43 high school students (grades 9-12) for a total of 156 students. A comparison of current and projected student enrollment to current capacity demonstrates that the CNUSD is still impacted at the intermediate school level but has some additional capacity to accommodate students from new residential development at both the elementary and high school levels.[49] The CNUSD cannot guarantee that the Adams Elementary School, Raney Intermediate School, and the Corona High School can or would continue to accept student enrollment. If these schools are at capacity and cannot accept students from the proposed project, the CNUSD would bus the students to the nearest schools with capacity.[50] Pursuant to SB 50, payment of fees to the CNUSD is considered full mitigation for project impacts, including impacts related to the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts (Mitigation Measure PS-6). With implementation of the prescribed mitigation measure, impacts to schools would be less than significant.

(5) Other Public Facilities

Threshold	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered governmental facilities, the construction of which would cause significant

[49] *Corona-Norco Unified School District School Facilities Needs Analysis, December 2012.*

[50] *Nancy Baker, Facilities Supervisor, Corona-Norco Unified School District, Letter Correspondence, dated March 13, 2014.*

	environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Libraries?

Impact 4.L-5 *Implementation of the proposed project could result in substantial adverse physical impacts associated with the provision of new or physically altered government 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 library services. This impact is considered less than significant with mitigation incorporated.*

The proposed project would generate an additional 1,028 persons.[51] Due to this incremental increase of population, when compared to the City's population of approximately 158,391 people, the impact on library services is anticipated to be minimal and would not affect the CPL's ability to provide library services. As described above in the Existing Conditions section, the project site is located within approximately 2.84 miles of the CPL. The proposed project would not be expected to affect the CPL. To ensure that the library services are not eroded by future development, prior to the issuance of a building permit for the construction of the proposed project, the project Applicant shall pay the required service and development fees pursuant to the Section 16.23.080 of the CMC and in the City's Library Facility and Collection section of the Master Facility Plan to the City for the public improvements and facilities associated with the CPL (Mitigation Measure PS-7). These fees would be utilized to fund additional services and improvements that may be required to provide adequate library services to the project area. With implementation of the prescribed mitigation measure, impacts to library services and facilities would be less than significant.

(6) Consistency With Regulatory Framework

Threshold	Would the project conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan and municipal code) adopted for the purpose of avoiding or mitigating an environmental effect?

Impact 4.L-6 *Implementation of the proposed project could conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the General Plan and Municipal Code). This impact is considered less than significant with mitigation incorporated.*

(a) California Fire Code ("CFC")

As noted previously, specific CBC regulations have been incorporated by reference in the Municipal Code. Chapter 7 of the CBC, regarding the use of fire-resistant building materials, fire suppression systems, and other fire safety elements related to the design and construction of new buildings, and Chapter 9 of the CBC regarding fire protection systems, are incorporated by reference in the Municipal Code. As these regulations for fire safety have been incorporated into the City's building code, and would therefore be incorporated into

[51] *The average household size for the City of Corona is 3.52 persons/household per the U.S. Census Bureau, http://quickfacts.census.gov/qfd/states/06/0616350.html, accessed March 2014. 292 single family homes X 3.52 persons = 1,028 persons.*

future developments on-site that are subject to review by the City, the proposed project would be consistent with the CFC and impacts would be less than significant.

(b) Quimby Act

The proposed project would be required to pay development fees to fund public facilities within the City, which at the discretion of the City, can include park facilities. As such, the proposed project would be consistent with the Quimby Act and impacts would be less than significant in this regard.

(c) California Education Code ("CEC") and Senate Bill 50 ("SB 50")

The proposed project would be subject to the requirements of the California Education Code ("CEC") and SB 50 regarding the provision and funding of necessary school facilities within school district boundaries. As the proposed project would pay requisite fees for all future development projects on-site, it would not conflict with the CEC or SB 50 and impacts would be less than significant.

(d) City of Corona Municipal Code

Future development of on-site uses would be subject to all applicable requirements of the Municipal Code, including those related to fire safety, lighting, emergency vehicle access, and parkland standards, which are intended to minimize demands on fire, emergency medical, law enforcement services, and parkland within the City. Future development would also be subject to pay all applicable development fees for the public improvements and facilities associated with public services. As the proposed project would comply with applicable provisions of the Municipal Code, impacts would be less than significant with regard to public services.

(e) City of Corona General Plan

The City's General Plan contains a number of goals and policies that are relevant to public services, including goals and policies contained Chapter 4 – Infrastructure and Public Services. As discussed below in **Table 4.L-3**, *General Plan Consistency Analysis*, the proposed project would not conflict with the applicable goals and policies of the City of Corona General Plan. As such, impacts would be less than significant.

Table 4.L-3

General Plan Consistency Analysis

Applicable Goals/Policies	Project Consistency Statement
Infrastructure and Public Services – Police and Fire Services	
Policy 9.1.3 – Assess the impacts of incremental increases in community development density and intensity and subsequent impacts on traffic congestion, municipal infrastructure capacity, and emergency response times. Ensure through the design review process that new development and re-development will not result in a reduction of law enforcement services below acceptable, safe levels.	**Consistent.** Police staffing is always under review and evaluated in order to maintain the sworn officers to population ratio, maintaining an emergency response within five minutes or less, and retaining adequate officer availability. Currently, the CPD's goal for emergency response times is met. Upon project implementation, response times to the project site should be within the Zone 4 response time goals. Further, the planned extension of Foothill Boulevard to the west side of the City is anticipated to enhance the flow of traffic creating

Table 4.L-3 (Continued)

General Plan Consistency Analysis

Applicable Goals/Policies	Project Consistency Statement
	increased access and response of police units to the entire area. As described in the Project Design Features section above, the proposed project provides development standards regulating vehicular circulation including emergency vehicle access.
Policy 9.1.5 – Require development projects to contribute fees based on their proportional impact and demand for police services.	**Consistent.** The proposed project would contribute fees per City requirements (refer to Mitigation Measure PS-4).
Policy 9.2.3 – Extend water distribution pipes to maintain and improve fire water flows.	**Consistent.** Water infrastructure within the project area would be constructed and improved as necessary to meet the minimum fire flow requirements (1,500 gpm at 20 psi for two hours) of the CFD. The ability of the water service provider to provide water supply to the project site is further discussed in Section 4.N, *Utilities and Service Systems*, of this Draft EIR.
Policy 9.2.4 – Assess the impacts of incremental increases in community development density and intensity and subsequent impacts on traffic congestion, municipal infrastructure capacity, fire hazards, and emergency response times. Ensure through the design review process that new development and re-development will not result in a reduction of fire protection services below acceptable, safe levels.	**Consistent.** As required by the CFD, the project Applicant shall obtain CFD review and approval of the site plan, fuel modification plan, and project design features including, but not limited to roadways designed to meet or exceed minimum fire and emergency access requirements including ingress/egress; minimum driveway and fire lane width of 28 feet; minimum turning radii of 25 feet inside and 50 feet outside; grades not to exceed ten percent; adequate on-site space to park CFD apparatus; fire hydrant sizing, spacing minimum of 300 feet, and fire hydrant locations; fire protection systems including automatic fire sprinkler systems and fire alarms installed in each residence; minimum availability of firefighting water flow of 1,500 gpm at 20 psi for two hours; and building materials compliant with the CBC Chapter 7A, Materials and Construction Methods for Exterior Wildlife Exposure (Mitigation Measure PS-1). As described in the Project Design Features section above, water infrastructure within the project area would be constructed and improved as necessary to meet the minimum fire flow requirements of the CFD.
Policy 9.2.5 – Require development projects to contribute fees based on their proportional impact and demand for fire services.	**Consistent.** The proposed project would contribute fees per City requirements (refer to Mitigation Measure PS-2).
Goal 9.4 – Require that all existing and new development/redevelopment address provision of police and fire protection in an active and preventative manner.	**Consistent.** Refer to response Policy 9.1.3 and Policy 9.2.4.
Policy 9.4.1 – Require adequate access for emergency vehicles, including adequate street widths and vertical clearance on new streets.	**Consistent.** Refer to response Policy 9.1.3 and Policy 9.2.4.
Policy 9.4.2 – Require all new commercial, industrial, institutional, multiple-unit residential and mixed-use developments to install fire protection systems and encourage the use of automatic sprinkler systems where not otherwise required by existing codes and ordinances.	**Consistent.** Refer to response Policy 9.2.4.

Table 4.L-3 (Continued)

General Plan Consistency Analysis

Applicable Goals/Policies	Project Consistency Statement
Policy 9.4.3 – Request, wherever appropriate, that all existing development install and maintain fire protection devices including automatic sprinkler systems.	**Consistent.** Refer to response Policy 9.2.4.
Policy 9.4.4 – Require all existing and new development to install and maintain adequate smoke detection and carbon monoxide detection systems, in accordance with State statutory requirements.	**Consistent.** Refer to response Policy 9.2.4.
Policy 9.4.5 – Require, through the development review process, that all structures and facilities conform to Federal, State and City regulatory standards and applicable safety guidelines.	**Consistent.** The proposed project would comply with all Federal, State and City regulatory standards and applicable safety guidelines.
Policy 9.4.7 – Require all new development projects to incorporate adequate egress systems in their design as well as encourage existing structures to upgrade their egress systems.	**Consistent.** Refer to response Policy 9.2.4.
Policy 9.4.8 – Provide an adequate level of water-related infrastructure in development for use in the event of a fire.	**Consistent.** Refer to Policy 9.2.3 and Policy 9.2.4.
Policy 9.5.3 – Require that landscaping proposed proximate to commercial, industrial, multiple-family, institutional, and public structures be designed and sited to facilitate safety and security surveillance.	**Consistent.** Project design would landscape the project site with low-growing groundcover and shade trees, rather than a predominance of shrubs that could conceal potential criminal activity around buildings and parking areas.
Policy 9.5.4 – Develop methods through design, enforcement, and engineering to reduce auto pedestrian accidents.	**Consistent.** Refer to response Policy 9.1.3 and Policy 9.2.4.
Goal 9.6 – Address fire prevention measures on open space land to reduce the risk of wildland fires.	**Consistent.** Refer to Policy 9.2.3 and Policy 9.2.4. Section 4.G, *Hazards and Hazardous Materials*, discusses the potential for impacts associated with wildland fires. Section 4.G provides a detailed discussion of the fuel modification zones proposed by the project, each of which would be designed specifically to help suppress a wildland fire in different ways. As discussed in Section 4.G, with implementation of the project design features and prescribed mitigation measures relating to fire prevention, any significant risk of loss, injury or death involving wildland fires, would be minimized to the maximum extent feasible. As importantly, because the existing project site is not maintained as a fuel modification area and consists of uncontrolled wild land vegetation, existing single-family residences to the north, northeast, and east of the project site would gain increased protection from the spread of fire. As such, the proposed project would reduce the threat of wildland fires to people and structures in the project vicinity and thus, reduce the demand for fire services needed in the event of a wildland fire. In addition, in the event of a wildland fire in the project vicinity, the CFD has automatic aid agreements with all fire agencies in State.

Table 4.L-3 (Continued)

General Plan Consistency Analysis

Applicable Goals/Policies	Project Consistency Statement
Infrastructure and Public Services – Parks, Schools, & Libraries	
Goal 8.2 – Provide an appropriate range of active and passive parkland facilities to meet park acreage standards and to meet the recreational needs of Corona's population.	**Consistent.** The proposed project would contribute fees per City requirements (refer to Mitigation Measure PS-5) to fund City park maintenance and improvement programs.
Policy 8.2.1 – Establish and maintain a standard of 4 acres of parkland per 1,000 residents in the City. Specific standards are as follows: 2.0 acres/1,000 for community parks; 2.0 acres/1,000 for (a combination of) neighborhood, major, and special use parkland.	**Consistent.** Refer to response Goal 8.2.
Policy 8.3.1 – Require developers of new residential developments of five or more dwelling units to provide on-site recreational or open space amenities and/or a contribute fees for the development citywide public recreation facilities meeting demands generated by the development's resident population. Where there are insufficient lands to provide on-site recreational/open space amenities, the developer will be required to provide the City of Corona with cash-in-lieu that would be used to develop or upgrade nearby recreation facilities and offset user demand.	**Consistent**. The proposed project is not proposing new park or recreational facilities. The City collects a park impact fee for residential projects which is used to fund the City's park maintenance and improvement program. Thus, to mitigate the Project's potentially significant impact and to ensure that the provision of parks and recreational services and facilities are not eroded by future development, the project Applicant shall comply with Municipal Code Chapter 16.35, Park Dedication and In Lieu Fees. The City's tentative map review authority shall determine whether land dedication, an in lieu fee, or a combination of the two shall be required in conjunction with its approval of a tentative map (Mitigation Measure PS-5).
Policy 8.4.1 – Continue to implement the Quimby Act and to provide credits to acquire land donations and/or community recreational facilities.	**Consistent.** Refer to response Goal 8.2.
Policy 8.4.2 – Acquire parkland, community centers, and aquatic facilities through such financial means as the Capital Budget process, scheduling of Quimby Act funds, Citywide development impact fees, and grants.	**Consistent.** Refer to response Goal 8.2.
Policy 8.14.4 – Require that residential development pay fees to school districts for the acquisition of school sites.	**Consistent.** The proposed project would contribute fees per City requirements (refer to Mitigation Measure PS-6).
Policy 8.18.2 – Continue to utilize city-collected, library specific impact fees for the development of new and maintenance of existing library facilities.	**Consistent.** The proposed project would contribute fees per City requirements (refer to Mitigation Measure PS-7).

Sources: City of Corona General Plan, prepared by EIP Associates, adopted March 17, 2004; PCR Services Corporation, 2014.

3. CUMULATIVE IMPACTS

(1) Fire Protection and Emergency Medical Services

The proposed project, in combination with other cumulative projects would increase the population and introduce structures that would create increased demand for fire protection and emergency medical services in the City. This cumulative demand for fire protection and emergency medical services would require

additional personnel and resources within the CFD to provide adequate service levels and to maintain existing response times. Individual developments are required to comply with pertinent provisions and standard conditions of the CFC, the CMC/Fire Code, and the CFD to minimize the potential for fire hazards, to promote fire safety, and to facilitate emergency response. Cumulative projects would be required to pay the required service and development fees for public improvements and facilities associated with the CFD. As such, with implementation of applicable mitigation measures, compliance with the CFC, the CMC/Fire Code, and the CFD, and required payment of fees, cumulative impacts would be less than significant and the project's contribution to such impacts would not be considerable.

(2) Police Protection and Law Enforcement Services

The proposed project, in combination with other cumulative projects would increase the population and introduce structures that would generate an increased demand for police protection and law enforcement services in the City. Annual evaluation of police protection services by the City would determine the adequacy of police protection and law enforcement services and the necessary resources to meet the public safety needs. Individual cumulative projects would be subject to review by the CPD to determine ways to reduce the potential for crime incidences and demand for police protection and law enforcement services. Cumulative projects would be required to pay the required service and development fees for public improvements and facilities associated with the CPD. As such, with implementation of applicable mitigation measures and required payment of fees, combined with review/approval by the CPD, cumulative impacts would be less than significant and the project's contribution to such impacts would not be considerable.

(3) Parks and Recreational Services

Deterioration of recreational facilities and resources within the local project vicinity as a result of local and regional population growth would be repaired and replaced with funding such as in-lieu fees for parks or donations of parkland pursuant to the Municipal Code (Chapter 16.35). Individual development projects would be reviewed to determine their potential impact on recreational facilities and resources. The actual parkland dedication calculations and credit determinations would be based on the subdivision maps submitted for each residential development among the cumulative projects. As such, with implementation of applicable mitigation measures and the required payment of the Park Dedication and Fees Ordinance, cumulative impacts would be less than significant and the project's contribution to such impacts would not be considerable.

(4) Schools

The proposed project, in conjunction with other cumulative projects would have indirect impacts to school facilities and services. Cumulative impacts on schools would be mitigated through the school facility improvements or payment of fees in accordance with SB 50 on a project-by-project basis. As such, cumulative impacts would be less than significant and the project's contribution to such impacts would not be considerable.

(5) Library Services

The proposed project, in combination with other cumulative projects would increase the demand for library services. Cumulative projects would be required to pay the service and development fees for public improvements and facilities associated with the CPL system. As such, with implementation of applicable

mitigation measures and required payment of fees, cumulative impacts would be less than significant and the project's contribution to such impacts would not be considerable.

4. MITIGATION MEASURES

The following mitigation measures provided are applicable to the proposed project and would be implemented, as necessary, to ensure that impacts related to public services are less than significant.

a. Fire Protection

Refer to Mitigation Measures HAZ-1 and HAZ-2 in Section 4.7, *Hazards and Hazardous Materials*, regarding wildland fire hazards and Mitigation Measures UTIL-1 through UTIL-5 in Section 4.M, *Utilities and Service Systems*, related to utilities and infrastructure. The following mitigation measures are also prescribed.

Mitigation Measure PS-1: Prior to issuance of building permits, the project Applicant shall obtain CFD review and approval of the site plan, fuel modification plan, and project design features including, but not limited to roadway design to meet or exceed minimum fire and emergency access requirements including ingress/egress; driveway and fire lane width; turning radii inside and outside; grades/elevations; adequate on-site space to park CFD apparatus; fire hydrant sizing, spacing and locations; fire protection systems including automatic fire sprinkler systems and fire alarms installed in each residence; availability of adequate firefighting water flow; and approved building materials.

Mitigation Measure PS-2: Prior to the issuance of building permits, the project Applicant shall pay the required service and development fees pursuant to the "Fire Facilities Fund" as amended in Chapter 3.36 of the CMC to the City of Corona for the public improvements and facilities associated with the CFD.

b. Police Protection and Law Enforcement Services

Mitigation Measure PS-3: Prior to the issuance of building permits, the project Applicant shall reserve a portion of the project site for a future radio facility site, the specific size and location of which is subject to review and approval of CPD.

Mitigation Measure PS-4: Prior to the issuance of building permits, the project Applicant shall pay the required service and development fees to the City of Corona for the public improvements and facilities associated with the CPD.

c. Parks and Recreational Services

Mitigation Measure PS-5: Prior to the issuance of building permits, the project Applicant shall comply with the City of Corona Municipal Code (Chapter 16.35, Park Dedication and In Lieu Fees). The City's subdivision map review authority shall determine whether land dedication, an in lieu fee, or a combination of the two shall be required in conjunction with its approval of a subdivision map.

d. Schools

Mitigation Measure PS-6: Pursuant to Section 65995 of the California Government Code, the project Applicant shall pay the required SB 50 mitigation fees to the CNUSD.

e. Libraries

Mitigation Measure PS-7: Prior to the issuance of a building permit for the construction of the proposed project, the project Applicant shall pay the required service and development fees pursuant to the Section 16.23.080 of the CMC and in the City's Library Facility and Collection section of the Master Facility Plan to the City of Corona for the public improvements and facilities associated with the CPL.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the recommended mitigation measures and payment of applicable development fees would ensure that impacts related to public services are less than significant.

4. ENVIRONMENTAL IMPACT ANALYSIS
M. TRANSPORTATION

INTRODUCTION

This section provides an analysis of potential impacts associated with construction and operational traffic on roadway intersections and street segments. The section also addresses site access and circulation as well as project consistency with transportation plans and other relevant plans, policies, and regulations. Information for this analysis is based on a Traffic Impact Analysis (TIA) dated July 2013 prepared for the proposed project by Linscott, Law & Greenspan, Engineers (LLG). The TIA is provided in Appendix K of this EIR.

1. ENVIRONMENTAL SETTING

The site is located approximately three miles south of the Chino Valley Freeway (SR 7l) and the Riverside Freeway (SR 91) and approximately four miles west of Interstate 15 (I-15). Regional access to the site is provided by the SR 91. The site is located near the terminus of the Foothill Parkway and the Foothill Parkway Westerly Extension would run through the site. **Table 4.M-1,** *Summary of Characteristics of the Existing Street Network in the Site Vicinity,* summarizes the characteristics of streets within the vicinity of the site.

a. Existing Roadway System

(1) Streets

Figure 4.M-1, *Study Intersections and Roadway Segments*, shows the street network within the vicinity of the site and identifies the study intersections and roadway segments within the study area. Table 4.M-1, *Summary of Characteristics of the Existing Street Network in the Site Vicinity,* summarizes the characteristics of streets within the vicinity of the site.

(2) Study Intersections and Roadway Segments

The 11 existing intersections and three (3) future study intersections and the 11 roadway segments evaluated in the TIA are listed in **Table 4.M-2**, *Study Intersections and Roadway Segments*. The lane geometrics of the study intersections are shown in **Figure 4.M-2**, *Existing Roadway Conditions and Intersection Controls*. The study intersections were designated for evaluation based on City of Corona TIA criteria and discussions with City staff. The roadway segments were selected based on the arterial network within the study area and discussions with City staff.

(3) Existing Public Transit

The study area is served by the Riverside Transit Agency (RTA) and the City of Corona Transit Service (CCTS) Corona Cruiser. No RTA routes traverse any study intersections analyzed in the TIA. The Corona Cruiser runs along pre-designated Blue Line and Red Line fixed routes. The Red Line route begins at

Table 4.M-1

Summary of Characteristics of the Existing Street Network in the Site Vicinity

Street	Circulation Element Designation	Direction of Roadway	No. of Lanes	Traffic Control	Speed Limit	Bike Lane	Parking
Serfas Club Drive	Major Arterial (4-lanes)	North-South	4-lane, undivided roadway north of Palisades Dr.; 4-lane, divided roadway south of Palisades Dr.		35 mph north of Palisades Dr.; 40 mph south of Palisades Dr.	Class II Bike Lane	Permitted on both sides within vicinity of site
Paseo Grande	Collector	Northeast-Southwest	2-lane, undivided roadway	Intersection of Paseo Grande/Green River Rd. is currently uncontrolled; planned to be signalized with the Foothill Parkway Extension	40 mph		Not permitted on either side within the site vicinity
Border Avenue	Collector	Northeast-Southwest	2-lane, divided roadway	Intersection of Border Ave./Ontario Ave. is currently uncontrolled	35 mph		Permitted on the north side of the roadway/restricted on the south side of the roadway, within the site vicinity
Via Pacifica	Secondary Arterial	North-South	4-lane, divided roadway; south of Ontario Ave. 2-lane undivided roadway		40 mph north of Ontario Ave.; 25 mph south of Ontario Ave.		Not permitted north of Ontario Ave.; Permitted south of Ontario Ave.

Table 4.M-1 (Continued)

Summary of Characteristics of the Existing Street Network in the Site Vicinity

Street	Circulation Element Designation	Direction of Roadway	No. of Lanes	Traffic Control	Speed Limit	Bike Lane	Parking
Lincoln Avenue	Major Arterial south of Ontario Ave.; Secondary Arterial north of Ontario Ave.	North-South	4-lane, divided roadway	Intersections of Lincoln Ave./Ontario Ave. and Lincoln Ave./Foothill Parkway are controlled by an 8-phase traffic signal	40 mph north of Ontario Ave.; 45 mph south of Ontario Ave.		Permitted on east side/restricted on west side north of Ontario Ave.; not permitted on either side south of Ontario Ave.
Green River Road	Major Arterial (6-lanes) west of Palisades Dr.; Major Arterial (4-Lanes) east of Palisades Dr.	East-West/Southeast-Northwest	4-lane, divided roadway		45 mph		Not permitted on either side within the site vicinity
Ontario Avenue	Collector west of Mangular Ave. and a Major Arterial east of Mangular Ave.	East-West	4-lane, divided roadway; 2-lane, divided roadway west of Avenida Del Vista; 2-lane, undivided roadway between Avenida Del Vista and Border Ave.;2-lane, divided roadway between Border Ave. and Via Pacifica		25 mph west of Border Ave.; 35 mph between Border Ave. and Via Pacifica; 45 mph east of Via Pacifica		Permitted on both sides of roadway west of Border Ave.; not permitted on either side of roadway east of Border Ave.

Table 4.M-1 (Continued)

Summary of Characteristics of the Existing Street Network in the Site Vicinity

Street	Circulation Element Designation	Direction of Roadway	No. of Lanes	Traffic Control	Speed Limit	Bike Lane	Parking
Mesquite Lane			2-lane, undivided residential roadway		25 mph		Permitted on both sides within site vicinity
Emerson Drive			2-lane, undivided residential roadway		25 mph		Permitted on both sides within site vicinity
Peacock Lane			2-lane, undivided residential roadway		25 mph		Permitted on both sides within site vicinity
Trudy Way			2-lane, undivided residential roadway		25 mph		Permitted on both sides within site vicinity
Elvsia Street			2-lane, undivided residential roadway		25 mph		Permitted on both sides within site vicinity
Foothill Parkway[a]	Secondary Arterial	East-West	4-lane, divided roadway		45 mph		Not permitted on either side within site vicinity

[a] *Currently extends from Trudy Way in the west to the eastern City limits of Corona. Foothill Parkway will be extended from Trudy Way to adjoin with Green River Road at Paseo Grande with the Foothill Parkway Extension Project. Roadway improvements are expected to be completed by 2017.*

Source: PCR Services Corporation, 2014

PCR

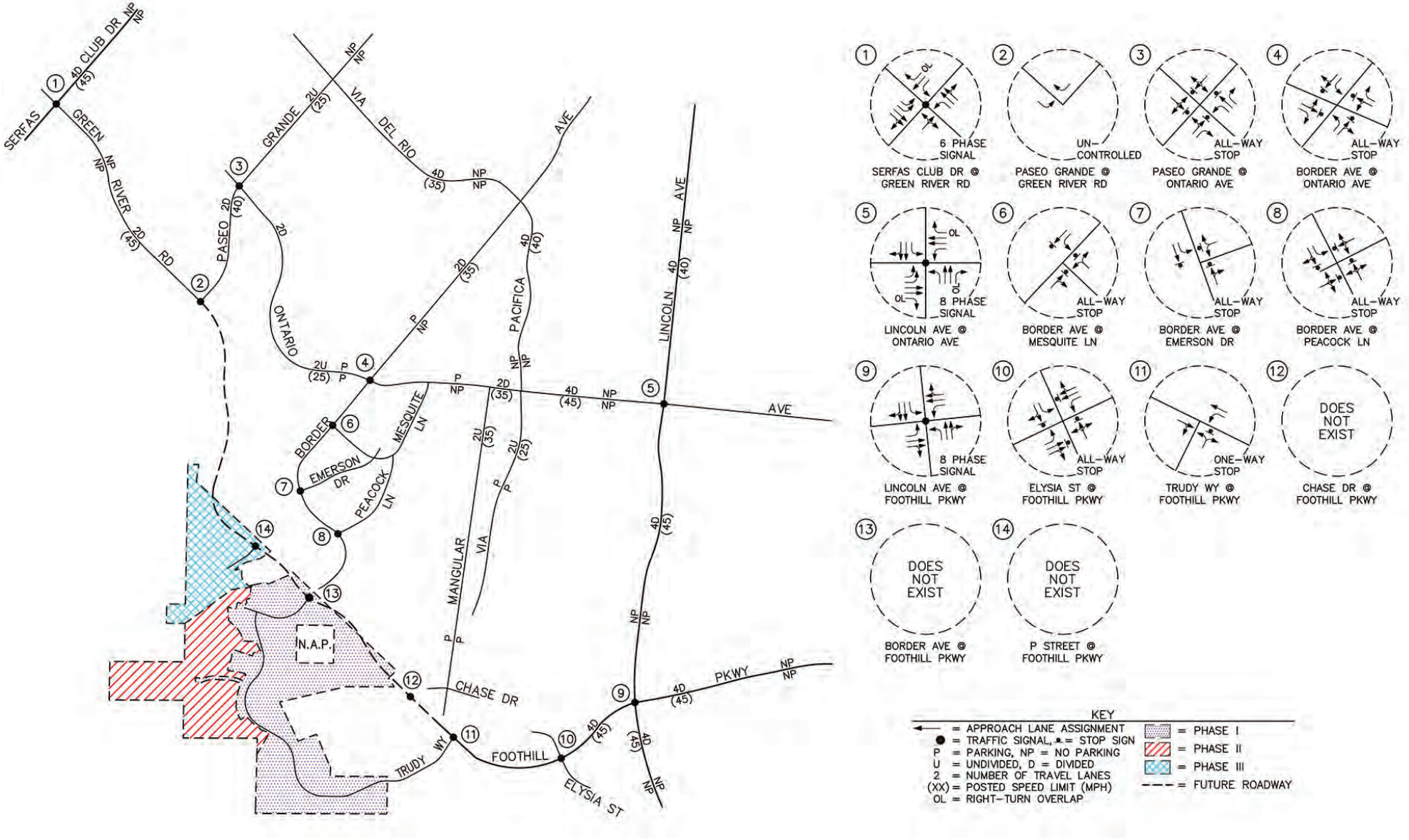
Study Intersections and Roadway Segments

Skyline Heights Project

Source: Linscott, Law & Greenspan Engineers, 2013.

FIGURE

4.M-1



PCR

N

Existing Roadway Conditions and Intersection Controls

Skyline Heights Project

Source: Linscott, Law & Greenspan Engineers, 2013.

FIGURE

4.M-2

Table 4.M-2

Study Intersections and Roadway Segments

Intersections
1. Serfas Club Drive at Green River Road
2. Paseo Grande at Green River Road
3. Paseo Grande at Ontario Avenue
4. Border Avenue at Ontario Avenue
5. Lincoln Avenue at Ontario Avenue
6. Border Avenue at Mesquite Lane
7. Border Avenue at Emerson Drive
8. Border Avenue at Peacock Lane
9. Lincoln Avenue at Foothill Parkway
10. Elvsia Street at Foothill Parkway
11. Trudy Way at Foothill Parkway
12. Chase Drive at Foothill Parkway [Future]
13. Border Avenue/B Street at Foothill Parkway [Future]
14. P Street at Foothill Parkway [Future]

Roadway Segments
1. Green River Road between Serfas Club Drive and Paseo Grande
2. Paseo Grande between Ontario Avenue and Green River Road
3. Ontario Avenue between Paseo Grande and Border Avenue
4. Border Avenue between Via Pacifica and Ontario Avenue
5. Ontario Avenue between Border Avenue and Via Pacifica
6. Ontario Avenue between Via Pacifica and Lincoln Avenue
7. Lincoln Avenue between Citron Street and Ontario Avenue
8. Border Avenue between Ontario Avenue and Foothill Parkway
9. Lincoln Avenue between Ontario Avenue and Foothill Parkway
10. Foothill Parkway between Elysia Street and Lincoln Avenue
11. Foothill Parkway between Lincoln Avenue and Highgrove Street

Source: LLG, 2013; PCR Services Corporation, 2014

California Avenue and Ontario Avenue and ends at the Metrolink West Corona station. The route does not traverse any study intersections analyzed in this report.

b. Existing Traffic Conditions

(1) Existing Traffic Volumes

Traffic counts were collected in February 2013 for the study intersection and roadway segment evaluated in the TIA. **Figure 4.M-3**, *Existing A.M. Peak Hour Traffic Volumes*, and **Figure 4.M-4**, *Existing P.M. Peak Hour Traffic Volumes*, shows the existing A.M. and P.M. peak hour traffic volumes, respectively, for the 11 existing study intersections.

Intersections

Street system operating conditions are typically described in terms of level of service (LOS). LOS is a qualitative measure used to indicate the quality of traffic flow on intersections and roadway segments, and ranges from LOS A (free flow, little congestion) to LOS F (forced flow, extreme congestion). In conformance with City of Corona requirements, A.M. and P.M. peak hour operating conditions for the study intersections were evaluated using the Highway Capacity Manual (HCM) operations method of analysis. LOS for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption and lost travel time. **Table 4.M-3**, *Level of Service Criteria For Signalized Intersections (HCM Methodology),* provides the LOS, control delay and a description of the performance rating scheme. For unsignalized intersections, LOS was determined using the HCM 2000 unsignalized methodology for stop-controlled intersections. **Table 4.M-4**, *Level of Service Criteria For Unsignalized Intersections (HCM Methodology),* provides the delay per vehicle and a description for each performance rating scheme.

Currently, two of the 11 study intersections operate at unacceptable levels of service during the P.M. peak hour when compared to the LOS thresholds. The remaining 9 study intersections currently operate at acceptable levels of service during the A.M. and P.M. peak hours. The intersections operating at adverse levels of service are:

- 3. Paseo Grande at Ontario Avenue: LOS E during the P.M. peak hour
- 4. Border Avenue at Ontario Avenue: LOS F during the P.M. peak hour

Roadway Segments

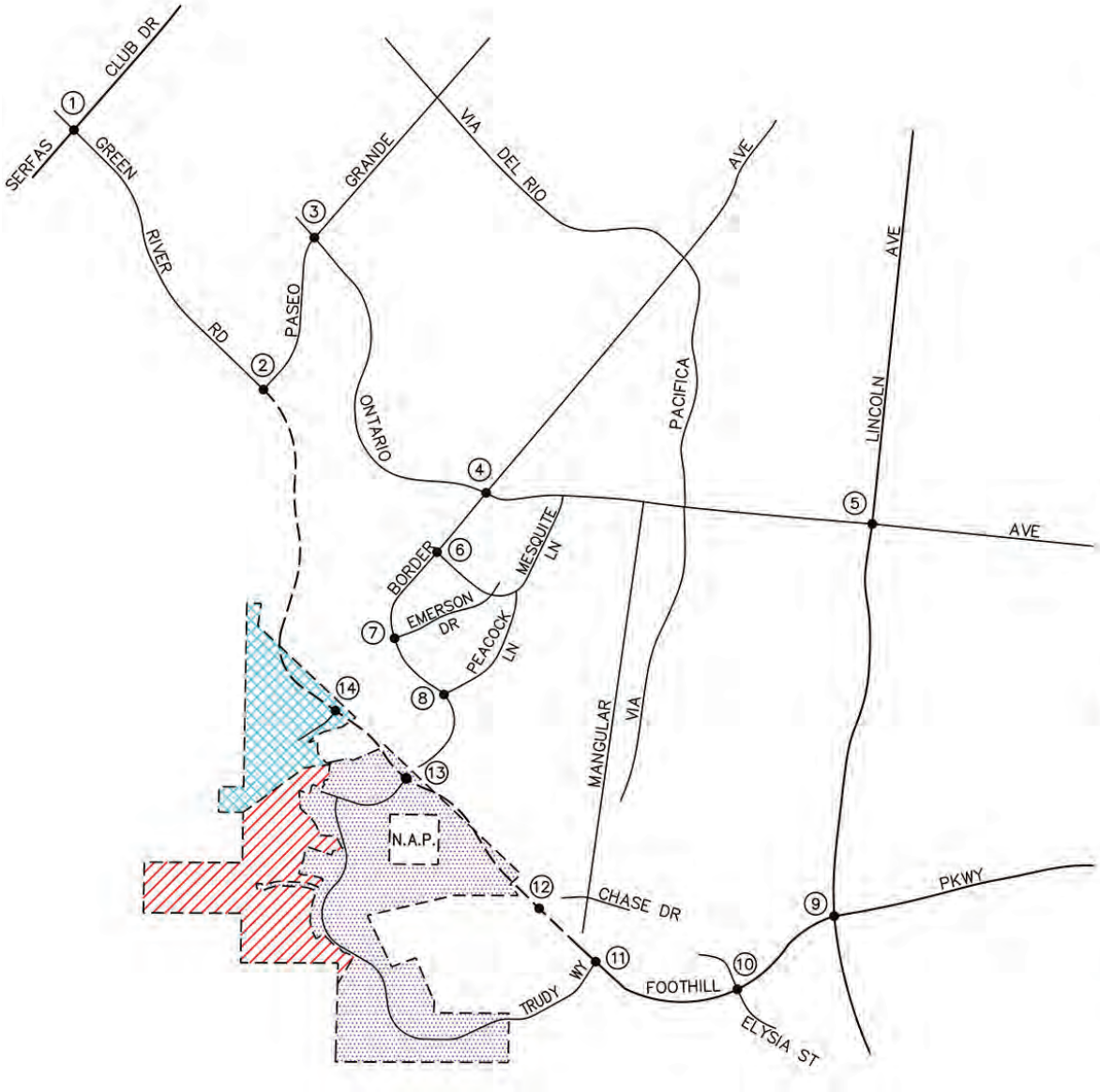
Figure 4.M-5, *Existing Daily Traffic Volumes*, presents the existing volumes of traffic on the study roadway segments. Daily operating conditions for the roadway segments are calculated according to the Volume to Capacity (V/C) ratio of each roadway segment. The V/C relationship is used to estimate the LOS of the roadway segment with the volume based on the 24-hour traffic volumes and the capacity based on the City's classification of each roadway. **Table 4.M-5**, *Level of Service Criteria For Roadway Segments (V/C Methodology),* shows the categories of level of service along with the corresponding V/C value range. (See subsection 2.a., Methodology, for a more detailed discussion regarding the methodology and subsection 2.b., Thresholds of Significance, for the criteria used in the TIA.)

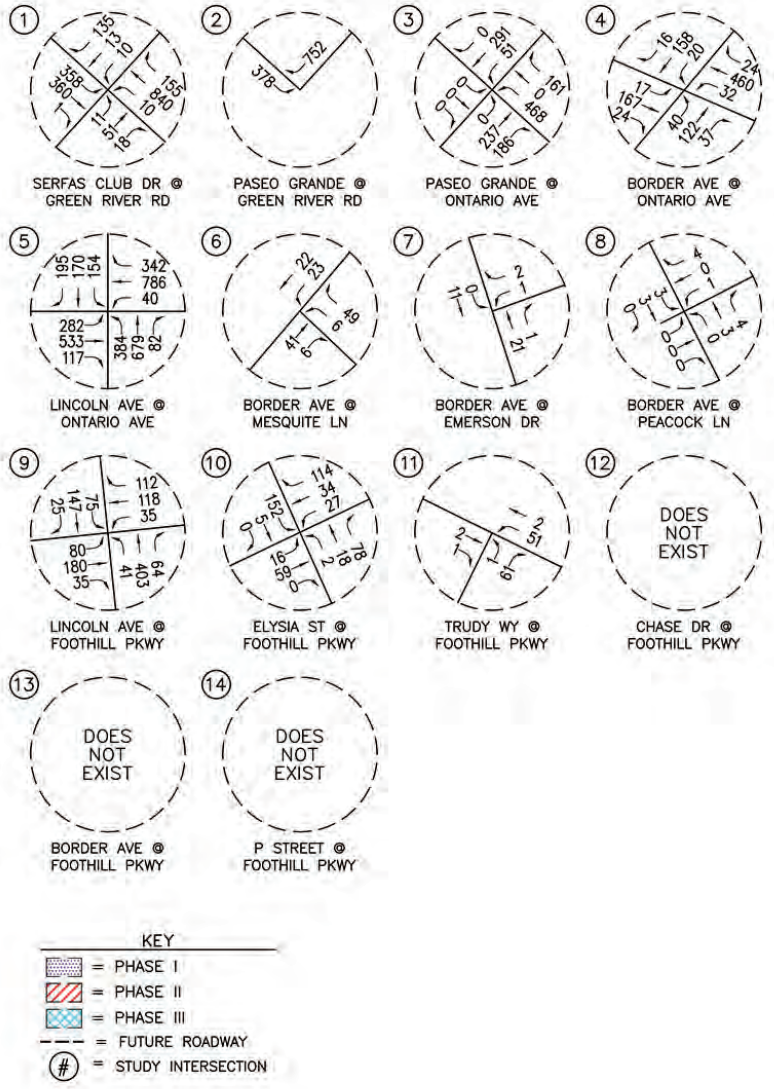
Currently, one of the 11 study roadway segments operate at unacceptable level of service on a daily basis when compared to the LOS standards. The remaining 10 study roadway segments currently operate at acceptable levels of service on a daily basis. The roadway segment operating at adverse level of service is:

- 4. Paseo Grande between Ontario Avenue and Green River Road: LOS E

c. Regulatory Framework

The City of Corona General Plan includes policies and goals that apply to traffic service levels and transportation infrastructure. A consistency analysis is provided in the Impact Analysis under Threshold 6; please see Table 4.M-10 below.





PCR

N

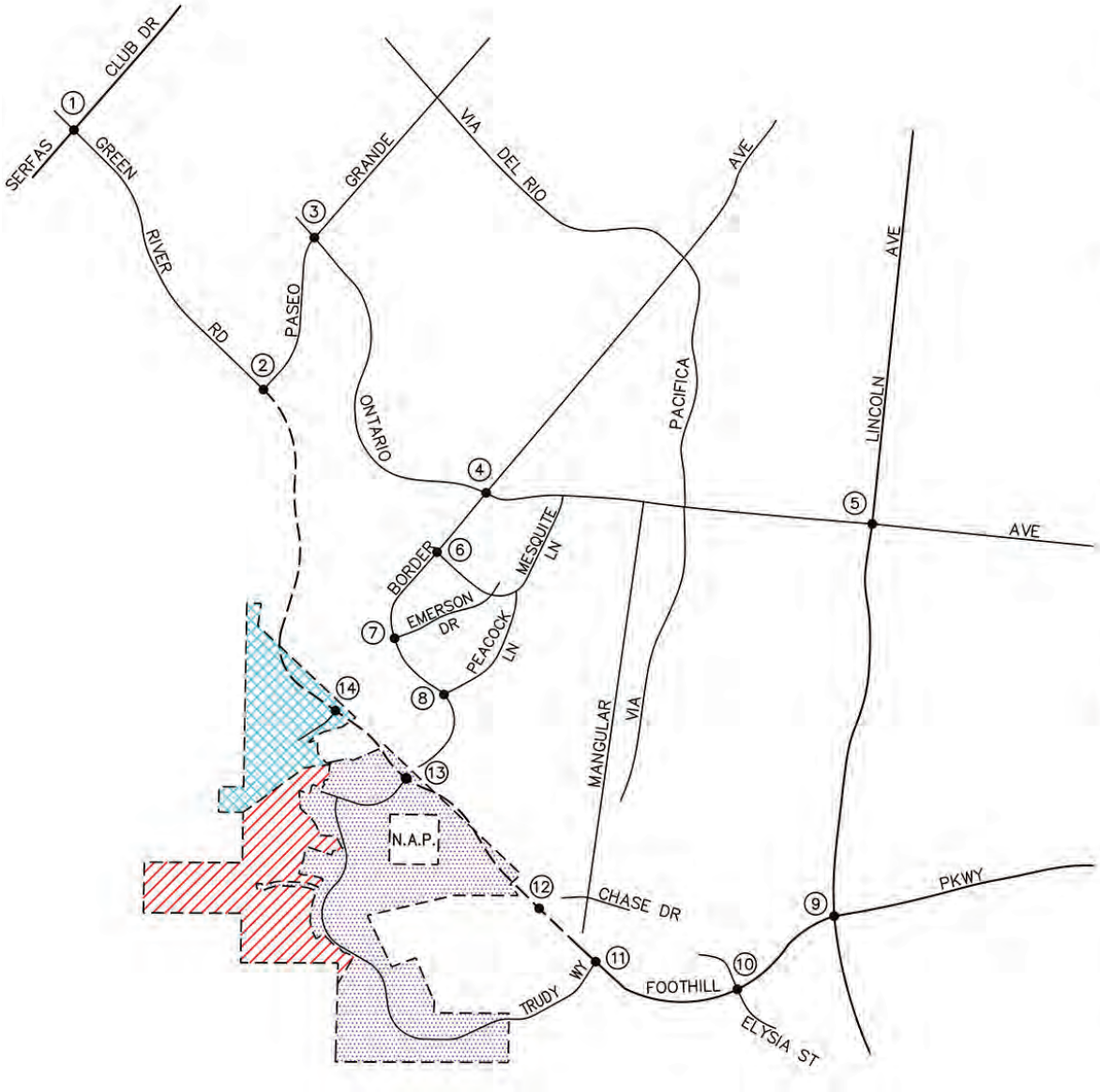
Existing AM Peak Hour Traffic Volumes

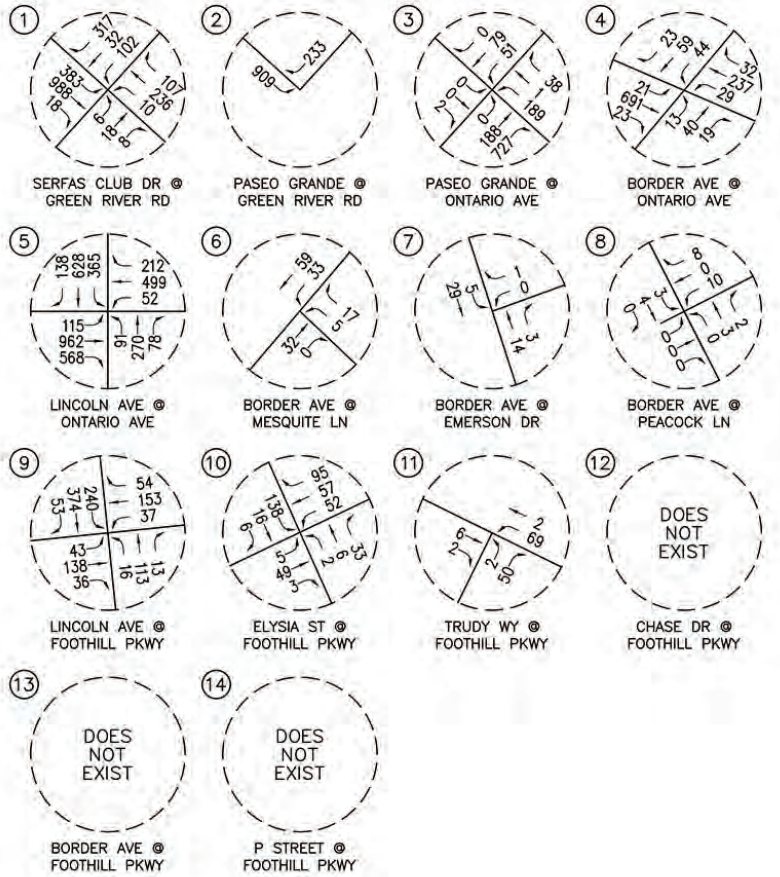
Skyline Heights Project

Source: Linscott, Law & Greenspan Engineers, 2013.

FIGURE

4.M-3





PCR

N

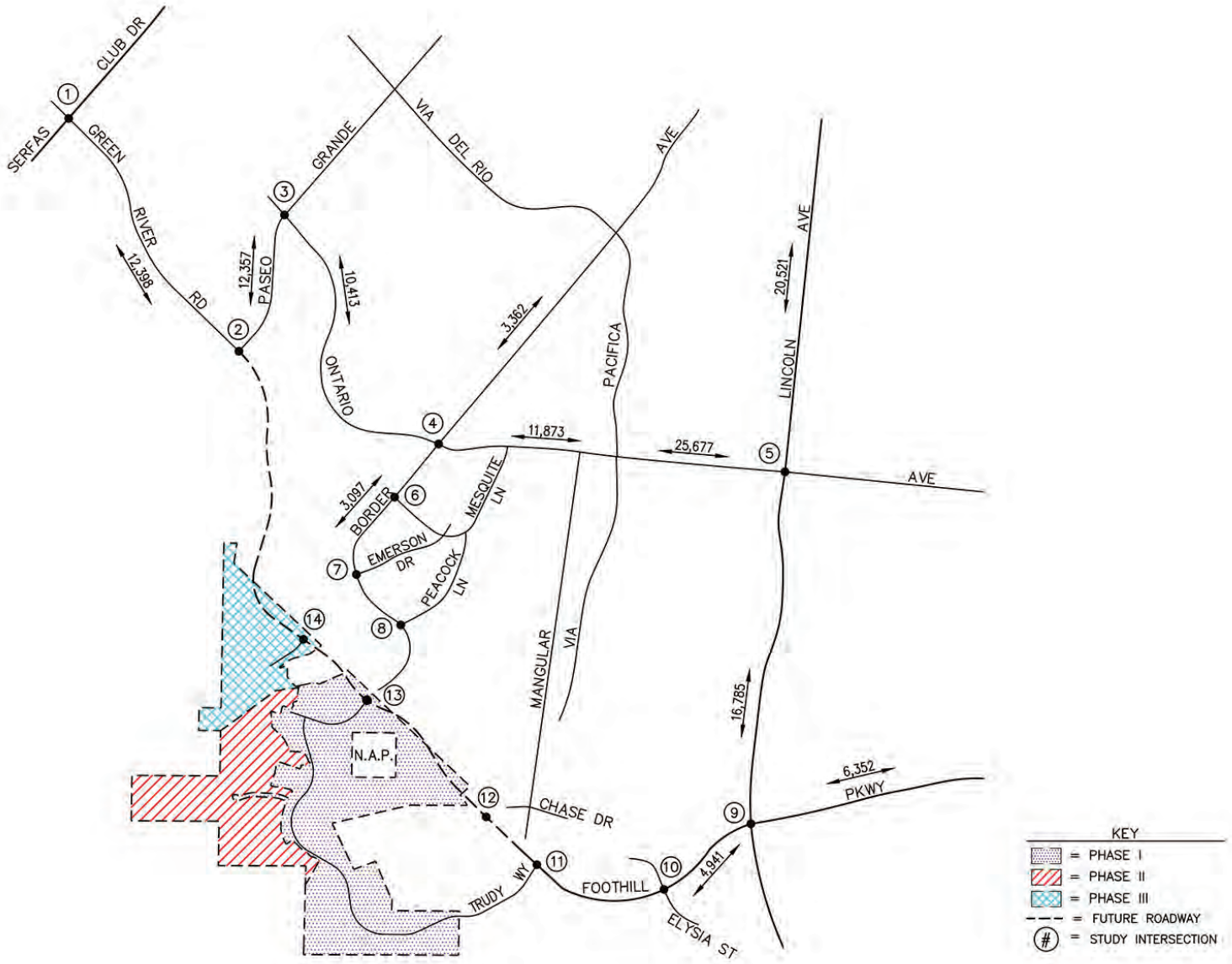
Existing PM Peak Hour Traffic Volumes

Skyline Heights Project

Source: Linscott, Law & Greenspan Engineers, 2013.

FIGURE

4.M-4



PCR

N

Existing Daily Traffic Volumes

Skyline Heights Project

Source: Linscott, Law & Greenspan Engineers, 2013.

FIGURE

4.M-5

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Table 4.M-3

Level of Service Criteria For Signalized Intersections (HCM Methodology)

Level of Service (LOS)	Control Delay Per Vehicle (seconds/vehicle)	Level of Service Description
A	≤ 10.0	This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	> 10.0 and ≤ 20.0	This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.
C	> 20.0 and ≤ 35.0	Average traffic delays. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	> 35.0 and ≤ 55.0	Long traffic delays. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high *v/c* ratios. Many vehicles stop and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	> 55.0 and ≤ 80.0	Very long traffic delays. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths and high *v/c* ratios. Individual cycle failures are frequent occurrences.
F	≥ 80.0	Severe congestion. This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high *v/c* ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.

Source: Highway Capacity Manual 2000, Chapter 16 (Signalized Intersections)

2. ENVIRONMENTAL IMPACTS

a. Methodology

The TIA, which is a multi-step process, was conducted in accordance with the City of Corona TIA criteria and discussions with City staff. After taking existing traffic counts, trip generation, which estimates the total arriving and departing traffic on a peak hour and daily basis. Next trip distribution, which identifies the origins and destinations of inbound and outbound project-generated trips, was determined. These origins

Table 4.M-4

Level of Service Criteria For Unsignalized Intersections (HCM Methodology)

Level of Service (LOS)	Highway Capacity Manual (HCM) Delay Per Vehicle (seconds/vehicle)	Level of Service Description
A	≤ 10.0	Little or no delay
B	> 10.0 and ≤ 15.0	Short traffic delays
C	> 15.0 and ≤ 25.0	Average traffic delays
D	> 25.0 and ≤ 35.0	Long traffic delays
E	> 35.0 and ≤ 50.0	Very long traffic delays
F	> 50.0	Severe congestion

Source: Highway Capacity Manual 2000, Chapter 17 (Unsignalized Intersections).

and destinations are typically based on demographics and existing/expected future travel patterns in the study area. The third step is traffic assignment, which involves the allocation of project-generated traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Trip distribution patterns are indicated by general percentage orientation, while trip assignment allocates specific volume forecasts to individual roadway segments and intersection turning movements throughout the study area. With the forecasting process complete and project-generated trip assignments developed, the impact of the project is isolated by comparing operational LOS conditions at study intersections using expected future traffic volumes with and without forecast project-generated traffic. The various components of the traffic analysis are discussed in more detail below.

(1) Study Timeframes

The HCM, Volume to Capacity (V/C) ratio and corresponding LOS calculations were performed at the study intersections and roadway segments for the following existing, near-term and long-term traffic scenarios:

A. Existing (Baseline) Conditions;

B. Existing (Baseline) With Project;

C. Scenario (B) with Recommended Improvements, if any;

D. Year 2020 Without Project;

E. Year 2020 With Project;

F. Scenario (E) with Recommended Improvements, if any;

G. Year 2035 Without Project;

H. Year 2035 With Project; and

I. Scenario (H) with Recommended Improvements, if any.

Table 4.M-5

Level of Service Criteria For Roadway Segments (V/C Methodology)

Level of Service (LOS)	Volume to Capacity Ratio (V/C)	Level of Service Description
A	≤ 0.600	**EXCELLENT**. Describes primarily free flow operations at average travel speeds, usually about 90% of the free flow speed for the arterial class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Stopped delay at signalized intersections is minimal.
B	0.601 – 0.700	**VERY GOOD**. Represents reasonably unimpeded operations at average travel speeds, usually about 70% of the free flow speed for the arterial class. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome. Drivers are not generally subjected to appreciable tension.
C	0.701 – 0.800	**GOOD**. Represents stable conditions; however, ability to maneuver and change lanes in mid-block location may be more restricted than in LOS B, and longer queues and/or adverse signal coordination may contribute to lower average travel speeds of about 50% of the average free flow speed for the arterial class. Motorists will experience appreciable tension while driving.
D	0.801 – 0.900	**FAIR**. Borders on a range in which small increases in flow may cause substantial increases in approach delay and, hence, decreases in arterial speed. This may be due to adverse signal progression, inappropriate signal timing, high volumes, or some combination of these. Average travel speeds are about 40% of free flow speed.
E	0.901 – 1.000	**POOR**. Characterized by significant approach delays and average travel speeds of one-third the free flow speed or lower. Such operations are caused by some combination of adverse progression, high signal density, extensive queuing at critical intersections, and inappropriate signal timing.
F	> 1.000	**FAILURE**. Characterizes arterial flow at extremely low speeds below one-third to one-quarter of the free flow speed. Intersection congestion is likely at critical signalized locations, with resultant high approach delays. Adverse progression is frequently a contributor to this condition.

LOS F applies whenever the flow rate exceeds the segment capacity.

Source: Transportation Research Board 2000.

(2) Future Intersection and Roadway Improvements

The Foothill Parkway currently extends approximately five miles in the southern portion of the City of Corona to Trudy Way. The Foothill Parkway Westerly Extension, which has been anticipated since the 1980s, would consist of two miles of new four-lane highway from Trudy Way to Paseo Grande at Green River Road connecting Sierra del Oro to south Corona. The extension of Foothill Parkway is expected to provide traffic congestion relief to existing east-west City roads, including Ontario Avenue and 6th Street. Connections to the new section of Foothill Parkway from both Border Avenue and Mangular Avenue, via Chase Drive, are part of the overall extension of the roadway. The Existing and Existing With Project scenarios do not assume the completion of the Foothill Parkway Westerly Extension, while the 2020 and 2035 scenarios assume the completion of the Foothill Parkway Westerly Extension.

For analysis purposes, various improvements have been assumed in the different scenarios. The Existing With Project scenario assumes that the planned improvements described below for the three affected intersections would be implemented as part of the development of the proposed residential project, since the Foothill Parkway Westerly Extension is not assumed in the Existing With Project scenario:

- Intersection 11 – Trudy Way at Foothill Parkway: Widen and/or restripe Foothill Parkway to provide a second eastbound through lane and a second westbound through lane.
- Intersection 13 – Border Avenue/"B" Street at Foothill Parkway: Install a traffic signal and design for six-phase operation. Construct the south leg of "B" Street at this intersection and provide a shared northbound left-through-right turn lane. Construct the north leg of Border Avenue at this intersection and provide an exclusive southbound left-turn lane and a shared southbound through-right turn-lane. Construct the west leg of Foothill Parkway at this intersection and provide an exclusive eastbound left-turn lane, an eastbound through lane and a shared eastbound through right turn-lane. Construct the east leg of Foothill Parkway at this intersection and provide an exclusive westbound left-turn lane, a westbound through lane and a shared eastbound through-right turn-lane. It should be noted that this planned traffic signal is a master-planned traffic signal to be installed by the City as part of the Foothill Parkway Westerly Extension Project.
- Intersection 14 – "P" Street at Foothill Parkway: Construct a one-way stop-controlled intersection. Construct the south leg of "P" Street at this intersection and provide an exclusive northbound left-turn lane and an exclusive northbound right-turn lane. Construct the west leg of Foothill Parkway at this intersection and provide an eastbound through lane and a shared eastbound through-right turn-lane. Construct the east leg of Foothill Parkway at this intersection and provide an exclusive westbound left-turn lane and two westbound through lanes.

There are no planned improvements to roadway segments in the Existing With Project scenario.

In the 2020 Without Project and 2020 With Project scenarios, the planned improvements described below would be implemented for the following five intersections and would be the sole responsibility of the Project if the Project were to be developed prior to the construction of the Foothill Parkway Westerly Extension:

- Intersection 2 – Paseo Grande at Green River Road/Foothill Parkway: Install a traffic signal and design for six-phase operation. Widen the west leg of Green River Road at this intersection to provide a 2nd exclusive eastbound left-turn lane, an eastbound through lane and a shared eastbound through-right turn lane. Construct the east leg of Foothill Parkway at this intersection to provide an

exclusive westbound left-turn lane, two westbound through lanes and an exclusive right-turn lane. Construct the south leg of Paseo Grande at this intersection to provide a shared northbound left-through-right lane. Widen the north leg of Paseo Grande at this intersection to provide an exclusive southbound left-turn lane and a shared southbound through-right lane. It should be noted that these planned roadway improvements will be constructed as part of the Foothill Parkway Westerly Extension Project. In addition, this planned traffic signal (with the construction of the south and east legs) is a master-planned traffic signal to be installed by the City as part of the Foothill Parkway Westerly Extension Project

- Intersection 11 – Trudy Way at Foothill Parkway: Widen and/or restripe Foothill Parkway to provide a second eastbound through lane and a second westbound through lane as part of the Foothill Parkway Westerly Extension Project.
- Intersection 12 – Chase Drive at Foothill Parkway: Install a traffic signal and design for six-phase operation. Construct the south leg of Chase Drive at this intersection and provide a shared northbound left-through-right turn lane. Construct the north leg of Chase Drive at this intersection and provide an exclusive southbound left-turn lane and a shared southbound through-right turn-lane. Construct the west leg of Foothill Parkway at this intersection and provide an exclusive eastbound left-turn lane, an eastbound through lane and a shared eastbound through-right turn-lane. Construct the east leg of Foothill Parkway at this intersection and provide an exclusive westbound left-turn lane, a westbound through lane and a shared eastbound through-right turn lane. It should be noted that these planned roadway improvements will be constructed as part of the Foothill Parkway Westerly Extension Project. In addition, this planned traffic signal is a master-planned traffic signal to be installed by the City as part of the Foothill Parkway Westerly Extension Project.
- Intersection 13 – Border Avenue/"B" Street at Foothill Parkway: Install a traffic signal and design for six-phase operation. Construct the south leg of "B" Street at this intersection and provide a shared northbound left-through-right turn lane. Construct the north leg of Border Avenue at this intersection and provide an exclusive southbound left-turn lane and a shared southbound through-right turn-lane. Construct the west leg of Foothill Parkway at this intersection and provide an exclusive eastbound left-turn lane, an eastbound through lane and a shared eastbound through right turn-lane. Construct the east leg of Foothill Parkway at this intersection and provide an exclusive westbound left-turn lane, a westbound through lane and a shared eastbound through-right turn-lane. It should be noted that these planned roadway improvements will be constructed as part of the Foothill Parkway Westerly Extension Project except the south leg of the intersection, which is the Project access. In addition this planned traffic signal is a master-planned traffic signal to be installed by the City as part of the Foothill Parkway Westerly Extension Project
- Intersection 14 – "P" Street at Foothill Parkway: Construct a one-way stop-controlled intersection. Construct the south leg of "P" Street at this intersection and provide an exclusive northbound left-turn lane and an exclusive northbound right-turn lane. Construct the west leg of Foothill Parkway at this intersection and provide an eastbound through lane and a shared eastbound through-right turn-lane. Construct the east leg of Foothill Parkway at this intersection and provide an exclusive westbound left-turn lane and two westbound through lanes. It should be noted that these planned roadway improvements will be constructed as part of the Foothill Parkway Westerly Extension Project except the south leg of the intersection, which is the Project access.

In addition, the following planned improvements are assumed for Roadway Segment 1:

- Roadway Segment 1 – Green River Road between Serfas Club Drive and Paseo Grande: Consistent with the City of Corona General Plan Circulation Element, Green River Road will be improved from a Two-Lane Divided Collector to a Four-Lane Divided Arterial along this roadway segment prior to the Project completion Year 2020.

These improvements would be the sole responsibility of the Project if the Project were to be developed prior to the construction of the Foothill Parkway Westerly Extension.

In the 2035 Without Project and 2035 With Project scenarios, planned improvements are assumed at the same five intersections and one roadway segment as in the 2020 With and Without Project scenarios as described above.

(3) Trip Generation

Trip generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. The trip generation is based on the Ninth Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE, Washington, D.C., 2012).

Table 4.M-6, *Project Trip Generation Rates*, provides the forecast of the daily and peak hour project traffic volumes for a typical weekday. As shown in Table 4.M-6, the project would generate 2,780 daily trips (one half arriving, one half departing), with 219 trips (55 inbound, 164 outbound) in the A.M. peak hour and 292 trips (184 inbound, 108 outbound) in the P.M. peak hour on a typical weekday.

Table 4.M-6

Project Trip Generation Rates and Forecast

Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Trip Generation Factors:							
210: Single Family Residential (TE/DU)	9.52	0.19	0.56	0.75	0.63	0.37	1.00
Proposed Project Trip Generation Forecast:							
Single Family Residential - Phase I (157 DU)	1,495	30	88	118	99	58	157
Single Family Residential - Phase II (90 DU)	857	17	50	68	57	33	90
Single Family Residential - Phase III (45 DU)	428	8	25	33	28	17	45
Proposed Project (292 DU) Trip Generation Forecast	**2,780**	**55**	**164**	**219**	**184**	**108**	**292**

TE/DU = Trip ends per Dwelling Unit
DU = Dwelling Units

Source: Trip Generation, 9th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2012). Average rates used; Linscott, Law & Greenspan, July 2013

(4) Trip Distribution

Project traffic volumes, both entering and exiting the site, were distributed and assigned to the adjacent street system in consultation with City staff based on the following considerations:

- The site's proximity to major traffic carriers (i.e., SR 91 Freeway);
- Expected localized traffic flow patterns based on adjacent street channelization and presence of traffic signals, and the future Foothill Parkway Extension project;
- The traffic-carrying capacity and travel speed available on roadways serving the site;
- Existing intersection traffic volumes; and
- Ingress/egress availability at the site.

Because of the timing of the completion of the Foothill Parkway Extension project, the Existing Conditions trip distribution is made without the Foothill Parkway Extension (see Figure 5-1) of the TIA) while the future directional trip distribution pattern includes the Foothill Parkway Extension (see Figure 5-2 of the TIA). The A. M. and P.M. traffic volumes under existing conditions at the 14 study intersections are shown in Figures 5-3 and 5-4, respectively, of the TIA. The daily traffic volumes under existing conditions on the 11 study roadway segments is shown in Figure 5-5 of the TIA. Figures 5-6 and 5-7 of the TIA show the Future Conditions in the A. M. and P.M. hours respectively at the 14 study intersections and Figure 5-8 of the TIA shows the Future Conditions daily volumes on the 11 study roadway segments.

Traffic counts were collected in February 2013 for the study intersection and roadway segment evaluated in the TIA.

(5) Level of Service

Street system operating conditions are typically described in terms of LOS, which is a qualitative measure used to indicate the quality of traffic flow on intersections and roadway segments, and ranges from LOS A (free flow, little congestion) to LOS F (forced flow, extreme congestion). The following describes the methodology for determining projected LOS for signalized and unsignalized intersections as well as roadway segments.

(a) Signalized Intersections

In conformance with City of Corona requirements, A.M. and P.M. peak hour operating conditions for the study intersections were evaluated using the HCM operations method of analysis. Level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption and lost travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometries, traffic and incidents. Control delay includes initial deceleration delay, queue move-up time, stopped delay and final acceleration delay.

(b) Unsignalized Intersections

In accordance with the requirements of the City of Corona, A.M. and P.M. peak hour operating conditions for the unsignalized study intersections were evaluated using the HCM 2000 unsignalized methodology for stop-controlled intersections. For all-way stop-controlled intersections, this methodology estimates the average control delay for each of the subject movements and determines the level of service for each movement. The overall average control delay measured in seconds per vehicle and level of service is then calculated for the entire intersection. For one-way and two-way stop-controlled (minor street stop-controlled) intersections,

this methodology estimates the worst side street delay, measured in seconds per vehicle and determines the level of service for that approach.

(c) Roadway Segments – V/C Ratio

In conformance with the City of Corona requirements, the first step is to calculate daily operating conditions for the study roadway segments according to the V/C ratio of each roadway segment. The V/C relationship is used to estimate the LOS of the roadway segment with the volume based on the 24-hour traffic volumes and the capacity based on the City's classification of each roadway.

(6) Cumulative Development

The TIA contains two future year scenarios, Year 2020 and Year 2035, which both include traffic generated by other development projects. These two scenarios represent a near-term and long-term cumulative analysis. The TIA was conducted using the City's travel demand model developed by LSA Associates, Inc. for the City of Corona Circulation Element Update. The Year 2035 General Plan Buildout traffic volume forecasts were obtained through utilization of the City's model, which is based on data from the Revised Travel Demand Model of the City of Corona's General Plan, with selected regional projects from the SCAG Regional Transportation Plan (RTP) added as well as the Riverside County to Orange County connection project. Thus, the model provides the Year 2035 General Plan Buildout traffic conditions. The Year 2020 Without Project traffic volumes were obtained by interpolating between the Existing and Year 2035 Without Project traffic volumes, as well as reducing the Year 2035 Without Project traffic volumes by fifteen percent (15%) [one percent (1%) per year for fifteen (15) years].

b. Thresholds of Significance

Appendix G of the *CEQA Guidelines* (the Initial Study Environmental Checklist form) and the City's Initial Study Checklist include questions relating to the transportation system that are utilized as the thresholds of significance in this section, in addition to the City of Corona's Circulation Element and guidelines for the assessment of traffic impacts.

(1) Intersections

The City of Corona considers LOS D to be the minimum acceptable LOS for all intersections that consist of collector and arterial roadways and LOS E for Green River Road at SR-91 Ramps and Dominguez Ranch Road intersections based on the City of Corona General Plan Circulation Element Policy 6.1.6.[1] In addition, the City of Corona considers LOS C to be the minimum acceptable LOS for local and collector streets in residential and industrial areas.

[1] *The City of Corona General Plan Circulation Element Policy 6.1.6 states "At some key locations, such as at heavily traveled freeway interchanges, LOS E may be adopted as the acceptable standard, on a case-by-case basis." During the course of the Foothill Expansion Project development and the preparation of the Draft EIR for that project, the City of Corona staff reviewed this policy, and determined that, due to the close proximity of the segment of Green River Road to SR-91 and the roadway segment's characteristics, this portion of Green River Road meets the criteria. The determination is documented in the City's Draft EIR for the Foothill Parkway Westerly Extension (dated August 2008).*

Threshold 1: A significant intersection impact would occur if the project would reduce the LOS below LOS D with the exception of Green River Road at SR-91 Ramps and Dominguez Ranch Road intersections for which LOS E is acceptable (refer to Impact Statement 4.M-1 below).

(2) Roadway Segments

The City of Corona considers LOS D to be the minimum acceptable LOS for all roadway segments that consist of collector and arterial roadways and LOS E for Green River Road west of Palisades Drive based on the City of Corona General Plan Circulation Element Policy 6.1.6. In addition, the City of Corona considers LOS C to be the minimum acceptable LOS for local and collector streets in residential and industrial areas.

Threshold 2: A significant impact would occur to a roadway segment if the project would reduce the LOS below LOS D with the exception of the segment of Green River Road west of Palisades Drive for which LOS E is the minimum acceptable LOS (refer to Impact Statement 4.M-2 below).

(3) Other Criteria

The project would result in a significant impact if the project would:

Threshold 3: Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (refer to Impact Statement 4.M-3 below).

Threshold 4: Result in inadequate emergency access (refer to Impact Statement 4.M-4 below).

Threshold 5: Result in insufficient off-street parking that would not comply with the City of Corona parking requirements (refer to Impact Statement 4.M-5 below).

Threshold 6: Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities (refer to Impact Statement 4.M-6 below).

c. Project Design Features

Vehicle access to the site would be from the Foothill Parkway Westerly Extension, which would be constructed along the northeast side of the property. Access to the south edge of the site would be via Trudy Way, which currently serves Subdivision Tract 31955. The central access point from the Foothill Parkway Westerly Extension would be at "P" Street and access to the northerly sector would be via "B" Street, which would align with Border Avenue. The access points along Trudy Way and "B" Street will be gated. The project would result in a dedication of approximately 21.38 acres from the 270.9-acre for the alignment of the Foothill Parkway Westerly Extension.

Roadway development within the subdivision would be completed in compliance with the City's requirements. "P" Street would be developed to meet "local collector," 88-foot-wide standards. Eighty-eight-foot-wide "local collector" standards require a 16-foot-wide raised, landscaped median; two 24-foot-wide, two-lane roadways; five-foot-wide sidewalks; and seven-foot landscaped parkways. Trudy Way and "B" Street would be developed to meet "local collector," 68-foot-wide standards. These "local collector"

standards require a 44-foot-wide, four-lane roadway, five-foot-wide sidewalks, and seven-foot-wide landscaped parkways. Interior streets would be developed to meet "local street," 60-foot-wide or 56-foot-wide standards. "Local street" 60-foot-wide standards require four-foot-wide sidewalks and eight-foot-wide landscaped parkways. "Local street" 56-foot-wide standards require four-foot-wide sidewalks and six-foot-wide landscaped parkways. In addition, the main project roadway for development phases I and II ("A" Street or Trudy Way extension), has been designed as a 36 to 40-foot Local roadway.

As indicated above, the Existing With Project scenario assumes planned improvements at three intersections to be implemented as part of the development of the proposed residential project, since the Foothill Parkway Westerly Extension is not assumed in the Existing With Project scenario. In addition, the planned intersection and roadway improvements that are assumed in the 2020 With and Without Scenarios could be implemented as part of the development of the Project or by the City as part of the funded improvements for the Foothill Parkway Westerly Extension. The planned improvements if implemented as part of the Project would be considered Project Design Features.

While the intersections of Trudy Way at Foothill Parkway, Border Avenue/"B" Street at Foothill Parkway and "P" Street at Foothill Parkway would operate at LOS C or better during the AM and PM peak hours in the Existing With Project, Year 2020 With Project, and Year 2035 With Project, in order to provide additional westbound left turn storage on Foothill Parkway at Trudy Way, the existing median on Foothill Parkway would be demolished and restriped to extend the westbound left turn pocket by approximately 50 feet. Foothill Parkway/"P" Street would have an acceleration lane for the northbound left turn from "A" Street to Foothill Parkway to allow safe egress movement. This planned improvement would be the sole responsibility of the Project if the Project were to be developed prior to the construction of the Foothill Parkway Westerly Extension. Traffic signals at "B" Street and Foothill Parkway would be modified to allow for Project access.

In addition, the project would include the installation of three (3) traffic calming measures along the roadway segment of "A" Street within the development. The project design features would include the installation of a raised landscaped median adjacent to Lots 53/54, Lots 62/63, and at the easterly project boundary with the existing westerly terminus of Trudy Way, which would also be gated. These calming measures, in addition to on-street parking, would help to reduce traffic speeds within the development by providing raised friction. All-way stop control at the "A" Street intersections with "L" Street and "D" Street would also contribute to the traffic calming along "A" Street. Stop signs, bars and pavement messages are recommended at appropriate intersection approaches as shown in Figures 13-2A and 13-2B of the TIA. No Parking zones would be provided around the three raised landscaped median treatments along "A" Street.

With regard to construction, all construction staging, material and equipment storage, and construction worker parking would occur within the project site boundaries. In addition, in order to reduce the potential impact of construction-related traffic, the Applicant would implement a Construction Management Plan to minimize traffic impacts upon the local circulation system in the area. The Construction Management Plan would be developed in coordination with, and subject to approval from, the City of Corona Traffic Engineer.

Existing With Project, 2020 With Project and 2035 With Project Intersection Impacts and Mitigation Measures

Intersection	Existing With Project	2020 With Project	2035 With Project	Mitigation Measures
3. Paseo Grande/Ontario Avenue	*A.M.:* LOS E P.M.: LOS F	--	--	If the project is developed prior to the construction of the Foothill Parkway Extension then prior to issuance of any building permit for the project, the Applicant shall install a traffic signal and design for two-phase operation.
4. Border Avenue/Ontario Avenue	*P.M.: LOS F*	*P.M.: LOS E*	*A.M.:* LOS E P.M.: LOS F	Prior to issuance of any building permit for the project, a traffic signal designed for two-phase operation shall be installed. Intersection improvements shall include: 1) restriping of the eastbound shared left-through lane and the exclusive right-turn lane on Ontario Avenue to an exclusive left-turn lane and a shared through-right turn lane and 2) restriping of the westbound shared left-through lane and the exclusive right-turn lane on Ontario Avenue to an exclusive left-turn lane and a shared through-right turn lane.
10. Elysia Street/Foothill Parkway	--	--	*A.M.:* LOS F P.M.: LOS F	Prior to issuance of any building permit for the project, the Applicant shall install a traffic signal and design for five-phase operation to the satisfaction of the City.
11. Trudy Way/Foothill Parkway	--	--	*A.M.:* LOS F P.M.: LOS F	Prior to issuance of any building permit for the project, the Applicant shall install a traffic signal and design for three-phase operation to the satisfaction of the City.

d. Analysis of Project Impacts

(1) Intersection Analysis

Threshold 1: A significant intersection impact would occur if the project would reduce the LOS below LOS D with the exception of Green River Road at SR-91 Ramps and Dominguez Ranch Road intersections for which LOS E is acceptable.

Impact 4.M-1 *With regard to construction, aside from the nuisance traffic that would occur as a result of construction-related activities (e.g., construction materials, construction workers, etc.), impacts resulting from construction traffic would be less than significant. With regard to operation, the project would add trips to the transportation network. The Existing With Project, 2020 With Project and 2035 With Project would result in significant impacts at the four study intersections identified in the table below during the a.m. or p.m. peak hours. With the implementation of recommended mitigation measures, the impacts would be reduced to a less than significant level.*

(a) Construction Impacts

Construction trips associated with trucks and employees traveling to and from the site in the morning and afternoon may result in some minor traffic delays; potential traffic interference caused by construction vehicles may create a temporary/short-term impact to vehicles using the street system in the immediate area in the morning and afternoon hours. However, it should be noted that all construction employee parking would occur within the project site boundaries, as would all staging and equipment and material storage. While construction worker trips would generally occur in the early morning and late afternoon hours, truck trips for material and equipment deliveries would occur as needed throughout the day, which would minimize potential traffic disruptions associated with truck traffic during peak hours. Additionally, as no off-site soil export (or import) would be required for site grading activities, as all earthwork would be balanced on-site, no soil haul truck traffic would result from grading activities. It is further anticipated that construction of the Foothill Parkway Westerly Extension Project would be completed prior to the initiation of construction activities for the proposed project, and this roadway would provide direct access for construction workers vehicles and minimize temporary traffic effects on other parts of the City's traffic system. Finally, as the project would be constructed in three phases, the incremental traffic effects of each development phase would only occur during temporary periods while construction is underway, and as discussed below, all planned improvements would be implemented and all project-related traffic system improvements (included as mitigation measures) would be required to be in place prior to the issuance of any building permits for the project (i.e., prior to Phase 1 of the project), which would preclude the potential for significant construction-related traffic effects associated with subsequent phases. Furthermore, as indicated above, the Applicant would implement a Construction Management Plan to minimize construction traffic impacts upon the local circulation system. The Construction Management Plan would be developed in coordination with, and subject to approval from, the City of Corona Traffic Engineer. With the implementation of the Construction Management Plan, traffic impacts during construction would be less than significant.

(2) Operational Impacts

(a) Existing With Project

Table 4.M-7, *Existing Conditions Peak Hour Intersection Capacity Analysis Summary,* summarizes the peak hour LOS results at the 14 study intersections for existing traffic conditions, with and without the project. The first column (1) presents a summary of Existing A.M. and P.M. peak hour traffic conditions, which are discussed above under Environmental Setting. The second column (2) presents Existing With Project traffic conditions. The third column (3) indicates whether the traffic associated with the project would have a significant impact based on the intersection significance threshold. The fourth column (4) presents the Level of Service with the implementation of traffic mitigation improvements, if necessary. (Mitigation Measures are discussed below in Subsection 4.) As shown in Table 4.M-7, the Existing With Project scenario would result in significant impacts at the following two intersections during the A.M. and/or P.M. peak hours:

- 3. Paseo Grande at Ontario Avenue: LOS E during the A.M. peak hour; LOS F during the P.M. peak hour
- 4. Border Avenue at Ontario Avenue: LOS F during the P.M. peak hour

Mitigation measures are recommended for improvements at each of the above intersections. The mitigation measures would require: 1) the installation of a traffic signal designed for two-phase operation at Paseo Grande/Ontario Avenue intersection; and 2) the installation of a traffic signal designed for two-phase

operation and restriping of the lanes at Border Avenue/Ontario Avenue intersection. With the implementation of the mitigation measures, impacts would be reduced to a less than significant level.

While improvements are recommended at the Paseo Grande/Ontario Avenue intersection to achieve an acceptable level of service under the Existing With Project traffic conditions, the traffic signal is not needed under the Year 2020 and Year 2035 traffic conditions. The traffic volumes at this intersection would be reduced as a result of the construction of the Foothill Parkway Extension, which will become the primary route for vehicles travelling east-west through the southern portion of the City as opposed to the current route via Ontario Avenue. Therefore, if the project were to be developed prior to the construction of the Foothill Parkway Extension, the mitigation measure would be necessary to reduce the impacts at the Paseo Grande/Ontario Avenue intersection to a less than significant level.

(b) Year 2020

Table 4.M-8, *Year 2020 Conditions Peak Hour Intersection Capacity Analysis Summary***,** summarizes the 2020 peak hour LOS results at the 14 study intersections for 2020 With and Without the project. The first column (1) is provided for background and presents a summary of Existing A.M. and P.M. peak hour traffic conditions. The second column (2) presents 2020 Without Project. The third column (3) provides the 2020 With Project traffic conditions. The fourth column (4) indicates whether the traffic associated with 2020 With Project

Table 4.M-7

Existing Conditions Peak Hour Intersection Capacity Analysis Summary[a]

	Key Intersection	Control Type	Min LOS	Time Period	Existing Traffic Conditions Delay (s/v)	Existing Traffic Conditions LOS	Existing With Project Traffic Conditions Delay (s/v)	Existing With Project Traffic Conditions LOS	Significant Impact Yes/No	Existing With Project With Mitigation Delay (s/v)	Existing With Project With Mitigation LOS
1.	Serfas Club Drive at Green River Road	6-Phase Traffic Signal	D	AM	33.8	C	34.2	C	No	--	--
				PM	34.4	C	34.4	C	No	--	--
2.	Paseo Grande at Green River Road[b]	Uncontrolled	--	AM	N/A	N/A	N/A	N/A	No	--	--
				PM	N/A	N/A	N/A	N/A	No	--	--
3.	Paseo Grande at Ontario Avenue[c]	All – Way Stop	D	AM	34.2	D	**46.6**	**E**	**Yes**	19.7	B
				PM	**40.0**	**E**	**62.0**	**F**	**Yes**	15.1	B
4.	Border Avenue at Ontario Avenue	All – Way Stop	D	AM	25.5	D	28.7	D	No	15.2	B
				PM	**69.9**	**F**	**76.1**	**F**	**Yes**	10.8	B
5.	Lincoln Avenue at Ontario Avenue	8-Phase Traffic Signal	D	AM	43.5	D	43.4	D	No	--	--
				PM	39.5	D	39.8	D	No	--	--
6.	Border Avenue at Mesquite Lane	All – Way Stop	D	AM	7.3	A	7.6	A	No	--	--
				PM	7.5	A	8.0	A	No	--	--
7.	Border Avenue at Emerson Drive	All – Way Stop	D	AM	7.1	A	7.5	A	No	--	--
				PM	7.3	A	7.7	A	No	--	--
8.	Border Avenue at Peacock Lane	All – Way Stop	D	AM	6.9	A	7.4	A	No	--	--
				PM	7.0	A	7.6	A	No	--	--
9.	Lincoln Avenue at Foothill Parkway	8-Phase Traffic Signal	D	AM	26.3	C	27.2	C	No	--	--
				PM	27.7	C	28.7	C	No	--	--
10.	Elysia Street at Foothill Parkway	All – Way Stop	D	AM	9.2	A	9.6	A	No	--	--
				PM	8.9	A	9.5	A	No	--	--
11.	Trudy Way at Foothill Parkway	One – Way Stop	D	AM	8.5	A	9.1	A	No	--	--
				PM	8.6	A	9.1	A	No	--	--
12.	Chase Drive at Foothill Parkway[d]	Does Not Exist	--	AM	--	--	--	--	--	--	--
				PM	--	--	--	--	--	--	--
13.	Border Avenue/"B" Street at Foothill Parkway[e]	6-Phase Traffic Signal [f]	D	AM	--	--	25.2	C	No	--	--
				PM	--	--	25.0	C	No	--	--

Table 4.M-7 (Continued)

Existing Conditions Peak Hour Intersection Capacity Analysis Summary

Key Intersection	Control Type	Min LOS	Time Period	Existing Traffic Conditions		Existing With Project Traffic Conditions		Significant Impact	Existing With Project With Mitigation	
				Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
14. "P" Street at Foothill Parkway[e]	One – Way Stop[g]	D	AM	--	--	8.4	A	No	--	--
			PM	--	--	8.4	A	No	--	--

Notes:
s/v = seconds per vehicle (delay)
LOS = Level of Service, please refer to Tables 3-1 and 3-2 for the LOS definitions
***Bold Delay/LOS values** indicate adverse service levels based on the LOS standard*

[a] *Appendix E of the TIA contains the Delay/LOS calculation worksheets for all study intersections.*
[b] *This intersection does not have any delay since it is currently uncontrolled with only west and north legs. However, it is planned to be signalized in conjunction with the Foothill Parkway Extension project. It is proposed to be a 4-legged intersection and is going to be designed as a 6-phase traffic signal.*
[c] *It should be noted that although the impacted intersection of Paseo Grande at Ontario Avenue has been identified to be signalized to achieve an acceptable level of service under the Existing With Project traffic conditions, a traffic signal is not needed under the cumulative Year 2020 and Year 2035 traffic conditions. The future traffic volumes at this intersection will be significantly reduced as a result of the construction of the Foothill Parkway Extension, which will become the primary route for vehicles travelling east-west through the southern portion of the City as opposed to the current route via Ontario Avenue. Consequently, existing traffic volumes have been re-routed from Paseo Grande and Ontario Avenue to the future Foothill Parkway, accordingly.*
[d] *Intersection currently does not exist.*
[e] *Intersection currently does not exist.*
[f] *In conjunction with the Project development, this intersection is planned to be a 6-Phase Traffic Signal under the "With" Project traffic conditions.*
[g] *In conjunction with the Project development, this intersection is planned to be One-Way Stop-Controlled under the "With" Project traffic conditions.*

Source: Linscott, Law & Greenspan, Traffic Impact Analysis, July 2013

would have a significant impact based on the intersection significance threshold. The fifth column (5) presents 2020 With Project with the implementation of traffic mitigation improvements. (Mitigation Measures are discussed below in Section 4, below.)

As indicated above, the planned improvements at Paseo Grande at Green River Road/Foothill Parkway [Extension], Trudy Way at Foothill Parkway, Chase Drive at Foothill Parkway, "P" Street at Foothill Parkway, and Border Avenue at Foothill Parkway have been included in the background traffic conditions for Year 2020. In addition, as a result of the Foothill Parkway Extension project, it was assumed that a substantial portion of vehicles currently travelling along Paseo Grande to/from Ontario Avenue would travel along Foothill Parkway in the future. Therefore, for the Year 2020 analysis a portion of the traffic volumes have been re-routed from Paseo Grande and Ontario Avenue to the future Foothill Parkway.

Year 2020 Without Project

As shown in Table 4.M-8, the 2020 Without Project traffic would result in a significant impact at the following study intersection during the P.M. peak hour:

- 4. Border Avenue at Ontario Avenue: LOS E during the P.M. peak hour

(c) Year 2035

Table 4.M-9, *Year 2035 Conditions Peak Hour Intersection Capacity Analysis Summary, ,* summarizes the 2035 peak hour LOS results at the 14 study intersections for 2035 With and Without the project. The first column (1) is provided for background and presents a summary of Existing A.M. and P.M. peak hour traffic conditions. The second column (2) presents 2035 Without Project and the third column (3) provides the 2035 With Project traffic conditions. The fourth column (4) indicates whether the traffic associated with 2035 With Project would have a significant impact based on the intersection significance threshold. The fifth column (5) presents 2035 With Project with the implementation of traffic mitigation improvements.

As indicated above, planned improvements at Paseo Grande at Green River Road/Foothill Parkway [Extension], Trudy Way at Foothill Parkway, Chase Drive at Foothill Parkway, "P" Street at Foothill Parkway, and Border Avenue at Foothill Parkway have been included in the background traffic conditions for Year 2035. In addition, as a result of the Foothill Parkway Extension project, it was assumed that a substantial portion of vehicles currently travelling along Paseo Grande to/from Ontario Avenue would travel along Foothill Parkway in the future. Therefore, traffic volumes have been re-routed from Paseo Grande and Ontario Avenue to future Foothill Parkway, accordingly, and are reflected in the Year 2035 traffic analysis.

Year 2035 Without Project

As shown in Table 4.M-9, the 2035 Without Project traffic would result in significant impacts at the following three study intersections during the A.M. and/or P.M. peak hour:

- 4. Border Avenue at Ontario Avenue: LOS F during the P.M. peak hour
- 10. Elysia Street at Foothill Parkway: LOS F during the A.M. and P.M. peak hours
- 11. Trudy Way at Foothill Parkway: LOS F during the A.M. and P.M. peak hours

Table 4.M-8

Year 2020 Conditions Peak Hour Intersection Capacity Analysis Summary[a]

	Key Intersection	Min LOS	Time Period	Existing Traffic Conditions Delay (s/v)	Existing Traffic Conditions LOS	Year 2020 Without Project Traffic Conditions Delay (s/v)	Year 2020 Without Project Traffic Conditions LOS	Year 2020 With Project Traffic Conditions Delay (s/v)	Year 2020 With Project Traffic Conditions LOS	Significant Impact Yes/No	Year 2020 With Project With Mitigation Delay (s/v)	Year 2020 With Project With Mitigation LOS
1.	Serfas Club Drive at Green River Road	D	AM	33.8	C	27.2	C	27.5	C	No	--	--
			PM	34.4	C	30.3	C	30.5	C	No	--	--
2.	Paseo Grande at Green River Road/Foothill Pkwy[b]	D	AM	N/A	N/A	26.8	C	26.4	C	No	--	--
			PM	N/A	N/A	27.2	C	27.1	C	No	--	--
3.	Paseo Grande at Ontario Avenue[c]	D	AM	34.2	D	10.4	B	10.4	B	No	--	--
			PM	**40.0**	**E**	10.2	B	10.3	B	No	--	--
4.	Border Avenue at Ontario Avenue	D	AM	25.5	D	18.0	C	18.2	C	No	15.3	B
			PM	**69.9**	**F**	**36.0**	**E**	**37.5**	**E**	**Yes**	10.3	B
5.	Lincoln Avenue at Ontario Avenue	D	AM	43.5	D	39.3	D	39.3	D	No	--	--
			PM	39.5	D	38.1	D	38.1	D	No	--	--
6.	Border Avenue at Mesquite Lane	D	AM	7.3	A	7.8	A	7.8	A	No	--	--
			PM	7.5	A	7.5	A	7.5	A	No	--	--
7.	Border Avenue at Emerson Drive	D	AM	7.1	A	7.3	A	7.3	A	No	--	--
			PM	7.3	A	7.5	A	7.5	A	No	--	--
8.	Border Avenue at Peacock Lane	D	AM	6.9	A	7.1	A	7.2	A	No	--	--
			PM	7.0	A	7.3	A	7.3	A	No	--	--
9.	Lincoln Avenue at Foothill Parkway	D	AM	26.3	C	26.7	C	27.7	C	No	--	--
			PM	27.7	C	28.5	C	28.6	C	No	--	--
10.	Elysia Street at Foothill Parkway	D	AM	9.2	A	10.8	B	11.6	B	No	--	--
			PM	8.9	A	10.5	B	11.7	B	No	--	--
11.	Trudy Way at Foothill Parkway	D	AM	8.5	A	10.4	B	11.1	B	No	--	--
			PM	8.6	A	11.8	B	13.6	B	No	--	--
12.	Chase Drive at Foothill Parkway[d]	D	AM	--	--	15.9	B	16.3	B	No	--	--
			PM	--	--	17.5	B	17.7	B	No	--	--
13.	Border Avenue/"B" Street at Foothill Parkway[e]	D	AM	--	--	8.8	A	23.6	C	No	--	--
			PM	--	--	9.4	A	22.6	C	No	--	--

Table 4.M-8 (Continued)

Year 2020 Conditions Peak Hour Intersection Capacity Analysis Summary

Key Intersection	Min LOS	Time Period	Existing Traffic Conditions Delay (s/v)	Existing Traffic Conditions LOS	Year 2020 Without Project Traffic Conditions Delay (s/v)	Year 2020 Without Project Traffic Conditions LOS	Year 2020 With Project Traffic Conditions Delay (s/v)	Year 2020 With Project Traffic Conditions LOS	Significant Impact Yes/No	Year 2020 With Project With Mitigation Delay (s/v)	Year 2020 With Project With Mitigation LOS
14. "P" Street at Foothill Parkway[f]	D	AM	--	--	--	--	9.7	A	No	--	--
		PM	--	--	--	--	10.4	B	No	--	--

Notes:
s/v = seconds per vehicle (delay)
LOS = Level of Service, please refer to Tables 3-1 and 3-2 for the LOS definitions
***Bold Delay/LOS values** indicate adverse service levels based on the LOS standards*

[a] *Appendices E and F of the TIA contain the Delay/LOS calculation worksheets for all study intersections.*

[b] *Under Existing traffic conditions, this intersection does not have any delay since it is currently uncontrolled with only west and north legs. However, it is planned to be signalized in conjunction with the Foothill Parkway Extension project. It is proposed to be a 4-legged intersection and is going to be designed as a 6-phase traffic signal. These improvements have been assumed in the background traffic conditions for Year 2020 traffic conditions.*

[c] *Although the impacted intersection of Paseo Grande at Ontario Avenue has been identified to be signalized to achieve an acceptable level of service under the Existing With Project traffic conditions, a traffic signal is not needed under the cumulative Year 2020 and Year 2035 traffic conditions. The future traffic volumes at this intersection will be significantly reduced as a result of the construction of the Foothill Parkway Extension, which will become the primary route for vehicles travelling east-west through the southern portion of the City as opposed to the current route via Ontario Avenue. Consequently, existing traffic volumes have been re-routed from Paseo Grande and Ontario Avenue to the future Foothill Parkway, accordingly.*

[d] *Intersection currently does not exist. However, it is planned to be a signalized intersection in conjunction with the Foothill Parkway Extension project. It is proposed to be a 4-legged intersection and is going to be designed as a 6-phase traffic signal. This planned improvement has been assumed in the Year 2020 background traffic conditions.*

[e] *Intersection currently does not exist. However, it is planned to be a signalized intersection in conjunction with the Foothill Parkway Extension project. It is proposed to be a 3-legged intersection and is going to be designed as a 3-phase traffic signal. This planned improvement has been assumed in the Year 2020 background traffic conditions. Further, in conjunction with the Project development, this intersection is proposed to add the south leg and planned to be a 6∅ Traffic Signal under the Year 2020 With Project traffic conditions*

[f] *Intersection currently does not exist. In conjunction with the Project development, this intersection is planned to be One-Way Stop-Controlled under the "With" Project traffic conditions*

Source: Linscott, Law & Greenspan, Traffic Impact Analysis, July 2013

Table 4.M-9

Year 2035 Conditions Peak Hour Intersection Capacity Analysis Summary[a]

	Key Intersection	Min LOS	Time Period	Existing Traffic Conditions Delay (s/v)	Existing Traffic Conditions LOS	Year 2035 Without Project Traffic Conditions Delay (s/v)	Year 2035 Without Project Traffic Conditions LOS	Year 2035 With Project Traffic Conditions Delay (s/v)	Year 2035 With Project Traffic Conditions LOS	Significant Impact Yes/No	Year 2035 With Project With Mitigation Delay (s/v)	Year 2035 With Project With Mitigation LOS
1.	Serfas Club Drive at Green River Road	D	AM	33.8	C	32.0	C	33.5	C	No	--	--
			PM	34.4	C	39.4	D	40.6	D	No	--	--
2.	Paseo Grande at Green River Road/Foothill Pkwy[b]	D	AM	N/A	N/A	28.2	C	28.8	C	No	--	--
			PM	N/A	N/A	29.1	C	29.9	C	No	--	--
3.	Paseo Grande at Ontario Avenue[c]	D	AM	34.2	D	11.6	B	11.7	B	No	--	--
			PM	**40.0**	**E**	11.4	B	11.5	B	No	--	--
4.	Border Avenue at Ontario Avenue	D	AM	25.5	D	34.1	D	**35.2**	**E**	**Yes**	16.0	B
			PM	**69.9**	**F**	**86.9**	**F**	**89.4**	**F**	**Yes**	11.8	B
5.	Lincoln Avenue at Ontario Avenue	D	AM	43.5	D	46.9	D	47.2	D	No	--	--
			PM	39.5	D	52.0	D	52.3	D	No	--	--
6.	Border Avenue at Mesquite Lane	D	AM	7.3	A	10.0	B	10.1	B	No	--	--
			PM	7.5	A	7.6	A	7.7	A	No	--	--
7.	Border Avenue at Emerson Drive	D	AM	7.1	A	7.6	A	7.7	A	No	--	--
			PM	7.3	A	8.0	A	8.1	A	No	--	--
8.	Border Avenue at Peacock Lane	D	AM	6.9	A	7.5	A	7.6	A	No	--	--
			PM	7.0	A	7.8	A	7.9	A	No	--	--
9.	Lincoln Avenue at Foothill Parkway	D	AM	26.3	C	48.7	D	53.7	D	No	--	--
			PM	27.7	C	42.1	D	44.0	D	No	--	--
10.	Elysia Street at Foothill Parkway	D	AM	9.2	A	**131.6**	**F**	**149.5**	**F**	**Yes**	17.5	B
			PM	8.9	A	**105.8**	**F**	**137.7**	**F**	**Yes**	16.4	B
11.	Trudy Way at Foothill Parkway	D	AM	8.5	A	**257.0**	**F**	**427.4**	**F**	**Yes**	25.5	C
			PM	8.6	A	**OVRFL**	**F**	**OVRFL**	**F**	**Yes**	20.3	C
12.	Chase Drive at Foothill Parkway[d]	D	AM	--	--	20.9	C	21.1	C	No	--	--
			PM	--	--	19.5	B	20.0	B	No	--	--
13.	Border Avenue/"B" Street at Foothill Parkway[e]	D	AM	--	--	12.7	B	24.7	C	No	--	--
			PM	--	--	12.3	B	21.7	C	No	--	--

Table 4.M-9 (Continued)

Year 2020 Conditions Peak Hour Intersection Capacity Analysis Summary

Key Intersection	Min LOS	Time Period	Existing Traffic Conditions Delay (s/v)	Existing Traffic Conditions LOS	Year 2035 Without Project Traffic Conditions Delay (s/v)	Year 2035 Without Project Traffic Conditions LOS	Year 2035 With Project Traffic Conditions Delay (s/v)	Year 2035 With Project Traffic Conditions LOS	Significant Impact Yes/No	Year 2035 With Project With Mitigation Delay (s/v)	Year 2035 With Project With Mitigation LOS
14. "P" Street at Foothill Parkway[f]	D	AM	--	--	--	--	13.8	B	No	--	--
		PM	--	--	--	--	17.9	C	No	--	--

Notes:
s/v = seconds per vehicle (delay)
LOS = Level of Service, please refer to Tables 3-1 and 3-2 for the LOS definitions
***Bold Delay/LOS values** indicate adverse service levels based on the LOS standards*

[a] *Appendices E and G of the TIA contain the Delay/LOS calculation worksheets for all study intersections.*

[b] *Under Existing traffic conditions, this intersection does not have any delay since it is currently uncontrolled with only west and north legs. However, it is planned to be signalized in conjunction with the Foothill Parkway Extension project. It is proposed to be a 4-legged intersection and is going to be designed as a 6-phase traffic signal. These improvements have been assumed in the background traffic conditions for Year 2035 traffic conditions.*

[c] *Although the impacted intersection of Paseo Grande at Ontario Avenue has been identified to be signalized to achieve an acceptable level of service under the Existing With Project traffic conditions, a traffic signal is not needed under the cumulative Year 2020 and Year 2035 traffic conditions. The future traffic volumes at this intersection will be significantly reduced as a result of the construction of the Foothill Parkway Extension, which will become the primary route for vehicles travelling east-west through the southern portion of the City as opposed to the current route via Ontario Avenue. Consequently, existing traffic volumes have been re-routed from Paseo Grande and Ontario Avenue to the future Foothill Parkway, accordingly.*

[d] *Intersection currently does not exist. However, it is planned to be a signalized intersection in conjunction with the Foothill Parkway Extension project. It is proposed to be a 4-legged intersection and is going to be designed as a 6-phase traffic signal. This planned improvement has been assumed in the Year 2035 background traffic conditions.*

[e] *Intersection currently does not exist. However, it is planned to be a signalized intersection in conjunction with the Foothill Parkway Extension project. It is proposed to be a 3-legged intersection and is going to be designed as a 3-phase traffic signal. This planned improvement has been assumed in the Year 2035 background traffic conditions. Further, in conjunction with the Project development, this intersection is proposed to add the south leg and planned to be a 6∅ Traffic Signal under the Year 2035 With Project traffic conditions*

[f] *Intersection currently does not exist. In conjunction with the Project development, this intersection is planned to be One-Way Stop-Controlled under the "With" Project traffic conditions*

Source: Linscott, Law & Greenspan, Traffic Impact Analysis, July 2013

Year 2035 With Project

As shown in Table 4.M-9, the 2035 With Project traffic would result in significant impacts at the following three study intersections during the A.M. and/or P.M. peak hour:

- 4. Border Avenue at Ontario Avenue: LOS E during the A.M. peak hour; LOS F during the P.M. peak hour
- 10. Elysia Street at Foothill Parkway: LOS F during the A.M. and P.M. peak hours
- 11. Trudy Way at Foothill Parkway: LOS F during the A.M. and P.M. peak hours

Mitigation measures are recommended for improvements at each of the above intersection. The mitigation measures would require: 1) the installation of a traffic signal designed for two-phase operation and restriping of eastbound and westbound lanes at Border Avenue/Ontario Avenue; 2) installation of a traffic signal designed for five-phase operation at Elysia Street/Foothill Parkway; and installation of a traffic signal designed for three-phase operation at Trudy Way/Foothill Parkway. With the installation of the traffic signals and restriping, the impacted intersections would operate at an acceptable LOS and therefore, impacts would be reduced to a less than significant level.

(2) Roadway Segment Analysis

Threshold 2:	A significant impact would occur to a roadway segment if the project would reduce the LOS below LOS D with the exception of the segment of Green River Road west of Palisades Drive for which LOS E is the minimum acceptable LOS.

Impact 4.M-2 *Under Existing With Project conditions, a significant impact would occur on Paseo Grande between Ontario Avenue and Green River Road if the project were to be developed prior to the completion of the Foothill Parkway Extension. In the event that were to occur, with the implementation of a mitigation measure, impacts would be reduced to less than significant. The project would result in less than significant impacts to roadway segments under both Year 2020 and Year 2035 scenarios. In addition, all of the roadways within the subdivision have been designed to accommodate the average daily trips (ADT) that would occur on each of the segments. Therefore, no mitigation measures would be required.*

(a) Existing With Project

The Existing With Project scenario (see Table 7-2 of the TIA) would result in adverse levels of service in the daily screening analysis on the following roadway segment:

- 4. Paseo Grande between Ontario Avenue and Green River Road: LOS F

A mitigation measure is recommended for improvements on the roadway segment, which would reduce the impacts to a less than significant level. While the improvements would be necessary to reduce significant impacts under the Exiting With Project scenario, the future traffic volumes would be substantially reduced as a result of the Foothill Parkway Extension, which will become the primary route for vehicles travelling east-west through the southern portion of the City as opposed to the current route via Ontario Avenue. Therefore, the improvements that would occur with the implementation of the mitigation measure would not be needed under the Year 2020 and Year 2035 scenarios.

(b) Year 2020

As shown in Table 8-2 of the TIA, in the 2020 Without and With Project scenarios all of the 11 roadway segments would operate at acceptable levels of service.

(c) Year 2035

As shown in Table 9-2 of the TIA, in the 2035 Without and With Project scenarios all of the 11 roadway segments would operate at acceptable levels of service.

(d) Internal Roadway Segments

The TIA includes an evaluation of site access and on-site site roadways. "B" Street, which is the primary roadway for Phase I, would be constructed as a 44-foot wide Collector roadway and would connect to the future Foothill Parkway. B Street is expected to carry a maximum of approximately 1,500 average daily trips (ADT), which is well within the City of Corona's Collector roadway ADT LOS C criteria of 10,400 vehicles per day. In addition, the primary roadway "A" Street or Trudy Way extension, which would provide the primary access for Phases I & II, would be constructed as a 36 to 40-foot Local roadway. Although the width was reduced from the standard 40 feet at some locations, the reduced 36-foot roadway width was agreed upon by the City's Traffic Engineering Section and the applicant's traffic engineer as it would reduce vehicle speeds and facilitate safer emergency vehicle and trash truck access. "A" Street is expected to carry between 600 and 1,200 ADT, which is within the recommended maximum of 1,500 ADT for Local street roadways. "P" Street, which would provide the primary access for Phase III, would be constructed as a 64-foot wide divided Collector roadway that would connect to the future Foothill Parkway. P Street is expected to carry a maximum of approximately 450 ADT, which is well within the City of Corona's Collector roadway ADT LOS C criteria of 10,400 vehicles per day. All of the remaining roadways within the development have been designed as 36-foot wide local low-volume residential streets, with parking on both sides, and are expected to carry less than the recommended Local street criteria of 500 ADT. Since these roadway segments within the subdivision have been designed to accommodate the average daily trips (ADT) that would occur on the segments, no significant impacts would occur on the internal roadway segments.

(3) Design Features

Threshold 3:	The project would result in a significant impact if the project would substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses.

Impact 4.M-3 *The project would not result in the realignment of any existing streets thereby creating a hazardous design feature. With the implementation of the project design features, the proposed roadways within the tract would provide adequate sight access and would not result in a substantial increase in hazards. The roadway design of the project would result in less than significant Impacts.*

The project would not result in modifications to the local street network. Vehicular access to the proposed subdivision would be from the Foothill Parkway Westerly Extension, which would be constructed along the northeast side of the site. It should be noted that, as discussed previously, it is expected that construction of the proposed project would only occur if the Foothill Parkway Westerly Extension Project is completed as this roadway would provide primary vehicular access for all project components. The alignment of the

Foothill Parkway Westerly Extension would require the dedication of approximately 21.38 acres from the 270.9-acre project site. Access to the south edge of the site would be via Trudy Way, which currently serves Subdivision Tract 31955. The central access point from the Foothill Parkway Westerly Extension would be at "P" Street and access to the northerly sector would be via "B" Street, which would align with Border Avenue. The Foothill Parkway Westerly Extension has been designed to ensure safety and does not include any hazardous design features.

The TIA includes an evaluation of site access and internal circulation, including an evaluation of sight distance at the intersections. As indicated in Impact 4.M-2 above, all of the roadways within the subdivision have been designed to accommodate the average daily trips (ADT) that would occur on the segments. As indicated in the Project Design Features subsection above, the project would include the installation of three traffic calming measures along the roadway segment of "A" Street within the development. The project design features would include the installation of a raised landscaped median adjacent to Lots 53/54, Lots 62/63, and at the easterly project boundary with the existing westerly terminus of Trudy Way, which would also be gated. The calming measures, in addition to on-street parking, would help to reduce traffic speeds within the development by providing raised friction. All-way stop control at the "A" Street intersections with "L" Street and "D" Street would also contribute to the traffic calming along "A" Street. For safety, No Parking zones would be provided around the three raised landscaped median treatments along "A" Street. Finally, stop signs, bars and pavement messages would be implemented at appropriate intersection approaches as shown in Figures 13-2A and 13-2B of the TIA. With the implementation of the Project Design Features, including traffic calming measures, and stop signs, bars and pavement messages, the roadways would not create hazardous conditions and no significant impacts with regard to design features would occur. Therefore, no mitigation measures would be required.

(4) Emergency Access

Threshold 4:	The project would result in a significant impact if the project would result in inadequate emergency access.

Impact 4.M-4 *The internal roadways would be constructed to accommodate the projected traffic and would not create hazardous circumstances. In addition, with the implementation of mitigation measures the project would not result in significant impacts at intersections or on roadway segments within the study area. Finally, the project would be reviewed by the appropriate agencies to ensure that adequate emergency access is provided in accordance with City requirements. Impacts with regard to emergency access would be less than significant.*

The internal roadways would be constructed in accordance with City requirements. As discussed under Impact 4.M-2, the internal roadways would be constructed to appropriate widths to accommodate the projected traffic and would not create hazardous circumstances. In addition, as discussed under Impact 4.M-1, with the implementation of mitigation measures the project would not result in significant impacts at intersections or on roadway segments within the study area. The site plan would be subject to review and approval by the City of Corona Department of Public Works and the City's Fire Department to ensure that adequate emergency access is provided in accordance with City requirements. Therefore, the project would result in less than significant impacts to emergency access.

(5) Parking

Threshold 5:	The project would result in a significant impact if the project would result in insufficient off-street parking that would not comply with the City of Corona parking requirements.

Impact 4.M-5: The project would provide parking within garages in each of the single family residences. In addition, parking would be provided on some of the proposed streets. Therefore, the project would provide sufficient parking in compliance with the City of Corona parking requirements.

It is anticipated that each of the proposed future residences would include at a minimum a two-car garage, pursuant to CMC Section 17.76.030 (Number of spaces required), which requires two covered spaces within an enclosed garage for each single-family dwelling unit. In addition, parking would be provided on some of the proposed streets. Development of the residences would comply with the City's parking requirements. Therefore, the project would provide sufficient parking in compliance with the City of Corona parking requirements and thus impacts would be less than significant and no mitigation measures would be necessary.

(6) Consistency with Regulatory Framework

Threshold 6:	The project would result in a significant impact if the project would conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Impact 4.M-6: The project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. As such, impacts would be less than significant.

Table 4.M-10, *Consistency Analysis with Applicable Goals and Policies of the City's Circulation Element,* provides a comparison of the project with the applicable goals of the City's General Plan relative to transportation. As indicated in Table 4.M-10, the project would not conflict with adopted policies, plans, or programs regarding alternative transportation. In addition, the project would not decrease the performance or safety of public transit, bicycle or pedestrian facilities. Therefore, the project would result in a less than significant impact.

3. CUMULATIVE IMPACTS

Cumulative construction traffic impacts would occur if construction traffic from related projects would impact the same streets and access points as the proposed project. There are no related projects within the immediate vicinity of the site, and as such the potential for cumulative construction traffic impacts is considered remote.

The TIA, which is summarized above, contains two future year scenarios, Year 2020 and Year 2035, which both include traffic generated by other development projects. These two scenarios represent a near-term and long-term cumulative analysis. The TIA was conducted using the City's travel demand model developed by LSA Associates, Inc. for the City of Corona Circulation Element Update. The Year 2035 General Plan Buildout traffic volume forecasts were obtained through utilization of the City's model, which is based on

Table 4.M-10

Consistency Analysis with Applicable Goals and Policies of the City's Circulation Element

Goals and Policies	Consistency
Infrastructure and Public Services – Circulation	
Goal 6.1 – Provide a system of streets that meets the needs of current and future residents and businesses, and facilitates the safe and efficient movement of people and goods throughout the City, while accommodating future growth consistent with the Land Use Element.	**Consistent**. A TIA was prepared for the project. The project would include the construction of internal roadways within the subdivision. The roadways would be designed in compliance with the City's requirements and would accommodate the projected average daily traffic. In addition, the project would include the installation of planned roadway and intersection improvements as discussed above. The analysis assumes the completion of the Foothill Parkway Westerly Expansion in the future scenarios. Based on the TIA, the proposed system of streets within the subdivision would meet the future demand and would provide safe and efficient movement of people. With the implementation of the mitigation measures the project would result in less than significant impacts on intersections and roadway segments. Therefore, the project would not conflict with the goal.
Policy 6.1.6 – Maintain Level of Service D or better on arterial streets wherever possible. At some key locations, such as at heavily traveled freeway interchanges, LOS E may be adopted as the acceptable standard, on a case-by-case basis. Locations that may warrant the LOS E standard include Lincoln Avenue at SR-91, Main Street at SR-91, McKinley Avenue at SR-91, Hidden Valley Parkway at I-15, Cajalco Road at I-15 and Weirick Road at I-15. A higher standard such as Level of Service C or better may be adopted for local and collector streets in residential areas.	**Consistent**. The proposed project would require the installation of roadway and intersection improvements to minimize impacts on affected roadways and intersections, as summarized above and described in the TIA. With the implementation of the project design features and mitigation measures the project would result in less than significant impacts on intersections and roadway segments. Therefore, the project would not conflict with the goal.
Policy 6.1.10 – Design secondary, local and collector streets to discourage their use as through traffic routes. Utilize residential neighborhood traffic control techniques to mitigate cut-through traffic impacts on residential streets. Consider adoption of a formalized neighborhood traffic control program.	**Consistent**. As indicated above, all of the roadways within the subdivision have been designed to accommodate the ADT that would occur on the segments. The project would include the installation of three traffic calming measures, and control techniques to provide safe conditions within the subdivision. Given the site location and orientation relative to other developments, cut-through traffic would not occur. Therefore, the project would comply with this policy.

Table 4.M-10 (Continued)

General Plan Consistency Analysis

Goals and Policies	Consistency
Policy 6.1.11 – Require that proposals for major new developments include a traffic impact analysis that identifies measures to mitigate the traffic impacts from the new development, including cumulative impacts.	**Consistent**. See Policy 6.1.6. A traffic analysis was prepared for the project by LLG and is summarized in this section and contained in Appendix K of this EIR.
Policy 6.1.12 – Provide all residential, commercial, and industrial areas with efficient and safe access for emergency vehicles.	**Consistent**. As discussed under Impact 4.M-4 above, the internal roadways would be constructed to accommodate the projected traffic and would not create hazardous circumstances. In addition, with the implementation of mitigation measures the project would not result in significant impacts at intersections or on roadway segments within the study area. Finally, the project would be reviewed by the appropriate agencies to ensure that adequate emergency access is provided in accordance with City requirements. Therefore, impacts with regard to emergency access would be less than significant and the project would not conflict with this policy.
Policy 6.1.13 – Consider the effects on transportation systems of public utility improvements, including extension of underground pipelines and overhead transmission lines, and associated utility rights-of-way.	**Consistent**. The City would review and approve all proposed improvements to ensure that all improvements would be consistent with City requirements. The project would not conflict with this policy.
Policy 6.1.14 – Ensure that, to the extent possible, all pipelines and electrical transmission lines are placed underground.	**Consistent**. All proposed utility installations would be undergrounded, in accordance with direction from the City's Public Works Department, Traffic Engineering.
Policy 6.1.19 – At locations where intersection level of service falls below LOS D (To LOS E or F), or is anticipated to fall below LOS D in the future based on studies, implement intersection improvements that will provide additional capacity and require developers of adjacent parcels to provide right-of-way setbacks sufficient to accommodate the "maximum feasible intersection" configuration. The maximum feasible intersection configuration on the approaches to a Major Arterial will include up to three lanes for through traffic, dual left turn lanes and an exclusive right turn lane. The maximum	**Consistent**. See Policy 6.1.6.

Table 4.M-10 (Continued)

General Plan Consistency Analysis

Goals and Policies	Consistency
feasible intersection configuration at Secondary Arterial intersection approaches will include up to two lanes for through traffic, dual left-turn lanes, and an exclusive right-turn lane. In some locations, additional capacity may be needed, such as dual right turn lanes or an additional through lane. The need for those additional improvements shall be determined by project-specific traffic studies.	
Goal 6.3 – Maximize the efficiency of the circulation system through the use of transportation system management strategies. Reduce total vehicular miles traveled in Corona, including the development and improvement of alternative transportation modes, the reduction of the number of trips generated, and the reduction in trip distances.	**Consistent**. Figure 16, Existing and Proposed Bike Trails, of the City's General Plan shows a Planned Class III bike trail on Border Avenue and a Planned Class II bike trail on the Foothill Parkway Westerly Extension. The project would not conflict with the implementation of the planned bike trials.
Policy 6.3.2 – Implement intersection capacity improvements where feasible and justified by traffic demands.	**Consistent**. A TIA was prepared for the project. Mitigation measures are provided to reduce significant impacts that were identified in the TIA. Therefore, the project would be consistent with this policy.
Policy 6.5.2–Maintain existing pedestrian facilities and encourage new development to provide walkways between and through developments.	**Consistent**. The project would provide sidewalks within the right-of-way for the streets. Plans would be reviewed by the City. As such, the project would not conflict with the policy.
Policy 6.5.4 – Develop bicycle routes in accordance with the City's adopted Bicycle Master Plan and implement other elements of the Plan.	**Consistent.** See Goal 6.3 above.
Policy 6.5.6 – Encourage new and existing development to provide accessible and secure areas for bicycle storage.	**Consistent**. As a proposed residential subdivision, bicycle parking would be provided at each residence. Therefore, the project would not conflict with the policy.
Goal 6.6 – Provide an adequate supply of convenient parking for all developments in the City, in a manner that is consistent with the goals of managing transportation demand.	**Consistent**. Parking would be provided in garages developed in association with each single family residence. All traffic and parking plans would be reviewed and approved by the Corona Traffic Engineering Division and comply with all City requirements. Therefore, the project would be consistent with the policy.

Table 4.M-10 (Continued)

General Plan Consistency Analysis

Goals and Policies	Consistency
Policy 6.6.1 – Require new developments to provide adequate off-street parking in compliance with Corona Municipal Code Chapter 17-76.	**Consistent**. See Goal 6.6 above.
Policy 6.8.1 – Require new development to mitigate the traffic and circulation impacts it is creating in accordance with the transportation improvement needs described in this Circulation Element.	**Consistent**. Based on the TIA that was prepared for the project, mitigation measures are recommended to reduce significant impacts that were identified. Thus, the project would be consistent with this policy.

Source: PCR Services Corporation, 2015.

data from the Revised Travel Demand Model of the City of Corona's General Plan, with selected regional projects from the SCAG Regional Transportation Plan (RTP) added as well as the Riverside County to Orange County connection project. Thus, the model provides the Year 2035 General Plan Buildout traffic conditions. The Year 2020 Without Project traffic volumes were obtained by interpolating between the Existing and Year 2035 Without Project traffic volumes, as well as reducing the Year 2035 Without Project traffic volumes by fifteen percent (15%) [one percent (1%) per year for fifteen (15) years].

Traffic conditions in Year 2020 Without Project would result in a significant impact during the P.M. peak hour at Intersection 4. Border Avenue/Ontario Avenue. The Year 2020 With Project scenario indicates that the project would contribute to a significant impact during the P.M. peak hour at that intersection. With the implementation of the recommended mitigation measure, the significantly impacted intersection would operate at acceptable levels.

Traffic conditions in Year 2035 Without Project would result in a significant impact during the P.M. peak hour at Intersection 4. Border Avenue/Ontario Avenue as well as significant impacts during the A.M. and P.M. peak hours at Intersection 10. Elysia Street at Foothill Parkway and Intersection 11. Trudy Way at Foothill Parkway. The Year 2035 With Project scenario indicates that the project would contribute to a significant impact during the A.M. and P.M. peak hours at all three intersections. With the implementation of the recommended mitigation measures, the three significantly impacted intersections would operate at acceptable levels.

With regard to roadway segments, the cumulative analyses (Year 2020 With and Without Project and Year 2035 With and Without Project scenarios) would not result in adverse levels of service on any of the roadway segments analyzed within the study area. Thus, cumulative impacts would be less than significant.

As related to alternative transportation and public transit, the proposed project and other related projects and cumulative background growth would increase the demand for pedestrian and bicycle facilities and bus and other public transit services (e.g., Metrolink). However, related projects would implement TRPs pursuant to the City's TDM program (CMC Chapter 11.02), which would include, among other features, enhanced pedestrian and bicycle facilities that would incrementally reduce vehicle trips, as applicable. Additionally, public transit providers such as RTA, Corona Cruiser, and Metrolink monitor ridership and demand for public transit, and periodically expand or reduce service and facilities accordingly such that adequate transit services are provided in response to changing conditions. As such, as cumulative development in the area occurs, these agencies would expand services as necessary to accommodate the additional growth; therefore, cumulative impacts to alternative transportation and public transit would be less than significant.

With regard to parking and access, the project would provide sufficient parking within the subdivision and therefore, would result in a less than significant impact with regard to parking. In addition, the access evaluation indicated that the project would result in less than significant impacts with regard to site access. It is anticipated that related projects would be subject to review by either the City of Corona to ensure that adequate parking and access would be provided and maintained for each of the related projects. Therefore, the project would not contribute to a cumulatively significant impact.

4. MITIGATION MEASURES

a. Intersections

Based on the analysis above, the project would result in significant traffic impacts in the Existing With Project, 2020 With Project and 2035 With Project scenarios at the following three intersections during the A.M. or P.M. peak hours:

Intersection	Existing With Project	2020 With Project	2035 With Project	Mitigation Measures
3. Paseo Grande/Ontario Avenue	*A.M.:* LOS E P.M.: LOS F	--	--	If the project is developed prior to the construction of the Foothill Parkway Extension then prior to issuance of any building permit for the project, the Applicant shall install a traffic signal and design for two-phase operation.
4. Border Avenue/Ontario Avenue	*P.M.: LOS F*	*P.M.: LOS E*	*A.M.:* LOS E P.M.: LOS F	Prior to issuance of any building permit for the project, a traffic signal designed for two-phase operation shall be installed. Intersection improvements shall include: 1) restriping of the eastbound shared left-through lane and the exclusive right-turn lane on Ontario Avenue to an exclusive left-turn lane and a shared through-right turn lane and 2) restriping of the westbound shared left-through lane and the exclusive right-turn lane on Ontario Avenue to an exclusive left-

Intersection	Existing With Project	2020 With Project	2035 With Project	Mitigation Measures
				turn lane and a shared through-right turn lane.
10. Elysia Street/Foothill Parkway	--	--	*A.M.:* LOS F P.M.: LOS F	Prior to issuance of any building permit for the project, the Applicant shall install a traffic signal and design for five-phase operation to the satisfaction of the City.
11. Trudy Way/Foothill Parkway	--	--	*A.M.:* LOS F P.M.: LOS F	Prior to issuance of any building permit for the project, the Applicant shall install a traffic signal and design for three-phase operation to the satisfaction of the City.

Therefore, the following mitigation measures, which would also become conditions of approval for the project and would be required to be implemented prior to issuance of any building permit for the project, are recommended for the Existing With Project, 2020 With Project and 2035 With Project scenarios:

Mitigation Measure TR-1: Intersection 3 – Paseo Grande at Ontario Avenue: If the project is developed prior to the construction of the Foothill Parkway Extension then prior to issuance of any building permit for the project, the Applicant shall install a traffic signal and design for two-phase operation.

Mitigation Measure TR-2: Intersection 4 - Border Avenue at Ontario Avenue: Prior to issuance of any building permit for the project, a traffic signal designed for two-phase operation shall be installed. Intersection improvements shall include: 1) restriping of the eastbound shared left-through lane and the exclusive right-turn lane on Ontario Avenue to an exclusive left-turn lane and a shared through-right turn lane and 2) restriping of the westbound shared left-through lane and the exclusive right-turn lane on Ontario Avenue to an exclusive left-turn lane and a shared through-right turn lane.

Mitigation Measure TR-3: Intersection 10 - Elysia Street at Foothill Parkway: Prior to issuance of any building permit for the project, the Applicant shall install a traffic signal and design for five-phase operation to the satisfaction of the City.

Mitigation Measure TR-4: Intersection 11 - Trudy Way at Foothill Parkway: Prior to issuance of any building permit for the project, the Applicant shall install a traffic signal and design for three-phase operation to the satisfaction of the City.

b. Roadway Segments

Mitigation Measure TR-5: Roadway Segment 2 – Paseo Grande between Ontario Avenue and Green River Road: If the project is developed prior to the construction of the Foothill Parkway Extension then the Applicant shall improve this roadway segment to a 4-Lane Secondary Roadway to the satisfaction of the City prior to issuance of any building permit for the project.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the implementation of the mitigation measures, as appropriate, significant impacts would be reduced to a less than significant level.

Mitigation Measure TR-1 recommends improvements at the Paseo Grande/Ontario Avenue intersection to achieve an acceptable level of service under the Existing With Project traffic conditions. However, the traffic signal is not needed under the Year 2020 and Year 2035 traffic conditions since the traffic volumes at this intersection would be reduced as a result of the construction of the Foothill Parkway Extension, which will become the primary route for vehicles travelling east-west through the southern portion of the City as opposed to the current route via Ontario Avenue. However, in the unlikely event that the project was to be developed prior to the construction of the Foothill Parkway Extension, the mitigation measure would be necessary to reduce the impacts at the Paseo Grande/Ontario Avenue intersection to a less than significant level.

With regard to Mitigation Measure TR-2, the intersection of Border Avenue at Ontario Avenue is in the City's Fee Program as a master-planned traffic signal to be installed by the City.

Mitigation Measure TR-5 recommends improvements on Paseo Grande between Ontario Avenue and Green River Road. While the improvements would be necessary to reduce significant impacts under the Existing With Project scenario, the future traffic volumes would be substantially reduced as a result of the Foothill Parkway Extension, which will become the primary route for vehicles travelling east-west through the southern portion of the City as opposed to the current route via Ontario Avenue. However, although not expected to occur, in the unlikely event that the project was to be developed prior to the construction of the Foothill Parkway Extension, the mitigation measure would be necessary to reduce the impacts on the roadway segment to a less than significant level.

4. ENVIRONMENTAL IMPACT ANALYSIS
N. UTILITIES AND SERVICE SYSTEMS

INTRODUCTION

This section analyzes the potential impacts of the proposed project on utilities and service systems that serve the project site. The section evaluates whether the project's estimated water demand, wastewater generation, and solid waste generation would be accommodated by existing and proposed infrastructure, treatment facilities, and service systems. Existing conditions are described as well as the project's consistency with relevant plans, ordinances and regulations. Information is this section is based on correspondence with the City of Corona Department of Water and Power ("CDWP"), the City of Corona Public Works Department, and the Waste Management, Inc. ("WMI"), as well as information and findings obtained in the *Preliminary Water Report for the Skyline Heights Project* ("Water Report"), prepared by KWC Engineers, dated May 15, 2014; the *Preliminary Reclaimed Water Report* ("Reclaimed Water Report"), prepared by KWC Engineers, dated January 16, 2014; the *Preliminary Wastewater Report* ("Wastewater Report"), prepared by KWC Engineers, dated May 15, 2014; the *City of Corona Final 2010 Urban Water Management Plan* ("UWMP"), prepared by Carollo Engineers, dated April 2012; the *City of Corona General Plan* ("General Plan"), prepared by EIP Associates, adopted March 17, 2004; and the *City of Corona General Plan Technical Background Report* ("Technical Background Report"), prepared by EIP Associates, dated March 2004. Letters of correspondence with various public agencies and the Water Report, Reclaimed Water Report, and Wastewater Report are located in Appendices L, of this Draft EIR.

1. ENVIRONMENTAL SETTING

a. Existing Conditions

(1) City of Corona Water Supply[1]

Currently, the CDWP provides municipal water service to 154,627 persons through approximately 44,330 domestic service connections to a service area of approximately 39 square miles. This area includes approximately 32 square miles within the City's municipal area, and seven square miles within the City's Sphere of Influence ("SOI") in Riverside County. The City's water system obtains potable water from two sources: groundwater and imported water. A separate reclaimed water system is available for landscape irrigation and some industrial and dual plumbing uses. The City's reclaimed water distribution system currently consists of approximately 40 miles of pipeline with two gravity storage reservoirs, one pumped storage reservoir, four booster pump stations, and two pressure reducing stations. Groundwater is the primary source for potable water pumped from the Temescal, Bedford, and Coldwater Sub-Basins. The Temescal sub-basin is a Department of Water Resources ("DWR") defined sub-basin of the Upper Santa Ana Valley Groundwater Basin, bounded on the north by the Chino sub-basin and the south by the Elsinore Groundwater Basin. The Bedford and Coldwater Sub-Basins underlie the City's service area. The City's imported water supplier is the Western Municipal Water District ("WMWD"), a member of the Metropolitan Water District of Southern California ("Metropolitan"). Metropolitan's imported water originates from the Colorado River Aqueduct ("CRA") and the State Water Project ("SWP"). Treated imported water from

[1] *City of Corona Final 2010 Urban Water Management Plan, Carollo, April 2012.*

Metropolitan is delivered via a single imported water connection to the City's Mills Transmission Pipeline. Untreated imported water from Metropolitan is delivered to the City via three imported water connections on Metropolitan's Lower Feeder, the City's Lester Water Treatment Plant ("WTP"), Sierra del Oro WTP, and Green River WTP. For the past five years, total water supply has averaged 41,528 acre-feet per year ("AFY"), not including reclaimed water. In 2010, 19,218 acre-feet ("AF") came from groundwater sources (excluding treatment losses) and 13,427 AF from imported water supplies (excluding wheeled supply to Norco) for a total potable water supply of 32,645 AF. **Table 4.N-1**, *Current and Projected Water Supply (AFY)* shows the current and projected water supply from each water source.

Table 4.N-1

Current and Projected Water Supply (AFY)

Water Supply Sources	Annual Supply [a,b] (AFY)					
	2010[c]	2015	2020	2025	2030	2035
Imported Water (WMWD)	13,427	20,444	18,467	18,775	19,125	19,503
Groundwater	19,218	20,444	18,467	18,775	19,125	19,503
Total Potable	32,645	40,888	36,934	37,551	38,250	39,005
Reclaimed Water	3,308	5,222	6,873	6,873	6,783	6,783
Total	**35,953**	**46,110**	**43,807**	**44,423**	**45,123**	**45,879**

AFY = acre-feet per year; AF = acre-feet; WMWD = Western Municipal Water District;

[a] *Based on discussions with City staff and the 2008 GWMP, the City's supply goal is to maintain a potable supply mix of 50 percent groundwater and 50 percent imported water.*

[b] *The projected supply is based on projected demands which incorporate required water conservation targets associated with the Water Conservation Act of 2009.*

[c] *Historical data is used for 2010. Note that, since water usage was reduced in 2010, for conservative planning purposes water demand projections are not based on 2010 usage.*

Source: City of Corona Final 2010 Urban Water Management Plan, Carollo, April 2012.

The City maintains 23 active groundwater wells, eight supplying the Temescal Desalter, 13 directly supplying the potable water distribution system, and two that are inactive, with a total storage volume of 45.8 million gallons within 17 potable storage reservoirs. The City's annual amount of groundwater pumped by sub-basin since the 2005 UWMP is presented in **Table 4.N-2**, *Amount of Groundwater Pumped by the City of Corona.*

As shown in Table 4.N-2, the amount of groundwater pumped in the Temescal and Coldwater sub-basins has remained fairly consistent over the past five years. The City does not plan to rely on non-potable wells in the Bedford sub-basin in future years. **Table 4.N-3**, *Amount of Groundwater Projected to be Pumped by the City of Corona* breaks down the groundwater supply projections presented in Table 4.N-1. As shown in Table 4.N-3, the amount of groundwater pumped is anticipated to be fairly consistent through 2035.

The City's potable water distribution system consists of 595 miles of pipeline forming six primary pressure zones that serve elevations varying from a low point at 430 feet (Zone 1) in the Green River area to a high point of 1,640 feet (Zone 6) in South Corona. Pressures to City customers vary from about 40 pounds per square inch ("psi") to 150 psi. Water is delivered to the various pressure zones by 18 domestic water

Table 4.N-2

Amount of Groundwater Pumped by the City of Corona (AFY)
Historical Groundwater Pumped from Basin (AFY)

Basin	2006	2007	2008	2009	2010
Temescal Sub-basin	21,248	20,093	22,297	20,444	17,664
Bedford Sub-basin	151[a]	253[a]	268[a]	326[a]	258[a]
Coldwater Sub-basin	3,725	3,517	2,027	3,101	3,131
Total Potable Groundwater Supply[b]	**24,973**	**23,610**	**24,324**	**23,545**	**20,795**
Percent of Total Water Supply[b]	**57.3**	**53.1**	**59.5**	**62.1**	**54.1**

a Supply from Bedford Sub-basin is via non-potable wells supplying the reclaimed water system; thus the quantity from Bedford Sub-basin is not included in the potable water total.
b Excludes reclaimed water and supply from non-potable wells in Bedford Sub-basin.

Source: City of Corona Final 2010 Urban Water Management Plan, Carollo, April 2012.

booster pump stations ("bps"). The City operates 16 potable reservoirs ranging in size from 0.5 million gallons ("mg") to 6 mg with a total capacity of 43.3 mg. The City also operates two blending stations.

These stations blend high nitrate Temescal Basin groundwater with high quality imported water and Temescal Desalter product water to lower nitrates and total dissolved solids. The blended water meets the regulatory standards of the Environmental Protection Agency ("EPA") and California Department of Public Health ("DPH"). The City's pressure zones are interconnected between reservoirs and supply sources by major transmission mains, ranging in size from 12 inches to 36 inches in diameter, and bps. Distribution pipelines in the City's potable water distribution system generally range in size from two inches to 12 inches in diameter and are used to distribute water to residential developments and industrial and commercial users.

(2) Project Vicinity/Project Site Water Supply[2]

The project site is located in the City's southwestern water service area. The existing water facilities in the vicinity of the project site are located within the City's Zone 4 (1220' high water level ["HWL"]), Zone 5B (1345' HWL), and Zone 5 (1380' HWL) water service zones; refer to **Figure 4.N-1**, *Existing Water Facilities Plan*.

A new 16-inch Zone 5 (1380' HWL) waterline is proposed as part of the City's Foothill Parkway Westerly Extension Improvements and would be located in Foothill Parkway from Trudy Way to Mabey Canyon Road. This line reduces to a 12-inch line in Mabey Canyon Road and then connects into the existing Zone 5B (1345' HWL) Mabey Canyon Pumped Zone System. The new Zone 5 16-inch line would also continue northerly from Mabey Canyon Road to the Sierra Bella Development. According to the Water Study, this water line system is assumed to be in place prior to implementation of the proposed project.

[2] *Preliminary Water Report for the Skyline Heights Project, KWC Engineers, February 10, 2014.*

Table 4.N-3

Amount of Groundwater Projected to be Pumped by the City of Corona (AFY)
Annual Groundwater Pumped from Basin[a] (AFY)

Basin	2010[c]	2015	2020	2025	2030	2035
Temescal Sub-basin[b]	17,664	17,413	15,730	15,992	16,290	16,612
Bedford Sub-basin	0	0	0	0	0	0
Coldwater Sub-basin	3,131	3,031	2,737	2,783	2,835	2,891
Total	**20,795**	**20,444**	**18,467**	**18,775**	**19,125**	**19,503**

[a] *Based on the City's supply strategy outlined in the GWMP, supply from groundwater sources is anticipated to be 50 percent of the potable water supply. The supply projections shown here incorporate water conservation targets mandated by the Water Conservation Act of 2009. Treatment losses associated with the Temescal Desalter are not included for future years.*

[b] *As is discussed in Section 3.5.7 of the 2010 UWMP, the GWMP recommended average pumping of 12,000 AFY in the Temescal Sub-basin to prevent overdraft. It is anticipated that the City's efforts at recharging the Temescal Sub-basin will enable the projected groundwater pumping in excess of 12,000 AFY.*

[c] *Historical data is presented for 2010. Note that the 2010 total shown in this table is the total flow extracted from the groundwater basin and is greater than the supply shown in Table 4.N-1 due to flows associated with CWF 19 and 22 and treatment losses associated with the Temescal Desalter.*

Source: City of Corona Final 2010 Urban Water Management Plan, Carollo, April 2012.

The Zone 5 system pressure is supplied by the Mills Connection, Eagle Glen Zone 5 Booster Station, and Lester Zone 5 Booster Station. The zone serves elevations between 1,100 feet to 1,260 feet above mean sea level ("AMSL"). Water is stored in the Eagle Glen and Gilbert Reservoirs having capacities of 2.0 mg and 4.7 mg, respectively.

An existing 8-inch Zone 5B (1345' HWL) waterline is located in Mabey Canyon Road northeast of the project site. This sub zone is currently being served from the west by the Zone 4 system via an existing 1,250 gallons per minute ("gpm") hydro-pneumatic pump station. According to the CDWP staff, this subzone system would be enhanced with the proposed Zone 5 water system inter-connection improvements. As a result, the Mabey Canyon Booster Station would become a secondary water supply source for the Zone 5 system.

A new 16-inch Zone 4 water line is proposed as part of the City's Foothill Parkway Westerly Extension Improvements and would be located in Trudy Way from Foothill Parkway to the project site. This line would connect a new master plan Zone 4 Water Reservoir located at the project site. The reservoir shall be an underground tank and shall be constructed to CDWP standards and specifications. The tank is designed for a HWL of 1,220 feet. The proposed Zone 4 Reservoir would have a storage capacity of 2.5 mg. The approximate reservoir dimension is estimated as a 120-foot diameter tank at 30 feet high. The tank is situated on a pad elevation of 1,220 feet located on Lot "UU" at the west end of the project site. A 20-foot wide paved access road would be provided from "G" Street at a maximum grade of 12-percent. It is anticipated that the water system improvements noted above that would serve the project site would be in place prior to initiation of construction activities (see discussion below under Project Impacts).

The Zone 4 system pressure is supplied by the Mills Connection, Chase Booster Station, Border Booster Station, Lester Zone 4 Booster Station, and Zone 5 Pressure Reducing Stations. The zone serves elevations between 900 feet to 1,100 feet AMSL. Water is stored in the Hayden Reservoir, Upper and Main Reservoir, and Avenida Del Vista Reservoirs having capacities of 1.6 mg, 4.0 mg, and 1.6 mg, respectively.

EXISTING AVENIDA DEL VISTA RESERVOIR
1.60 MG (ZONE 4)
HWL ELEV. 1220

EXISTING MABEY CANYON BOOSTER STATION (ZONE 5B)
1250 GPM

EXISTING HARLAN HILLS BOOSTER STATION (ZONE 5A)
230 GPM

ZONE 5 WATER

ZONE 4 WATER

N.A.P.
A.P.N. 275-040-010
OPEN SPACE-CH

A.P.N. 275-030-008
OPEN SPACE-CH

A.P.N. 275-040-001
OPEN SPACE-CH

A.P.N. 275-040-004
EXISTING RESIDENCE

A.P.N. 275-040-005
VACANT
AGRICULTURE

A.P.N. 275-040-021
OPEN SPACE-CH

A.P.N. 275-050-014
VACANT
AGRICULTURE

A.P.N. 275-080-041
VACANT
AGRICULTURE

A.P.N. 275-070-004
VACANT
AGRICULTURE

A.P.N. 275-080-020
VACANT
AGRICULTURE

A.P.N. 275-080-021
VACANT
AGRICULTURE

A.P.N. 275-070-010
VACANT
AGRICULTURE

A.P.N. 275-080-011
OPEN SPACE-CH

A.P.N. 275-070-010
VACANT
AGRICULTURE

A.P.N. 275-080-009
OPEN SPACE-CH

EX. SINGLE FAMILY RES.
LOW DENSITY RES.
SP-83-1

EX. SINGLE FAMILY RES.
PLANNED COMMUNITY DEVELOPMENT

EX. SINGLE FAMILY RES.
LOW DENSITY RES.
R1-8.4

EX. SINGLE FAMILY RES.
LOW DENSITY RES.
R1-9.5

EX. SINGLE FAMILY RES.
LOW DENSITY RES.
R-1A

TRACT 28941
EX. SINGLE FAMILY RES.
LOW DENSITY RES.
R1-8.4

TRACT 31955
EX. SINGLE FAMILY RES.
LOW DENSITY RES.
R1-7.2

ZONE 5
ZONE 6A
ZONE 4

AVENIDA DEL VISTA
YELLOWSTONE VIRGOS CI
MOSS GREEN CI
VIVEN TRAIL CI
CHISHOLM TRAIL CI
MISTY MOUNTAIN DR
NEVADA DR
GLEASON ST
SQUITE LN
EMERSON DR
RAVEN CI
MABEY CANYON RD
HAWK CI
FALCON CI
CONDOR CI
BORDEN AV
ANTELOPE DR
PEACOCK LN
EAGLE CI
FOOTHILL PKWY
INDEPENDENCE WY
EARL ST
FREEDOM DR
IRONSIDES CI
CONSTITUTION DR
CENTENNIAL WY
CENTENNIAL CI
MERGANSER CI
MADAGASCAR DR
MANGULAR AV
OLD TRAIL DR
SALVADORI CI
CAPE DR
LABRADOR CI
POCHARD CI
TEAL DR
STEIN WY
STUART CI
WIGEON DR
GARGANEY DR
CLENWOOD CI
DOUGLAS WY
DEER HOLLOW DR
BONNYVIEW CI
NOBLE WY
TUDOR CI
LAMSEY LN
FOREST VIEW DR
CLEARVIEW CI
BANTON CI
CLAYVILLE WY
MEADOWCREST CI
W. CHASE DR
SKYLINE DR
FOLSOM CI
TRUDY WY
BRANNAN CI
CORBETT ST
ELMER RD
GARELLI CI
RAMEY ST

LEGEND

12" EXISTING 12" WATER

ZONE BOUNDARIES

N

700' 0 700'

SCALE IN FEET

PCR

Existing Water Facilities Plan

Skyline Heights Project
Source: KWC Engineers, 2015.

FIGURE
4.N-1

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(3) Project Vicinity/Project Site Reclaimed Water Facilities[3]

The existing water facilities in the vicinity of the project site are located within the City's Zone 3 (1380' HWL) reclaimed water service zones; refer to **Figure 4.N-2**, *Existing Reclaimed Water Facilities Plan*.

A new 12-inch Zone 3 reclaimed water line is proposed as part of the City's Foothill Parkway Westerly Extension Improvements and would be located in Foothill Parkway from Chase Drive to Serfas Club Drive and in Chase Drive from Foothill Parkway to Skyline Drive. This reclaimed water line is assumed to be in place prior to implementation of the proposed project. The Zone 3 system pressure is supplied by the WRF 3 Booster Station and Border Avenue Booster Station. The zone serves elevations between 1,033 feet to 1,355 feet AMSL. Water is stored in the Gilbert Reservoir and WRF 3 having a capacity of 1.0 mg and 1.0 mg, respectively. The project proposes a network of on-site reclaimed water pipelines to serve the project's HOA and landscaped areas. These areas will be served by a potable water connection until the DWP provides reclaimed water pipelines to the project area. It is anticipated that the reclaimed water system improvements noted above that would serve the project site would be in place prior to initiation of construction activities (see discussion below under Project Impacts).

(4) Water Demand[4]

The Water Conservation Act of 2009 ("SBx7-7") requires a per-capita reduction in water demand to a target per-capita demand based on the City's historic per-capita water demands. The City's baseline per-capita demand is calculated to be 265 gallons per capita per day ("gpcd"). The interim target per-capita demand for Year 2015 is 238 gpcd, while the City's Year 2020 Target is 212 gpcd. With reductions in per-capita water conservation, it is anticipated that the projected water demands will decrease from 44,331 AFY in 2010 to 39,005 AFY in 2035. Future water demand projections in five-year increments (from 2010 to 2035) are provided by the UWMP and based on projected population and shown in **Table 4.N-4**, *Demand Projections*.

As shown in Table 4.N-4, the City's demands are anticipated to decrease in years 2015 and 2020 as the City meets the required water demand targets associated with the Water Conservation Act of 2009. Over this time, the mandated reduction in demand outpaces the growth of population. After 2020, it is assumed that the per-capita demand will remain consistent with the water conservation target, and overall demand will increase with population growth.

(5) Supply Reliability[5]

There are two aspects of supply reliability that can be considered. The first relates to immediate service needs and is primarily a function of the availability and adequacy of the supply facilities. The second is climate-related, and involves the availability of water during mild or severe drought periods. This section compares the water supplies and demands during three water scenarios: normal water year, single dry water year, and multiple dry water years. The normal year is a year in the historical sequence that most closely represents median runoff levels and patterns. The supply quantities for this condition are derived from historical average yields. The single dry year is the year with the minimum useable supply. The supply quantifies for this condition are derived from the minimum historical annual yield. Multiple dry years are

[3] *Preliminary Reclaimed Water Report for the Skyline Heights Project, KWC Engineers, January 16, 2014.*

[4] *City of Corona Final 2010 Urban Water Management Plan, Carollo, April 2012.*

[5] *City of Corona Final 2010 Urban Water Management Plan, Carollo, April 2012.*

Table 4.N-4

Demand Projections

Year	Demand[a] (AFY)	Population	With County[b] (+5,000)	Per Capita Consumption (GPCD)
2010[c]	44,331	149,622	154,622	265
2015	40,888	153,335	158,335	238
2020	36,934	155,819	160,819	212
2025	37,551	158,421	163,421	212
2030	38,250	161,370	166,370	212
2035	39,005	164,558	169,558	212

[a] *Demand projections are based on water conservation targets associated with the Water Conservation Act of 2009.*
[b] *The water distribution system service area has a population of the approximately 5,000 additional people when compared to the City boundary. The population is associated with the unincorporated areas of Riverside County.*
[c] *Demand shown for 2010 is a projected demand based on the baseline per-capita usage, and does not reflect historical usage in 2010.*

Source: City of Corona Final 2010 Urban Water Management Plan, Carollo, April 2012.

three consecutive years with the minimum useable supply. Water systems are more vulnerable to these droughts of long duration, because they deplete water storage reserves in local and state reservoirs and in groundwater basins. The supply quantities for this condition are derived from the minimum historical three consecutive years' annual average yields. In the past few years, the City's potable water supply has shifted to be relatively evenly divided between water imported from WMWD and local groundwater. In identifying historic supply reliability conditions throughout dry year and multiple dry year events, the chosen years are consistent with the years in Metropolitan's 2010 Regional Urban Water Management Plan ("RUWMP"). Metropolitan has identified 1977 as the single driest year since 1922 and the years 1990 through 1992 as the driest multiple years over that same period. These years represent the years in which the least amount of imported water was available from Metropolitan.

Table 4.N-5, *Supply and Demand Comparison – Normal Year*, summarizes the available supplies comparison with project demands to determine if the City has sufficient water supplies available to meet future demand under average year conditions. While reclaimed water cannot be used to meet potable demands, it has been included in the supply reliability models in order to examine the City's total supply mix. As discussed above, the imported water supplies are based on the amount of supply Metropolitan has available as a percentage of normal year demands. While hydraulic capacity of the imported water connections and treatment capacity may exceed the imported water supply shown, it is anticipated that Metropolitan's available supply of imported water will be the limiting factor in the City's imported water supply. The reclaimed water supply is based on the treatment capacity of the City's WRFs. It is anticipated that the treatment capacity of the WRFs will be the limiting factor in the quantity of reclaimed water supply available.

As illustrated in Table 4.N-5, it is projected that the City has sufficient supplies available to meet both potable and reclaimed water demands through 2035 under average year conditions with a supply surplus ranging from 55 to 77 percent of the projected demands. Although the reclaimed water supply of 14,952 AFY cannot be used to meet potable demands, removing the 8,000 AFY difference between reclaimed water supply and demand does not affect the conclusion that sufficient supplies are available to meet potable demands.

PCR

Existing Reclaimed Water Facilities Plan

Skyline Heights Project
Source: KWC Engineers, 2015.

FIGURE
4.N-2

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Table 4.N-5

Supply and Demand Comparison – Normal Year

Forecast Year	2015	2020	2025	2030	2035
Water Sources					
Supply					
Projected Supply as a % of Demand During a Normal Year[a]	174%	197%	206%	193%	181%
Imported Water Supply[b]	35,517	36,399	38,676	36,840	35,320
Groundwater Supply	24,921	24,921	24,921	24,921	24,921
Reclaimed Water Supply[d]	11,201	14,952	14,952	14,952	14,952
Total Supply	**71,640**	**76,272**	**78,549**	**76,713**	**75,192**
% of Normal Year	100%	100%	100%	100%	100%
Demands					
Imported Water (AFY)	20,444	18,467	18,775	19,125	19,503
Groundwater[c] (AFY)	20,444	18,467	18,775	19,125	19,503
Reclaimed Water[f] (AFY)	5,222	6,783	6,783	6,873	6,783
Total Demand (AFY)	**46,110**	**43,807**	**44,424**	**45,123**	**45,878**
% of Year 2010[e] (AFY)	104%	99%	100%	102%	103%
Difference Supply – Demand	**25,529**	**32,465**	**34,125**	**31,591**	**29,314**
Difference as % of Supply	**36%**	**43%**	**43%**	**41%**	**39%**
Difference as % of Demand	**55%**	**74%**	**77%**	**70%**	**64%**

[a] *From Table 7.9 of UWMP.*

[b] *Calculated by multiplying the imported water demand with the imported water supply (%) from Row 1.*

[c] *Groundwater demands are established at 50 percent of total potable demands.*

[d] *Reclaimed water supply for 2015 is determined by tertiary treatment capacity in 2010; a portion of available wastewater flows were used for year 2020 and thereafter.*

[e] *Year 2010 deliveries were 44,331 AFY.*

[f] *Reclaimed water demands are not projected to offset potable demands in conservation projections since water conservation projections are targets that are independent of any potable water demand projections which would be subject to further offsets.*

Source: City of Corona Final 2010 Urban Water Management Plan, Carollo, April 2012.

As illustrated in Table 4.N-6, it is projected that the City has sufficient supplies available to meet both potable and reclaimed water demands through 2035 under single dry year conditions with a total supply surplus ranging from 17 to 34 percent of the projected demands. Although the reclaimed water supply of 14,952 AFY cannot be used to meet potable demands, removing the 7,000 AFY difference between reclaimed water supply and reclaimed water demand does not affect the conclusion that sufficient supplies are available to meet potable demands.

Similar to the normal year, **Table 4.N-6**, *Supply and Demand Comparison – Single Dry Year*, summarizes the available supplies comparison with project demands to determine if the City has sufficient water supplies available to meet future demand under single year conditions. The imported water supplies are based on the amount of supply Metropolitan anticipates having available in a single dry year as a percentage of normal year demands. While hydraulic capacity of the imported water connections and treatment capacity may exceed the imported water supply show, it is anticipated that Metropolitan's available supply of

Table 4.N-6

Supply and Demand Comparison – Single Dry Year

Forecast Year	2015	2020	2025	2030	2035
Water Sources					
Supply					
Projected Supply as a % of Demand During a Normal Year[a]	113%	129%	135%	125%	116%
Imported Water Supply[b]	27,009	27,739	29,644	27,961	26,408
Groundwater Supply[c]	24,921	24,921	24,921	24,921	24,921
Reclaimed Water Supply[d]	11,201	14,952	14,952	14,952	14,952
Total Supply	**63,131**	**67,612**	**69,517**	**67,834**	**66,281**
% of Normal Year	88%	89%	89%	88%	88%
Demands					
Imported Water	23,865	21,557	21,917	22,325	22,766
Groundwater[c]	23,865	21,557	21,917	22,325	22,766
Reclaimed Water[f]	6,096	8,023	8,023	8,023	8,023
Total Demand	**53,826**	**51,137**	**51,857**	**52,673**	**53,555**
% of Year 2010[e]	121%	115%	117%	119%	121%
Difference Supply – Demand	**9,305**	**16,475**	**17,660**	**15,161**	**12,726**
Difference as % of Supply	**15%**	**24%**	**25%**	**22%**	**19%**
Difference as % of Demand	**17%**	**32%**	**34%**	**29%**	**24%**

[a] *From Table 7.9 of UWMP.*
[b] *Calculated by multiplying the imported water demand with the imported water supply (%) from Row 1.*
[c] *Groundwater demands are established at 50 percent of total potable demands.*
[d] *Reclaimed water supply for 2015 is determined by tertiary treatment capacity in 2010; a portion of available wastewater flows were used for year 2020 and thereafter.*
[e] *Year 2010 deliveries were 44,331 AFY.*
[f] *Reclaimed water demands are not projected to offset potable demands in conservation projections since water conservation projections are targets that are independent of any potable water demand projections which would be subject to further offsets. Note that the City could work to convert more customers to reclaimed water during a drought year, but this effort would take time to implement.*

Source: City of Corona Final 2010 Urban Water Management Plan, Carollo, April 2012.

imported water will be the limiting factor in the City's imported water supply. Similar to the normal year, the reclaimed water supply shown in Table 4.N-6 is based on the treatment capacity of the City's WRFs. It is anticipated that the treatment capacity of the WRSs will be the limiting factor in the quantity of reclaimed water supply available and that the single dry year drought will have a limited impact on the quantity of wastewater available for use in the reclaimed water systems. The reclaimed water demands are anticipated to increase in a single dry year similar to potable water demands. It is expected that the decreased rainfall associated with a single dry year will require additional irrigation demands.

Table 4.N-7, *Supply and Demand Comparison – Multiple Dry Year No. 1*, **Table 4.N-8**, *Supply and Demand Comparison – Multiple Dry Year No. 2*, and **Table 4.N-9**, *Supply and Demand Comparison – Multiple Dry Year No. 2*, summarizes the available supplies comparison with project demands to determine if the City has sufficient water supplies available to meet future demand under multiple dry year conditions.

Table 4.N-7

Supply and Demand Comparison – Multiple Dry Year No. 1

Forecast Year	2015	2020	2025	2030	2035
Water Sources					
Supply					
Projected Supply as a % of Demand During a Normal Year[a]	101%	110%	110%	105%	101%
Imported Water Supply[b]	23,993	23,813	24,192	23,470	22,918
Groundwater Supply[c]	24,921	24,921	24,921	24,921	24,921
Reclaimed Water Supply[d]	11,201	14,952	14,952	14,952	14,952
Total Supply	**60,115**	**63,686**	**64,065**	**63,343**	**62,791**
% of Normal Year	84%	83%	82%	83%	84%
Demands					
Imported Water	23,865	21,557	21,917	22,325	22,766
Groundwater[c]	23,865	21,557	21,917	22,325	22,766
Reclaimed Water[f]	6,096	8,023	8,023	8,023	8,023
Total Demand	**53,826**	**51,137**	**51,857**	**52,673**	**53,555**
% of Year 2010[e]	121%	115%	117%	119%	121%
Difference Supply – Demand	**6,290**	**12,549**	**12,208**	**10,670**	**9,236**
Difference as % of Supply	**10.5%**	**20%**	**19%**	**17%**	**14.7%**
Difference as % of Demand	**11.7%**	**25%**	**24%**	**20%**	**17.2%**

[a] *From Table 7.9 of UWMP.*

[b] *Calculated by multiplying the imported water demand with the imported water supply (%) from Row 1.*

[c] *Groundwater demands are established at 50 percent of total potable demands.*

[d] *Reclaimed water supply for 2015 is determined by tertiary treatment capacity in 2010; a portion of available wastewater flows were used for year 2020 and thereafter.*

[e] *Year 2010 deliveries were 44,331 AFY.*

[f] *Reclaimed water demands are not projected to offset potable demands in conservation projections since water conservation projections are targets that are independent of any potable water demand projections which would be subject to further offsets. Note that the City could work to convert more customers to reclaimed water during a drought year, but this effort would take time to implement.*

Source: City of Corona Final 2010 Urban Water Management Plan, Carollo, April 2012.

Similar to the single-dry year, the imported water supplies shown in Table 4.N-7, 4.N-8, and 4.N-9 are based on the amount of supply Metropolitan anticipates having available in multiple dry years as a percentage of normal year demands. While hydraulic capacity of the imported water connections and treatment capacity may exceed the imported water supply shown, it is anticipated that Metropolitan's available supply of imported water will be the limiting factor in the City's imported water supply.

As illustrated in Table 4.N-7 through Table 4.N-9, the projected demands for each source are lower than the projected supplies in each year of a 3-year multiple dry year period. As with normal year and dry year scenarios, the reclaimed water supply cannot be used to meet potable demands, but even after removing the 7,000 AFY of surplus of reclaimed supply (the difference between reclaimed water supply and reclaimed water demand), sufficient potable water supplies are available to meet potable demands in all three years of the multiple dry year scenario. In the projected year with the least supply surplus, year 2015 as the first

Table 4.N-8

Supply and Demand Comparison – Multiple Dry Year No. 2

Forecast Year	2016	2021	2026	2031	2036
Water Sources					
Supply					
Projected Supply as a % of Demand During a Normal Year[a]	101%	110%	110%	105%	101%
Imported Water Supply[b]	23,529	23,893	24,282	23,563	23,008
Groundwater Supply[c]	24,921	24,921	24,921	24,921	24,921
Reclaimed Water Supply[d]	11,201	14,952	14,952	14,952	14,952
Total Supply	**59,651**	**63,766**	**64,155**	**63,436**	**62,881**
% of Normal Year	83%	84%	82%	83%	84%
Demands					
Imported Water	23,403	21,629	21,999	22,413	22,856
Groundwater[c]	23,403	21,629	21,999	22,413	22,856
Reclaimed Water[f]	6,096	8,023	8,023	8,023	8,023
Total Demand	**52,903**	**51,281**	**52,020**	**52,850**	**53,735**
% of Year 2010[e]	119%	116%	117%	119%	121%
Difference Supply – Demand	**6,749**	**12,485**	**12,135**	**10,587**	**9,146**
Difference as % of Supply	**11.3%**	**20%**	**19%**	**17%**	**14.5%**
Difference as % of Demand	**12.8%**	**24%**	**23%**	**20%**	**17%**

[a] *From Table 7.9 of UWMP.*

[b] *Calculated by multiplying the imported water demand with the imported water supply (%) from Row 1.*

[c] *Groundwater demands are established at 50 percent of total potable demands.*

[d] *Reclaimed water supply for 2015 is determined by tertiary treatment capacity in 2010; a portion of available wastewater flows were used for year 2020 and thereafter.*

[e] *Year 2010 deliveries were 44,331 AFY.*

[f] *Reclaimed water demands are not projected to offset potable demands in conservation projections since water conservation projections are targets that are independent of any potable water demand projections which would be subject to further offsets. Note that the City could work to convert more customers to reclaimed water during a drought year, but this effort would take time to implement.*

Source: City of Corona Final 2010 Urban Water Management Plan, Carollo, April 2012.

year in multiple dry year sequence, there is 6,290 AFY of surplus including reclaimed water. After deducting the 5,106 AFY surplus of reclaimed water, there is still a surplus of 1,184 AFY when comparing potable supplies to potable demands. In that scenario, the potable surplus is still two percent greater than the potable demand. Although the increase in demands outstrips Metropolitan's growth in supply as a percentage, Metropolitan is still projected as being able to meet the total volume of potable water needed by the City. In several of the multiple dry year scenarios, Metropolitan supply capability will be taxed within a few hundred acre feet of its availability, but in all cases demands will be met. The projected available supply from Metropolitan only includes the existing supply programs and does not include the programs that are currently under development that are estimated to increase the imported water supplies by 17 to 39 percent, depending on the planning year and hydraulic conditions. These planned programs increase the total available imported water supply relatively more during single and multiple dry years than during average years. Both potable water and reclaimed water demands during single and multiple dry years are assumed to increase by 17 percent, which represents the maximum per capita demand increase in the period 1990 through 2009. It can be concluded that the City has sufficient supplies available to meet both potable

Table 4.N-9

Supply and Demand Comparison – Multiple Dry Year No. 3

Forecast Year	2017	2022	2027	2032	2037
Water Sources					
Supply					
Projected Supply as a % of Demand During a Normal Year[a]	101%	110%	110%	105%	101%
Imported Water Supply[b]	23,065	23,972	24,372	23,656	23,099
Groundwater Supply[c]	24,921	24,921	24,921	24,921	24,921
Reclaimed Water Supply[d]	11,201	14,952	14,952	14,952	14,952
Total Supply	**59,187**	**63,845**	**64,245**	**63,529**	**62,972**
% of Normal Year	83%	84%	82%	83%	84%
Demands					
Imported Water	22,942	21,701	22,080	22,501	22,946
Groundwater[c]	22,942	21,701	22,080	22,501	22,946
Reclaimed Water[f]	6,096	8,023	8,023	8,023	8,023
Total Demand	**51,980**	**51,425**	**52,184**	**53,026**	**53,915**
% of Year 2010[e]	117%	116%	118%	120%	122%
Difference Supply – Demand	**7,208**	**12,420**	**12,062**	**10,503**	**9,057**
Difference as % of Supply	**12.2%**	**19%**	**19%**	**17%**	**14.4%**
Difference as % of Demand	**13.9%**	**24%**	**23%**	**20%**	**16.8%**

[a] *From Table 7.9 of UWMP.*
[b] *Calculated by multiplying the imported water demand with the imported water supply (%) from Row 1.*
[c] *Groundwater demands are established at 50 percent of total potable demands.*
[d] *Reclaimed water supply for 2015 is determined by tertiary treatment capacity in 2010; a portion of available wastewater flows were used for year 2020 and thereafter.*
[e] *Year 2010 deliveries were 44,331 AFY.*
[f] *Reclaimed water demands are not projected to offset potable demands in conservation projections since water conservation projections are targets that are independent of any potable water demand projections which would be subject to further offsets. Note that the City could work to convert more customers to reclaimed water during a drought year, but this effort would take time to implement.*

Source: City of Corona Final 2010 Urban Water Management Plan, Carollo, April 2012.

and reclaimed water demands through 2035 under average, single dry year, and multiple dry year conditions.

(6) Future Supply Projects and Programs[6]

Metropolitan plans to meet its supply reliability goal through the following programs:

- Surface water storage programs related to the SWP and Colorado River;
- Colorado River water management programs;
- SWP management programs;
- Central Valley/SWP storage and transfer programs;

[6] *City of Corona Final 2010 Urban Water Management Plan, Carollo, April 2012.*

- Water conservation;
- Development of local supplies (such as the desalter);
- Water reclamation projects;
- Ocean desalination programs; and
- Groundwater banking programs in the Southern California region (Riverside – Corona Feeder).

The projected increase in supply availability due to these programs under average year conditions is summarized in **Table 4.N.10**, *Metropolitan's Current and Planned Supply Programs.*

Table 4.N-10

Metropolitan's Current and Planned Supply Programs (AFY)

Forecast Year	2015	2020	2025	2030	2035
		Current Programs			
In-Region Storage and Programs	685,000	931,000	1,076,000	964,000	830,000
California Aqueduct	1,550,000	1,629,000	1,763,000	1,733,000	1,734,000
Colorado River Aqueduct	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000
Capability of Current Programs	**3,485,000**	**3,810,000**	**4,089,000**	**3,947,000**	**3,814,000**
		Under Development			
In-Region Storage and Programs	206,000	306,000	336,000	336,000	336,000
California Aqueduct	382,000	383,000	715,000	715,000	715,000
Colorado River Aqueduct	187,000	187,000	187,000	182,000	182,000
Capability of Planned Programs	**588,000**	**689,000**	**1,051,000**	**1,051,000**	**1,051,000**
		Supply Increase			
Total (AFY)	**4,073,000**	**4,499,000**	**5,140,000**	**4,998,000**	**4,865,000**
Total (%)	**+17%**	**+18%**	**+26%**	**+27%**	**+28%**

Source: City of Corona Final 2010 Urban Water Management Plan, Carollo, April 2012.

At this time, the WMWD has outlined plans for over 90 projects which range in scale from regional to local, but all of which provide some benefit to the City. These projects fall primarily into the following categories:

- Conveyance;
- Conjunctive Management and Groundwater Storage;
- Reclaimed Municipal Water;
- Flood Control;
- Groundwater and Aquifer Remediation;
- Matching Water Quality to Use;

- Pollution Prevention;
- Recharge Area Protection; and
- Urban Runoff Management

The following projects have been planned by the City to enhance the operations and reliability of the City's water infrastructure:

- New Water Wells;
- Replacement Water Wells;
- Rincon Groundwater Treatment Project;
- Wellhead Treatment for Wells 7 and 17;
- El Sobrante Groundwater Treatment Project;
- Groundwater Blending Program;
- Improvement of Groundwater Quality/Quantity Monitoring Program;
- Coldwater Sub-basin Enhanced Recharge Program;
- Recharge Basins with Oak Avenue Detention Basin;
- Recharge Basins with Main Street Detention Basin;
- Upgradient Injection Wells;
- Reclaimed Water Injection Wells;
- Reclaimed Water Zone 3 to Zone 2 Interconnect;
- Lincoln and Cota Street Percolation Ponds Maintenance Program;
- Lee Lake Water District's Discharge to Bedford Sub-basin; and
    - Wastewater Treatment Plant ("WWTP") 2 and 1A Upgrade to Tertiarty.

Implementation of the identified project will allow the City to maintain and expand its water supply and distribution infrastructure, increasing supply reliability and reliability of its water and reclaimed water distribution systems.

(7) City of Corona Wastewater[7]

The City currently provides approximately 3,570 AFY of reclaimed water to 199 customers. The existing demand is supplied from the City's WRF 1 and WRF 3. The existing system consists of two service zones, two gravity storage reservoirs, one pumped storage reservoir, four booster pump stations, two storage tanks, two pressure reducing stations, one surge anticipator valve, and approximately 210,000 feet of pipe ranging from four inches to 24 inches in diameter. **Table 4.N-11**, *Wastewater Collection and Treatment (AFY)* summarizes the past, current, and projected wastewater volumes collected and treated, and the quantity of wastewater treated to recycled water standards for treatment plants within the CDWP's service area. The

Table 4.N-11

Wastewater Collection and Treatment (AFY)

Type of Wastewater	Fiscal Year Ending 2005	2010	2015	2020	2025	2030	2035-opt
Wastewater Collected & Treated in Service Area[a]	13,395	14,315	15,235	16,155	17,075	17,994	18,914
Volume that Meets Recycled Water Standards[b]	65[c]	3,308	5,222	6,873	6,873	6,873	6,873

[a] *Collection and treatment figures were generated by linearly interpolating flow projections for 2003 and 2035 from the SMP.*

[b] *The 2020 reclaimed water volume is from billing data. Further, reclaimed water volume is based on the anticipated plans for expansion discussed in the 2010 RWMP. Based on discussions with City staff, it is anticipated that expansion of the reclaimed water system as discussed in the 2020 RWMP will occur by 2020 and further expansion will not be necessary. Note that only the amount of flow projected for use in the reclaimed water system is shown here. Some of the non-reclaimed wastewater discharged to percolation ponds and the Temescal Creek are treated to tertiary treatment standards as will be discussed later.*

[c] *Based on average demand of Butterfield Park. The City supplied Butterfield Park with reclaimed water prior to the rest of the reclaimed water system as a part of a pilot project.*

Source: City of Corona Final 2010 Urban Water Management Plan, Carollo, April 2012.

projections of wastewater flow illustrated in Table 4.N-11 are derived from the City's 2005 Sewer Master Plan. The projections were generated by linearly interpolating flow projections for 2003 and 2035 from the SMP. The 2010 reclaimed water volume is from the City's current Reclaimed Water Master Plan. For 2010, approximately 25 percent of wastewater collected in the City was supplied to the reclaimed water systems.

Table 4.N-12, *Water Reclamation Facilities,* illustrates the capacity of the City's WRFs and provides anticipated future expansion capacities based on the 2010 RWMP. There are currently plans for both tertiary treatment capacity and total treatment capacity to be expanded in the future. While only two of the three WRFs are currently capable of providing tertiary treatment to wastewater, all three facilities are planned to have a tertiary filter rating in the future. **Table 4.N-13**, *Disposal of Non-Reclaimed Wastewater*, summarizes the disposal method and treatment level of discharge volumes. As illustrated in Table 4.N-13, annual discharge flow for disposal of wastewater is projected to remain relatively constant. This is mostly due to projected increases in reclaimed water use in the City. Wastewater from City WRFs that is not sent to the reclaimed water distribution system is discharged to percolation ponds. During periods of low irrigation demand, the City's WRFs discharge tertiary water to Temescal Creek.

(8) Project Vicinity/Project Site Wastewater

The project site is located in the CDWP service area. The project site drainage area drains west towards the existing Wastewater Treatment Plant ("WWTP") 1. The current treatment capacity of WWTP 1 is 11.5 million gallons per day ("mgd") with an expected future reliable treatment capacity of 14.5 mgd with improvements. The project's proposed sewer flows would tie into the City's existing trunk sewer system,

[7] *City of Corona Final 2010 Urban Water Management Plan, Carollo, April 2012.*

Table 4.N-12

Water Reclamation Facilities

Water Reclamation Facility	Flow (mgd) Current Plan Capacity	Current Tertiary Filter Rating	Future Plant Capacity	Future Tertiary Filter Rating
1	11.5	9.0	15.5	15.5
2	3.0	-	6.0	3.0
3	1.0	1.0	5.0	5.0
Total	**15.5**	**10.0**	**26.5**	**23.6**

[a] *The plant capacities and anticipated future plant capacities are from the 2010 RWMP.*

Source: City of Corona Final 2010 Urban Water Management Plan, Carollo, April 2012.

Table 4.N-13

Disposal of Non-Reclaimed Wastewater

Method of Disposal	Treatment Level	Annual Discharge Flow (AFY) 2010	2015	2020	2025	2030	2035-opt
Percolation Ponds	Secondary	6,225	-	-	-	-	-
Percolation Ponds	Tertiary	-	8,961	8,961	8,961	8,961	8,961
Temescal Creek	Tertiary	3,063	5,495	5,495	5,495	5,495	5,495
Total		**9,288**	**14,457**	**14,457**	**14,457**	**14,457**	**14,457**

Source: City of Corona Final 2010 Urban Water Management Plan, Carollo, April 2012.

Sewershed 14 is located generally west of Lincoln Avenue between the Prado Flood Control Basin and the southerly City boundary. The trunk sewers in Sherman Avenue and Smith Avenue transport wastewater flows north to the 42-inch Railroad Trunk Sewer. These flows are tributary to the WWTP 1.

Sewershed 16 is located from west of Lincoln Avenue to east of Kellogg and Garretson Avenue, extending from the northerly service area boundary to the southerly City limits. Trunk sewers in Buena Vista Avenue, Vicentia Avenue, Sheridan Street, Victoria Avenue, and Joy Street convey waste water flows from the south to the 42-inch Railroad Trunk Sewer. Flows north of Temescal Wash are collected at the Joy and Parkridge Lift Station and then pumped across the wash to Harrison Street. From this point, the sewage flows by gravity to Railroad Street. These flows are tributary to the WWTP 1.

(9) Solid Waste

The CDWP administers the contract for solid waste, recycling, and green waste collection services within the city of Corona with Waste Management, Inc. ("WMI"). Riverside County also contracts with WMI to provide solid waste and recycling services to all residential, commercial, and industrial customers within the unincorporated portions of the County. Waste Management of the Inland Empire serves over 220,000 residents, disposing of over 17,000 tons of waste on a weekly basis in the Inland Empire. The El Sobrante

Landfill, located at 10910 Dawson Canyon Road, Corona, is presently used for refuse collected within the City, including the project site, and has a total capacity to process up to 70,000 tons of waste per week with an expected closure date in 2045.[8]

WMI provides single-family residential units within the City with a total of three bins: one for trash, one for recyclable materials, and one for yard and green waste. In addition, WMI does not have specific volume limitations for refuse collection which is collected on a weekly basis. City service collection for all services (refuse, recycling and green waste) occurs weekly, while County refuse occurs weekly and recyclable pick-up occurs on a biweekly basis. County residents do not presently have green waste pick up service. City residential WMI customers pay refuse collection fees through the water/utility bills while commercial and industrial customers are billed directly from WMI. County residents and customers are billed directly through WMI. Recyclable goods collected within the City are processed by Burrtec Waste Industries while City green waste collected within the City is processed through Viramontes Express. WMI also provides no-charge bulky item collections twice a year to County residential customers and three times a year to City residential customers.

Commercial trash pickup is provided by WMI for up to six days a week. Commercial customers have an average size bin of approximately three cubic yards that are generally collected twice a week. Multi-family residential units are considered commercial accounts under the WMI as those units do not have individual unit pick-ups. WMI offers commercial accounts 50 to 60 recycling bins in an effort to reduce the amount of un-recyclable trash. As stated below, AB 939 requires a 25 percent reduction in solid waste by 1995 and a 50 percent reduction by 2000. However, WMI's contract with the City predates AB 939 recycle/waste diversion program and is not obligated to meet AB 939 requirements; rather WMI has been assigned to facilitate the City's compliance with AB 939 requirements through the Amendment for the Collection of Recycle Materials. As shown in the 1996 Annual Report, the City was able to divert approximately 35.5 percent of waste through recycling, reduction of solid waste amount, and public education. For the 2005, the City was able to divert approximately 46 percent of waste through recycling and solid waste reduction practices.

WMI offers a roll-off program for industrial refuse collections in which over-sized objects such as concrete, rock, and soil would not fit in regular trash bins. The roll-off containers are able to contain approximately 10 tons of trash. Non-residential accounts with the Specific Plan would pay WMI directly for solid waste disposal services. Solid waste pick-up services are available to the project site through the WMI.[9]

b. Regulatory Framework

(1) Water Supply

(a) Safe Drinking Water Act

The Safe Drinking Water Act (California Health and Safety Code Sections 116350-116405) is intended to protect public health by regulating the nation's public drinking water supply. The Act authorizes the U.S. Environmental Protection Agency ("USEPA") to set national standards for drinking water to protect against both naturally occurring and man-made contaminants.

[8] *Steve Wilkson, City of Corona Public Works – Waste Management/Recycling, email correspondence, dated February, 28, 2014.*

[9] *Steve Wilkson, City of Corona Public Works – Waste Management/Recycling, email correspondence, dated February, 28, 2014.*

(b) National Primary Drinking Water Regulations

The National Primary Drinking Water Regulations (primary standards), also known as maximum contaminant levels, are legally enforceable standards that are set and enforced by the USEPA and that apply to public water systems. Primary standards protect public health by limiting the levels of contaminants in drinking water.

(c) National Secondary Drinking Water Regulations

The National Secondary Drinking Water Regulations are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. The USEPA recommends the secondary standards to water systems, but does not require the systems to comply. However, States may choose to adopt them as enforceable standards. Title 22 of the California Code of Regulations ("CCR") (Division 4, Chapter 15, "Domestic Water Quality and Monitoring Regulations") provides the regulatory requirements for potable water quality in California.

(d) Domestic Water Quality and Monitoring Regulations

The requirements of Title 22 (as revised in 1978, 1990, and 2001) establish the quality and/or treatment processes required for a recycled effluent to be used for a non-potable application. In addition to recycled water uses and treatment requirements, Title 22 addresses sampling and analysis requirements at the treatment plant, preparation of an engineering report prior to production or use of recycled water, general treatment design requirements, reliability requirements, and alternative methods of treatment. Permits are issued to each water recycling project by one of the nine Regional Water Quality Control Boards ("RWQCBs"). These permits include water quality and public health protections. Title 22 is enforced by the RWQCBs and regulates the sources, uses, plumbing requirements, sampling and analysis, reporting, design, and treatment requirements of recycled water in California. Title 17 of the CCR regulates the protection of the potable water supply through the control of cross-connections with potential contaminants, including recycled water.

(e) California Urban Water Management Plan Act

The California Urban Water Management Planning Act (California Water Code ["CWC"] Division 6, Part 2.6, Sections 10610-10656) addresses several State policies regarding water conservation and the development of water management plans to ensure the efficient use of available supplies. The California Urban Water Management Planning Act also requires water suppliers to develop water management plans every five years to identify short-term and long-term demand management measures to meet growing water demands during normal, dry, and multiple-dry years. Specifically, municipal water suppliers that serve more than 3,000 customers or provide more than 3,000 AF per year of water must adopt an Urban Water Management Plan ("UWMP"). The City adopted the 2010 UWMP.

(f) Water Conservation Target Methods per SBx7-7

The Water Conservation Act of 2009 (SBx7-7), enacted November 2009, governs water conservation in the State of California. This law requires that all water suppliers increase water use efficiency with the overall goal to decrease per-capita consumption within the state by 20 percent by 2020. The bill requires the DWR to develop certain criteria, methods, and standard reporting forms through a public process that can be used by water suppliers to establish their baseline water use and determine their water conservation goals. DWR

provides four different methods to establish water conservation targets. These four methods can be summarized as follows:

- Method 1 – Baseline Reduction Method. The 2020 water conservation target of this method is defined as a 20-percent reduction of average per-capita demand during a 10-year continuous baseline period that should end between 2004 and 2010.
- Method 2 – Efficiency Standard Method. The 2020 water conservation target of this method is based on calculating efficiency standards for indoor use separately from outdoor use for residential sectors and an overall reduction of ten percent for commercial, industrial, and institutional sectors. The aggregated total of the efficiency standards in each area is then used to create a conservation target.
- Method 3 – Hydrologic Region Method. This method uses the ten regional urban water use targets for the state. Based on the water supplier's location within one of these regions, a static water use conservation target for both 2015 and 2020 is assigned.
- Method 4 – BMP-Based Method. This method uses previous BMPs of a supplier in order to establish a conservation target for 2020. Depending on how aggressively the water supplier has pursued water reduction and conservation in the past, a new conservation target for 2020 will be assigned.

(g) Senate Bill 610, Senate Bill 221, and Senate Bill 7

State legislation addressing water supply, Senate Bill ("SB") 610 and SB 221, became effective January 1, 2002. SB 610, codified in CWC §10910 et seq., describes requirements for both water supply assessments ("WSAs") and UWMPs applicable to the California Environmental Quality Act ("CEQA") process. SB 610 requires that for projects subject to CEQA, which meet specific size criteria, the water supplier must prepare a WSA that determines whether the projected water demand associated with a proposed project is included as part of the most recently adopted UWMP. Specifically, a WSA shall identify existing water supply entitlements, water rights, or water service contracts held by the public water system, and prior years' water deliveries received by the public water system. In addition, it must address water supplies over a 20-year period and consider normal, single-dry, and multiple-dry year conditions. In accordance with SB 610 and Section 10912 of the CWC, such projects subject to CEQA requiring completion of a WSA include the following:

- 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;
- Hotels, motels, or both, having more than 500 rooms;
- Industrial, manufacturing, or processing plants, or industrial parks planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- Mixed-use projects that include one or more of the projects specified in this subdivision; or
- Projects that would demand an amount of water equivalent to or greater than the amount of water required by a 500 dwelling unit project.

The WSA must be approved by the public water system at a regular or special meeting and must be incorporated into the CEQA document. The lead agency must then make certain findings related to water supply based on the WSA.

In addition, under SB 610, a water supplier responsible for the preparation and periodic updating of an UWMP must describe the water supply projects and programs that may be undertaken to meet the total project water use of the service area. If groundwater is identified as a source of water available to the supplier, the following additional information must be included in the UWMP: (1) a groundwater management plan; (2) a description of the groundwater basin(s) to be used and the water use adjudication rights, if any; (3) a description and analysis of groundwater use in the past five years; and (4) a discussion of the sufficiency of the groundwater that is projected to be pumped by the supplier.

Complementary legislation to SB 610 was enacted on November 10, 2009, with the passage of SB 7. SB 7 mandates new water conservation goals for UWMPs, requiring urban water suppliers to achieve a 20 percent per capita water consumption reduction by the year 2020 statewide, as described in the "20 x 2020" State Water Conservation Plan.[10] As such, each updated UWMP must now incorporate a description of how each respective urban water supplier will quantitatively implement this water conservation mandate, in addition to the requirements of SB 610.

SB 221 also addresses water supply in the land use planning process and focuses on new residential subdivisions in non-urban areas. SB 221 requires that written verification from the water service provider be submitted indicating sufficient water supply is available to serve a proposed subdivision, or the local agency shall make a specified finding that sufficient water supplies are or will be available prior to completion of a project. SB 221 specifically applies to residential subdivisions of 500 units or more. In addition, Government Code Section 66473.7(i) exempts "…any residential project proposed for a site that is within an urbanized area and has been previously developed for urban uses; or where the immediate contiguous properties surrounding the residential project site are, or previously have been, developed for urban uses; or housing projects that are exclusively for very low and low-income households."

The proposed project would introduce 292 single-family detached residential dwellings. Therefore, a WSA is not required for the proposed project.

(h) Assembly Bill 3030

Assembly Bill ("AB") 3030, the Groundwater Management Act, is Section 10750 et. seq. of the California Water Code. AB 3030 provides local water agencies with procedures to develop a voluntary groundwater management plan to manage their groundwater resources efficiently and safely while protecting the quality of supplies. Once a plan is adopted, the rules and regulations contained therein must also be adopted to implement the program outlined in the plan.

(i) Efficiency Standards – Title 20 and 24 California Administrative Code

Title 24 of the California Administrative Code contains the California Building Standards, including the California Plumbing Code (Part 5) which promotes water conservation. Title 20 addresses Public Utilities

[10] *California State Water Resources Control Board, 20 x 2020 Water Conservation Plan, February 2010. http://www.swrcb.ca.gov/water_issues/hot_topics/20x2020/docs/20x2020plan.pdf.*

and Energy and includes appliance efficiency standards that promote water conservation. In addition, many State laws require water-efficient plumbing fixtures in structures and are listed below:

- Title 24, California Administrative Code, Sections 25352(i) and (j) address pipe insulation requirements, which can reduce water used before hot water reaches equipment or fixtures. Insulation of water-heating systems is also required.
- Title 20, California Administrative Code, Section 1604(g) establishes efficiency standards that give the maximum flow rate of all new showerheads, lavatory faucets, sink faucets and tub spout diverters.
- Title 20, California Administrative Code, Section 1606 prohibits the sale of fixtures that do not comply with established efficiency regulations.
- Health and Safety Code, Section 17921.3 requires low-flush toilets and urinals in virtually all buildings.
- Health and Safety Code, Section 116785 prohibits installation of residential water softening or conditioning appliances unless certain conditions are satisfied and includes the requirement that water conservation devices on fixtures using softened or conditioned water be installed.

(j) California Code of Regulations

Title 20, Sections 1605.1(h) and 1605.1(i) of the CCR establishes efficiency standards (i.e., maximum flow rates) for all new federally-regulated plumbing fittings and fixtures, including showerheads and lavatory faucets. The maximum flow rate for showerheads and lavatory faucets are 2.5 gpm at 80 pounds psi and 2.2 gpm at 60 psi, respectively. In addition, Section 1605.3(h) establishes State efficiency standards for non-federally regulated plumbing fittings, including commercial pre-rinse spray valves.

(k) Global Warming and Climate Change

Global warming and climate change should be considered in assessing water supply in California. Potential impacts of climate change on California's water resources include changes in both water and air temperature, changes in precipitation patterns, and changes in sea levels that could increase pressure on the Sacramento-San Joaquin River Delta (Delta) levees. The impact of climate change on California's water supply has already been the subject of study. In response to Governor's Executive Order S-3-05, California DWR prepared its most recent report on this issue in May 2009, entitled "Using Future Climate Projections to Support Water Resources Decision Making in California," which presents an overview of the advances that DWR has made toward using future climate projection information to support decision making by quantifying possible impacts to water resources for a range of future climate scenarios. Advances have been made in using future climate projection information in water resources planning in California, including improved understanding of how well selected climate models represent historical climate conditions and refined methodologies for representing stream flows, outdoor urban and agricultural water demands, and sea level rise in planning tools. The range of impacts presented indicated the need for adaptation measures to improve the reliability of future water supplies in California.[11]

[11] *"Using Future Climate Projections to Support Water Resources Decision Making in California," May 2009, California Department of Water Resources, page 2.*

DWR has further addressed the issue of climate change and how it can affect California's water supply, by undertaking mitigation and adaptation measures. DWR is a member of the California Climate Action Registry and is listed as a "Climate Action Leader" for reporting its greenhouse gas emissions for three consecutive years (2007, 2008 and 2009), and having the data verified by third party audit.[12] In 2008, DWR adopted the "Climate Change Adaptation Strategy," which urges a new approach to California's water and other natural resources in the face of changing climate.[13] In 2009, DWR adopted its own Sustainability Policy, and in 2010, DWR established clear and measurable goals for sustainability implementations.[14],[15]

In December 2010, DWR prepared a survey which presents summaries of 13 different reports and studies prepared by DWR addressing climate change entitled "Climate Change Characterization and Analysis in California Water Resources Planning Studies - Final Report." Although DWR was one of the early leaders in including climate change analysis in its planning studies and reports, it does not currently have a standard framework or a set of recommended approaches for considering climate change in its planning studies. A variety of approaches to characterize and analyze future climate have been used in various DWR planning studies. The December 2010 paper summarized the approaches and methodologies that have been used since 2006. It is the first comprehensive comparative look at the different approaches, their strengths and weaknesses, and how they have been used in past studies. This work is anticipated to lay the groundwork for a future DWR study aimed at developing a standard framework and a consistent set of approaches to be used for characterizing and analyzing climate change in future DWR planning studies and which may provide guidance for DWR partners and grantees.[16]

While climate change is expected to continue through at least the end of this century, the magnitude and nature of future changes are uncertain. This uncertainty serves to complicate the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood.[17] However, preliminary modeling conducted by DWR indicates that under one climate change scenario, average yearly SWP Table A deliveries in 2050 would be reduced by 10.2 percent.[18]

In light of these conclusions, both governmental agencies and non-governmental organizations recommend that water decision-makers operate existing water systems to allow for increased flexibility. Other recommendations include incorporating climate change research into infrastructure design, conjunctively managing surface water and groundwater supplies, and integrating water and land use practices. As a result,

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[12] *California Climate Action Registry, Climate Action Leaders. http://www.climateregistry.org/about/members/climate-action-leaders.html. Accessed April 26, 2011.*

[13] *Climate Change Adaptation Strategies for California's Water: Managing an Uncertain Future, California Department of Water Resources, October 2008. http://www.water.ca.gov/climatechange/docs/ClimateChangeWhitePaper.pdf.*

[14] *Memorandum to All DWR Employees, "Sustainability Workgroup," California Department of Water Resources, April 22, 2009. http://www.water.ca.gov/climatechange/docs/Sustainability_Policy.pdf.*

[15] *Memorandum to All DWR Employees, "Sustainability Targets," California Department of Water Resources, September 20, 2010. http://www.water.ca.gov/climatechange/docs/Sustainability_Policy.pdf.*

[16] *"Climate Change Characterization and Analysis in California Water Resources Planning Studies - Final Report," California Department of Water Resources, December 2010, page v.*

[17] *"Progress on Incorporating Climate Change into Management of California's Water Resources," July 2006, California Department of Water Resources, page 2-54.*

[18] *Table A water deliveries represent the schedule of the maximum amount of water that water contractors to the DWR may receive annually from the SWP. There are 29 water contractors who have signed long term contractors with the DWR for a total of 4,173 million acre feet per year. Table A deliveries are not guarantees of annual delivery amounts but are used to allocate individual contractors' portion of the delivery amounts available.*

in March 2002, the Metropolitan Board of Directors adopted climate change policy principles that relate to water resources. These principles are reflected in MWD's Integrated Resource Plan ("IRP"), which was updated October 12, 2010.[19] Further, in response to climate change and uncertainty, MWD's 2010 Regional UWMP incorporated three basic elements to promote adaptability and flexibility, important in addressing impacts of climate change: conservation, groundwater recharge, and water recycling.[20]

MWD also approved criteria to further explain its position on the conveyance options that are currently being discussed to remedy the Delta, which include addressing projected sea level rise and change in inflows due to climate change. MWD's criteria provide that, "whatever option is chosen, it should provide water supply reliability, improve export water quality, allow flexible pumping operations in a dynamic fishery environment, enhance the Delta ecosystem, reduce seismic risks, and reduce climate change risks."[21] MWD has demonstrated a commitment to addressing climate change by evaluating the vulnerability of its water systems to global warming impacts and has developed appropriate response strategies and management tools that account for the impacts of climate change on future water supplies. For further discussion on the effects of global climate change, please refer to Section 4.F, *Greenhouse Gas Emissions*, of this Draft EIR.

(l) City of Corona 2010 UWMP

In accordance with the California Urban Water Management Planning Act, the City updated its UWMP; the 2010 Urban Water Management Plan was adopted by the City Council on June 15, 2011. The UWMP was prepared consistent with the requirements under Water Code Sections 10610 through 10656 of the Urban Water Management Planning Act, which were added by Statute 1983, Chapter 1009, and became effective on January 1, 1984. Consistent with the requirements of the Urban Water Management Planning Act, the UWMP identifies the sources for the District's water supplies to meet demand during normal, single-dry, and multiple-dry years.

(m) City of Corona General Plan (2004) – Chapter 4 Infrastructure and Public Services, Infrastructure & Utilities

Chapter 4, Infrastructure and Public Services, Infrastructure & Utilities, of the City's General Plan includes goals and policies pertaining to programming water systems and facilities within the City.

(n) City of Corona Municipal Code, Title 13 Public Services

Chapter 13.14, Water and Sewer Regulations, Section 13.14.040, Rates and ready to serve charge, of the Corona Municipal Code ("CMC") states the minimum monthly service charges for water service shall be paid by all users connected to the water system, whether or not any water is actually used. Water users shall also pay for the quantities of water used. The service rates and minimum monthly service charges shall be established by the Schedule of User/Service Fees for Water Usage adopted by the City Council. Chapter 13.14, Water and Sewer Regulations, Section 13.14.050, Construction and connection fees – rates, of the CMS describes the types of fees every applicant shall pay to the CDWP for new water services.

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[19] *Integrated Water Resources Plan, Report No. 1373, Updated October 12, 2010. The Metropolitan Water District of Southern California. http://www.mwdh2o.com/mwdh2o/pages/yourwater/irp/IRP2010Report.pdf.*

[20] *The Regional Urban Water Management Plan, November 2010. The Metropolitan Water District of Southern California. http://www.mwdh2o.com/mwdh2o/pages/yourwater/RUWMP/RUWMP_2010.pdf.*

[21] *Report for Metropolitan Water District of Southern California Board Meeting September 11, 2007 Agenda Item 8-4, emphasis added.*

Chapter 13.26, Water Conservation Plan of the CMC includes water conservation provisions that require that overall water consumption be reduced by 15 percent in an effort to minimize the effect of a shortage of water supplies on City users. The Water Conservation Plan would (1) protect the health, safety and welfare of the citizens and property owners of the City; (2) assure the maximum beneficial use of City water supplies; and (3) attempt to provide sufficient water supplies to meet the basic needs of human consumption, sanitation and fire protection. The Water Conservation Plan also includes the Ultra Low Flush Toilet Replacement program, outdoor water use audits, residential rebate programs for washers and toilets, special rebate programs for commercial, industrial and institutional customers, and the use of recycled water for irrigation.

(2) Wastewater

(a) Capacity Assurance, Management, Operation, and Maintenance Program

In January 2001, the USEPA published a proposed rule intended to clarify and expand permit requirements under the Clean Water Act to further protect public health and the environment from impacts associated with sanitary sewer overflows. The proposed rule is generally referred to as the "Capacity Assurance, Management, Operation, and Maintenance Program Regulation". The proposed Program's regulation requires development and implementation of programs intended to meet the performance standard of eliminating sanitary sewer overflows; to provide overflow emergency response plans, system evaluations, and capacity assurance plans; to conduct program audits; and to implement public communication efforts.

(b) State Water Resources Control Board

On May 2, 2006, the State Water Resources Control Board ("SWRCB") adopted Order No. 2006-0003, *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems* ("WDR"). All federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publically owned treatment facility in the State of California are required to comply with the terms of this Order. The principal requirement of the WDR is for each system owner to develop and implement a system-specific Sewer System Management Plan ("SSMP"). The IEUA SSMP was prepared in order to meet the requirements of Order No. 2006-0003 issued on May 2, 2006.

(c) City of Corona Department of Water and Power Sanitary Sewer Management Plan (2009)

Per the SWRCB Order No. 2006-0003, Statewide General WDRs for Sanitary Sewer Systems, the CDWP was required to develop a SSMP. The SSMP includes goals for the operation and maintenance of its wastewater collection system; organizational structure legal authority; system requirements; an operations and maintenance program; design and performance provisions; overflow emergency response plan; fats, oils, and grease ("FOG") control program; system evaluation and capacity assurance plan; monitoring, measurement, and plan modifications; SSMP program audits; communication program.

(d) City of Corona General Plan (2004) – Chapter 4 Infrastructure and Public Services, Infrastructure & Utilities

Chapter 4, Infrastructure and Public Services, Infrastructure & Utilities, of the City's General Plan includes goals and policies pertaining to programming sewer/wastewater systems and facilities within the City.

(e) City of Corona Municipal Code, Title 13 Public Services

Chapter 13.08, Public Sewerage System Waste Regulations, Section 13.08.600, Disposition of funds – sewer service funds established, of the CMC states that all funds and payments received from the collection of sewer service charges established by the Schedule of Sewer/User Service Fees and the Schedule of Sewer Development Fees shall be deposited with the City Treasurer, who shall establish and maintain a separate fund and account to be known as "The Sewer Service Fund". The fund and payment may be used for the retirement of sewer, bonds and for payment of interest thereon and for the acquisition, operation, maintenance, construction, and reconstruction of the sewerage system. The funds and payment however, shall not be used for the acquisition or construction of new local street sewers or lateral pipelines as distinguished from the main trunk, interceptor and outfall sewer pipelines.

Chapter 13.08, Public Sewerage System Waste Regulations, Section 13.08.630, rates to be paid for sewer service charges, of the CMC specifies that every person or entity whose premises or property in the City is served by a City sewer connection, whereby the sewage or industrial wastes, or either or both, are disposed of by the City through a sewage treatment plant is required to pay a sewer service charge as set forth in the Schedule of Sewer User/Service Fees.

Chapter 13.12, Sewer Connections, provides for a fair and equitable schedule of charges for services and facilities furnished by the City sewerage system, to provide for the procurement of a permit from the Director of Utility Services for marking connections with the public sewers and to establish a sewer assessments fund into which these charges may be deposited and from which moneys will be available for the purpose of defraying the cost of replacement and expansion of the sewerage system and sewage disposal plant of the City.

(3) Solid Waste

(a) State of California

The State of California has enacted three key legislations relating to solid waste. These include Assembly Bill 939 – the California Integrated Waste Management Act of 1989 (Public Resources Code Sections 41000-41460), Senate Bill 1327 – the California Solid Waste Reuse and the Recycling Access Act of 1991 (Public Resources Code Sections 42900-42911), Senate Bill 1374 – Construction and Demolition Waste Materials Diversion Requirements, and Assembly Bill 341 – Mandatory Commercial Recycling. Each of these regulations is described below.

(i) Assembly Bill 939 – California Integrated Waste Management Act of 1989

The California Integrated Waste Management Act of 1989 ("AB 939") introduced an integrated waste management hierarchy to guide local agencies in the implementation of source reduction, recycling, composting, and environmentally safe transformation and land disposal. It required each county to establish a task force to coordinate the development of city Source Reduction and Recycling Elements ("SRREs") and a countywide siting element. It also required each county to prepare, adopt, and submit an Integrated Waste Management Plan ("IWMP") to the California Integrated Waste Management Board ("CIWMB"), which was established by AB 939 to ensure the monitoring and enforcement of AB 939 mandates. Through source reduction, recycling, and composting activities, AB 939 required each city or county to divert 50 percent of all solid waste by January 1, 2000.

To note, on Jan. 1, 2010 California's recycling and waste diversion efforts were streamlined into the new Department of Resources Recycling and Recovery — otherwise known as CalRecycle. CalRecycle manages programs created through two landmark initiatives--the Integrated Waste Management Act and the Beverage Container Recycling and Litter Reduction Act--that were formerly part of the CIWMB and the Department of Conservation ("DOC"). Now housed in the Natural Resources Agency, CalRecycle merges the duties of the Board with those of DOC's Division of Recycling to best protect public health and the environment by effectively and efficiently managing California's waste disposal and recycling efforts.

Although the requirements of AB 939 are directly applicable to Cities and Counties, AB 939 is identified as a relevant regulation due to the fact that individual development projects within the City contribute to the determination of whether the City is able to divert 50 percent of all solid waste.

(ii) Senate Bill 1016 – Per Capita Disposal Measurement System

The purpose of the "Per Capita Disposal Measurement System" (Chapter 343, Statutes of 2008 proposed as SB 1016 – Wiggins) is to make the process of goal measurement as established by the Integrated Waste Management Act of 1989 (AB 939) simpler, more timely, and more accurate. SB 1016 builds on AB 939 compliance requirements by implementing a simplified measure of jurisdictions' performance. SB 1016 accomplishes this by changing to a disposal-based indicator--the per capita disposal rate--which uses only two factors: a jurisdiction's population (or in some cases employment) and its disposal as reported by disposal facilities.

In order for CalRecycle and jurisdictions to more properly focus on successful program implementation, SB 1016 shifts from the historical emphasis on using calculated generation and estimated diversion to using annual disposal as a factor when evaluating jurisdictions' program implementation. Overall benefits of the new approach include:

- Focuses on diversion program implementation.
- Increases simplicity and timeliness of goal measurement.
- Allows for jurisdiction growth.
- Saves money and time by eliminating complex calculations.
- Increases CalRecycle staff field presence.
- Adjusts CalRecycle review schedule for compliant jurisdictions.

The per capita disposal rate approach is not determinative of jurisdiction compliance. CalRecycle will use per capita disposal as an indicator in evaluating program implementation and local jurisdiction performance. CalRecycle's evaluation will be focused on how jurisdictions are implementing their programs.

(iii) Senate Bill 1327 – California Solid Waste Reuse and the Recycling Access Act of 1991

The California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires individual development projects to provide adequate storage area for the collection and removal of recyclable materials. The size of these storage areas is to be determined by the appropriate jurisdiction's ordinance. If no such ordinance exists within the jurisdiction, the CIWMB-adopted ordinance shall take effect. The requirements of the California Solid Waste Reuse and the Recycling Access Act of 1991 are conservatively

included in this analysis as all development projects within the State are required to provide adequate storage area for the collection and removal of recyclable materials per the Act.

(iv) Senate Bill 1374 – Construction and Demolition Waste Materials Diversion Requirements

Senate Bill 1374 (Kuehl) passed in 2002, requires that jurisdictions include in their annual AB 939 report a summary of the progress made in diverting construction and demolition waste. The legislation also requires that the CIWMB complete five items with regard to the diversion of construction and demolition waste: (1) adopt a model ordinance for diverting 50 to 75 percent of all construction and demolition debris from landfills; (2) consult with representatives of the League of California Cities, the California State Association of Counties, private and public waste services and building construction materials industry and construction management personnel during the development of the model ordinance; (3) compile a report on programs, other than the model ordinance, that local governments and general contractors can implement to increase the diversion of construction and demolition debris; (4) post a report on the agency's website for general contractors on methods by which contractors can increase diversion of construction and demolition waste materials; and (5) post on the agency's website a report for local governments with suggestions on programs, in addition to the model ordinance, to increase diversion of construction and demolition waste materials.

(b) City of Corona

(i) City of Corona General Plan (2004) – Chapter 4 Infrastructure and Public Services, Infrastructure & Utilities

Chapter 4, Infrastructure and Public Services, Infrastructure & Utilities, of the City's General Plan includes goals and policies pertaining to programming solid waste systems and facilities within the City.

(ii) City of Corona Municipal Code, Title 8 Health and Safety

Chapter 8.20 of the CMC sets forth provisions and requirements for solid waste and recyclables collection within the City. Chapter 8.20 specifically indentifies the availability of receptacles for all uses, outlines the requirements for solid waste collection, and provisions regarding service rates, fees, and charges.

2. ENVIRONMENTAL IMPACTS

a. Methodology

(1) Water Supply

The analysis of impacts with regard to water infrastructure capacity and water infrastructure is based on information provided by the Water Report and Reclaimed Water Report; refer to Appendix L, of this Draft EIR. The analysis assesses whether the proposed project's anticipated domestic water demand would be accommodated by the existing water infrastructure. The Water Report calculated the proposed additional water demand. The estimated increase in water demand was then compared to the growth projected for the area in the currently approved 2010 UWMP for the purveyor, the CDWP, serving the project area. The analysis considers whether sufficient water supplies would exist in addition to the existing and planned future demands on the City during a normal year, single-dry year, and multiple dry years. Impacts regarding water sufficiency for fire-fighting are addressed in Section 4.L, *Public Services*, of this Draft EIR.

(2) Wastewater

The analysis of impacts with regard to water infrastructure capacity and water infrastructure is based on information provided by the Wastewater Report; refer to Appendix L, of this Draft EIR. The wastewater generation of the proposed project was estimated using wastewater generation factors provided by the Wastewater Report. The project's estimated increase in wastewater flow was then compared to the existing conditions to assess the capacity of the existing sewer system and the ability of the system to accommodate the additional flows, with detailed wastewater generation and sewer pipe sizing and capacity data provided by the City. In order to evaluate treatment capacity, the project's estimated wastewater generation is compared with the available treatment capacity within the WRFs. Cumulative wastewater generation is also compared with the available capacity of the WRFs using the estimated wastewater generation, as the related projects being considered in the cumulative analysis would also be served by the CDWP's WRFs.

(3) Solid Waste

The environmental impacts of the proposed project with respect to solid waste are determined by comparing the project's net increase in solid waste to the capacity of solid waste facilities that would serve the project site. In addition, a discussion of recycling programs and prescribed mitigation measures that would be implemented by the proposed project is provided to determine whether the project would comply with federal, state, and local statutes and regulations related to solid waste.

b. Thresholds of Significance

Appendix G of the *CEQA Guidelines* provides a checklist of questions to assist in determining whether a proposed project would have a significant impact related to various environmental issues including utilities and service systems. Based on the following issue areas identified in Appendix G of the *CEQA Guidelines*, a significant impact relative to utilities and service systems would occur if the project would result in one or more of the following:

Threshold 1: Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board (refer to Impact Statement 4.N-2 below); or

Threshold 2: Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (refer to Impact Statement 4.N-1 and 4.N-2 below); or

Threshold 3: Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (refer to Impact Statement 4.N-3 below); or

Threshold 4: Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? In making this determination, the Lead Agency shall consider whether the project is subject to the water supply assessment requirements of Water Code Section 10910, et. Seq. (SB 610), and the requirements of Government Code Section 664737 (SB 221) (refer to Impact Statement 4.N-1 below); or

Threshold 5: 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 (refer to Impact Statement 4.N-2 below); or

Threshold 6: Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs (refer to Impact Statement 4.N-4 below); or

Threshold 7: Comply with federal, state, and local statutes and regulations related to solid waste (refer to Impact Statement 4.N-4 below); or

Threshold 8: Comply with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan and municipal code) adopted for the purpose of avoiding or mitigating an environmental effect (refer to Impact Statement 4.N-5 below).

c. Project Design Features

The construction and operation of the proposed project would be completed in compliance with all applicable regulatory requirements in consultation with the CDWP and WMI regarding water supply and water infrastructure, wastewater, and solid waste. The proposed project would implement a number of infrastructure improvements that are necessary for operation of the proposed uses, which include new water distribution and storage facilities, wastewater conveyance facilities, and stormwater drainage and detention facilities.

As relates to water facilities, the project would construct on- and off-site water pipelines ranging in size from 8 to 12 inches in diameter, upgrade the existing on-site Mabey Canyon Booster Pump Station to 1,340 gpm capacity, as well as construct a new on-site Booster Pump Station with 500 gpm capacity, a new on-site 0.6-million-gallon water reservoir tank, and install a new on-site zone valve in "B" Street, as summarized below in **Table 4.N-14**, *Proposed Infrastructure Improvements*. In addition, new water infrastructure is proposed as part of the City's Foothill Parkway Westerly Extension Improvements Project of which is assumed to be in place prior to implementation of the proposed project. As such, the proposed project would require the following City of Corona Capital Improvements/Water Infrastructure to be constructed prior to project implementation:

- Construction of the new 16-inch Zone 5 waterline in Foothill Parkway from Trudy Way to Sierra Bella Development and the 12-inch inter-tie in Mabey Canyon Road to the existing Zone 5B water system (Mabey Canyon Booster System) as part of the Foothill Parkway Westerly Extension Improvements;
- Construction of the new 16-inch Zone 4 waterline in Trudy Way from Foothill Parkway to the proposed Zone 4 Reservoir site within the proposed project located at the southeastern corner of the project site; and
- Construction of a new 2.5 mg Zone 4 Reservoir and related appurtenances within the project site.

Table 4.N-14

Proposed Infrastructure Improvements

Project No.	Project Description	Facility Location	Zone	Proposed Pipe Size (inches)	Approx. Length (lf)
1	Distribution Waterlines	On-site/Off-site	5	8	3,593
2	Distribution Waterlines	On-site/Off-site	5	12	841
3	Distribution Waterlines	On-site	6A	8	6,934
4	Distribution Waterlines	On-site	6A	12	12,394
5	Upgrade Ex. Mabey Canyon Booster Pump Station to 1,340 gpm capacity	On-site	5B	-	-
6	Booster Pump Station (500 gpm capacity)	On-site	6A	-	-
7	0.6 mg Water Reservoir (HWL 1,560')	On-site	6A	-	-
8	Zone Valve in "B" Street	On-site	6A/5	-	-

Source: Preliminary Water Report for the Skyline Heights Project ("Water Report"), prepared by KWC Engineers, dated May 15, 2014.

Although unlikely and not anticipated to occur, in the event that these improvements are not already in place and operational prior to completion of the proposed project, any improvements necessary to serve the project would be the sole responsibility of the project Applicant.

With regard to wastewater infrastructure, the project would require the following improvements:

- Construction of 8-inch on-site gravity sewer lines within the proposed project;
- Construction of off-site 8-inch gravity sewer lines from on-site sewer system to existing sewer system connection points; and
- Potential mitigation of downstream trunk sewer impacts as a result of the sewer contributions from the proposed project. The existing sewer system impacts are approximately 503 linear feet ("LF") of 8-inch pipe, 503 LF of 8-inch pipe, 3,248 LF of 10-inch pipe, and 228 LF of 12-inch pipe.

As discussed in Section 4.H, *Hydrology and Water Quality*, of this Draft EIR, the project would include new on-site stormwater drainage facilities that would be constructed in accordance with the most recent City of Corona and Riverside County and Water Conservation District design requirements. New off-site storm drain pipes would also be constructed as part of the Foothill Parkway Westerly Extension Project, which would also serve the proposed project. In addition, the project would implement a number of Project Design Features (PDFs), including PDF HYD-4 and PDF HYD-5, which relate to stormwater infrastructure: (1) PDF HYD-4: The project will install a system of flow-by basins, detention basins, and storm drain piping so that off-site flows will by-pass the site and will not be co-mingled with development runoff which will be treated at the designated BMP treatment areas; (2) PDF HYD-5: The site is divided into five tributary areas, or Drainage Management Areas (DMAs), which are designated as Basins A, B, C, D, and E. The Applicant will

install biotreatment BMPs (i.e., extended detention basins) within each DMA as approved by the City Department of Public Works.

d. Analysis of Project Impacts

(1) Water Supply and Water Infrastructure

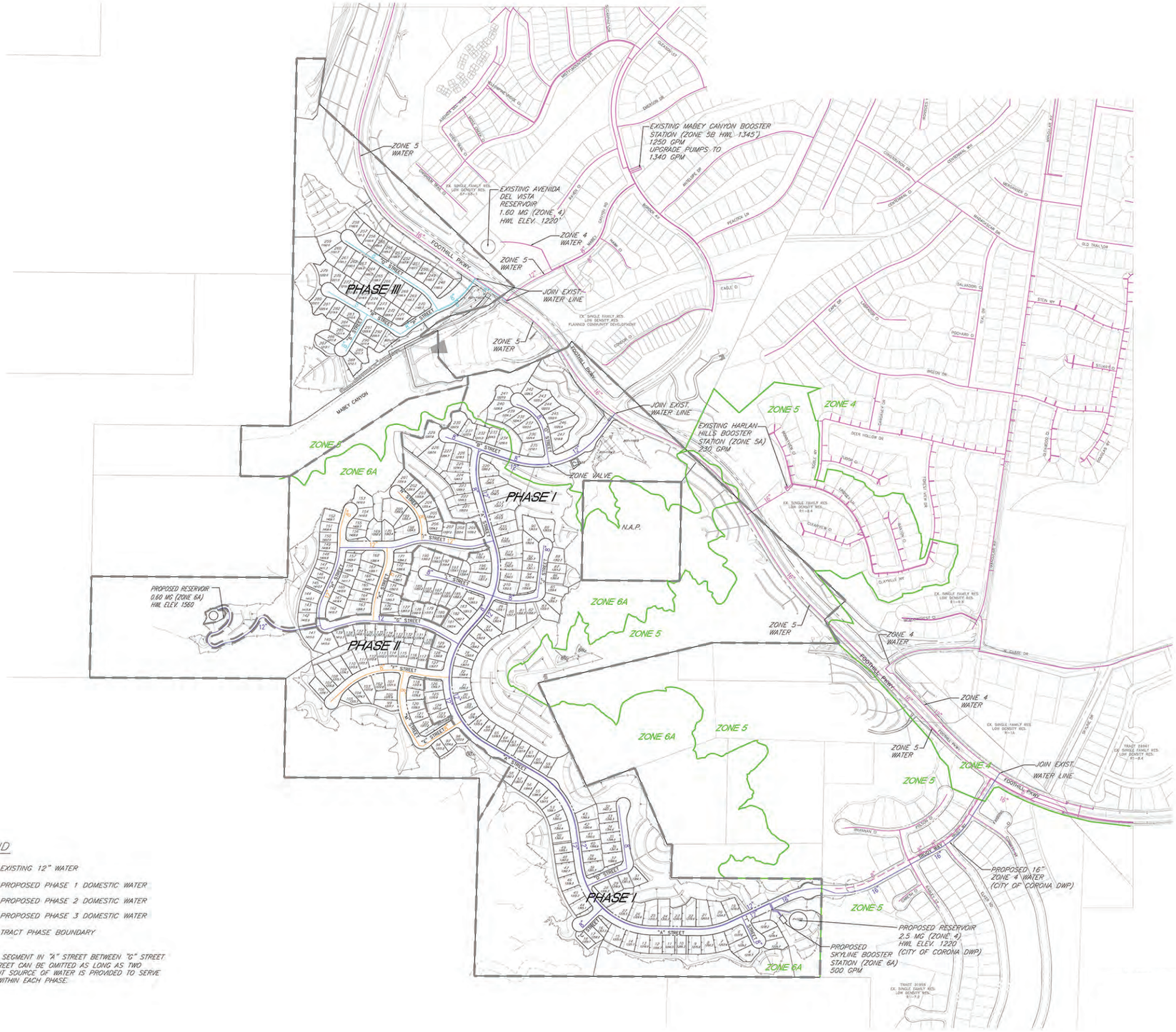
Threshold	Would the project require or result in the construction of new water treatment facilities or the expansion of existing facilities, the construction of which would cause significant environmental effects?
Threshold	Would the project have sufficient water supplies available to service the project from existing entitlements and resources, or are new expanded entitlements needed?

Impact 4.N-1 *Implementation of the proposed project could require or result in the construction of new on-site and off-site water facilities or the expansion of existing on-site and off-site facilities, the construction of which could cause significant environmental effects. However, compliance with applicable regulatory requirements and implementation of the prescribed mitigation measures would reduce potentially significant impacts in these regards to a less than significant level. Further, the project site would have sufficient water supplies available to serve the proposed project from existing and proposed entitlements and resources. Thus, impacts regarding water supply and water infrastructure would be less than significant.*

(a) Construction

The proposed project includes the construction of 292 single-family homes and associated supporting infrastructure. Project construction would involve site clearance, site grading and excavation, installation of utilities, paving, and building fabrication to be developed within three phases. Table 4.N-14 includes a list of the proposed on-site and off-site infrastructure improvements, descriptions, facility locations, zones, and proposed pipe sizes and lengths. The domestic water infrastructure facilities would be constructed in several phases based on the needs of the project site. Two independent sources of water would be provided to each lot as required by the CDWP. **Figure 4.N-3**, *Construction Phasing*, illustrates the proposed water improvements for each phase. As an option, the proposed water infrastructure can be re-phased and completed such that the pipe segment in "A" Street between "G" Street and "I" Street (approximately 769 linear feet of 8-inch line) can be omitted as long as two independent sources of water are provided to serve each lot within each phase.

Construction activities would create a short-term demand for water during the construction period for fugitive dust control, concrete preparation, site preparation, clean up, and other short-term construction-related activities. Project trenching, new/upgraded lateral connections, installation of water mains, construction of the reservoir, underground tank, booster pump stations, and associated pipelines would occur in accordance with City-issued construction permits and applicable CDWP regulations and requirements which have been formulated to avoid interruptions in water service to off-site uses and adverse effects to the City's water system. The final alignment and location of utilities would require review and approval by the CDWP. Project construction could require temporary lane closures due to trenching and grading within Foothill Parkway. As further discussed in Section 4.M., *Transportation*, of this Draft EIR, the project Applicant would implement a Construction Management Plan in coordination with the City Traffic



PCR

Construction Phasing

Skyline Heights Project
Source: KWC Engineers, 2014.

FIGURE
4.N-3

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Engineer to minimize traffic impacts upon the local circulation system in the area. Therefore, project construction impacts on water supply and water infrastructure would be less than significant.

(b) Operation

Water would be supplied to the proposed project by the CDWP. The proposed project includes the construction of 292 single-family homes which would result in an increase in long-term water demand from the project site. The projected water demand factor of 3,540 gpd/ac for a low density residential land use designation was used to determine the Average Day Demands, Maximum Day Demands, and Peak Hour Demands for the proposed project. There are 58 proposed lots to be served off of the Zone 5 pressure system and 234 proposed lots to be served off of the Zone 6A pressure system. **Table 4.N-15**, *Water Demand Summary,* displays the projected Average Day, Maximum Day, and Peak Hour Demands for each water service zone within the proposed project. As shown below, the total estimated water demand generated by the proposed project is approximately 0.51 mgd average day demand, 0.91 mgd maximum day demand, and 1.28 mgd peak hour demand.

Table 4.N-15

Water Demand Summary

Watershed ID	Tributary Lots (du)	Area (acres)	Average Day Demand (mgd)	Maximum Day Demand (mgd)	Peak Hour Demand (mgd)
Proposed Project					
Zone 5	58	31.0	0.110	0.198	0.276
Zone 6A	234	113.0	0.400	0.720	1.004
Total	**292**	**144.0**	**0.510**	**0.918**	**1.280**

Source: Preliminary Water Report for the Skyline Heights Project ("Water Report"), prepared by KWC Engineers, dated May 15, 2014.

Using the projected water demands, **Table 4.N-16**, *Proposed Project Reservoir Storage Requirements*, summarizes the required reservoir storage for each water service zone.

The proposed project is proposing to construct one aboveground reservoir to supply the necessary storage and pressures needed to service the proposed intermediate Zone 6A. The reservoir would be constructed to CDWP standards and specifications. This zone is designed for a HWL of 1,560 feet. The proposed intermediate Zone 6A Reservoir has a storage capacity of 0.6 mg. The approximate reservoir dimension is estimated as a 58.5-foot diameter tank with a height of 30 feet. The tank would be placed on a pad elevation of 1,530 feet located on Lot "T" at the west end of the project site. A 20-foot wide paved access road would be provided from "G" Street at a maximum grade of 12 percent.

Table 4.N-16

Reservoir Storage Requirements

Water Zone ID	Maximum Day Demand (mgd)	Required Operational Storage (mg)	Required Fire Flow Storage (mg)	Required Terminal Storage (mg)	Total Required Storage (mg)
Proposed Project					
Zone 5 (1380' HWL)	0.198	0.099	0.000	0.010	0.109
Zone 6A (1560' HWL)	0.720	0.360	0.180	0.050	0.590

Source: Preliminary Water Report for the Skyline Heights Project ("Water Report"), prepared by KWC Engineers, dated May 15, 2014.

The water storage required for the single-family residences within the proposed Zone 5 pressure system would be supplied from the existing excess storage capacities from the City's Zone 5 Reservoirs. According to the Water Report, there is 1.7 mg of excess storage in the existing Zone 5 system.

The proposed Zone 6A Booster Pump Station is located along proposed "A" Street within the Zone 4 Reservoir site at the southeast corner of the project site. It is sized for maximum demands for Zone 6A and would include one supply pump at 500 gpm, one standby pump at 500 gpm, and one fire flow pump at 1,500 gpm. The pump station would be situated on a pad elevation of 1,220 feet. The total dynamic head ("TDH") for these pumps would consist of static lift, pipe friction losses, and minor system losses. The maximum static head is 364 feet corresponding to minimum and maximum tank levels of approximately 20 percent and 100 percent of tank capacity, respectively. The total estimated friction and minor losses is six feet based on 5,735 feet of 12-inch piping, resulting in a TDH of 370 feet. The booster pump station would have two parallel 12-inch discharge lines that would be looped within the project site and supply the proposed Zone 6A Reservoir located at the west end of the project site. The Zone 6A Reservoir is sized for a total storage capacity of 0.6 mg.

As discussed in the Existing Conditions section above, the City's 2010 UWMP finds that the CDWP is able to meet full service demands of its member agencies with existing supplies from 2015 through 2035 during normal years, single dry years, and multiple dry years; refer to Table 4.N-5 through Table 4.N-9. As indicated, the total City water demand by 2035 is estimated to reach 45,878 AFY for the normal year; 53,555 AFY for the single year; 53,555 AFY for multiple dry year number one (2035); 53,735 AFY for multiple dry year number two (2036); and 53,915 AFY for multiple dry year number three (2037). As mentioned above, the total estimated water demand generated by the proposed project is approximately 0.51 mgd (571 AFY) average day demand, 0.91 mgd (1,019 AFY) maximum day demand, and 1.28 mgd (1,4354 AFY) peak hour demand. The 1,020 AFY maximum day demand associated with the proposed project would constitute approximately 2.22 percent of the City's total projected water demand for normal year in 2035 and approximately 1.90 percent of the total projected demand for the single year in 2035 and multiple dry years. The City is therefore capable of meeting the water demands of the proposed project in normal, single dry, and multiple dry years through 2035. As adequate water supplies and treatment facilities exist today, with adequate future supply and treatment capacity forecasted to exist for all phases of the proposed project, no additional expansion of these water supplies or treatment plants would be required.

Project landscaping must comply with the applicable landscaping requirements specified in Chapter 13.26, Water Conservation Plan of the CMC. The proposed landscape design would incorporate water conservation measures including water-conserving planting, efficient irrigation systems, and water-conserving fixtures. The landscape concept would consist of moderately drought-tolerant sustainable plantings and trees. Landscaping would also utilize weather-based, water-conserving irrigation technology and management. Appropriate BMPs would be incorporated into landscape design. Sustainable programming would be used to maximize efficient by conserving water. Refer to Figure 2-9, *Landscape Plan – Northerly Portion of Skyline Heights*, and Figure 2-10, *Landscape Plan – Southerly Portion of Skyline Heights* of Section 2.0, *Project Description*, for landscaping details.

As mentioned above under Existing Conditions, existing water facilities are located within the project site. Refer to **Figure 4.N-4**, *Proposed Water Facilities Plan*, which illustrates the proposed water facility improvements and their relative sizes based on the water system model results of the Water Study. Further, new water infrastructure is proposed as part of the City's Foothill Parkway Westerly Extension Improvements Project of which is assumed to be in place prior to implementation of the proposed project. As such, the proposed project would require the following City of Corona Capital Improvements/Water Infrastructure to be constructed prior to the build-out condition:

- Construction of the new 16-inch Zone 5 waterline in Foothill Parkway from Trudy Way to Sierra Bella Development and the 12-inch inter-tie in Mabey Canyon Road to the existing Zone 5B water system (Mabey Canyon Booster System) as part of the Foothill Parkway Westerly Extension Improvements;
- Construction of the new 16-inch Zone 4 waterline in Trudy Way from Foothill Parkway to the proposed Zone 4 Reservoir site within the proposed project located at the southeastern corner of the project site; and
- Construction of a new 2.5 mg Zone 4 Reservoir and related appurtenances within the project site.

As such, water capacity is not anticipated to be an issue based on the implementation of the above-mentioned projects. However, should any necessary off-site improvements not already be in place prior to completion of the project's first development phase, construction of such improvements would be the sole responsibility of the project Applicant. Further, the connections would be provided by the proposed project in consultation with the CDWP, with the project Applicant responsible for payment of all applicable water connection fees required by the CDWP and set forth in Section 13.14.040 and 13.14.050 of the CMC (Mitigation Measure UTIL-1). Therefore, sufficient water supplies are available to serve the proposed project from existing entitlements and resources and no new or expanded entitlements are necessary.

Overall, compliance with the applicable regulatory requirements and implementation of the prescribed mitigation measures would reduce potentially significant impacts to a less than significant level. Further, the project site would have sufficient water supplies available to serve the proposed project from existing and proposed entitlements and resources. Thus, impacts regarding water supply and water infrastructure would be less than significant.

(2) Wastewater

Threshold	Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

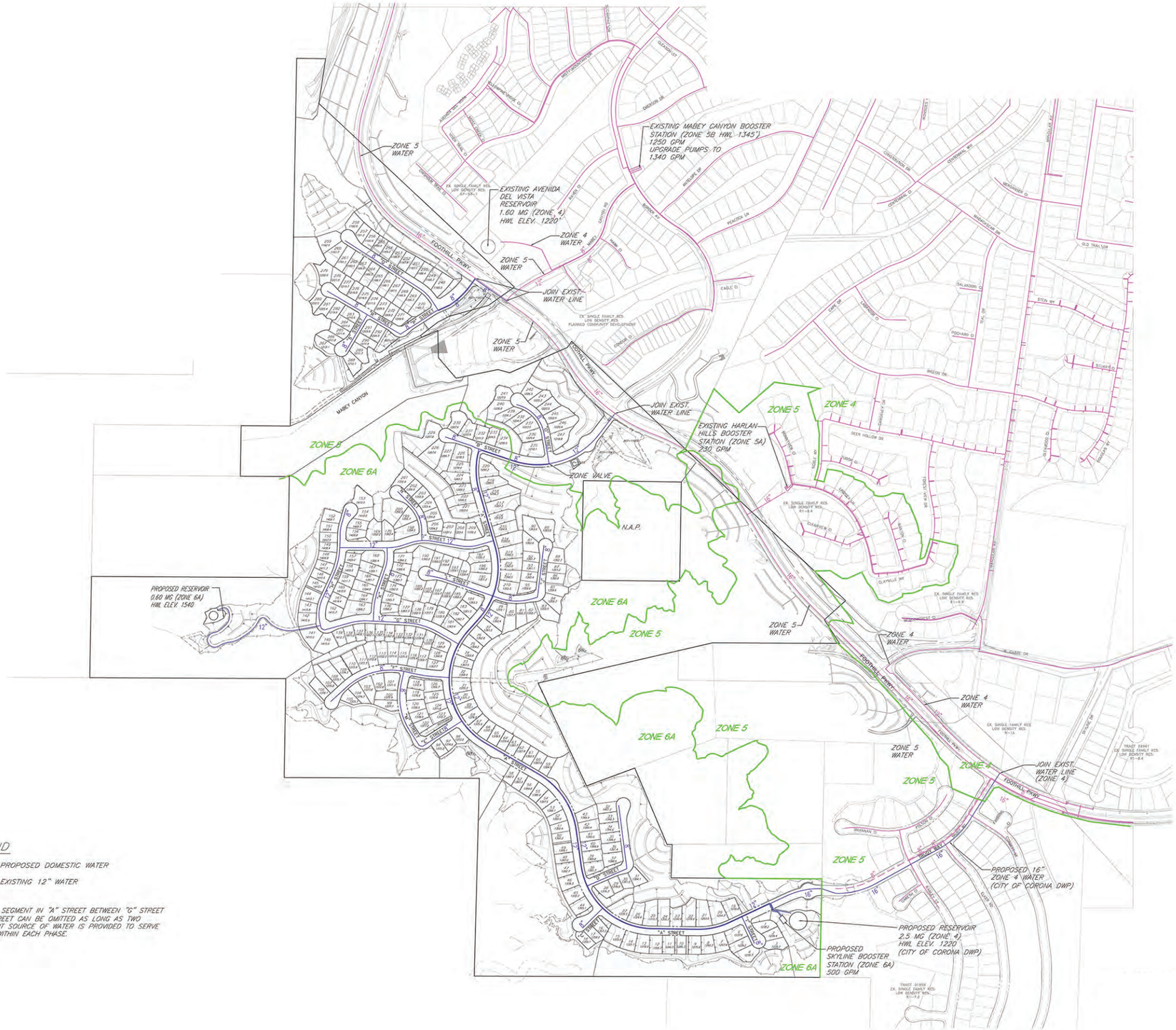
Threshold	Would the project require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?
Threshold	Would the project result in a determination by the wastewater treatment provider, 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?

Impact 4.N-2 *Implementation of the proposed project could require or result in the construction of new on-site and off-site wastewater facilities or the expansion of existing on-site and off-site facilities, the construction of which could cause significant environmental effects. However, compliance with applicable regulatory requirements and implementation of the prescribed mitigation measure would reduce potentially significant impacts in these regards to a less than significant level. Further, implementation of the proposed project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board or result in a determination by the wastewater treatment provider, which serves or may serve the proposed project, that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. Thus, impacts regarding wastewater would be less than significant.*

(a) Construction

During construction of the proposed project, a negligible amount of wastewater would be generated by construction workers. It is anticipated that portable toilets would be provided by a private company and the waste disposed of off-site. Wastewater generation from construction activities is not anticipated to cause a measurable increase in wastewater flows at a point where, and at a time when, a sewer's capacity is already constrained or that would cause a sewer's capacity to become constrained. Additionally, construction is not anticipated to generate wastewater flows that would substantially or incrementally exceed the future scheduled capacity of the City's WRF 1 and WRF 3. Therefore, construction impacts to the local wastewater conveyance and treatment system would be less than significant.

Implementation of the proposed project would require construction of on-site sewer lines and replacement or relocation of off-site sewer lines, which would require construction activities that could affect the sewer mains serving the area. However, any such effects would be temporary and would occur in accordance with all applicable regulations of the CDWP as enforced under the required City construction permits which have been formulated to avoid significant impacts, such as disruptions of sewer service to existing on-site and adjacent uses and/or sewage spills during the construction period. Further, no new facilities or infrastructure are required for the off-site sewer system. Therefore, project construction impacts would be less than significant.



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Proposed Water Facilities Plan

Skyline Heights Project
Source: KWC Engineers, 2014.

FIGURE
4.N-4

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(b) Operational

The City is responsible for wastewater collection and conveyance from the project site to the treatment plants. **Table 4.N-17**, *Proposed Sewage Flows,* depicts the calculated values for average dry weather flow ("ADWF") and the peak dry weather flow ("PDWF") for the proposed project. The calculations are based on the assumption of 270 gpd/du for low density residential development as stated in the CDWP 2012 Design Policy. The Wastewater Report estimates the proposed project would produce approximately 78,840 gpd (or 0.122 cubic feet per second ["cfs"]). The estimated peak dry weather flow for the proposed project is based on the City's peak flow equation of approximately 0.281 cfs.

Table 4.N-17

Proposed Sewage Flows

Project Sewer Drainage Area	Tributary Sewershed	No. of Lots	ADWF MDG	ADWF CFS	PDWF CFS
Area 1	14	45	0.012	0.019	0.050
Area 2	14	196	0.053	0.082	0.195
	Subtotal	241	0.065	0.101	0.236
Area 3	16	51	0.014	0.021	0.056
	Project Total	**292**	**0.079**	**0.122**	**0.281**

Source: Preliminary Wastewater Report for the Skyline Heights Project ("Wastewater Report"), prepared by KWC Engineers, dated May 15 2014.

As displayed in **Figure 4.N-5**, *Preliminary Sewer Layout*, the proposed project would require the following sewer infrastructure to be constructed and improved:

- Construction of 8-inch on-site gravity sewer lines within the proposed project;
- Construction of off-site 8-inch gravity sewer lines from on-site sewer system to existing sewer system connection points; and
- Potential mitigation of downstream trunk sewer impacts as a result of the sewer contributions from the proposed project. The existing sewer system impacts are approximately 503 linear feet ("LF") of 8-inch pipe, 503 LF of 8-inch pipe, 3,248 LF of 10-inch pipe, and 228 LF of 12-inch pipe.

The City of Corona Sewer Master Plan estimates that the proposed project would produce approximately 278,050 gpd (or 0.43 cfs) which is 3.5 times more than the average flows projected for the proposed project 78,840 gpd (or 0.122 cfs). The estimated peak dry weather flow for the proposed project based on the City's peak flow equation is approximately 0.281 cfs. As a result, the Wastewater Treatment Plant 1 would be able to accommodate the anticipated sewer flows from the proposed project. All on-site sewer facilities are 8-inch gravity sewer pipes and are contained within the proposed street right-of-ways. The proposed project on-site sewer facilities are preliminary estimates of the anticipated sewer facilities necessary to service the

project needs. Given that adequate treatment capacity currently exists to meet project-related demands and adequate capacity is anticipated to exist with project implementation, no additional expansion of these wastewater treatment facilities would be required. Further, the sewer facilities and connections would be provided by the proposed project in consultation with the CDWP, with the project Applicant responsible for

payment of all applicable sewer capacity and connection fees required by the CDWP and set forth in Section 13.08.600 of the CMC (Mitigation Measure UTIL-2). The sewer fees fund construction of incremental expansions of the sewage system to ensure that adequate capacity exists for future development. The fees may be used for the retirement of sewer, bonds and for payment of interest thereon and for the acquisition, operation, maintenance, construction, and reconstruction of the sewerage system. The funds and payment however, shall not be used for the acquisition or construction of new local street sewers or lateral pipelines as distinguished from the main trunk, interceptor and outfall sewer pipelines. As such, impacts related to wastewater treatment facilities and capacity would be less than significant upon compliance with the applicable regulatory requirements and implementation of the prescribed mitigation measure.

The wastewater plants are required to comply with associated WDRs and any updates or new permits issued. WDRs set the levels of pollutants allowable in water discharged from a facility. The wastewater treatment requirements issued by the Santa Ana RWQCB (SARWQCB) for Wastewater Treatment Plant 1 was developed to ensure that adequate levels of treatment would be provided for the wastewater flows emanating from all land uses within its service area. The project proposes site design BMPs aimed at avoiding or reducing the water quality impacts of the proposed project and would incorporate all applicable BMPs for construction, post-construction/operation, and water quality treatment to ensure compliance with the NPDES. New development pursuant to implementation of the proposed project must comply with all provisions of the NPDES program and other applicable WDRs, as enforced by the SARWQCB and the California SWRCB. Therefore, implementation of the proposed project would not result in an exceedance of wastewater treatment requirements of the SARWQCB. As such, impacts would be less-than-significant in this regard.

(3) Stormwater Drainage Facilities

Threshold	Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Impact 4.N-3 *Implementation of the proposed project would require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. However, compliance with applicable regulatory requirements and implementation of project design features would reduce potentially significant impacts in these regards to a less than significant level.*

As discussed in Section 4.8, *Hydrology and Water Quality,* the Project would include new on-site stormwater drainage facilities that would be constructed in accordance with the recent City of Corona and Riverside County and Water Conservation District design requirements. New off-site storm drain pipes would be constructed with the Foothill Parkway Westerly Extension Project. Environmental impacts associated with development of the Project, including on-site drainage facilities have been evaluated throughout this document. Future development would include LID features for storm water quality improvement where none exist today. Potential LID features may include storm water planters, permeable pavement and proprietary bioretention systems. Through the development of the project-specific Drainage Report and WQMP, which are included in Appendix H, the appropriate site design, source control, BMPs, SD-BMPS, SC-BMPs, and LID control features would be implemented to improve water quality in the Temescal Creek and Santa Ana River. As concluded in this document, all potentially significant impacts associated with development of the proposed project, including on-site and off-site stormwater drainage facilities would be less

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Preliminary Sewer Layout

Skyline Heights Project
Source: KWC Engineers, 2014.

FIGURE
4.N-5

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than significant after compliance with applicable regulatory requirements implementation of the project design features. Therefore, impacts would be less than significant in this regard.

(4) Solid Waste

Threshold	Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
Threshold	Comply with federal, state, and local statues and regulations related to solid waste?

Impact 4.N-4 *Implementation of the proposed project would not exceed the capacity of the landfill serving the project area. Further, the proposed project would comply with federal, state, and local statues and regulations related to solid waste. Compliance with applicable regulatory requirements and implementation of prescribed mitigation measures would reduce potentially significant impacts in these regards to a less than significant level.*

(a) Construction

The proposed project includes the construction of 292 single-family homes and associated supporting infrastructure. Project construction would involve demolition of the existing onsite structures, site grading and excavation, installation of utilities, paving, and building fabrication to be developed within three phases. Each of these activities would generation construction and demolition ("C&D") waste including, but not limited to soil, wood, asphalt, concrete, paper, glass, plastic, metals, and cardboard that would be disposed of at the El Sobrante Landfill.

Solid waste generated from the proposed project would be hauled away by WMI and disposed of at the El Sobrante Landfill. The permitted daily maximum at landfill is 16,054 tons of solid waste per day with a remaining capacity of 145,530,000 tons. The landfill is projected to have sufficient capacity to accept this daily waste volume through 2045.[22] Based on implementation of the proposed project and associated volume of C&D waste, the volume of construction-related waste requiring disposal is not expected to be substantial. Sustainable programming would be used to minimize construction impacts and reducing construction and post-construction waste. As such, the proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs during construction activities and impacts in this regard would be less than significant. Mitigation Measures UTIL-3 and UTIL-4, although not required, are proposed to provide assurance that construction-related solid waste impacts remain less than significant to the extent feasible.

(b) Operation

Development of the proposed project would result in a net increase of 3,571[23] pounds per day (or approximately 1.79 tons per day) of solid waste. The project's daily solid waste generation represents

[22] *CalRecycle Website, Facility/Site Summary Details: El Sobrante Landfill, http://www.calrecycle.ca.gov/SWFacilities/Directory/33-AA-0217/Detail/, accessed July 2014.*

[23] *12.23 pounds per household per day = 292 X 12.23 = 3,571 pounds per household per day (Source: Solid Waste Generation Based on generation factors provided by the CalRecycle website, http://www.calrecycle.ca.gov/WasteChar/WasteGenRates/Residential.htm, accessed July 2014).*

approximately 0.011[24] percent of the maximum permitted daily capacity at the El Sobrante Landfill. This amount of solid waste is well within the permitted capacity of 16,064 tons per day for the El Sobrante Landfill, which is projected to accept this maximum daily volume of waste through the year 2045. Further, the project Applicant shall demonstrate a plan to ensure adherence to the City's Waste Diversion Program, which diverts 75 percent of all waste away from landfills as prescribed in Mitigation Measure UTIL-5 below. It should be noted, however, that this mitigation measures is not required to reduce impacts to less than significant, as is the case for construction-related impacts discussed above. Based on the remaining capacity of the El Sobrante Landfill, there would be adequate waste disposal capacity within the permitted County's landfill system to meet the needs of the proposed project.

Based on the above, project-generated waste would not exceed the capacity of landfills serving the project area. In addition, the proposed project would not generate solid waste at a level that would generate the need for new or substantially expanded recycling or disposal facilities. The available capacity of the existing and/or planned future landfills would not be exceeded, and therefore impacts regarding solid waste generation from project operations would be less than significant.

All uses within the City that generate solid waste, including the proposed project, are required to coordinate with a waste hauler to develop collection and recyclable materials for the project on a common schedule as set forth in the applicable local, regional, and state programs. Additionally, all development within the City is required to comply with applicable elements of SB 1327, Chapter 18 (California Solid Waste Reuse and Recycling Access Act of 1991) and other applicable local, State, and federal solid waste disposal standards; thereby ensuring that the solid waste stream to the El Sobrante Landfill is reduced and no hazards waste is received in accordance with existing regulations. Therefore, impacts would be less than significant in this regard.

(5) Consistency With Regulatory Framework

Threshold	Would the project conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan and municipal code) adopted for the purpose of avoiding or mitigating an environmental effect?

Impact 4.N-5 *Implementation of the proposed project would not conflict with any applicable plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the General Plan and the CMC). This impact is considered less than significant.*

(a) California Urban Water Management Plan Act

The City is consistent with the California Urban Water Management Plan Act, as evidenced by its approved 2010 UWMP. The proposed project is within the range of development anticipated in the UWMP, which indicates that the City will be able to meet future demand for water. Therefore, impacts would be less than significant.

[24] *1.79 tons per day generated by the proposed project/16,064 tons of solid waste per day permitted at the El Sobrante Landfill x 100 = 0.004 percent.*

(b) Senate Bill 610, Senate Bill 221 and Senate Bill 7

The proposed project would introduce 292 single-family detached residential dwellings. Therefore, a WSA is not required for the proposed project. The proposed project will be in the service areas of the respective water supplier, CDWP, who must also abide by the water conservation and planning goals of SB 7, to reduce the per capita water consumption 20 percent by 2020 statewide. As future development would be required to comply with the provisions of SB 7, as applicable, impacts in this regard would be less than significant.

(c) California Code of Regulations

The proposed project would meet or exceed the water efficiency requirements set forth by Title 20 of the CCR through incorporation of the City's recommended water conservation measures, the project's design features, which are generally more stringent than the requirements set forth by Title 20 of the CCR. As such, the proposed project would be consistent with Title 20 and impacts would be less than significant.

(d) City of Corona Municipal Code

As noted above, Chapter 13.26, Water Conservation Plan of Title 13, Public Services includes water conservation provisions that require that overall water consumption be reduced by 15 percent in an effort to minimize the effect of a shortage of water supplies on City users. The Water Conservation Plan would (1) protect the health, safety and welfare of the citizens and property owners of the city; (2) assure the maximum beneficial use of city water supplies; and (3) attempt to provide sufficient water supplies to meet the basic needs of human consumption, sanitation and fire protection. Chapter 13.14, Water and Sewer Regulations, and Chapter 13.08, Public Sewerage System Waste Regulations establishes procedures and requirements for water and sewer connections and details regarding permits, water and sewer use charges, and water and sewer connection fees. As required by the City, the proposed project would be required to pay the applicable fees for new water and sewer connections, and residents would contribute to ongoing maintenance of City-owned facilities through payment of property taxes and other mechanisms. Given that the proposed project would be required to pay the applicable fees and comply with the City's water and sewer regulations, the proposed project would be consistent with the City and impacts would be less than significant in this regard.

(e) City of Corona General Plan Consistency Analysis

The City's General Plan contains a number of goals and policies that are relevant to water supply, wastewater, and solid waste, including goals and policies contained in the Chapter 4, Infrastructure and Public Services. As discussed below in **Table 4.N-18**, *General Plan Consistency Analysis*, the proposed project would not conflict with the applicable goals and policies of the City's General Plan. As such, impacts would be less than significant.

Table 4.N-18

General Plan Consistency Analysis

Applicable Goals/Policies	Project Consistency Statement
Infrastructure and Public Services – Water Systems	
Goal 7.1 – Establish and maintain a secure water supply, water treatment, distribution, pumping and storage systems to meet the current and projected future daily and peak water demands of Corona.	**Consistent**. As discussed within this Section, the CDWP is capable of meeting the water demands of the proposed project and the City in normal, single dry, and multiple dry years through 2035. Further, the Project would be required to implement the prescribed mitigation measures (refer to Mitigation Measure UTIL-1) which would ensure the adequacy of water availability and infrastructure to meet the demands of the project. Water connections would be provided by the Project in consultation with the CDWP, with the Project responsible for payment of all applicable water connection fees, pursuant to CDWP requirements.
Policy 7.1.7 – Require adequate water supply, distribution, pumping, storage, and treatment facilities to be operational prior to the issuance of building permits.	**Consistent**. See response to Goal 7.1.
Policy 7.1.9 – Require all new development to be served from an approved domestic water supply.	**Consistent**. See response to Goal 7.1.
Policy 7.1.10 – Through engineering design and construction practices, ensure that existing and new development does not degrade the City's surface waters and groundwater supplies	**Consistent**. See response to Goal 7.1.
Goal 7.2 – Minimize water consumption through site design, the use of water conservation systems and other techniques.	**Consistent.** The proposed project would include measures during site design and operation to minimize water consumption. Measures could include water-efficient fixtures and other project design features.
Policy 7.2.3 – In compliance with State Law, and implemented through the City's Building Permit process, continue to require the incorporation of best available technologies for water conservation features in the design of all new construction and site development including, but not limited to, water saving toilets, showerheads, faucets, and water conserving irrigation systems.	**Consistent**. See response to Goal 7.2.
Policy 7.2.7 – Require the use of recycled water for landscaped irrigation, grading, and other non-contact uses in new developments, parks, golf courses, sports fields, and comparable uses, where feasible.	**Consistent**. The proposed project would employ a green strategy that would incorporate environmentally friendly sustainable design principles, including water-wise planting and irrigation; water quality and stormwater best management practices, such as creative rainwater capture; bioswale water cleansing; permeable paving and sub-surface water storage or recharge systems, if necessary in lieu of detention basins; and use of recycled materials and other green techniques.
Policy 7.2.9 – Require that grading plans be designed and implemented to reduce stormwater runoff by capturing rainwater onsite and stored on a temporary, short-term basis to facilitate groundwater recharge rather than relying solely on community drainage facilities.	**Consistent**. Proposed project grading plans would be reviewed and approved by the City to ensure that the proposed project would comply with all City requirements.
Policy 7.2.10 – Encourage the use of rainwater capture and storage facilities in residential and nonresidential	**Consistent**. See response to Policy 7.2.7.

Table 4.N-18 (Continued)

General Plan Consistency Analysis

Applicable Goals/Policies	Project Consistency Statement
developments.	
Infrastructure and Public Services – Sewer/Wastewater Systems	
Policy 7.4.2 – As a condition of approval, require that development be connected to the municipal sewer system and ensure that adequate capacity is available for the treatment of generated wastewater flows and safely dispose of generated sludge.	**Consistent**. A sewer study has been prepared for the proposed project, which will require review and approval by the City, and the proposed project would be required to comply with all recommendations therein to ensure that adequate capacity is available for the treatment of generated wastewater flows. Additionally, the proposed project would be required to pay its fair share of fees for infrastructure upgrades on adjacent streets, per the City requirements (refer to Mitigation Measure UTIL-2).
Policy 7.4.3 – Require that all new development submit a sewer analysis to the satisfaction of the City of Corona prior to the issuance of building Permits.	**Consistent**. See response to Policy 7.4.2.
Policy 7.4.5 – Require that wastewater flows be minimized in existing and future developments through water conservation and recycling efforts.	**Consistent**. See response to Goal 7.2.
Policy 7.5.2 – Continue to require all sewer discharges to comply with the City's Waste Discharge Pretreatment and Source Control Program outlined in the City's Ordinance.	**Consistent**. The proposed project would comply with all City discharge requirements and programs.
Policy 7.5.4 – Continue to implement, as appropriate, the requirements of the NPDES and SCAQMD regulations, including requiring the use of Best Management Practices by businesses in the City.	**Consistent**. The proposed project would comply with all NPDES and SCAQMD regulations as well as applicable BMPs to reduce impacts on water and air quality.
Infrastructure and Public Services – Storm Drainage	
Policy 7.6.5 – Ensure the provision of storm water conveyance and storage control facilities to be constructed coincident with new development.	**Consistent**. As discussed in Section 4.8, *Hydrology and Water Quality,* the Project would include new on-site stormwater drainage facilities that would be constructed in accordance with the recent City of Corona and Riverside County and Water Conservation District design requirements.
Policy 7.6.6 – Require new development to prepare hydrologic studies to assess storm runoff impacts on the local and sub regional storm drainage systems, and, if warranted, require new development to provide adequate drainage facilities and to mitigate increases in stormwater flows and/or cumulative increases in regional flows. Developers of proposed projects are to submit a final drainage plan for the City Engineer's review and approval.	**Consistent**. A hydro study has been prepared for the proposed project, which will require review and approval by the City, and the proposed project would be required to comply with all recommendations therein.
Policy 7.6.10 – Apply collected developers fees toward the construction of new facilities.	**Consistent**. The project Applicant would be required to pay any necessary fees deemed mandatory per the City requirements.

Source: City of Corona General Plan, PCR Services Corporation, 2014.

3. CUMULATIVE IMPACTS

(1) Water Supply and Water Infrastructure

As discussed above, the CDWP, as the public water service provider, is required to prepare and periodically update its respective UWMP to plan and provide for water supplies to serve existing and projected demands. The UWMP prepared by the City accounts for existing development within its service area, as well as projected growth anticipated to occur through redevelopment of existing uses and development of new uses. Additionally, under the provisions of SB 610, the CDWP is required to prepare a comprehensive WSA for each new development "project" (as defined by Section 10912 of the CWC) within its service areas. The types of projects subject to the requirements of SB 610 tend to be larger projects (i.e., residential projects with at least 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, etc.) that may or may not have been included within the growth projections of the UWMP. The WSAs for such projects, in conformance with the UWMP, evaluate the quality and reliability of existing and projected water supplies, as well as alternative sources of water supply and measures to secure alternative sources if needed. In addition, as described above, SB 221 requires that for residential subdivisions with 500 units or more that are in non-urban areas, written verification from the service provider be submitted indicating sufficient water supply is available to serve the proposed subdivision, or the local agency shall make a specified finding that sufficient water supplies are or will be available prior to completion of the project.

Chapter 3, *Basis for Cumulative Analysis*, of this Draft EIR identifies 32 related projects all located in the City that are anticipated to be developed within the vicinity of the project site. These 32 related projects would cumulatively contribute, in conjunction with the proposed project, to water demand in the project area. As shown in **Table 4.N-19**, *Estimated Cumulative Water Demand*, related projects in conjunction with the proposed project would have an average daily water demand of approximately 2,444,811 gpd or 2,739 AFY.

As stated above, the City's 2010 UWMP projects that total yearly water demand will decrease from 44,331 AFY in 2010 to 39,005 AFY in 2035, which is a decrease of 5,326 AFY or 12 percent over that 25-year period. With the anticipated water demand increase of 2,739 AFY per year from the development of the proposed project and related projects, the demand for water would fall within the available and projected water demand presented in the City UWMP.

The City is faced with various ongoing challenges in securing its future water supplies due to droughts, environmental restrictions, and climate change. The City is planning to overcome these challenges by expanding their water conservation efforts through public education, installing high efficient water fixtures, providing incentives, and expanding the City's outdoor water conservation program. To increase recycled water use, the City is expanding the recycled water distribution system to provide water for irrigation, industrial use, and groundwater recharge. Furthermore, given that the UWMP plans and provides for water supplies to serve existing and projected needs, including those of future growth and development as may occur through related projects, and that the requirements of SB 610, SB 221 and SB 7 provide means to ensure that the water supply needs of large development projects are carefully considered relative to the City's ability to adequately meet future needs, it is anticipated that the City would be able to supply the demands of the proposed project and related projects through the foreseeable future. In addition, compliance with the City's recommended water conservation measures would reduce the water

Table 4.N-19

Estimated Cumulative Water Demand

Related Project	Residential (units)	Hotel (acres)	Commercial/ Retail/ Restaurant (acres)	Office (acres)	Medical Office (acres)	Industrial (acres)	School (acres)	Total
Foremost Communities (TTM 36541)	237	-	-	-	-	-	-	
MBK Homes and Turner Development (TTM 35590, PP07-007)	288	-	-	-	-	12.25	-	
Cesar Chavez School Expansion (DPR11-006)	-	-	-	-	-	-	2.15	
Knowleton Communities (TTM 33135)	63	-	-	-	-	-	-	
Knowleton Communities (PM 36250, PP09-004)	-	-	1.69	-	-	-	-	
Rancho De Paseo Valencia (TTM 34760, Annex 110, SPA08-005 EIR)	34	-	-	-	-	-	-	
DJJ Development (TTM 32386)	49	-	-	-	-	-	-	
City of Corona Successor Agency/West Coast Development (TTM 34488, PP06-009)	194	-	-	-	-	-	-	
Corona North Main, LLC Phase II (PP12-005)	453	-	-	-	-	-	-	
Pecuniary Capital, LLC (TTM 35851, CUP10-017)	60	-	-	-	-	-	-	
Mulligan-Allen & Associates (PM 35661, PP08-001)	442	-	-	-	-	-	-	
Sherborn, LLC (PM 33959)	-	-	-	-	-	76	-	
Nova Homes (TTM 36533)	103	-	-	-	-	-	-	
Cornerstone Enterprises (PM 36311, PP10-001, CUP10-003, 004; 005)	-	0.89	4.06	-	-	-	-	
Tri-Pointe Homes (TTM 36355, CUP14-001)	146	-	-	-	-	-	-	
Gateway Business Park Crossings (PM 29503R, PP08-008)	-	-	14.0	-	-	14.0	-	
SE Corporation Lakeshore Plaza (PM 34890, PP06-006)	-	-	-	26.6	-	-	-	

Table 4.N-19 (Continued)

Estimated Cumulative Water Demand

Related Project	Residential (units)	Hotel (acres)	Commercial/ Retail/ Restaurant (acres)	Office (acres)	Medical Office (acres)	Industrial (acres)	School (acres)	Total
Meridian Dos Lagos, LP (PM 34851, PP06-011)	-	-	-	3.6	-	-	-	
Fu Bang Group (PM 33151, PP04-018)	92	-	-	-	-	-	-	
Rexco Development (PP13-006)	354	-	-	-	-	-	-	
Rexco Development	-	-	-	-	-	29.0	-	
Arrantine Hills Specific Plan (SP09-001)	1,621	-	59.1	-	-	18.6	-	
North Main Street District	404	-	-	-	-	-	-	
Berzansky/PB Development	-	-	-	-	3.6	-	-	
Westliving	112	-	-	-	-	-	-	
Vulcan Materials	-	-	-	-	-	100.0	-	
Sanre Corporation	-	-	-	-	-	3.0	-	
Trammell Crow	-	-	-	-	-	26.34	-	
Griffco Land LLC	125	-	-	-	-	-	-	
Citrus Circle Apartments	42	-	-	-	-	-	-	
Houman /Patel	-	-	-	1.6	-	-	-	
ASTA /Strata	45	-	-	-	-	-	-	
Subtotal Related Projects	4,864	0.89	93.86	31.80	3.60	279.19	2.15	
Proposed Project	290	-	-	-	-	-	-	
TOTAL	5,154	0.89	93.86	30.2	3.60	149.85	2.15	-
	Cumulative Water Demand Estimate [a]							
Total Water Demand (gpd)	1,855,440	28,560	118,264	48,082	5,443	386,958	2,064	**2,444,811**
Total Water Demand (AFY)	2,078	32	133	54	6	434	2	**2,739**

Notes: gpd = gallons per day

[a] *The water demand would be consistent with the proposed sewer generation rate. To be conservative, 20 percent was added (to account for outdoor water use). Refer to Table 4.N-20, Estimated Cumulative Wastewater Generation. One acre-foot (AF) is equal to 325,851 gallons.*

Source: PCR Services Corporation, 2014. Tom Koper, City of Corona Department of Water and Power. City of Corona Sewer Master Plan, 2005.

consumption estimates of the proposed project and related projects, thereby reducing the demand on overall supplies available to the City.

Overall, the City would have adequate amounts of water to meet future water demands for the service area with the addition of the proposed project and related projects, and no significant cumulative impacts related to water demand would occur and the proposed project's contribution to such impacts would not be considerable.

Development of the proposed project in conjunction with the 32 related projects identified in Chapter 3, *Basis for Cumulative Analysis*, of this Draft EIR, would cumulatively increase distribution demands on the existing water infrastructure system. However, each related project would be subject to discretionary review to assure that the existing public utility facilities would be adequate to meet the domestic and fire water demands of each project. Furthermore, the CDWP conducts ongoing evaluations to ensure facilities are adequate to meet anticipated growth in the respective service areas. Therefore, cumulative impacts on the water infrastructure system would be less than significant.

(2) Wastewater

Chapter 3, Basis for Cumulative Analysis, of this Draft EIR identifies 32 related projects, all of which are located in the City within the CDWP service area. These 32 related projects would cumulatively contribute, in conjunction with the proposed project, to the wastewater generation in the project area. As shown in **Table 4.N-20,** *Cumulative Wastewater Generation*, the estimated wastewater generation associated with related projects and the proposed project on average is approximately 2,037,342 gpd, with a peak day flow of approximately 6,591,493 gpd.

As discussed above, the City is responsible for wastewater collection and conveyance to the City's WRF 1 and WRF 3 which would serve the proposed project and all 32 related projects based on their location, maintains adequate treatment capacity. According to the City Sewer Master Plan, the City's treatment plants had a combined treatment capacity of 15.5 mgd in 2005 and processed an average flow of 13.45 mgd in 2010, leaving a 2.05 mgd of available capacity. The future reliable treatment capacity for all three treatment plants is expected to be approximately 21 mgd with proposed improvements. As such, average flows would be well within the existing treatment capacity of WRF 1 and WRF 3. Nonetheless, as was discussed for the proposed project, CDWP periodically evaluates its conveyance and treatment facilities in order to ensure that they meet the growing demands within its service area, and in particular in response to planned future development. It is assumed, therefore, that as part of its normal planning efforts the CDWP would expand its infrastructure as necessary to meet projected demands. Furthermore, as with the proposed project, the wastewater generation estimates presented in Table 4.N-20 do not account for reductions in wastewater generation that would occur with implementation of water conservation measures, which would serve to reduce wastewater generation rates. For these reasons, the cumulative impacts of the project on sewer conveyance and treatment infrastructure would be less than significant and the project's contribution to such impacts would not be considerable.

(3) Solid Waste

Chapter 3, Basis for Cumulative Analysis, of this Draft EIR identifies 32 related projects that are anticipated to be developed within the vicinity of the project site. It is conservatively assumed that each of these projects would contribute solid waste to the landfill serving the project site. Development of these related projects would generate solid waste during their respective construction periods and on an on-going basis

Table 4.N-20

Estimated Cumulative Wastewater Generation

Related Project	Residential (units)	Hotel (rooms)	Commercial/ Retail/ Restaurant (acres)	Office (acres)	Medical Office (acres)	Industrial (acres)	School (acres)	Total
Foremost Communities (TTM 36541)	237	-	-	-	-	-	-	
MBK Homes and Turner Development (TTM 35590, PP07-007)	288	-	-	-	-	12.25	-	
Cesar Chavez School Expansion (DPR11-006)	-	-	-	-	-	-	2.15	
Knowleton Communities (TTM 33135)	63	-	-	-	-	-	-	
Knowleton Communities (PM 36250, PP09-004)	-	-	1.69	-	-	-	-	
Rancho De Paseo Valencia (TTM 34760, Annex 110, SPA08-005 EIR)	34	-	-	-	-	-	-	
DJJ Development (TTM 32386)	49	-	-	-	-	-	-	
City of Corona Successor Agency/West Coast Development (TTM 34488, PP06-009)	194	-	-	-	-	-	-	
Corona North Main, LLC Phase II (PP12-005)	453	-	-	-	-	-	-	
Pecuniary Capital, LLC (TTM 35851, CUP10-017)	60	-	-	-	-	-	-	
Mulligan-Allen & Associates (PM 35661, PP08-001)	442	-	-	-	-	-	-	
Sherborn, LLC (PM 33959)	-	-	-	-	-	76	-	
Nova Homes (TTM 36533)	103	-	-	-	-	-	-	
Cornerstone Enterprises (PM 36311, PP10-001, CUP10-003, 004; 005)	-	119	4.06	-	-	-	-	
Tri-Pointe Homes (TTM 36355, CUP14-001)	146	-	-	-	-	-	-	
Gateway Business Park Crossings (PM 29503R, PP08-008)	-	-	14.0	-	-	14.0	-	
SE Corporation Lakeshore Plaza (PM 34890, PP06-006)	-	-	-	26.6	-	-	-	
Meridian Dos Lagos, LP (PM 34851, PP06-011)	-	-	-	3.6	-	-	-	
Fu Bang Group (PM 33151, PP04-018)	92	-	-	-	-	-	-	
Rexco Development (PP13-006)	354	-	-	-	-	-	-	

Table 4.N-20 (Continued)

Estimated Cumulative Wastewater Generation

Related Project	Residential (units)	Hotel (rooms)	Commercial/ Retail/ Restaurant (acres)	Office (acres)	Medical Office (acres)	Industrial (acres)	School (acres)	Total
Rexco Development	-	-	-	-	-	29.0	-	
Arrantine Hills Specific Plan (SP09-001)	1,621	-	59.1	-	-	18.6	-	
North Main Street District	404	-	-	-	-	-	-	
Berzansky/PB Development	-	-	-	-	3.6	-	-	
Westliving	112	-	-	-	-	-	-	
Vulcan Materials	-	-	-	-	-	100.0	-	
Sanre Corporation	-	-	-	-	-	3.0	-	
Trammell Crow	-	-	-	-	-	26.34	-	
Griffco Land LLC	125	-	-	-	-	-	-	
Citrus Circle Apartments	42	-	-	-	-	-	-	
Houman /Patel	-	-	-	1.6	-	-	-	
ASTA /Strata	45	-	-	-	-	-	-	
Subtotal Related Projects	4,864	119	93.86	31.80	3.60	279.19	2.15	
Proposed Project	290	-	-	-	-	-	-	
TOTAL	5,154	119	93.86	31.80	3.60	279.19	2.15	-
Cumulative Wastewater Generation Estimate [a]								
Average Day (gpd)	1,546,200	23,800	98,553	40,068	4,536	322,465	1,720	**2,037,342**
Peak Day (gpd)[b]	4,947,840	76,160	315,370	128,218	14,515	1,031,886	5,504	**6,591,493**

Notes: gpd = gallons per day; ac = acre.

[a] *Wastewater generation based on sewage generation factors provided by Tom Koper, City of Corona Department of Water and Power and the City of Corona Sewer Master Plan, 2005. Rates applied include Rural Residential = 300 gpd/du; High Density = 200 gpd/du; Commercial Business District = 1,050 gpd/ac; Office Professional = 1,260 gpd/ac; General Industrial = 1,155 gpd/ac; and Institutional = 800 gpd/ac.*

[b] *For the purposes of a conservative analysis, peak day flows are assumed to be 3.2 times average flows.*

Source: PCR Services Corporation, 2014. Tom Koper, City of Corona Department of Water and Power. City of Corona Sewer Master Plan, 2005.

during their operation. Construction of the proposed project in conjunction with related projects would generate C&D waste and cumulatively increase the need for waste disposal at the El Sobrante Landfill. As stated above, the El Sobrante Landfill will have adequate capacity until 2045. As such, future shortage of disposal capacity at unclassified landfills is not expected. Further, related projects would be subject to environmental review on a case-by-case basis and thus, are anticipated to recycle C&D waste to the maximum extent feasible. Based on the above, cumulative solid waste impacts to unclassified landfills due to project construction are concluded to be less than significant, and the project's contribution to such impacts would not be cumulatively considerable.

The estimated solid waste generation resulting from operation of related projects is shown in **Table 4.N-21**, *Cumulative Solid Waste Generation*. As indicated therein, the solid waste generation for the proposed project and related projects is forecasted to be approximately 48,475 pounds per day or 24.25 tpd. However, this estimate of solid waste generation from the proposed project and related projects does not take into account solid waste reduction measures that would be implemented and does not discount solid waste generation from existing uses that would be removed as part of related projects.

The 24.25 tpd of cumulative solid waste generated per day would represent approximately 0.15 percent of the estimated daily capacity of the El Sobrante Landfill which would accommodate solid waste from the project site and related project sites. The provision of additional capacity to accommodate the cumulative disposal needs of the proposed project and related projects, if necessary at some point in the future, is the responsibility of local, county, and state solid waste management agencies and may become available as these agencies develop solutions to meet the future disposal needs at a regional level (e.g., expanding existing landfills, transporting waste to other landfills, converting waste to energy, recycling, and waste reduction). Furthermore, similar to the proposed project, the related projects would be subject to the source reduction and recycling requirements established by the local jurisdiction in accordance with AB 939 (i.e., divert 50 percent of the solid waste generated from landfills through waste reduction, recycling, and composting). As with the proposed project, future projects shall demonstrate a plan to ensure adherence to the City's Waste Diversion Program, which diverts 75 percent of all waste away from landfills, thus reducing the amount of solid waste to be disposed of at the landfills described above. Based on these considerations, cumulative impacts regarding solid waste would be less than significant, and the project's contribution to such impacts would not be cumulatively considerable. Nonetheless, implementation of applicable mitigation measures would provide assurance that the project's incremental contribution to cumulative solid waste impacts on a regional level remains less than significant to the extent feasible.

4. MITIGATION MEASURES

The following mitigation measures provided are applicable to the proposed project and would be implemented, as necessary, to ensure that impacts related to water supply, wastewater, and solid waste are less than significant.

a. Water Supply and Water Infrastructure

Mitigation Measure UTIL-1: Prior to issuance of the first certificate of occupancy, the project Applicant shall pay the required CDWP water connection fees as set forth in Section 13.04.040 and Section 13.14.050 of the CMC.

Table 4.N-21

Estimated Solid Waste Generation

Related Project	Residential (units)	Hotel (rooms)	Commercial/ Retail/ Restaurant (square feet)	Office (square feet)	Medical Office (square feet)	Industrial (square feet)	School (square feet)	Total
Foremost Communities (TTM 36541)	237	-	-	-	-	-	-	
MBK Homes and Turner Development (TTM 35590, PP07-007)	288	-	-	-	-	177,822	-	
Cesar Chavez School Expansion (DPR11-006)	-	-	-	-	-	-	93,684	
Knowleton Communities (TTM 33135)	63	-	-	-	-	-	-	
Knowleton Communities (PM 36250, PP09-004)	-	-	18,400	-	-	-	-	
Rancho De Paseo Valencia (TTM 34760, Annex 110, SPA08-005 EIR)	34	-	-	-	-	-	-	
DJJ Development (TTM 32386)	49	-	-	-	-	-	-	
City of Corona Successor Agency/West Coast Development (TTM 34488, PP06-009)	194	-	-	-	-	-	-	
Corona North Main, LLC Phase II (PP12-005)	453	-	-	-	-	-	-	
Pecuniary Capital, LLC (TTM 35851, CUP10-017)	60	-	-	-	-	-	-	
Mulligan-Allen & Associates (PM 35661, PP08-001)	442	-	-	-	-	-	-	
Sherborn, LLC (PM 33959)	-	-	-	-	-	1,092,485	-	
Nova Homes (TTM 36533)	103	-	-	-	-	-	-	
Cornerstone Enterprises (PM 36311, PP10-001, CUP10-003, 004; 005)	-	119	44,200	-	-	-	-	
Tri-Pointe Homes (TTM 36355, CUP14-001)	146	-	-	-	-	-	-	
Gateway Business Park Crossings (PM 29503R, PP08-008)	-	-	108,200	-	-	108,200	-	
SE Corporation Lakeshore Plaza (PM 34890, PP06-006)	-	-	-	289,613	-	-	-	
Meridian Dos Lagos, LP (PM 34851, PP06-011)	-	-	-	35,931	-	-	-	
Fu Bang Group (PM 33151, PP04-018)	92	-	-	-	-	-	-	
Rexco Development (PP13-006)	354	-	-	-	-	-	-	

Table 4.N-21 (Continued)

Estimated Solid Waste Generation

Related Project	Residential (units)	Hotel (rooms)	Commercial/ Retail/ Restaurant (square feet)	Office (square feet)	Medical Office (square feet)	Industrial (square feet)	School (square feet)	Total
Rexco Development	-	-	-	-	-	420,457	-	
Arrantine Hills Specific Plan (SP09-001)	1,621	-	643,599	-	-	267,371	-	
North Main Street District	404	-	-	-	-	-	-	
Berzansky/PB Development	-	-	-	-	39,200	-	-	
Westliving	112	-	-	-	-	-	-	
Vulcan Materials	-	-	-	-	-	1,437,480	-	
Sanre Corporation	-	-	-	-	-	36,658	-	
Trammell Crow	-	-	-	-	-	531,904	-	
Griffco Land LLC	125	-	-	-	-	-	-	
Citrus Circle Apartments	42	-	-	-	-	-	-	
Houman /Patel	-	-	-	17,400	-	-	-	
ASTA /Strata	45	-	-	-	-	-	-	
Subtotal Related Projects	4,864	119						
Proposed Project	290	-	-	-	-	-	-	
TOTAL	5,154	119	814,399	342,944	39,200	4,072,377	93,684	-
Cumulative Solid Waste Generation Estimate [c]								
Total (lbs/day)	20,616	476	4,072	2,058	235	20,362	656	**48,475**
Total (tpd)	10.31	0.24	2.04	1.03	0.12	10.18	0.33	**24.25**

Notes: s.f. = square feet; k.s.f. = thousand square feet; lbs. = pounds; tpd. = tons per day.

[a] *Sherborn, LLC proposes 29 industrial lots on 76 acres. Total industrial use square footage unknown at this time but assumed at an FAR of 0.33, similar to other industrial projects in the City.*

[b] *Vulcan Materials proposes expansion of existing surface mine by 100 acres. Total mining use square footage unknown at this time, but is assumed at an FAR of 0.33.*

[c] *Solid Waste Generation Based on generation factors provided by the CalRecycle website, refer to Estimated Solid Waste Generation Rates. http://www.calrecycle.ca.gov/WasteChar/WasteGenRates/default.htm. Accessed November 2014, and assumes 4 lbs/unit/day for residential uses, 6 lbs/k.s.f./day for office uses, 5 lbs/k.s.f./day for commercial uses, 4 lbs/room/day for hotel/motel uses, 5 lbs/1,000 sq ft/day for industrial uses and 0.007 lbs/square foot/per day for schools.*

Source: PCR Services Corporation, 2014. CalRecycle Website, accessed July 2014.

b. Wastewater

Mitigation Measure UTIL-2: Prior to the issuance of the first certificate of occupancy, the project Applicant shall pay the required CDWP sewer connection fees as set forth in Section 13.08.600 of the CMC.

c. Solid Waste

Mitigation Measure UTIL-3: Prior to the issuance of any demolition or construction permit, the project Applicant shall provide a copy of the receipt or contract indicating that the construction contractor shall only contract for waste disposal services with the City's exclusive franchise contract hauler, Waste Management of the Inland Empire. The contract specifying recycled waste service shall be presented to the Municipal Operations Department prior to approval of the first certificate of occupancy for the project.

Mitigation Measure UTIL-4: In order to facilitate on-site separation and recycling of construction related wastes, the construction contractor shall provide temporary waste separation bins on-site during demolition and construction activities.

Mitigation Measure UTIL-5: Waste Diversion. The project Applicant shall demonstrate a plan to ensure adherence to the City of Corona Waste Diversion Program, which diverts 75 percent of all waste away from landfills. The City shall ensure that the project proponent implements the waste diversion plan objectives. These requirements shall be specified in the final architectural plans to be approved by the City of Corona Planning and Building Agency prior to issuance of building permits.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Upon implementation of applicable mitigation measures, the proposed project would result in less than significant impacts with regard to water supply, water infrastructure, and wastewater. The proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs during construction activities. Thus, solid waste impacts during construction would be less than significant. Mitigation Measures UTIL-3 and UTIL-4 are proposed to provide assurance that construction-related solid waste impacts remain less than significant to the extent feasible, while Mitigation Measure UTIL-5 would minimize long-term operational solid waste generation that would require landfill disposal. The project would not generate solid waste at a level that would generate the need for new or substantially expanded recycling or disposal facilities, and the available capacity of the existing and/or planned landfills would not be exceeded; therefore, impacts associated with solid waste generation from project operations would be less than significant. As the proposed project would comply with all State, regional, and local plans, policies, and regulations relating to solid waste, impacts regarding consistency with the regulatory environment would be less than significant.

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4. ENVIRONMENTAL IMPACT ANALYSIS
O. AGRICULTURE AND FORESTRY RESOURCES

INTRODUCTION

This section evaluates the impact of implementation of the proposed Skyline Heights Project on agricultural resources in the project area and the region. The analysis presented in this section is based on information contained in the City of Corona General Plan, relevant maps and reports provided by the Natural Resources Conservation Service (NRCS), and guidance provided by the California Department of Conservation's Land Evaluation and Site Assessment (LESA) Model. The LESA Model calculations and associated maps are included in their entirety in Appendix B of this Draft EIR.

1. ENVIRONMENTAL SETTING

a. Existing Agricultural Conditions

(1) Regional Conditions

The Inland Empire comprises a small portion of California's agriculture industry. In 2009, the value of all agricultural production within the Inland Empire totaled $1.4 billion, compared with $41.4 billion in California as a whole.[1] On the County level, in 2011, Riverside County's total gross agricultural valuation was $1.3 billion in 2011, an increase of 17 percent to $188.6 million over 2010 values and a new record for the County. Agricultural Crops production rose 15 percent to $990 million, while Livestock and Poultry increased 24 percent to $292 million.[2]

Agricultural crop values historically vary from year to year based upon factors such as production, market fluctuations, and weather. After three years of declines, 2011 presented generally favorable conditions for many of Riverside County's top agricultural producers. Nursery Stock, the highest valued crop in the County, increased 18 percent to just over $200 million. Milk rose 32 percent to $191.8 million, while Table Grapes increased 28 percent to $118.5 million. Field and Seed Crops rose 84 percent in 2011, the greatest percentage increase of the year. Leading the way was Hay at just over $101 million and now the fourth highest value commodity in the County. Rounding out the top five is Bell Peppers with a slight decrease of 5 percent to $85.2 million.[3]

Despite the recent turnaround in agricultural production and values in the County of Riverside, the regional agricultural industry currently faces several substantial challenges, including the stagnant economic climate,

[1] *Chang & Adams Consulting. "Assessing the Economic and Market Trends Affecting Agriculture in the Western Inland Empire". September 2011.*

[2] *Riverside County Agricultural Commissioner's Office. "Agricultural Production Report 2011". Website: http://www.rivcoag.org/opencms/publications/. 2012. Accessed April 2013.*

[3] *Ibid.*

the price and availability of irrigation water, the increase in regulation, and the decrease in local support services.[4]

Aside from declining production values and profits, the agriculture industry has experienced large shifts in production as a result of agricultural land conversion. Between the period of 1990 to 2004, approximately 105,583 acres of agricultural land uses in Southern California were converted to urbanized uses.[5] Regionally, the conversion of agricultural land uses to other uses has become increasingly common. Accordingly, although the project site may ultimately produce a higher LESA Score, there are additional factors that must be considered when evaluating the site as a agricultural resource of significance. These factors include such things as the size of the project site and the present economic viability of onsite agricultural production.

(2) City Agricultural Conditions

As shown in Figure 4.5-6 of the Corona General Plan Technical Background Report, no prime farmland is present in the Prado Basin or Foothill areas of the City's West Sphere of Influence (SOI), the Foothill portion of which encompasses the project site.[6] An area that bisects the Foothill portion of the West SOI has also been designated as unique farmland. Only single, small areas of this farmland type have been mapped in each of the Foothill SOI area. The Foothill area does not contain any areas mapped as farmland of local importance. The Foothill SOI area contains no designated grazing land. Agricultural uses, primarily citrus and avocado groves, comprise 601 acres (approximately 2.5 percent) of Corona's land area. Agricultural lands are concentrated in the southernmost portion of the City near Cajalco Road. Another smaller agricultural area that is not in production is located in the western part of the City, south of Mangular Avenue.[7]

(3) Project Site Agricultural Conditions

The project site is not zoned for agriculture or forest land and is not currently being utilized for agricultural operations, but rather is designated for single-family residential (SFR) development by the County of Riverside.[8] Furthermore, according to the California Department of Conservation (CDC), the entire 270.9-acre project site is designated as "X - Other Land", as shown in Exhibit 1, *Important Farmland Map*, in the LESA Model (contained in Appendix B of this Draft EIR). No portion of the project site is designated as Prime Farmland, Unique Farmland, Farmland of Local or Statewide Importance as shown in Exhibit 3, *Zone of*

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4 *San Bernardino, County of. Department of Agriculture/Weights and Measures. "2009 Crops and Livestock Report". Website: http://ucanr.org/sites/Farm_Management/files/132158.pdf. 2010. Accessed April 2013.*

5 *American Farmland Trust. "Paving Paradise: A New Perspective on California Farmland Conversion." Website: http://www.farmland.org/programs/states/ca/Feature%20Stories/PavingParadise.asp. November 2007. Accessed April 2013.*

6 *City of Corona General Plan Technical Background Report. 4.5 Geology, Soils, and Agricultural Resources. March 2004. http://www.discovercorona.com/CityOfCorona/media/Media/CommunityDevelopment/GeneralPlan/CoronaTBR.pdf. Pages 4-85 & 4-89.*

7 *City of Corona General Plan Technical Background Report. Chapter 2: Community Development. March 2004. http://www.discovercorona.com/CityOfCorona/media/Media/CommunityDevelopment/GeneralPlan/CoronaTBR.pdf. Page 2-16.*

8 *County of Riverside. Ordinance No. 348 – Providing For Land Use Planning and Zoning Regulations and Related Functions of the County of Riverside (as amended through Ordinance No. 348.4773). Effective 07/31/14. http://planning.rctlma.org/Portals/0/zoning/ordnance/Ord.%20348.4773_clean_version.pdf. Accessed November 2014.*

Influence, in the LESA Model, though isolated areas designated as Unique Farmland and Unique Farmland are located to the southeast.

b. Regulatory Framework

(1) Williamson Act

The California Land Conservation Act (Williamson Act) was passed in 1965 to protect specific parcels of land in agricultural and open space use. Landowners enter into ten-year contracts with local governments and in return receive lower property tax assessments. Administration of the program involves two sets of records, one being the contracts between the property owner and the County, and the other being a series of agricultural preserve maps establishing the boundaries of lands under contract. The City of Fontana administers this program for the County. Contracts are valid for an initial period of ten years and automatically renew each year to maintain a ten-year life. The property owner or the local planning jurisdiction may initiate a notice of non-renewal, stopping the automatic annual renewals and placing the contract in a status in which it completes its remaining ten-year life. Alternatively, a property owner may cancel a contract, subject to an approval process and penalties, to provide an immediate end to the contract. The Williamson Act specifies that contracts under the Act may only be cancelled if that cancellation is consistent with purposes of the Act and if the cancellation is in the public interest. To approve cancellation, the City Council must find that the cancellation is either: (1) consistent with the purposes of the Williamson Act, or (2) in the public interest. (Gov. Code, Section 51282, dubd. (a).) No portion of the project site is currently under a Williamson Act contract.

(2) State Farmland Mapping Program

The CDC established the Farmland Mapping and Monitoring Program (FMMP) in 1982. The FMMP is a non-regulatory program and provides a consistent and impartial analysis of agricultural land use and land use changes throughout California. The FMMP produces maps and statistical data used for analyzing impacts on California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status and identified by the following categories, collectively referred to as Farmland: Prime Farmland, Unique Farmland, Farmland of Statewide Importance, and Farmland of Local Importance. As noted above, no portion of the project site is designated as Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Farmland of Local Importance. Refer to Exhibit 3, *Zone of Influence*, in the LESA Model (provided in Appendix B of this Draft EIR) for graphic illustrations of agricultural land within the surrounding area.

(3) Land Evaluation and Site Assessment Model

Land Evaluation and Site Assessment (LESA) is a term used to define an approach for rating the relative quality of land resources based upon specific measurable features. The formulation of a California Agricultural LESA Model is the result of Senate Bill 850 (Chapter 812 /1993), which charges the Resources Agency, in consultation with the Governor's Office of Planning and Research, with developing an amendment to Appendix G of the California Environmental Quality Act (CEQA) Guidelines concerning agricultural lands. Such an amendment is intended "to provide lead agencies with an optional methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process" (Public Resources Code Section 21095).

The California Agricultural LESA Model is composed of six different factors. Two Land Evaluation factors are based upon measures of soil resource quality. Four Site Assessment factors provide measures of a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. For a given project, each of these factors is separately rated on a 100 point scale. The factors are then weighted relative to one another and combined, resulting in a single numeric score for a given project, with a maximum attainable score of 100 points. It is this project score that becomes the basis for making a determination of a project's potential significance, based upon a range of established scoring thresholds. The LESA Manual provides detailed instructions on how to utilize the California LESA Model, and includes worksheets for applying the Model to specific projects. An assessment of the proposed project's impacts to agricultural land is included in Appendix B of this Draft EIR.

(4) City of Corona General Plan

The City's General Plan (2004) includes a specific land use designation for agricultural activities, and also provides various goals and policies related to agricultural activities. The goals and policies relevant to agriculture and forestry resources include the following:

- **Goal 10.12** – Promote preservation of agricultural (sic) on lands designated as such in the Land Use Element and protect adjacent uses from impacts related to agricultural activities.
- ***Policy 10.12.1*** – Allow for and facilitate the continuance of agricultural activities in the City until such time as the land is needed to accommodate population and employment growth.
- ***Policy 10.12.2*** – Restrict the development of urban uses such as schools, day care and elder care facilities, hospitals and high density residential within areas used for agriculture whose operations, such as crop production, pesticide spraying, and truck access, may be incompatible and conflict with the urban uses.
- ***Policy 10.12.3*** – Require that purchasers of new homes be notified by developers and purchasers of re-sale homes be notified through escrow documents of the presence of, intentions for, characteristics of, and potential impacts of continued agricultural use and operations on nearby lands.
- ***Policy 10.12.4*** – Implement environmental enhancement programs to establish and sustain both the visual and functional intent of the buffer/greenbelt.

2. PROJECT IMPACTS

a. Methodology

The evaluation of impacts to agricultural resources and operations is based on the amount and quality of agricultural land on-site and in the surrounding area, the effect the proposed project would have on such resources and operations, and the project's conflicts, if any, with rules, regulations, or contracts affecting agricultural land. As such, impacts are assessed based on the significance criteria provided below, relative to the existing regulations relating to agriculture in the area, and utilizing a quantitative model (i.e., the LESA Model, included in Appendix B of this Draft EIR) for evaluating the agricultural value of land.

b. Thresholds of Significance

Appendix G of the CEQA Guidelines provides a checklist of questions to assist in determining whether a proposed project would have a significant impact related to various environmental issues including agriculture and forestry resources. Based on the following issue areas identified in Appendix G of the CEQA Guidelines, a significant impact relative to agriculture and forestry resources would occur if the project would result in the following:

Threshold 1: 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 (refer to Impact Statement 4.B-1 below);

Threshold 2: Conflict with existing zoning for agricultural use, or a Williamson Act contract (refer to Impact Statement 4.B-2 below);

Threshold 3: Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 1220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)) (refer to Impact Statement 4.B-2 below);

Threshold 4: Result in the loss of forest land or conversion of forest land to non-forest use (refer to Impact Statement 4.B-1 below); or

Threshold 5: 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 (refer to Impact Statement 4.B-1 below);

c. Evaluation of Project Impacts

(1) Farmland and Forest Land Conversion

Threshold	Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?
Threshold	Would the project result in the loss of forest land or conversion of forest land to non-forest use?
Threshold	Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Impact 4.B-1 The proposed project would not directly convert, or otherwise result in the conversion of, any existing agricultural land to non-agricultural uses, or forest land to non-forest use, and would not trigger a significant impact per the LESA Model. As such, impacts related to conversion of farmland and forest land would be less than significant.

As discussed above, the California Department of Conservation's LESA Model is the primary tool used to evaluate the significance of impacts related to the conversion of agricultural land to non-agricultural uses under CEQA. The LESA Model is composed of six different factors, which evaluate the land and the project site. Two Land Evaluation factors are based upon measures of soil resource quality. Four Site Assessment factors provide measures of a project site's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands intended to measure social, economic, and geographic attributes that contribute to the overall value of agricultural land. The factors used in the LESA Model are as follows:

(a) Land Evaluation

The following are the two factors in the LESA model that are used as land evaluation scoring criteria:

- Land Capability Classification
- Storie Index

(b) Site Assessment

The following are the four factors in the LESA model that are used as site assessment scoring criteria:

- Project Size Rating
- Water Resources Availability Rating
- Surrounding Agricultural Land Rating
- Surrounding Protected Resource Land Rating

For a proposed project, each of these factors is separately rated on a 100-point scale. A single LESA score is generated for a given project after all of the individual Land Evaluation Factors and Site Assessment factors have been scored and weighted. The factors are then weighted relative to one another and combined, resulting in a single numeric score for a given project, with a maximum attainable score of 100 points. It is this project score that becomes the basis for making a determination of a project's potential significance, based upon a range of established scoring thresholds. According to the LESA Model, a project would result in a significant impact on agricultural resources if it meets the criteria specified in Table 9 of the LESA Manual (see Appendix B of this Draft EIR). **Table 4.O-1**, *LESA Significance Ratings*, below provides the ratings that determine if a project will result in a significant impact to farmland resources.

An overview of the six different factors and the worksheets for the proposed project are contained in Appendix B of this Draft EIR. Therefore, based on the evaluation in the LESA worksheets, the final score for the proposed project is 21.79 points out of a possible 100 points, with a Land Evaluation score of 6.79 and a Site Assessment score of 15.00. The total LESA score is between 0 and 39 points, and both of the scores associated with the Land Evaluation factors or the Site Assessment factors were below the referenced threshold of 20 points. As such, based on the results of the LESA Model, impacts related to farmland conversion would be less than significant.

Table 4.O-1

LESA Significance Ratings

Total LESA Score	Scoring Decision
0 to 39 points	Not considered significant
40 to 59 points	Considered significant only if LE and SA sub-scores are each greater than or equal to 20 points
60 to 79 points	Considered significant unless either LE or SA sub-scores are each less than 20 points
80 to 100 points	Considered Significant

Source: California Land Evaluation and Site Assessment Model (LESA), Table 9, California Department of Conservation, 1997.

No land designated as forest land exists within the project boundaries, and therefore implementation of the proposed project would not directly convert any forest land to non-forest use. Furthermore, although the Cleveland National Forest is located to the south of the project site, implementation of proposed uses on-site would not affect any forest land or forestry resources. As such, impacts related to conversion of forest land would be less than significant.

Based on the discussion above, the proposed project would not 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, as no farmland or forest land exists on the project site that could be affected by its implementation. Therefore, impacts in this regard would also be less than significant.

(2) Conflicts with Zoning or Williamson Act Contracts

Threshold	Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?
Threshold	Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 1220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

Impact 4.B-2 The proposed project would not conflict with existing zoning for agricultural uses or forest land or a Williamson Act contract. As such, impacts in this regard would be less than significant.

As discussed above, the project site is zoned Rural Residential (R-R) by Riverside County, which allows for single-family residential development with a minimum 5-acre lot size, but would be changed to Single-Family Residential (R-1-7.2, with 7,200 square-foot minimum lot size) under City of Corona zoning as part of the requested approvals. Therefore, no portion of the 270.9-acre project site is currently, or would be, zoned for agricultural or forestry uses. Additionally, as noted above, no portion of the project site is currently enrolled in a Williamson Act contract, and as such, project implementation would not have the potential to

result in conflicts in this regard. Impacts related to conflicts with agricultural or forest land zoning, or with Williamson Act contracts, would be less than significant.

3. CUMULATIVE IMPACTS

Future planned urban development in the City and SOI areas could convert existing agricultural land to non-agricultural use. However, such areas are limited to isolated patches

4. MITIGATION MEASURES

Impacts related to agriculture and forestry resources would be less than significant. Therefore, no mitigation measures are necessary.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the proposed project would result in less than significant impacts to agriculture and forestry resources.

5.0 Alternatives

5.0 ALTERNATIVES

1. SUMMARY OF THE ALTERNATIVES

Under CEQA, the identification and analysis of alternatives to a project is a fundamental aspect of the environmental review process. Public Resources Code Section 21002.1(a) establishes the need to address alternatives in an EIR by stating that in addition to determining a project's significant environmental impacts and indicating potential means of mitigating or avoiding those impacts, the purpose of an environmental impact report is to identify alternatives to the project.

Direction regarding the definition of project alternatives is provided in *CEQA Guidelines* Section 15126.6(a) as follows:

> *"An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives."*

The *CEQA Guidelines* emphasize that the selection of project alternatives be based primarily on the ability to reduce significant impacts relative to the proposed project, "even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly."[1] The *CEQA Guidelines* further direct that the range of alternatives be guided by a "rule of reason," such that only those alternatives necessary to permit a reasoned choice are analyzed.[2]

In selecting project alternatives for analysis, potential alternatives should be feasible. *CEQA Guidelines* Section 15126.6(f)(1) states that:

> *"Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, … and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site."*

The *CEQA Guidelines* require the analysis of a "no project" alternative and an evaluation of alternative location(s) for the project, if feasible. Based on the alternatives analysis, an environmentally superior alternative is to be designated. If the environmentally superior alternative is the No Project/No Build Alternative, then the EIR shall identify an environmentally superior alternative among the other alternatives.[3]

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1 *CEQA Guidelines Section 15126.6(b).*

2 *Ibid, Section 15126.6(f).*

3 *Ibid, Section 15126.6(e)(2).*

The first alternative selected for analysis is a No Project Alternative, pursuant to Section 15126.6(e) of the *CEQA Guidelines*, while the second and third alternatives are intended to address the significant aesthetics and visual resources impacts of the proposed development. Thus, based on the proposed project's environmental impacts and the objectives established for the project (refer to Chapter 2, *Project Description*, of this Draft EIR), the following alternatives to the proposed project are evaluated in this Chapter:

1. No Project Alternative
2. Reduced Density Alternative
3. Phase III Only Alternative

2. OBJECTIVES OF THE PROPOSED PROJECT

Section 15124(b) of the *CEQA Guidelines* states that a project description shall contain "a statement of the objectives sought by the proposed project." In addition, Section 15124(b) of the *CEQA Guidelines* further states that "the statement of objectives should include the underlying purpose of the project."

As set forth by the *CEQA Guidelines*, the list of objectives that the project Applicant seeks to achieve for the project is provided below.

Objective 1: Provide high quality residential development consistent with adjacent neighborhoods.

Objective 2: Build residential housing which is in compliance with proposed zoning and Corona General Plan land use designations consistent with surrounding area.

Objective 3: Facilitate the annexation of the project development and adjacent lands into the City of Corona.

Objective 4: Provide efficient and safe movement of vehicles and pedestrians with minimum intrusion on adjacent residential neighborhoods.

Objective 5: Dedicate land and contribute fees for the construction of Foothill Parkway.

Objective 6: Ensure that all community facilities and services including circulation improvements, drainage facilities, water, reclaimed water and sewer facilities are available to serve the project and meet or exceed applicable City standards and requirements prior to, or concurrent with development.

Objective 7: Provide strategic improvements within the project to assist the City with Master Plan improvements to existing water and sewer system.

Objective 8: Provide water reservoirs and infrastructure to improve service and reliability for other parts of the City.

Objective 9: Provide a system of open space which combines natural and man-made areas to maintain a scenic and fire safe living environment for residents.

Objective 10: Implement a comprehensive landscape program which provides visual continuity throughout the project area and the natural areas of the Cleveland National Forest.

Objective 11: Help meet the high market demand for high quality housing in western Riverside County and to meet the City's housing needs to support forecasted population growth as discussed in the City's General Plan (2004).

3. ALTERNATIVES CONSIDERED AND REJECTED

Section 15126.6(c) of the *CEQA Guidelines* states that alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid any significant environmental effects. The following identifies the alternatives that were considered but rejected from further consideration:

1. **Phases I and II Only Alternative:** This potential alternative was considered to evaluate impacts of the project produced by the completion of only the first two phases of development. No construction or operation of Phase III or the additional impacts resulting from its implementation would occur. This alternative would reduce overall development by 45 single-family dwelling units. This alternative was not considered because although it would incrementally reduce the intensity of on-site development, and associated need for grading and related aesthetics impacts, it would not result in a development pattern that is notably different than the Reduced Density Alternative, and also would not substantially reduce the significance of the proposed project's significant visual resources impacts. Therefore, this alternative was rejected for these considerations.

2. **Alternative Site Location Alternative:** The construction of a new single-family residential development elsewhere in the City was also contemplated. However, the potential for locating a comparable property for single-family residential development that is contiguous with existing residential neighborhoods and served by existing public services and infrastructure is considered low, and acquiring such a property would not be cost-effective for the project Applicant, as the project site is already under Applicant ownership. Additionally, an off-site residential development may involve additional environmental conditions and related impacts that would not be a concern on the existing project site. Therefore, this alternative was not considered for further analysis.

4. ANALYSIS FORMAT

In accordance with *CEQA Guidelines* Section 15126.6(d), each alternative is evaluated in sufficient detail to determine whether the overall environmental impacts would be fewer, similar, or greater than the corresponding impacts of the project. Furthermore, each alternative is evaluated to determine whether the project objectives, as stated above, will be substantially attained by the alternative. The evaluation of each of the alternatives follows the process described below:

a. The net environmental impacts of the alternative after implementation of reasonable mitigation measures are determined for each environmental issue area analyzed in the EIR.

b. Post-mitigation significant and non-significant environmental impacts of the alternative and the project are compared for each environmental issue area. Where the net impact of the alternative will be clearly less adverse or more beneficial than the impact of the project, the comparative impact is said to be "less." Where the alternative's net impact will be clearly more adverse or less beneficial than the project, the comparative impact is said to be "greater." Where the impacts of the alternative and the project will be roughly equivalent, the comparative impact is said to be "similar."

c. The comparative analysis of the impacts is followed by a general discussion of whether the underlying purpose and basic project objectives are substantially attained by the alternative.

Table 5-1, *Comparison of Impacts Associated with the Alternatives and Impacts of the Project*, provides a summary comparison of the impacts associated with each of the proposed alternatives with the impacts of the project.

Table 5-1

Comparison of Impacts Associated with the Alternatives and Impacts of the Project

Environmental Issue	Proposed Project	Alternative 1 No Project Alternative	Alternative 2 Reduced Density Alternative	Alternative 3 Phase III Only Alternative
A. Aesthetics				
Views/Scenic Vistas	Significant Unavoidable Impact	No Impact (Less)	Significant Unavoidable Impact (Less)	Less Than Significant (Less)
Scenic Resources	Significant Unavoidable Impact	No Impact (Less)	Significant Unavoidable Impact (Less)	Less Than Significant (Less)
Aesthetics/Visual Character	Significant Unavoidable Impact	No Impact (Less)	Significant Unavoidable Impact (Less)	Less Than Significant (Less)
Light and Glare	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)
Shade/Shadow	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)
Regulatory Consistency	Less Than Significant	No Impact (Less)	Less Than Significant (Similar)	Less Than Significant (Similar)
B. Air Quality				
AQMP Consistency	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)
Violation of Air Quality Standards - Construction	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)
Violation of Air Quality Standards - Operational Emissions	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)
Cumulatively Considerable Pollutant Increases	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)

Table 5-1 (Continued)

Comparison of Impacts Associated with the Alternatives and Impacts of the Project

Environmental Issue	Proposed Project	Alternative 1 No Project Alternative	Alternative 2 Reduced Density Alternative	Alternative 3 Phase III Only Alternative
Exposure to Substantial Pollutant Concentrations	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)
Odors	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)
Regulatory Consistency	Less Than Significant	No Impact (Less)	Less Than Significant (Similar)	Less Than Significant (Similar)
C. Biological Resources				
Special Status Species/Habitats	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant With Mitigation (Less)	Less Than Significant With Mitigation (Less)
Riparian Habitat/Sensitive Natural Communities	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)
Wetlands/Jurisdictional Features	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)
Wildlife Corridors/Migratory Species	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant With Mitigation (Less)	Less Than Significant With Mitigation (Less)
Conflicts With Plans, Policies, or Ordinances Protecting Biological Resources	Less Than Significant	No Impact (Less)	Less Than Significant (Similar)	Less Than Significant (Similar)
D. Cultural Resources				
Historic Resources	No Impact	No Impact (Similar)	No Impact (Similar)	No Impact (Similar)
Archaeological Resources	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant With Mitigation (Less)	Less Than Significant With Mitigation (Less)

Table 5-1 (Continued)

Comparison of Impacts Associated with the Alternatives and Impacts of the Project

Environmental Issue	Proposed Project	Alternative 1 No Project Alternative	Alternative 2 Reduced Density Alternative	Alternative 3 Phase III Only Alternative
Paleontological Resources	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant With Mitigation (Less)	Less Than Significant With Mitigation (Less)
Human Remains	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)
Regulatory Consistency	Less Than Significant	Less Than Significant (Less)	Less Than Significant (Similar)	Less Than Significant (Similar)
E. Geology and Soils				
Earthquake Fault Rupture, Ground Shaking, Ground Failure, and Landslides	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant With Mitigation (Less)	Less Than Significant With Mitigation (Less)
Soil Erosion	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)
Seismic Ground Failure	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant With Mitigation (Less)	Less Than Significant With Mitigation (Less)
Expansive Soils	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant With Mitigation (Less)	Less Than Significant With Mitigation (Less)
Septic Tanks and Alternative Wastewater Disposal Systems	Less Than Significant	No Impact (Less)	Less Than Significant (Similar)	Less Than Significant (Similar)
Regulatory Consistency	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant With Mitigation (Similar)	Less Than Significant With Mitigation (Similar)
F. Greenhouse Gas Emissions				
Greenhouse Gas Emissions	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)

Table 5-1 (Continued)

Comparison of Impacts Associated with the Alternatives and Impacts of the Project

Environmental Issue	Proposed Project	Alternative 1 No Project Alternative	Alternative 2 Reduced Density Alternative	Alternative 3 Phase III Only Alternative
Consistency with GHG Reduction Plans	Less Than Significant	No Impact (Less)	Less Than Significant (Similar)	Less Than Significant (Similar)
G. Hazards and Hazardous Materials				
Hazardous Materials Operations and Releases	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)
Hazardous Materials Emissions Near Schools	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)
Listed Hazardous Materials Sites	Less Than Significant	No Impact (Less)	Less Than Significant (Similar)	Less Than Significant (Similar)
Airport-Related Hazards	No Impact	No Impact (Less)	No Impact (Similar)	No Impact (Similar)
Regulatory Consistency and Emergency Response and Evacuation Plans	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)
Wildland Fire Hazards	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant With Mitigation (Less)	Less Than Significant With Mitigation (Less)
H. Hydrology and Water Quality				
Water Quality Degradation/Wastewater Discharge Requirements	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)
Groundwater Resources	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)

Table 5-1 (Continued)

Comparison of Impacts Associated with the Alternatives and Impacts of the Project

Environmental Issue	Proposed Project	Alternative 1 No Project Alternative	Alternative 2 Reduced Density Alternative	Alternative 3 Phase III Only Alternative
Hydrology and Drainage	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant With Mitigation (Less)	Less Than Significant With Mitigation (Less)
Flood Hazards	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)
Regulatory Consistency	Less Than Significant	No Impact (Less)	Less Than Significant (Similar)	Less Than Significant (Similar)
I. Land Use and Planning				
Division of Established Communities	Less Than Significant	No Impact (Less)	Less Than Significant (Similar)	Less Than Significant (Similar)
Consistency with Plans, Policies, and Regulations	Less Than Significant	No Impact (Less)	Less Than Significant (Similar)	Less Than Significant (Similar)
Conflicts with Habitat Conservation Plans	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)
J. Noise				
Noise Generation and Compliance with Noise Standards	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant With Mitigation (Less)	Less Than Significant With Mitigation (Less)
Groundborne Vibration and Noise	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)
Aircraft/Airport Noise	Less Than Significant	No Impact (Less)	Less Than Significant (Similar)	Less Than Significant (Similar)
Regulatory Consistency	Less Than Significant	No Impact (Less)	Less Than Significant (Similar)	Less Than Significant (Similar)

Table 5-1 (Continued)

Comparison of Impacts Associated with the Alternatives and Impacts of the Project

Environmental Issue	Proposed Project	Alternative 1 No Project Alternative	Alternative 2 Reduced Density Alternative	Alternative 3 Phase III Only Alternative
K. Population, Housing, and Employment				
Population	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)
Housing	Less Than Significant	No Impact (Greater)	Less Than Significant (Greater)	Less Than Significant (Greater)
Employment	Less Than Significant	No Impact (Similar)	Less Than Significant (Similar)	Less Than Significant (Similar)
Regulatory Consistency	Less Than Significant	No Impact (Less)	Less Than Significant (Similar)	Less Than Significant (Similar)
L. Public Services				
Fire Protection	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant With Mitigation (Less)	Less Than Significant With Mitigation (Less)
Police Protection	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant With Mitigation (Less)	Less Than Significant With Mitigation (Less)
Parks and Recreation	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant With Mitigation (Less)	Less Than Significant With Mitigation (Less)
Schools	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant With Mitigation (Less)	Less Than Significant With Mitigation (Less)
Libraries	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant With Mitigation (Less)	Less Than Significant With Mitigation (Less)
Regulatory Consistency	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant (Similar)	Less Than Significant (Similar)

Table 5-1 (Continued)

Comparison of Impacts Associated with the Alternatives and Impacts of the Project

Environmental Issue	Proposed Project	Alternative 1 No Project Alternative	Alternative 2 Reduced Density Alternative	Alternative 3 Phase III Only Alternative
M. Transportation				
Intersection Impacts	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant With Mitigation (Less)	Less Than Significant With Mitigation (Less)
Roadway Segments	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)
Hazardous Design Features	Less Than Significant	No Impact (Less)	Less Than Significant (Similar)	Less Than Significant (Similar)
Emergency Access	Less Than Significant	No Impact (Less)	Less Than Significant (Similar)	Less Than Significant (Similar)
Parking	Less Than Significant	No Impact (Less)	Less Than Significant (Similar)	Less Than Significant (Similar)
Alternative Transportation/Regulatory Consistency	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant With Mitigation (Similar)	Less Than Significant With Mitigation (Similar)
N. Utilities and Service Systems				
Water Supply and Infrastructure	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant With Mitigation (Less)	Less Than Significant With Mitigation (Less)
Wastewater Conveyance and Treatment	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant With Mitigation (Less)	Less Than Significant With Mitigation (Less)
Stormwater Drainage Facilities	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)
Solid Waste Disposal	Less Than Significant With Mitigation	No Impact (Less)	Less Than Significant With Mitigation (Less)	Less Than Significant With Mitigation (Less)

Table 5-1 (Continued)

Comparison of Impacts Associated with the Alternatives and Impacts of the Project

Environmental Issue	Proposed Project	Alternative 1 No Project Alternative	Alternative 2 Reduced Density Alternative	Alternative 3 Phase III Only Alternative
Regulatory Consistency	Less Than Significant	No Impact (Less)	Less Than Significant (Similar)	Less Than Significant (Similar)
O. Agriculture and Forestry Resources				
Farmland and Forest Land Conversion	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)
Conflicts with Zoning or Williamson Act Contracts	Less Than Significant	No Impact (Less)	Less Than Significant (Less)	Less Than Significant (Less)

Source: PCR Services Corporation, 2015.

5. ALTERNATIVE ANALYSIS

a. Alternative 1 – No Project Alternative

(1) Description of Alternative

This Alternative assumes that the proposed project would not occur. Under the No Project Alternative, the proposed annexation of the 394.8-acre annexation area would not occur, and construction of 292 single-family residential units within the 270.9-acre project site also would not occur. The project site would remain in its current undeveloped state and no residential development or infrastructure improvements would be implemented on-site. However, as noted in previous chapters of this Draft EIR, the Foothill Parkway Westerly Extension Project would still be implemented, which would result in limited physical changes along the northeastern boundary of the project site.

(2) Environmental Impact Categories

(a) Aesthetics

Under the No Project Alternative, the project site would remain essentially the same as under existing conditions, and as such there would be no potential for view obstruction or adverse effects to scenic vistas or scenic resources, including effects on scenic resources within a state scenic highway. Therefore, impacts in this regard would be less than under the proposed project and less than significant, and thus would eliminate a significant unavoidable impact. Given the lack of grading and associated landform alteration under this Alternative, impacts related to the visual character and quality of the project site would be less than under the proposed project. The No Project Alternative would have reduced impacts relative to light and glare and shade/shadow, since no new lighting, reflective surfaces, or other features that could increase lighting, glare, or shade effects would be introduced to the project site such that the potential for such impacts could occur. Impacts related to regulatory consistency would be less than under the proposed project, as there would be no potential for conflicts with applicable plans, policies, or regulations, and therefore no impact would occur.

(b) Air Quality

Under the No Project Alternative, no grading or construction activities associated with the proposed project would occur on-site and thus no additional air pollutant emissions would be generated. Implementation of the No Project Alternative would be consistent with the AQMP, as is the case with the proposed project, but impacts in this regard would be reduced given the absence of new air pollutant emissions sources and lack of additional population growth within the City. No impacts related to exposure to substantial pollutant concentrations, odors, and regulatory consistency would occur and thus impacts would be less than under the proposed project. Therefore, the No Project Alternative would result in reduced impacts compared to the proposed project since no construction or additional operational air emissions would occur.

(c) Biological Resources

This Alternative would not result in any physical changes to the project site, and therefore it would not result in any impacts to special status species or habitats, riparian habitat or sensitive natural communities, wetlands/jurisdictional features, wildlife corridors/migratory species, or conflicts with applicable plans,

policies, or regulations that are protective of biological resources. As such, given the lack of any physical impacts, impacts would be less than under the proposed project.

(d) Cultural Resources

The No Project Alternative would not result in any physical changes to the project site, and no known historic resources exist on the project site. As such, no potential exists for adverse effects on such resources, and no impact would occur as under the proposed project. Additionally, given the lack of new construction on the project site, the potential to encounter archaeological, Native American, or paleontological resources is considered negligible, as well as the potential to encounter human remains. As no excavation would occur under this Alternative, no impacts would occur and thus impacts would be less than under the proposed project. The No Project Alternative would not conflict with any plans, policies, or regulations related to cultural resources, and therefore no impacts would occur. Therefore, the No Project Alternative would have reduced impacts relative to the proposed project in this regard.

(e) Geology and Soils

Implementation of the No Project Alternative would not expose additional people and structures to potential adverse effects associated with seismic activity, adverse soils or geologic conditions. As this Alternative would not involve grading or construction activities, there would be no potential for soil erosion impacts and thus impacts would be reduced relative to the proposed project. No impacts related to regulatory consistency would occur and therefore would be reduced relative to the proposed project. The No Project Alternative would, overall, result in reduced impacts relative to the proposed project in this regard.

(f) Greenhouse Gas Emissions

This Alternative would not result in any additional air pollutant emissions, including GHG emissions. As such, no impacts related to GHG emission would occur. Similarly, the No Project Alternative would not conflict with GHG reduction plans, as no new GHG emission would occur. Impacts would be less than under the proposed project.

(g) Hazards and Hazardous Materials

The No Project Alternative not would result in any physical changes to the project site relative to existing conditions, and therefore this Alternative would have no impacts relative to hazardous materials use, transport, storage, and disposal, and would not alter existing hazardous materials conditions at or near the project site. No impacts to airport-related hazards, regulatory consistency and emergency response and evacuation plans, or wildland fire hazards would occur under this Alternative. As such, overall impacts would be reduced relative to the proposed project.

(h) Hydrology and Water Quality

The No Project Alternative would result in no physical changes to the project site or result in any effects to on- or off-site drainage or water quality features. Accordingly, this Alternative would not result in any impacts related to water quality degradation or discharge requirements, groundwater resources, hydrology and drainage, flood hazards, or regulatory consistency. As such, impacts would be reduced relative to the proposed project.

(i) Land Use and Planning

The No Project Alternative does not involve any development proposals that would affect land use plans or policies of the City of Corona or other local and regional agencies. The project site would retain its existing City General Plan Sphere of Influence land use designations of Rural Residential I and Open Space/General, its existing Riverside County General Plan Land use designations of Rural Mountainous and Open Space-Conservation Habitat, as well as its County zoning designations of Rural Residential and Open Space. This Alternative would not physically divide an established community or create any potential inconsistencies with City or SCAG land use policies. Although land use impacts associated with the proposed project would be less than significant, the impacts associated with the No Project Alternative would be less in comparison given the lack of the need for annexation into the City of Corona and associated City General Plan and Zoning Amendments and various other approvals. Similar to the proposed project, this Alternative would not conflict with any Habitat Conservation Plans, but given a lack of biological resources impacts, impacts would be reduced under this Alternative. Therefore, the No Project Alternative would have reduced impacts relative to the proposed project in this regard.

(j) Noise

Under the No Project Alternative, no development would occur within the project site. Nearby sensitive receptors would not be subjected to noise associated with additional construction equipment or construction-related vehicular traffic in the area. New long-term stationary and mobile noise sources would not occur and ambient noise levels would not increase, and no impacts related to groundborne noise and vibration or aircraft/airport noise would occur under this Alternative. Impacts regarding regulatory consistency would not occur and thus would be reduced relative to the proposed project. Thus, the No Project Alternative would result in fewer impacts compared to the proposed project in this regard.

(k) Population, Housing, and Employment

This Alternative would not result in any direct or indirect population growth, and therefore no impact would occur in this regard, and thus impacts would be less than the proposed project. No new housing would be associated with this Alternative, and thus it would not provide the project-related benefit of additional housing to help the City meet its State-mandated housing needs requirements. As such, impacts related to housing would be considered greater than the proposed project, even though no physical impact would occur. This Alternative would not provide increased employment opportunities in the area, as would be the case under the proposed project, and thus impacts would be similar. No impacts related to regulatory consistency would occur and thus impacts would be reduced relative to the proposed project.

(l) Public Services

An increased demand for public services would not occur with the No Project Alternative, as no additional land uses would be developed within the project site. No impacts related to regulatory consistency would occur and therefore impacts would be reduced relative to the proposed project. Therefore, the No Project Alternative would have reduced impacts relative to the proposed project in this regard.

(m) Transportation/Traffic

As this Alternative would not result in any new land uses or other physical changes to the traffic system in the area, no additional traffic would occur and therefore no impacts related to intersections, roadway

segments, hazardous design features, emergency access, or parking supply would occur. No impacts related to alternative transportation and regulatory consistency would occur and therefore impacts would be reduced relative to the proposed project. Overall, this Alternative would have reduced traffic and transportation impacts relative to the proposed project.

(n) Utilities and Service Systems

An increased demand for water supply, wastewater conveyance and treatment, and solid waste disposal capacity would not occur with the No Project Alternative, as no additional land uses would be developed within the project site. No impacts related to regulatory consistency would occur and therefore impacts would be reduced relative to the proposed project. Therefore, the No Project Alternative would have reduced impacts relative to the proposed project in this regard.

(o) Agriculture and Forestry Resources

The No Project Alternative would not result in any physical alteration to the project site. Therefore, there would be no potential for this Alternative to result in the conversion of farmland or forest lands to non-agricultural or non-forest uses, or otherwise adversely affect agricultural or forestry resources in the area. As such, the No Project Alternative would have reduced impacts relative to the proposed project in this regard.

(3) Impact Summary

As summarized above in Table 5-1, the No Project Alternative would result in reduced impacts to aesthetics, air quality, biological resources, cultural resources (archaeological resources, paleontological resources, human remains, and regulatory consistency), geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, population/housing/ employment (population growth and regulatory consistency), public services, transportation, and utilities and service systems. This Alternative would result in similar impacts to the proposed project with regard to cultural resources (historic resources) and population/housing/employment (employment growth), but would also result in greater impacts associated with population/housing/employment (housing growth). This Alternative would, however, eliminate significant unavoidable impacts to aesthetics (views/scenic vistas, scenic resources, and aesthetics/visual character) that would otherwise occur under the proposed project.

(4) Relationship of the Alternative to Project Objectives

Under the No Project Alternative, the project site would not be developed with urban uses and no physical improvements to infrastructure or other facilities would occur. As such, the No Project Alternative would not achieve or partially fulfill any of the objectives of the proposed project. The proposed project's stated objectives, as well as the ability of each project Alternative to meet them, are provided below in **Table 5-2**, *Alternatives' Ability to Meet Project Objectives*. Specifically, as summarized in Table 5-2, the No Project Alternative would not (1) provide high quality residential development consistent with adjacent neighborhoods; (2) build residential housing which is in compliance with proposed zoning and Corona General Plan land use designations consistent with surrounding area; (3) facilitate the annexation of the project development and adjacent lands into the City of Corona; (4) provide efficient and safe movement of vehicles and pedestrians with minimum intrusion on adjacent residential neighborhoods; (5) dedicate land and contribute fees for the construction of Foothill Parkway; (6) ensure that all community facilities and

services including circulation improvements, drainage facilities, water, reclaimed water and sewer facilities are available to serve the project and meet or exceed applicable City standards and requirements prior to, or concurrent with development; (7) provide strategic improvements within the project to assist the City with Master Plan improvements to existing water and sewer system; (8) provide water reservoirs and infrastructure to improve service and reliability for other parts of the City; (9) provide a system of open space which combines natural and man-made areas to maintain a scenic and fire safe living environment for residents; (10) implement a comprehensive landscape program which provides visual continuity throughout the project area and the natural areas of the Cleveland National Forest; or (11) help meet the high market demand for high quality housing in western Riverside County and to meet the City's housing needs to support forecasted population growth as discussed in the City's General Plan (2004).

b. Alternative 2 – Reduced Density Alternative

(1) Description of Alternative

Alternative 2, the Reduced Density Alternative, would result in the annexation of the proposed annexation area into the City of Corona as well as the development of a single-family residential neighborhood within the 270.9-acre project site, but at a density consistent with the existing Rural Residential I land use designation prescribed in the City of Corona General Plan for this portion of the City's Sphere of Influence, which allows for single-family residential uses between 0.2 and 0.5 dwelling units per acre. Thus, this Alterative would allow for development of up to 136 single-family dwelling units on the 270.9-acre project site, or an overall density of approximately 0.5 dwelling units per acre, with residential lots clustered throughout the project site (as under the proposed project) in order to minimize site disturbance. It is anticipated that given the topography of the project site, substantial grading would still be required to accommodate the development, which would include grading for residential lots, building pads, graded slopes, roadways, water tank(s), and other improvements, but the physical extent and intensity of earthmoving operations would be incrementally reduced under this Alternative. This Alternative is intended to decrease the overall development footprint of the proposed project, which would result in reduced landform alteration and urban development that is visible from surrounding viewpoints, including public trails and designated scenic roadways. Although reduced in terms of overall intensity, this Alternative would result in a similar suite of roadway and other related infrastructure improvements, though the size and capacity of such facilities could be incrementally reduced relative to the proposed project.

(2) Environmental Impact Categories

(a) Aesthetics

This Alternative would result in a similar development as the proposed project, with comparable single-family buildings, massing, and structural heights, but with an overall reduction in development intensity and associated grading and site disturbance. Given the fact that the development footprint would be reduced relative to the proposed project, it is anticipated that the potential for view obstructions and impacts to scenic vistas and scenic resources would be incrementally reduced under this Alternative, but impacts in this regard would remain significant and unavoidable based on the extent of grading that would still be required to construct a residential subdivision and related improvements. Therefore, despite the incremental reduction in grading and development intensity, impacts would be considered significant given that the development would be visible from several public vantage points, but would be reduced compared to the proposed project. Impacts related to aesthetics and visual character would also be reduced compared to the proposed project, as this Alternative would provide the same type of land uses and other improvements such

as landscaping to improve the visual character of the project site, but at a lower overall intensity. Since the development footprint under this Alternative would be smaller than under the proposed project, but would also provide features to reduce visual character effects, impacts in this regard would be considered less than under the project. Nonetheless, given the conversion of the project site from undeveloped vacant land to an urbanized residential neighborhood, impacts would remain significant and unavoidable. Impacts related to light and glare and shade/shadow would likewise be incrementally reduced compared to the proposed project based on the overall reduction in density and associated need for lighting and presence of reflective surfaces. As such, impacts in this regard would remain less than significant and would be less than under the proposed project.

(b) Air Quality

In terms of air quality, the Reduced Density Alternative would reduce the amount of urban development on the project site, and thus would also be consistent with the AQMP, but impacts would be reduced compared to the proposed project given the reduction in on-site residential units and associated air pollutant emissions. Similarly, impacts related to violation of air quality standards during both construction and operations would be less than significant since the extent of grading and construction would be substantially reduced, and long-term operations from stationary sources (i.e., new homes) and vehicular mobile sources would also be proportionately reduced compared to the project, and thus would be less than significant without the need for mitigation measures. In addition, based on the overall reduction in development intensity on-site, impacts related to cumulatively considerable pollutant increases, exposure to substantial pollutant concentrations, odors, and regulatory consistency would be less than significant and reduced relative to the proposed project.

(c) Biological Resources

The Reduced Density Alternative, overall, would reduce the development footprint of the project and thus would also reduce the extent of site disturbance and associated impacts on biological resources. Impacts related to special status species and habitats on-site would be incrementally reduced compared to the project, although mitigation measures would still be required to reduce such impacts to less than significant. Impacts to riparian habitat, sensitive natural communities, and wetlands/jurisdictional features would be less than significant without the need for mitigation measures, but would also be reduced relative to the proposed project given the reduced grading and site disturbance under this Alternative. Impacts to wildlife corridors and migratory bird species would still require mitigation to reduce them to less than significant, but such impacts would be less than under the proposed project. Lastly, similar to the proposed project, this Alternative would result in less than significant impacts regarding conflicts with plans, policies, or ordinances protecting biological resources.

(d) Cultural Resources

This Alternative would not result in any adverse impacts to historic resources, as no such resources are located on-site, as is the case under the proposed project. While impacts related to archaeological resources, paleontological resources, and human remains would still require mitigation to ensure they are less than significant, the potential for such impacts to occur would be incrementally reduced compared to the project based on the reduction in grading and site disturbance under this Alternative. Similar to the proposed project, impacts related to regulatory consistency would be less than significant, as this Alternative would comply with all applicable policies and regulations related to cultural resources.

(e) Geology and Soils

The Reduced Density Alternative would reduce the development intensity of proposed residential uses on-site, which would also result in a sizeable reduction in the extent of grading activities necessary to construct the proposed subdivision. Nonetheless, with a reduction in on-site population, and assuming implementation of geotechnical recommendations similar to those contained in the project Geotechnical Report, impacts related to earthquake fault rupture, seismic ground shaking, ground failure, and landslides would be less than significant and would be incrementally reduced compared to the proposed project since fewer people would be exposed to such geologic hazards. Soil erosion impacts would be reduced under this Alternative given the reduction in soil disturbance and potential for erosive effects, and would be less than significant without the need for mitigation. Impacts associated with seismic ground failure, including liquefaction, and expansive soils would be less than significant with implementation of applicable mitigation measures, but would be reduced compared to the proposed project based on the overall reduction in development intensity. Similar to the proposed project, impacts related to septic tanks and alternative wastewater disposal systems would be less than significant, as the project site would be served by the City's sewer system, and thus no such systems would be required on-site. Finally, impacts related to regulatory consistency would be similar to the proposed project, as all on-site development (irrespective of density) would be required to comply with applicable seismic safety, water quality, and building code requirements, and thus impacts would be less than significant with mitigation.

(f) Greenhouse Gas Emissions

The Reduced Density Alternative would require substantially less grading and construction activity than the proposed project, and would also result in a sizeable reduction in long-term air pollutant emissions from operation of the proposed residential units. Given the reduction in short-term grading and construction activities and long-term stationary and mobile-source GHG emissions under this Alternative in comparison to the proposed project, impacts would remain less than significant and would be incrementally reduced. As construction and operation of residential development under Alternative 2 would result in less than significant GHG emissions impacts and would also implement sustainability features that are supportive local and State GHG reduction goals, impacts related to consistency with GHG reduction plans would be less than significant and similar to the proposed project.

(g) Hazards and Hazardous Materials

The Reduced Density Alternative would result in the development of a single-family residential community but with fewer residential units and an overall reduction in site disturbance compared to the proposed project. Therefore, the proposed on-site development under this Alternative would have an incrementally reduced potential to result in hazards associated with hazardous materials operations and releases and hazardous materials emissions near schools, though impacts would remain less than significant. Impacts related to listed hazardous materials sites, as is the case under the proposed project, would be less than significant since no listed hazardous materials sites are located within the project boundaries or in the immediate area such that potential hazards to on-site residents could occur. No airport-related impacts would occur under this Alternative, similar to under the proposed project, based on the distance of the project site from the nearest airport (Corona Municipal Airport). Impacts regarding regulatory consistency and emergency response and evacuation plans would be less than significant under Alternative 2 based on the similarity of uses and reduction in overall development intensity on-site, and would be reduced compared to the proposed project. Given the reduction in on-site residential uses and associated reduction

in development footprint, impacts related to wildland fire hazards would be less than under the proposed project, though mitigation would still be required to reduce impacts to less than significant.

(h) Hydrology and Water Quality

This Alternative would result in the same type of single-family residential development as the proposed project, but the intensity of grading, construction, and long-term operation of proposed residential uses would be incrementally reduced. Therefore, this Alternative would have a reduced potential to result in adverse impacts related to water quality degradation and wastewater discharge requirements as the extent of soil disturbance, increase in impervious surface area, and modification of natural drainage courses would be lower than under the proposed project, and as such impacts would remain less than significant. Based on a reduced development footprint and associated reduction in impervious surfaces that could restrict groundwater recharge, as well as a reduced demand for domestic water supplies (which are based in part of groundwater supplies), indirect impacts to groundwater resources would be less than under the project, but would also be less than significant. Impacts related to hydrology and drainage would still require mitigation to reduce them to less than significant, but given the reduced development intensity and extent of site disturbance, such impacts would be less than under the proposed project. Similarly, based on the reduced development footprint under this Alternative, impacts related to flood hazards would be less than under the proposed project and less than significant since less impervious surfaces would be introduced to the project site and fewer residential uses would be exposed to potential flooding effects once constructed. Lastly, as this Alternative would be required to comply with applicable policies and regulations related to hydrology and water quality, as is the case with the proposed project, impacts related to regulatory consistency would also be less than significant.

(i) Land Use and Planning

The Reduced Density Alternative would result in a similar development pattern on the project site, but at a lower overall intensity compared to the proposed project. Since the existing site is currently undeveloped and is located just outside the City's corporate boundary adjacent to the Cleveland National Forest, there is little potential for this Alternative, as is the case for the proposed project, to result in the division of an established community and thus impacts in this regard would be less than significant. As under the proposed project, the proposed annexation area would be annexed into the City of Corona from unincorporated Riverside County, but the allowable single-family residential density would be consistent with the existing City General Plan designation of Rural Residential I for this portion of the City's Sphere of Influence. This Alternative, therefore, would allow for a density of up to 0.5 dwelling units per acre, or up to 136 single-family homes on the 270.9-acre project site, compared to 292 residential units under the proposed project. As discussed in Section 4.I, Land Use, of this Draft EIR, the proposed project would be consistent with the applicable goals and policies of the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (CKH Act), the City's General Plan, Corona Municipal Code (CMC), and SCAG regional plans. While this Alternative would result in a residential development at a lower density, it would still require annexation into the City and Metropolitan Water District of Southern California (Metropolitan) service area, as well as General Plan map and text amendments, a Zoning map amendment, and other approvals, as is the case with the proposed project. As such, despite the reduction in on-site development intensity under this Alternative, impacts related to consistency with applicable plans and policies would be less than significant and similar to the proposed project. As also discussed in Section 4.I, although the project site is located within the Temescal Canyon Area Plan of the WRC MSHCP, the proposed project would not conflict with any applicable habitat conservation plan or natural community conservation plan given

payment of mitigation fees. As such, given the reduced intensity of residential development under Alternative 2 within the same project boundaries, impacts would also be less than significant with payment of requisite mitigation fees, but would be reduced relative to the proposed project.

(j) Noise

This Alternative would result in a similar single-family residential development pattern on the project site, but at a lower overall intensity. As such, construction activities and associated impacts related to noise generation and compliance with noise standards would be incrementally reduced compared to the proposed project, but mitigation would still be required to reduce such impacts to less than significant. Operational noise impacts under the proposed project would be less than significant without the need for mitigation measure, and therefore based on the reduction in on-site development intensity, operational noise impacts of this Alternative would also be less than significant and less than under the project. Similarly, impacts related to groundborne noise and vibration would be incrementally reduced under Alternative 2, and would be less than significant. Impacts associated with aircraft, airport noise, and regulatory consistency would also be less than significant without the need for mitigation measures, and would be similar to under the proposed project.

(k) Population, Housing, and Employment

The Reduced Density Alternative would result in the construction and operation of up to 136 single-family dwelling units on the project site, which would translate to a direct population growth of 479 people on the project site (3.52 persons per household x 136 dwelling units = 478.7), compared to 1,028 people under the proposed project. Given that this Alternative would result in less than half of the direct population growth of the proposed project, impacts to population growth would be less than the proposed project and would be less than significant. Conversely, this Alternative would result in the provision of less than half of the housing units of the proposed project, and therefore although the housing growth under Alternative 2 would be well within the SCAG growth projections for the City, subregion, and entire SCAG region, it would not help the City meet its State-mandated housing goals to the extent the proposed project would. As such, housing impacts under Alternative 2 are considered to be greater than those of the proposed project, though such impacts would remain less than significant. Lastly, with regard to employment growth, neither the proposed project nor Alternative 2 provide any on-site employment opportunities, and therefore impacts under this Alternative would be comparable to the proposed project and would be less than significant.

(l) Public Services

This Alternative would result in the same type of residential uses within the project site, but the intensity of development would be substantially reduced. As such, the associated demands on public services and facilities such as fire protection and emergency medical services, police protection, parks and recreational facilities, schools, and libraries would be incrementally reduced within each respective service area. Impacts under Alternative 2, therefore, would be reduced compared to the proposed project, though mitigation measures would still be required to reduce such impacts to less than significant. In addition, impacts regarding regulatory consistency would also be less than significant and would be similar to the proposed project.

(m) Transportation/Traffic

This Alternative would require considerably less grading and construction activities than the proposed project, and thus would generate fewer construction-related vehicle trips. Since the project would result in less than significant construction-related traffic system impacts given implementation of a project-specific Construction Management Plan, which would also be required under this Alternative, impacts would also be less than significant and less than under the proposed project. Operational traffic impacts would also be incrementally reduced given the reduced overall development intensity on-site. Specifically, impacts to intersections under Existing With Project, Year 2020, and Year 2035 conditions would be less than significant with implementation of applicable mitigation measures, if necessary given the reduced traffic volumes, and impacts overall would be less than under the proposed project. Similarly, impacts to roadway segments would be reduced compared to the proposed project given the reduction in vehicle trip generation, and impacts would be less than significant without the need for mitigation measures, though specific project design features would still be implemented, as appropriate. In addition, impacts related to hazardous design features, emergency access, and parking would be less than significant and reduced compared to the proposed project. Lastly, similar to the project, Alternative 2 would result in less than significant impacts regarding alternative transportation and regulatory consistency with implementation of applicable mitigation measures.

(n) Utilities and Service Systems

This Alternative would result in the same type of single-family residential development as the proposed project, but at a lower overall intensity. Since the proposed project was determined to result in less than significant impacts to water, wastewater, and solid waste facilities and services with implementation of applicable mitigation measures, and this Alternative would result in reduced demands within the same service area boundaries of affected utilities and service providers, impacts would also be less than significant under this Alternative, though mitigation measures would still be required. As relates to stormwater drainage facilities, impacts under the project were determined to be less than significant given compliance with applicable regulations and implementation of site-specific BMPs related to water quality. As such, given the reduced development footprint and associated impervious surface area under this Alternative, impacts would also be less than significant and reduced compared to the proposed project. Impacts regarding regulatory consistency would be comparable to those under the proposed project, and would be considered less than significant.

(o) Agriculture and Forestry Resources

Under the Reduced Density Alternative, the project site would be graded and developed with a new single-family residential community, but at a lower overall intensity than the proposed project. As summarized in Section 4.O, *Agriculture and Forestry Resources*, of this Draft EIR, the project was determined to result in less than significant impacts related to farmland and forest land conversion, and impacts regarding conflicts with zoning for agriculture or forestry uses or Williamson Act contracts. As such, based on the similarity of residential land uses and the overall reduction in development intensity, impacts under Alternative 2 would be less than significant and less than under the proposed project.

(3) Impact Summary

As summarized above in Table 5-1, the Reduced Density Alternative would result in reduced impacts to aesthetics (views/scenic vistas, scenic resources, aesthetics/visual character, light and glare, and

shade/shadow), air quality (AQMP consistency, violation of air quality standards, cumulatively considerable pollutant increases, exposure to substantial pollutant concentrations, and odors), biological resources (special status species/habitats, riparian habitat/sensitive natural communities, wetlands/jurisdictional features, and wildlife corridors/migratory species), cultural resources (archaeological resources, paleontological resources, and human remains), geology and soils (earthquake fault rupture, ground shaking, ground failure, landslides, soil erosion, liquefaction, and expansive soils), greenhouse gas emissions (greenhouse gas emissions), hazards and hazardous materials (hazardous materials operations and releases, hazardous materials emissions near schools, regulatory consistency and emergency response and evacuation plans, and wildland fire hazards), hydrology and water quality (water quality degradation/wastewater discharge requirements, groundwater resources, hydrology and drainage, and flood hazards), land use and planning (conflicts with habitat conservation plans), noise (noise generation and compliance with noise standards and groundborne noise and vibration), population/housing/employment (population growth), public services (fire protection, police protection, parks and recreation, schools, and libraries), transportation (intersection impacts and roadway segment impacts), utilities and service systems (water supply and infrastructure, wastewater conveyance and treatment, stormwater drainage facilities, and solid waste disposal), and agriculture and forestry resources (farmland and forest land conversion and conflicts with zoning or Williamson Act contracts). This Alternative would result in similar impacts to the proposed project with regard to aesthetics (regulatory consistency), air quality (regulatory consistency), biological resources (conflicts with plans, policies, or ordinances protecting biological resources), cultural resources (historic resources and regulatory consistency), geology and soils (septic tanks/alternative wastewater disposal systems and regulatory consistency), greenhouse gas emissions (consistency with GHG reduction plans), hazards and hazardous materials (listed hazardous materials sites and airport-related hazards), hydrology and water quality (regulatory consistency), land use and planning (division of established communities and consistency with plans, policies, and regulations), noise (aircraft/airport noise and regulatory consistency), population/housing/employment (employment growth and regulatory consistency), public services (regulatory consistency), transportation (hazardous design features, emergency access, parking, and alternative transportation/regulatory consistency), and utilities and service systems (regulatory consistency). This Alternative would result in greater impacts associated with population/housing/employment (housing growth), as it would provide fewer housing units on the project site. Although this Alternative would, overall, result in a reduction in the severity of impacts for nearly all environmental issues, it would not eliminate the proposed project's significant unavoidable impacts to views/scenic vistas, scenic resources, and aesthetics/visual character.

(4) Relationship of the Alternative to Project Objectives

The Reduced Density Alternative would develop a single-family residential community on the project site, but at a substantially reduced intensity, which would provide less than half of the residential units than the proposed project on the property. Therefore, the Reduced Density Alternative would fully meet the following project objectives: (Objective 1) provide high quality residential development consistent with adjacent neighborhoods; (Objective 2) build residential housing which is in compliance with proposed zoning and Corona General Plan land use designations consistent with surrounding area; (Objective 3) facilitate the annexation of the project development and adjacent lands into the City of Corona; (Objective 4) provide efficient and safe movement of vehicles and pedestrians with minimum intrusion on adjacent residential neighborhoods; (Objective 5) dedicate land and contribute fees for the construction of Foothill Parkway; (Objective 6) ensure that all community facilities and services including circulation improvements, drainage facilities, water, reclaimed water and sewer facilities are available to serve the project and meet or exceed applicable City standards and requirements prior to, or concurrent with development; (Objective 9)

provide a system of open space which combines natural and man-made areas to maintain a scenic and fire safe living environment for residents; and (Objective 10) implement a comprehensive landscape program which provides visual continuity throughout the project area and the natural areas of the Cleveland National Forest. Given the reduction in residential development and associated infrastructure improvements, Alternative 2 would only partially achieve the following project objectives: (Objective 7) provide strategic improvements within the project to assist the City with Master Plan improvements to existing water and sewer system; (Objective 8) provide water reservoirs and infrastructure to improve service and reliability for other parts of the City; and (Objective 11) help meet the high market demand for high quality housing in western Riverside County and to meet the City's housing needs to support forecasted population growth as discussed in the City's General Plan (2004).

c. Alternative 3 – Phase III Only Alternative

(1) Description of Alternative

The Phase III Only Alternative is being proposed in order to address the significant unavoidable impacts to views/scenic vistas, scenic resources, and aesthetics/visual character that would occur under the proposed project. The Phase III Only Alternative involves the development of single-family residential uses with a 7,200-square-foot minimum lot size, as under the proposed project, but only within the portion of the project site located north of Mabey Canyon. This development pattern is identical to Phase III improvements under the proposed project, and would only require infrastructure improvements to serve that portion of the project site, with the remaining property south of Mabey Canyon being left in its current undeveloped condition. Therefore, Alternative 3 would result in the development of up to 45 single-family residential units and associated infrastructure including streets, water and sewer facilities, storm drains and water quality BMPs, landscaping, lighting, and other improvements. It should be noted that given the existing topography within the Phase III portion of the project site, extensive soil excavation and removal would be required to prepare the site for urban development, which would substantially increase the number and frequency of haul truck trips to and from the site. By comparison, under the proposed project the cut soil material from the Phase III area would be utilized as fill material elsewhere within the project site, as no off-site soil import or export would be required. Under this Alternative, it is assumed that the entire proposed annexation area is annexed into the City of Corona, but only the Phase III potion of the 270.9-acre project site would be developed with urban uses.

(2) Environmental Impact Categories

(a) Aesthetics

This Alternative would result in a similar development as the proposed project, with comparable single-family buildings, massing, and structural heights, but with a substantial reduction in development intensity and associated grading and site disturbance with development only occurring at the lower project site elevations north of Mabey Canyon. Given the location of the Phase III portion of the project site relative to public viewpoints (including scenic roadways), the lower elevation and presence of intervening topography, vegetation, and urban development, it is anticipated that the potential for view obstructions and impacts to scenic vistas and scenic resources would be substantially reduced under this Alternative, and impacts in this regard would be less than significant, thereby avoiding a significant impact under the proposed project. Impacts related to aesthetics and visual character would also be reduced compared to the proposed project, as this Alternative would provide the same type of land uses and other improvements such as landscaping to improve the visual character of the project site, but at a much lower overall intensity. Since the development

footprint under this Alternative would be much smaller than under the proposed project and development would be limited to the area north of Mabey Canyon, and the development would also provide features to reduce visual character effects, impacts in this regard would be considered less than under the project. As such, despite the conversion of this portion of the project site from undeveloped vacant land to an urbanized residential neighborhood, impacts would be considered less than significant since the extent of landform alteration and visibility of the site from the surrounding area would be considerably reduced. Impacts related to light and glare and shade/shadow would likewise be substantially reduced compared to the proposed project based on the overall reduction in density and associated need for lighting and presence of reflective surfaces. As such, impacts in this regard would remain less than significant and would be less than under the proposed project.

(b) Air Quality

In terms of air quality, the Phase III Only Alternative would greatly reduce the amount of urban development on the project site, and thus would also be consistent with the AQMP, but impacts would be reduced compared to the proposed project given the reduction in on-site residential units and associated air pollutant emissions. Similarly, impacts related to violation of air quality standards during both construction and operations would be less than significant since the extent of grading and construction would be substantially reduced, and long-term operations from stationary sources (i.e., new homes) and vehicular mobile sources (i.e., worker vehicles and material and equipment deliveries) would also be proportionately reduced compared to the project, and thus would be less than significant without the need for mitigation measures. However, off-site construction-related truck trips for soil export would be substantially increased relative to the proposed project, since this Alternative would require off-site export and disposal of cut soils necessary to prepare the site for development of residential uses. No off-site soil transport is required for the proposed project, as all earthwork would be balanced on-site, and therefore the additional truck haul trips associated with this Alternative would represent an additional mobile emissions source during construction activities. However, based on the overall reduction in development intensity on-site, impacts related to cumulatively considerable pollutant increases, exposure to substantial pollutant concentrations, odors, and regulatory consistency would be less than significant and reduced relative to the proposed project.

(c) Biological Resources

The Phase III Only Alternative, overall, would greatly reduce the development footprint of the project and thus would also reduce the extent of site disturbance and associated impacts on biological resources. Impacts related to special status species and habitats on-site would be substantially reduced compared to the project, as the entire portion of the project site south of Mabey Canyon would be left in its current state, although mitigation measures would still be required to reduce impacts to resources north of Mabey Canyon to less than significant. Impacts to riparian habitat, sensitive natural communities, and wetlands/ jurisdictional features would also be less than significant without the need for mitigation measures, but would also be substantially reduced relative to the proposed project given the reduced grading and site disturbance under this Alternative. Impacts to wildlife corridors and migratory bird species would still require mitigation to reduce them to less than significant, but such impacts would be much less than under the proposed project. Lastly, similar to the proposed project, this Alternative would result in less than significant impacts regarding conflicts with plans, policies, or ordinances protecting biological resources.

(d) Cultural Resources

This Alternative would not result in any adverse impacts to historic resources, as no such resources are located on-site, as is the case under the proposed project. While impacts related to archaeological resources, paleontological resources, and human remains would still require mitigation to ensure they are less than significant, the potential for such impacts to occur would be substantially reduced compared to the project based on the reduction in grading and site disturbance under this Alternative. Similar to the proposed project, impacts related to regulatory consistency would be less than significant, as this Alternative would comply with all applicable policies and regulations related to cultural resources.

(e) Geology and Soils

The Phase III Only Alternative would reduce the development intensity of proposed residential uses on-site, which would also result in a sizeable reduction in the extent of grading activities necessary to construct the proposed subdivision. Nonetheless, with a reduction in on-site population, and assuming implementation of geotechnical recommendations similar to those contained in the project Geotechnical Report, impacts related to earthquake fault rupture, seismic ground shaking, ground failure, and landslides would be less than significant and would be incrementally reduced compared to the proposed project since fewer people would be exposed to such geologic hazards. Soil erosion impacts would be reduced under this Alternative given the reduction in soil disturbance and potential for erosive effects, and would be less than significant without the need for mitigation. Impacts associated with seismic ground failure, including liquefaction, and expansive soils would be less than significant with implementation of applicable mitigation measures, but would be reduced compared to the proposed project based on the overall reduction in development intensity. Similar to the proposed project, impacts related to septic tanks and alternative wastewater disposal systems would be less than significant, as the project site would be served by the City's sewer system, and thus no such systems would be required on-site. Finally, impacts related to regulatory consistency would be similar to the proposed project, as all on-site development would be required to comply with applicable seismic safety, water quality, and building code requirements, and thus impacts would be less than significant with mitigation.

(f) Greenhouse Gas Emissions

The Phase III Only Alternative would require substantially less grading and construction activity than the proposed project, and would also result in a sizeable reduction in long-term air pollutant emissions from operation of the proposed residential units. Given the reduction in short-term grading and construction activities and long-term stationary and mobile-source GHG emissions under this Alternative in comparison to the proposed project, impacts would remain less than significant and would be substantially reduced. As construction and operation of residential development under Alternative 3 would result in less than significant GHG emissions impacts and would also implement sustainability features that are supportive local and State GHG reduction goals, impacts related to consistency with GHG reduction plans would be less than significant and similar to the proposed project.

(g) Hazards and Hazardous Materials

The Phase III Only Alternative would result in the development of a single-family residential community but with much fewer residential units and a considerable overall reduction in site disturbance compared to the proposed project, with only the portion of the project site north of Mabey Canyon subject to urban development. Therefore, the proposed on-site development under this Alternative would have a

substantially reduced potential to result in hazards associated with hazardous materials operations and releases and hazardous materials emissions near schools, and impacts would remain less than significant. Impacts related to listed hazardous materials sites, as is the case under the proposed project, would be less than significant since no listed hazardous materials sites are located within the project boundaries or in the immediate area such that potential hazards to on-site residents could occur. No airport-related impacts would occur under this Alternative, similar to under the proposed project, based on the distance of the project site from the nearest airport (Corona Municipal Airport). Impacts regarding regulatory consistency and emergency response and evacuation plans would be less than significant under Alternative 3 based on the similarity of uses and sizeable reduction in overall development intensity on-site, and would be substantially reduced compared to the proposed project. Given the reduction in on-site residential uses and associated reduction in development footprint, impacts related to wildland fire hazards would be less than under the proposed project, though mitigation would still be required to reduce impacts to less than significant.

(h) Hydrology and Water Quality

This Alternative would result in the same type of single-family residential development as the proposed project, but the intensity of grading, construction, and long-term operation of proposed residential uses would be substantially reduced. Therefore, this Alternative would have a reduced potential to result in adverse impacts related to water quality degradation and wastewater discharge requirements as the extent of soil disturbance, increase in impervious surface area, and modification of natural drainage courses would be much lower than under the proposed project, and as such impacts would remain less than significant. Based on a reduced development footprint and associated reduction in impervious surfaces that could restrict groundwater recharge, as well as a reduced demand for domestic water supplies (which are based in part of groundwater supplies), indirect impacts to groundwater resources would be less than under the project, but would also be less than significant. Impacts related to hydrology and drainage would still require mitigation to reduce them to less than significant, but given the substantially reduced development intensity and extent of site disturbance, such impacts would be less than under the proposed project. Similarly, based on the reduced development footprint under this Alternative, impacts related to flood hazards would be less than under the proposed project and less than significant since less impervious surfaces would be introduced to the project site and fewer residential uses would be exposed to potential flooding effects once constructed. Lastly, as this Alternative would be required to comply with applicable policies and regulations related to hydrology and water quality, as is the case with the proposed project, impacts related to regulatory consistency would also be less than significant.

(i) Land Use and Planning

The Phase III Only Alternative would result in a similar development pattern on the project site, but at a lower overall intensity compared to the proposed project. Since the existing site is currently undeveloped and is located just outside the City's corporate boundary adjacent to the Cleveland National Forest, there is little potential for this Alternative, as is the case for the proposed project, to result in the division of an established community and thus impacts in this regard would be less than significant. As under the proposed project, the proposed annexation area would be annexed into the City of Corona from unincorporated Riverside County, and the entire 270.9-acre project site would be designated for Low Density Residential uses and zoned R1-7.2 per the City's Zoning Code, though only the Phase III portion of the site would be developed with urban uses. This Alternative, therefore, would allow for a density of up to 6 dwelling units per acre, but would only provide 45 single-family homes on the approximately 39-acre Phase

III portion of the project site, compared to 292 residential units under the proposed project. As discussed in Section 4.I, Land Use, of this Draft EIR, the proposed project would be consistent with the applicable goals and policies of the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (CKH Act), the City's General Plan, Corona Municipal Code (CMC), and SCAG regional plans. While this Alternative would result in a residential development at a much lower intensity, it would still require annexation into the City and Metropolitan Water District of Southern California (Metropolitan) service area, as well as General Plan map and text amendments, a Zoning map amendment, and other approvals, as is the case with the proposed project. As such, despite the reduction in on-site development intensity under this Alternative, impacts related to consistency with applicable plans and policies would be less than significant and similar to the proposed project. As also discussed in Section 4.I, although the project site is located within the Temescal Canyon Area Plan of the WRC MSHCP, the proposed project would not conflict with any applicable habitat conservation plan or natural community conservation plan given payment of mitigation fees. As such, given the reduced intensity of residential development under Alternative 3 within the same project boundaries, impacts would also be less than significant with payment of requisite mitigation fees, but would be reduced relative to the proposed project.

(j) Noise

This Alternative would result in a similar single-family residential development pattern on the project site, but at a much lower overall intensity. As such, construction activities and associated impacts related to noise generation and compliance with noise standards would be substantially reduced compared to the proposed project, but mitigation would still be required to reduce such impacts to less than significant. Operational noise impacts under the proposed project would be less than significant without the need for mitigation measure, and therefore based on the reduction in on-site development intensity, operational noise impacts of this Alternative would also be less than significant and less than under the project. Similarly, impacts related to groundborne noise and vibration would be incrementally reduced under Alternative 3, and would be less than significant. Impacts associated with aircraft, airport noise, and regulatory consistency would also be less than significant without the need for mitigation measures, and would be similar to under the proposed project.

(k) Population, Housing, and Employment

The Phase III Only Alternative would result in the construction and operation of up to 45 single-family dwelling units on the portion of the project site located north of Mabey Canyon, which would translate to a direct population growth of 158 people on the project site (3.52 persons per household x 45 dwelling units = 158.4), compared to 1,028 people under the proposed project. Given that this Alternative would result in approximately 15 percent of the direct population growth of the proposed project, impacts to population growth would be much less than the proposed project and would be less than significant. Conversely, this Alternative would result in the provision of less than one-fifth of the housing units of the proposed project, and therefore although the housing growth under Alternative 3 would be well within the SCAG growth projections for the City, subregion, and entire SCAG region, it would not help the City meet its State-mandated housing goals to the extent the proposed project would. As such, housing impacts under Alternative 3 are considered to be greater than those of the proposed project, though such impacts would remain less than significant. Lastly, with regard to employment growth, neither the proposed project nor Alternative 3 provide any on-site employment opportunities, and therefore impacts under this Alternative would be comparable to the proposed project and would be less than significant.

(l) Public Services

This Alternative would result in the same type of residential uses within the project site, but the intensity of development would be substantially reduced and limited to the portion of the project site located north of Mabey Canyon. As such, the associated demands on public services and facilities such as fire protection and emergency medical services, police protection, parks and recreational facilities, schools, and libraries would be substantially reduced within each respective service area. Impacts under Alternative 3, therefore, would be greatly reduced compared to the proposed project, though mitigation measures would still be required to reduce such impacts to less than significant. In addition, impacts regarding regulatory consistency would also be less than significant and would be similar to the proposed project.

(m) Transportation/Traffic

Overall, this Alternative would require considerably less grading and construction activities than the proposed project, and thus would generate fewer construction-related vehicle trips. Since the project would result in less than significant construction-related traffic system impacts given implementation of a project-specific Construction Management Plan, which would also be required under this Alternative, impacts would also be less than significant and less than under the proposed project. It should be noted, however, that implementation of this Alternative would require off-site transport and disposal of excavated/cut soil materials from the site, as it would not be possible to balance all earthwork on-site as would occur under the proposed project. The addition of off-site soil haul truck trips would be expected to substantially increase the number and frequency of construction-related truck traffic on a given construction day relative to the proposed project, though the overall duration and intensity of construction activities would be reduced under this Alternative. Operational traffic impacts would also be substantially reduced given the reduced overall development intensity on-site (approximately 15 percent of the residential units as under the proposed project). Specifically, impacts to intersections under Existing With Project, Year 2020, and Year 2035 conditions would be less than significant with implementation of applicable mitigation measures, if necessary given the reduced traffic volumes, and impacts overall would be much less than under the proposed project. Similarly, impacts to roadway segments would be considerably reduced compared to the proposed project given the reduction in vehicle trip generation, and impacts would be less than significant without the need for mitigation measures, though specific project design features would still be implemented, as appropriate. In addition, impacts related to hazardous design features, emergency access, and parking would be less than significant and reduced compared to the proposed project. Lastly, similar to the project, Alternative 3 would result in less than significant impacts regarding alternative transportation and regulatory consistency with implementation of applicable mitigation measures (if necessary).

(n) Utilities and Service Systems

This Alternative would result in the same type of single-family residential development as the proposed project, but at a lower overall intensity. Since the proposed project was determined to result in less than significant impacts to water, wastewater, and solid waste facilities and services with implementation of applicable mitigation measures, and this Alternative would result in considerably reduced demands within the same service area boundaries of affected utilities and service providers, impacts would also be less than significant under this Alternative, though mitigation measures would still be required. As relates to stormwater drainage facilities, impacts under the project were determined to be less than significant given compliance with applicable regulations and implementation of site-specific BMPs related to water quality. As such, given the reduced development footprint and associated impervious surface area under this Alternative, impacts would also be less than significant and reduced compared to the proposed project.

Impacts regarding regulatory consistency would be comparable to those under the proposed project, and would be considered less than significant.

(o) Agriculture and Forestry Resources

Under the Phase III Only Alternative, only the portion of the project site located north of Mabey Canyon would be graded and developed with a new single-family residential community at the same density proposed under the project for this part of the site. As summarized in Section 4.O, *Agriculture and Forestry Resources*, of this Draft EIR, the project was determined to result in less than significant impacts related to farmland and forest land conversion, and impacts regarding conflicts with zoning for agriculture or forestry uses or Williamson Act contracts. As such, based on the similarity of residential land uses and the overall reduction in development intensity, impacts under Alternative 3 would be less than significant and less than under the proposed project.

(3) Impact Summary

As summarized above in Table 5-1, the Phase III Only Alternative would result in reduced impacts to aesthetics (views/scenic vistas, scenic resources, aesthetics/visual character, light and glare, and shade/shadow), air quality (AQMP consistency, violation of air quality standards, cumulatively considerable pollutant increases, exposure to substantial pollutant concentrations, and odors), biological resources (special status species/habitats, riparian habitat/sensitive natural communities, wetlands/jurisdictional features, and wildlife corridors/migratory species), cultural resources (archaeological resources, paleontological resources, and human remains), geology and soils (earthquake fault rupture, ground shaking, ground failure, landslides, soil erosion, liquefaction, and expansive soils), greenhouse gas emissions (greenhouse gas emissions), hazards and hazardous materials (hazardous materials operations and releases, hazardous materials emissions near schools, regulatory consistency and emergency response and evacuation plans, and wildland fire hazards), hydrology and water quality (water quality degradation/wastewater discharge requirements, groundwater resources, hydrology and drainage, and flood hazards), land use and planning (conflicts with habitat conservation plans), noise (noise generation and compliance with noise standards and groundborne noise and vibration), population/housing/employment (population growth), public services (fire protection, police protection, parks and recreation, schools, and libraries), transportation (intersection impacts and roadway segment impacts), utilities and service systems (water supply and infrastructure, wastewater conveyance and treatment, stormwater drainage facilities, and solid waste disposal), and agriculture and forestry resources (farmland and forest land conversion and conflicts with zoning or Williamson Act contracts). This Alternative would result in similar impacts to the proposed project with regard to aesthetics (regulatory consistency), air quality (regulatory consistency), biological resources (conflicts with plans, policies, or ordinances protecting biological resources), cultural resources (historic resources and regulatory consistency), geology and soils (septic tanks/alternative wastewater disposal systems and regulatory consistency), greenhouse gas emissions (consistency with GHG reduction plans), hazards and hazardous materials (listed hazardous materials sites and airport-related hazards), hydrology and water quality (regulatory consistency), land use and planning (division of established communities and consistency with plans, policies, and regulations), noise (aircraft/airport noise and regulatory consistency), population/housing/employment (employment growth and regulatory consistency), public services (regulatory consistency), transportation (hazardous design features, emergency access, parking, and alternative transportation/regulatory consistency), and utilities and service systems (regulatory consistency). This Alternative would result in greater impacts associated with population/housing/employment (housing growth), as it would provide fewer housing units on the project

site. Overall, this Alternative would result in a substantial reduction in the severity of impacts for nearly all environmental issues, and more importantly, would also avoid the proposed project's significant unavoidable impacts to views/scenic vistas, scenic resources, and aesthetics/visual character.

(4) Relationship of the Alternative to Project Objectives

The Phase III Only Alternative would develop a single-family residential community on the portion of the project site located north of Mabey Canyon, but at a substantially reduced intensity, which would provide just over 15 percent of the residential units as the proposed project. Therefore, the Phase III Only Alternative would fully meet the following project objectives: (Objective 1) provide high quality residential development consistent with adjacent neighborhoods; (Objective 2) build residential housing which is in compliance with proposed zoning and Corona General Plan land use designations consistent with surrounding area; (Objective 3) facilitate the annexation of the project development and adjacent lands into the City of Corona; (Objective 4) provide efficient and safe movement of vehicles and pedestrians with minimum intrusion on adjacent residential neighborhoods; (Objective 6) ensure that all community facilities and services including circulation improvements, drainage facilities, water, reclaimed water and sewer facilities are available to serve the project and meet or exceed applicable City standards and requirements prior to, or concurrent with development; and (Objective 10) implement a comprehensive landscape program which provides visual continuity throughout the project area and the natural areas of the Cleveland National Forest. Given the reduction in residential development and associated infrastructure improvements, and limited area for usable open space north of Mabey Canyon, Alternative 3 would only partially achieve the following project objectives: (Objective 5) dedicate land and contribute fees for the construction of Foothill Parkway; (Objective 7) provide strategic improvements within the project to assist the City with Master Plan improvements to existing water and sewer system; (Objective 8) provide water reservoirs and infrastructure to improve service and reliability for other parts of the City; (Objective 9) provide a system of open space which combines natural and man-made areas to maintain a scenic and fire safe living environment for residents; and (Objective 11) help meet the high market demand for high quality housing in western Riverside County and to meet the City's housing needs to support forecasted population growth as discussed in the City's General Plan (2004).

d. Environmentally Superior Alternative

As identified above in Table 5-1, Alternatives 1, 2, and 3 all reduce the severity of the majority of project-related impacts. However, only Alternatives 1 and 3 would fully eliminate the significant unavoidable aesthetics impacts of the proposed project, including impacts to views/scenic vistas, scenic resources, and aesthetics/visual character. Furthermore, Alternative 1 would reduce or eliminate impacts associated with all but three remaining environmental topics (historic resources, housing growth and employment growth), as no development would occur under this Alternative.

CEQA requires that the Environmentally Superior Alternative be identified in the EIR. Based on the analysis in this chapter and the summary contained in Table 5-1, the No Project Alternative is determined to be the Environmentally Superior Alternative. Although Alternative 1 is considered the Environmental Superior Alternative, this Alternative would not satisfy any of the identified project objectives, as shown below in Table 5-2, as it would not provide any new housing opportunities or related infrastructure improvements or achieve any of the other project objectives.

However, Alternative 3, the Phase III Only Alternative, would at least partially achieve all of the 11 stated project objectives, as shown below in Table 5-2, but would only fully achieve six of them. Although this Alternative would not provide nearly as much housing, infrastructure, open space, and other improvements on-site as under the proposed project, it would still provide additional single-family housing stock within the City which would be contiguous with existing single-family residential development and future development along the Foothill Parkway Westerly Extension. Therefore, Alternative 3 has been determined to be the Environmentally Superior Alternative. However, Alternative 3 would not dedicate as much land or contribute as many fees for the construction of Foothill Parkway based on the substantial reduction in development intensity and lack of physical development south of Mabey Canyon along the proposed Foothill Parkway Extension corridor. Alternative 3 would also not provide as many strategic improvements within the project to assist the City with Master Plan improvements to existing water and sewer system, provide as many water reservoirs and infrastructure to improve service and reliability for other parts of the City, or provide a system of open space which combines natural and man-made areas to maintain a scenic and fire safe living environment for residents within areas south of Mabey Canyon. Lastly, the Phase III Only Alternative would not help meet the high market demand for high quality housing in western Riverside County or meet the City's housing needs to support forecasted population growth as discussed in the City's General Plan to the extent the proposed project would, as it would only provide approximately 15 percent of the residential units on the project site.

Table 5-2

Alternatives' Ability to Meet Project Objectives

Project Objective	Alternative 1 No Project Alternative	Alternative 2 Reduced Density Alternative	Alternative 3 Phase III Only Alternative
Objective 1: Provide high quality residential development consistent with adjacent neighborhoods.	Does Not Meet Objective	Fully Meets Objective	Fully Meets Objective
Objective 2: Build residential housing which is in compliance with proposed zoning and Corona General Plan land use designations consistent with surrounding area.	Does Not Meet Objective	Fully Meets Objective	Fully Meets Objective
Objective 3: Facilitate the annexation of the project development and adjacent lands into the City of Corona.	Does Not Meet Objective	Fully Meets Objective	Fully Meets Objective
Objective 4: Provide efficient and safe movement of vehicles and pedestrians with minimum intrusion on adjacent residential neighborhoods.	Does Not Meet Objective	Fully Meets Objective	Fully Meets Objective
Objective 5: Dedicate land and contribute fees for the construction of Foothill Parkway.	Does Not Meet Objective	Fully Meets Objective	Partially Meets Objective
Objective 6: Ensure that all community facilities and services including circulation improvements, drainage facilities, water, reclaimed water and sewer facilities are available to serve the project and meet or exceed applicable City standards and requirements prior to, or concurrent with development.	Does Not Meet Objective	Fully Meets Objective	Fully Meets Objective
Objective 7: Provide strategic improvements within the project to assist the City with Master Plan improvements to existing water and sewer system.	Does Not Meet Objective	Partially Meets Objective	Partially Meets Objective
Objective 8: Provide water reservoirs and infrastructure to improve service and reliability for other parts of the City.	Does Not Meet Objective	Partially Meets Objective	Partially Meets Objective
Objective 9: Provide a system of open space which combines natural and man-made areas to maintain a scenic and fire safe living environment for residents.	Does Not Meet Objective	Fully Meets Objective	Partially Meets Objective

Table 5-2 (Continued)

Alternatives' Ability to Meet Project Goals and Objectives

Project Objective	Alternative 1 No Project Alternative	Alternative 2 Reduced Density Alternative	Alternative 3 Phase III Only Alternative
Objective 10: Implement a comprehensive landscape program which provides visual continuity throughout the project area and the natural areas of the Cleveland National Forest.	Does Not Meet Objective	Fully Meets Objective	Fully Meets Objective
Objective 11: Help meet the high market demand for high quality housing in western Riverside County and to meet the City's housing needs to support forecasted population growth as discussed in the City's General Plan (2004).	Does Not Meet Objective	Partially Meets Objective	Partially Meets Objective

Source: PCR Services Corporation, 2015

6.0 Other Mandatory CEQA Considerations

6. OTHER MANDATORY CEQA CONSIDERATIONS

INTRODUCTION

This section summarizes the findings with respect to significant, unavoidable environmental impacts; irreversible environmental changes; growth inducing impacts; potential secondary effects; and less than significant impacts of the proposed project.

1. SIGNIFICANT UNAVOIDABLE IMPACTS

Section 15126.2(b) of the *CEQA Guidelines* requires that an EIR describe significant environmental impacts that cannot be avoided, including those effects that can be mitigated but not reduced to a less than significant level. Following is a summary of the impacts associated with the proposed project that were concluded to be significant and unavoidable. These impacts are also described in detail in Chapter 4, Environmental Impact Analysis, of this Draft EIR.

Aesthetics: Given the substantial landform alteration of the project site required to implement the proposed project, impacts related to views/scenic vistas, visual resources, and visual character would be significant and unavoidable, as no mitigation measures are available to reduce the significance of these impacts.

2. REASONS WHY THE PROJECT IS BEING PROPOSED, NOTWITHSTANDING SIGNIFICANT UNAVOIDABLE IMPACTS

In addition to identification of the project's significant unavoidable impacts, Section 15126.2(b) of the CEQA Guidelines also requires a description of the reasons why the project is being proposed, notwithstanding significant unavoidable impacts associated with the project. As described further below, the proposed project is being proposed, notwithstanding its significant unavoidable impacts, because: 1) the proposed project would achieve a considerable number of City-related project objectives; and 2) the significant unavoidable impacts are based on landform alteration and in two cases, typical of those that would occur with any construction at the project site.

The reasons why this particular project has been proposed are identified in the Project Objectives subsection in Chapter 2, *Project Description*, of this Draft EIR. The underlying purpose of the proposed project is to provide high quality residential development consistent with adjacent neighborhoods. However, the proposed project's individual objectives include the following:

Objective 1: Provide high quality residential development consistent with adjacent neighborhoods.

Objective 2: Build residential housing which is in compliance with proposed zoning and Corona General Plan land use designations consistent with surrounding area.

Objective 3: Facilitate the annexation of the project development and adjacent lands into the City of Corona.

Objective 4: Provide efficient and safe movement of vehicles and pedestrians with minimum intrusion on adjacent residential neighborhoods.

Objective 5: Dedicate land and contribute fees for the construction of Foothill Parkway.

Objective 6: Ensure that all community facilities and services including circulation improvements, drainage facilities, water, reclaimed water and sewer facilities are available to serve the project and meet or exceed applicable City standards and requirements prior to, or concurrent with development.

Objective 7: Provide strategic improvements within the project to assist the City with Master Plan improvements to existing water and sewer system.

Objective 8: Provide water reservoirs and infrastructure to improve service and reliability for other parts of the City.

Objective 9: Provide a system of open space which combines natural and man-made areas to maintain a scenic and fire safe living environment for residents.

Objective 10: Implement a comprehensive landscape program which provides visual continuity throughout the project area and the natural areas of the Cleveland National Forest.

Objective 11: Help meet the high market demand for high quality housing in western Riverside County and to meet the City's housing needs to support forecasted population growth as discussed in the City's General Plan (2004).

Two of the proposed project's significant unavoidable impacts are limited to nature and are typical of impacts occurring during construction activities at development projects. Construction of the proposed project would result in a significant impact to views/scenic vistas, as well as aesthetics/visual character since it would: (1) alter the existing natural viewshed, including changes in natural terrain; (2) alter the existing visual quality of the region or eliminate visual resources (e.g., natural topography and vegetation on the project site); (3) obstruct or permanently reduce visually important features (e.g., on-site natural terrain; and (4) result in long-term adverse visual changes or contrasts to the existing landscape as viewed from areas with high visual sensitivity (e.g., designated scenic roadways such as Chase Avenue and publicly accessible trails such as the Skyline Drive Trail).

Overall, the proposed development would replace the views of the existing undeveloped foothills with views of a residential subdivision and associated graded slopes, structures, and landscaping. While the project would grade the slopes so as to appear natural and the project would include extensive landscaping, the change in the natural environmental would be considered a significant change to the existing views/scenic vistas, visual character and quality of the site and its surroundings.

Alternatives to the proposed project were considered in Chapter 5, *Alternatives*, of this Draft EIR. Among those alternatives, only one feasible alternative other than the No Project Alternative (Alternative 3, the Phase III Only Alternative) is identified that would reduce the significant unavoidable effects of the proposed project. However, none of the Alternatives would achieve the objectives to the extent the proposed project would. Given the substantial landform alteration of the project site required to implement the proposed project, impacts related to views/scenic vistas, visual resources, and visual character would be significant

and unavoidable. Finally, since the No Project Alternative would not meet the underlying purpose of the project, it is not considered a feasible project Alternative.

3. SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

According to Sections 15126(c) and 15126.2(c) of the *CEQA Guidelines*, an EIR is required to address any significant irreversible environmental changes that would occur should the proposed project be implemented. As stated in *CEQA Guidelines* Section 15126.2(c):

> *"[u]ses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter likely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified."*

The future implementation of the proposed project would necessarily consume limited, slowly renewable, and non-renewable resources. This consumption would occur during the construction of future project phases and would continue throughout the operational lifetime of the proposed project. Project development would require a commitment of resources that would include: (1) building materials, (2) fuel and operational materials/resources, and (3) the transportation of goods and people to and from the project site. Future construction would also require the consumption of resources that are non-replenishable or may renew so slowly as to be considered non-renewable. These resources would include the following construction supplies: certain types of lumber and other forest products; aggregate materials used in concrete and asphalt such as sand, gravel and stone; metals such as steel, copper, and lead; petrochemical construction materials such as plastics; and water. Furthermore, nonrenewable fossil fuels such as gasoline and oil would also be consumed in the use of construction vehicles and equipment, as well as the transportation of goods and people to and from the project site.

Project operation would continue to expend nonrenewable resources that are currently consumed within the City of Corona. These include energy resources such as electricity and natural gas, petroleum-based fuels required for vehicle-trips, fossil fuels, and water. Fossil fuels would represent the primary energy source associated with both construction and ongoing operation of the project, and the existing, finite supplies of these natural resources would be incrementally reduced. Project operation would occur in accordance with Title 24, Part 6 of the California Code of Regulations, as wells as numerous local regulations and proposed project design features which establish conservation practices that would limit the amount of energy consumed by the project. However, the energy requirements associated with the project would still represent a long-term commitment of essentially nonrenewable resources.

Limited use of potentially hazardous materials typical of residential uses, including household and vehicle maintenance materials (i.e., cleaning supplies, paints, fertilizers, oil, and grease) would be used and stored within the project area. The use of these materials would be in small quantities and used, handled, stored, and disposed of in accordance with the manufacturer's instructions and applicable government regulations and standards.

In summary, project construction and operation would result in the irretrievable commitment of limited, slowly renewable, and nonrenewable resources, which would incrementally limit the availability of these particular resource quantities for future generations or for other uses during the life of the proposed project. However, continued use of such resources would be on a very small scale and consistent with regional and local growth forecasts in the area, as well as state and local goals for reductions in the consumption of such resources. Further, the project would not affect access to existing resources, nor interfere with the production or delivery of such resources. As such, although irreversible environmental changes would result from the Project, such changes would not be considered significant.

4. GROWTH-INDUCING IMPACTS

Section 15126.2(d) of the *CEQA Guidelines* requires an EIR to discuss the ways the proposed project could foster economic or population growth or the construction of additional housing, directly or indirectly, in the surrounding environment. Growth-inducing impacts include the removal of obstacles to population growth (e.g., the expansion of a wastewater treatment plant allowing more development in a service area) and the development and construction of new service facilities that could significantly affect the environment individually or cumulatively. In addition, growth must not be assumed as beneficial, detrimental, or of little significance to the environment.

The proposed project includes the development of 292 single-family residences on an approximately 270.9-acre site within an undeveloped hillside area to the south/southwest of the Foothill Parkway Westerly Extension. The project site is currently located within the City of Corona sphere of influence in unincorporated Riverside County. In order to facilitate the residential development and the completion of the Foothill Parkway Westerly Extension, the Applicant proposes the annexation of the project site and surrounding parcels totaling approximately 394.8 acres to the City of Corona. Of the approximately 270.9-acre project site, approximately 21.38 acres would be used as right-of-way for the construction of the Foothill Parkway Westerly Extension. The City of Corona is currently implementing a Capital Improvement Project for the Foothill Parkway Westerly Extension between Green River Road and Trudy Way. This roadway would provide primary access to the project site at "P" Street, "B" Street (aligned with Border Avenue) and Trudy Way.

As indicated in Section 4.K, *Population, Housing, and Employment*, of this Draft EIR, the proposed project includes the construction of 292 single-family homes that would generate a population of approximately 1,028 residents. The increase of 1,028 residents to the City would represent a total of 6.193 percent, 0.086 percent, and 0.024 percent of the population growth projected by SCAG for the local, subregional, and regional areas, respectively, between the years of 2008 and 2035. These percent increases do not exceed the forecasted growth set forth by SCAG. In addition, the project population growth would not substantially alter the location or growth rate of the population projected and forecasted for the City, the Western Riverside subregion, and SCAG region. By adding new housing units to the general housing supply, the Project would support applicable housing policies of the City's General Plan, SCAG's RTP/SCS, and housing allocation goals of the RHNA, and would substantially help meet the housing demands of the growing population of the City by contributing to housing availability and opportunity in the project area. The proposed project would represent 6.952 percent, 0.071 percent, and 0.019 percent of household growth projected by SCAG for the local, subregional, and regional areas between the years of 2008 and 2035, respectively. The demand of additional housing units is well within the SCAG housing growth projections for the City, the Western Riverside subregion, and the SCAG region. By creating new housing units within the

project area, the proposed project would support applicable housing policies of SCAG's RTP/SCS and housing allocation goals of the RHNA, and would substantially help meet the housing demands of the growing population of the City. Project implementation would not directly generate new job opportunities to the City. The local area, subregional area, and regional area would be considered "job rich" with a housing deficit that would not meet the ideal 1.25 job/housing ratio. As population continues to increase in the City, the Western Riverside subregion, and the SCAG region, employment demands would be met as there would be a job surplus, but new homes would need to be built to meet the future housing demands and meet the ideal average job/housing ratio of 1.25 as identified by SCAG. The proposed would introduce up to 292 residential units, which would be able to provide housing for residents and help make up for the high job/housing ratio within the City.

The project site is located in an area surrounded by urbanized land, and is served by current infrastructure (e.g., roads and utilities), and community service facilities (e.g., police, fire, schools, and libraries). The project's only infrastructure improvements would consist of tie-ins to, and extensions of, the existing utility main-lines already serving the project area.

Therefore, the project would not spur additional growth in Corona other than that already anticipated in the SCAG growth forecasts, and would not eliminate impediments to growth. Therefore, the proposed project would not foster growth inducing impacts.

5. POTENTIAL SECONDARY EFFECTS

Section 15126.4(a)(1)(D) of the *CEQA Guidelines* requires mitigation measures to be discussed in less detail than the significant effects of the project if the mitigation measure(s) would cause one or more significant effects in addition to those that would be caused by the project as proposed. With regard to this section of the *CEQA Guidelines*, the project's proposed mitigation measures that could cause potential impacts were evaluated. The following provides a discussion of the potential secondary effects that could occur as a result of the implementation of the project mitigation measures, listed by environmental issue area.

a. Air Quality

Impacts regarding air quality are less than significant and no mitigation measures are required. Therefore, no secondary impacts would occur due to the implementation of mitigation measures for this environmental topic.

b. Biological Resources

Mitigation Measure BIO-1 requires vegetation and general wildlife impact areas and avoidance areas to be flagged or fenced prior to grubbing of any vegetation or jurisdictional drainage features to prevent incursion into unsurveyed or avoided areas. Mitigation Measure BIO-2 prevents impacts to sensitive wildlife by avoiding clearing or other work in native habitats during critical nesting periods. Mitigation Measure BIO-3 requires surveys for the burrowing owl. Mitigation Measures BIO-4 and BIO-5 requires all heavy equipment to be washed prior to entering the project site from other construction sites to prevent the spread of weedy species and for staging areas to be placed in areas that have been previously disturbed. Mitigation Measures BIO-6, BIO-7, and BIO-8 provide mitigation for loss of non-wetland federal jurisdictional drainage features and streambed and riparian vegetation. Mitigation Measure BIO-9 requires the employment of standard best management practices (BMPs) to prevent discharged from entering avoided waters of the U.S. and

streambed with associated riparian vegetation during construction. Mitigation Measure BIO-10 requires replacement of oak trees at no less than 1:1 ratio in landscaped areas. Mitigation Measure BIO-11 requires preservation of the ten acres of natural habitat identified as a compensation parcel adjacent to Forest Service land. Mitigation Measure BIO-12 requires mitigation for the 6.17 acres of Riparian/Riverine impacts. These mitigation measures would minimize or avoid overall losses of sensitive resources and would not result in any significant secondary effects.

c. Cultural Resources

Mitigation Measures CR-1 through CR-4 requires monitoring, recovery, and documentation of any recovered archaeological or paleontological resources. These measures are intended to preserve on-site cultural resources and would not have any secondary adverse effects either on- or off-site.

d. Geology and Soils

Mitigation Measures GEO-1 through GEO-23 require implementation of all applicable recommendations contained in Section 9.0, Earthwork Conclusions and Recommendations, of the project Geotechnical Report, which would address site-specific geologic hazards to future on-site development. Therefore, no secondary impacts would occur due to the implementation of the mitigation measure for this environmental topic.

e. Greenhouse Gas Emissions

Impacts regarding greenhouse gas emissions are less than significant and no mitigation measures are required. Therefore, no secondary impacts would occur due to the implementation of mitigation measures for this environmental topic.

f. Hazards and Hazardous Materials

Impacts regarding hazards and hazardous materials are less than significant. To ensure that impacts remain below the threshold, Mitigation Measures PS-1 and PS-2 from Section 4.I, Public Services, are recommended. Mitigation Measure PS-1 requires the project Applicant to obtain CFD review and approval prior to issuance of building permits. Mitigation Measure PS-2 requires the project Applicant to pay the required service and development fees. Therefore, no secondary impacts would occur due to the implementation of mitigation measures for this environmental topic.

g. Hydrology and Water Quality

Mitigation Measure HYD-1 requires review and approval by the City of the engineering plans for the Drainage Management Area C. Therefore, no secondary impacts would occur due to the implementation of the mitigation measure for this environmental topic.

h. Land Use and Planning

Impacts regarding land use and planning are less than significant and no mitigation measures are required. Therefore, no secondary impacts would occur due to the implementation of mitigation measures for this environmental topic.

i. Noise

Mitigation Measure NS-1 requires restricted hours for construction and demolition. Mitigation Measure NS-2 requires noise and groundborne vibration construction activities whose specific location on the project site may be flexible to be conducted as far as possible from nearest noise-and vibration-sensitive land use. Mitigation Measure NS-3 requires construction and demolition activities to be scheduled so as to avoid operating several pieces of equipment simultaneously. Mitigation Measure NS-4 requires the use of construction equipment or construction methods with the greatest peak noise generation to be minimized. Mitigation Measure NS-5 requires the project contractor to use power construction equipment with state-of-the-art noise shielding and muffling devices. Mitigation Measure NS-6 requires barriers to minimize the amount of noise to the maximum extent feasible during construction. Mitigation Measure NS-7 requires all construction truck traffic to be restricted to truck routes approved by the City of Corona Public Works Department. Mitigation Measure NS-8 requires notification about estimated duration and hours of construction activities to all adjacent land uses within 300 feet. Therefore, no secondary impacts would occur due to the implementation of mitigation measures for this environmental topic.

j. Population, Housing, and Employment

Impacts regarding population, housing, and employment are less than significant and no mitigation measures are required. Therefore, no secondary impacts would occur due to the implementation of mitigation measures for this environmental topic.

k. Public Services

(1) Fire

Mitigation Measure PS-1 requires the project Applicant to obtain CFD review and approval prior to issuance of building permits. Mitigation Measure PS-2 requires the project Applicant to pay the required service and development fees. Therefore, no secondary impacts would occur due to the implementation of mitigation measures for this environmental topic.

(2) Police

Mitigation Measure PS-3 requires the project Applicant to reserve a portion of the project site for a future radio facility site. Mitigation Measure PS-4 requires the project Applicant to pay the required service and development fees. Therefore, no secondary impacts would occur due to the implementation of mitigation measures for this environmental topic.

(3) Parks/Recreation

Mitigation Measure PS-5 requires the project Applicant to comply with the City of Corona Municipal Code (Chapter 16.35, Park Dedication and In Lieu Fees). Therefore, no secondary impacts would occur due to the implementation of the mitigation measure for this environmental topic.

(4) Schools

Mitigation Measure PS-6 requires the project Applicant to pay the required SB 50 mitigation fees to the CNUSD. Therefore, no secondary impacts would occur due to the implementation of the mitigation measure for this environmental topic.

(5) Libraries

Mitigation Measure PS-7 requires payment of service and development fees pursuant to Section 16.23.080 of the CMC and the City's Library Facility and Collection section of the Master Facility Plan to the City of Corona for the public improvements and facilities associated with the CPL. Therefore, no secondary impacts would occur due to the implementation of the mitigation measure for this environmental topic.

l. Transportation

Mitigation Measure TR-1 requires the project Applicant to install at a traffic signal and design for two-phase operation at Intersection 3 – Paseo Grande at Ontario Avenue if the project is developed prior to the construction of the Foothill Parkway Extension. Mitigation Measure TR-2 requires the project Applicant to install at a traffic signal and design for two-phase operation at Intersection 4 – Border Avenue and Ontario Avenue. Mitigation Measure TR-3 requires the project Applicant to install at a traffic signal and design for five-phase operation at Intersection 10 – Elysia Street at Foothill Parkway. Mitigation Measure TR-4 requires the project Applicant to install at a traffic signal and design for three-phase operation at Intersection 11 – Trudy Way at Foothill Parkway. Mitigation Measure TR-5 requires the project Applicant to improve Roadway Segment 2 – Paseo Grande between Ontario Avenue and Green River Road to a 4-lane Secondary Roadway if the project is developed prior to the construction of the Foothill Parkway Extension. While these improvements would require temporary construction activities at their respective locations, they would be carried out concurrent with project-related construction activities in the immediate area, such that their construction would not result in a substantial increase in the overall construction-related impacts of the proposed project. Furthermore, once constructed, these improvements would serve to reduce operational traffic impacts at the affected locations. Therefore, no measureable secondary impacts would occur due to the implementation of mitigation measures for this environmental topic.

m. Utilities and Service Systems

(1) Water Supply and Water Infrastructure

Mitigation Measure UTIL-1 requires payment of water service connection fees to the Corona Department of Water and Power. Therefore, no secondary impacts would occur due to the implementation of the mitigation measure for this environmental topic.

(2) Wastewater

Mitigation Measure UTIL-2 requires payment of sewer connection fees to the Corona Department of Public Works. Therefore, no secondary impacts would occur due to the implementation of the mitigation measure for this environmental topic.

(3) Solid Waste

Mitigation Measure UTIL-3 requires that contract specifications dictate that the construction contractors utilize the services of City's exclusive franchise contract hauler, while Mitigation Measure UTIL-4 requires on-site separation and recycling of construction related wastes. Mitigation Measure UTIL-5 requires the project Applicant to demonstrate a plan to ensure adherence to the City of Corona Waste Diversion Program, which diverts 75 percent of all waste away from landfills. Therefore, no secondary impacts would occur due to the implementation of mitigation measures for this environmental topic.

n. Agriculture and Forestry Resources

Impacts regarding agriculture and forestry resources are less than significant and no mitigation measures are required. Therefore, no secondary impacts would occur due to the implementation of mitigation measures for this environmental topic.

6. LESS THAN SIGNIFICANT IMPACTS

Section 15128 of the *CEQA Guidelines* states that an EIR shall contain a brief statement indicating reasons that various possible significant effects of a project were determined not to be significant and not discussed in detail in the Draft EIR. An Initial Study was not prepared for the project and therefore all substantive issues with any potential adverse impacts were addressed in this Draft EIR. However, given the development nature of the project site and its location within a highly urbanized area, the City of Corona determined that the project would not result in any potential impacts related to Mineral Resources. The basis for these conclusions is discussed below.

Mineral Resources

According to the *Preliminary Geotechnical Investigation and Grading Plan*, prepared by Ginter and Associates, Inc. in April 2014 (Appendix F of this Draft EIR), no active oil or gas wells exist and no mining of the gravels and/or sand has occurred to date. No other mineable resources are known to exist at the site. Aggregate companies have explored on-site conglomerates, but found no evidence of mining development for sand or gravel. Further, implementation of the project would not impede the potential for direct use or future exploration of mineral resources. Therefore, the project would result in no impacts regarding mineral resources.

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7.0 Document Preparation and References

7.0 DOCUMENT PREPARATION AND REFERENCES

A. DOCUMENT PREPARATION

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